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A Demographic Analysis of Houston, Texas.

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A DEMOGRAPHIC ANALYSIS OF HOUSTON, TEXAS

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ABSTRACT

The objective of this study is to analyze and interpret the population of Houston on the bases of its number and distribution, race and nativity, age composition, balance between the sexes, marital status, educational status, occupational status, religious composition, fertility, mortality, migration, and growth.

Houston, with a population of 594,321, is the South's largest city. Over three-fourths of its population are white. The nonwhite population is composed almost completely of Negroes, who are segregated in a few census tracts. The foreign-born whites are of minor importance, with Mexicans constituting the largest numbers.

The population of Houston is concentrated in the productive ages. Large proportions of the aged are found in the central portion of the city, whereas children are found in greater proportions in outlying districts. Females are of more relative importance than males. In 1940, the city had sex ratios of 96 for the total population, 120 for the foreign-born whites, and 83 for the Negroes. The central area of the city has a high sex ratio, whereas the southwestern sector has a low one. About three-fifths of the population were married in 1940. This proportion indicates an increase since 1910. The educational status of the people in 1940 was slightly higher than that of the population of the urban United States and much higher than that of most of the other large southern cities. The whites have a higher educational status than the Negroes. The highest educational status is found in the southwestern area of the city below Buffalo Bayou. About four-fifths of the labor

force in 1940 were listed as "private wage or salary workers." As compared with other large southern cities, Houston has relatively high proportions of its population employed as "professional workers," "semi-professional workers," "proprietors, managers, and officials," and "sales persons and clerical workers." The great majority of the people are Protestants, with Baptists outnumbering any other group. Church membership is dominated by women.

Indexes of fertility indicate that much of Houston's recent population upsurge has been due to high birth rates. The crude birth rate in 1948, 36.7, was almost twice the 1940 figure of 21.4. Areas of high fertility are located in the northern and eastern portions of the city. The crude death rate in Houston was 11.6 in 1948. The rate is higher for the nonwhites than the whites, a fact which can be largely explained by the high infant mortality rate prevailing among the former. Life tables show that females live longer than males and that whites have a longer life expectancy than nonwhites. The number-one killer is heart disease, followed in order by cancer and other malignant tumors, and intracranial lesions of vascular origin.

Between 1935 and 1940 Houston had a large net inward migration (selective of whites) mainly from Texas and contiguous states. The population of the city increased from 2,396 in 1850 to 594,321 in 1950, and its area expanded from 9 square miles to approximately 155 square miles during the same period.

CHAPTER I

INTRODUCTION

The Problem

This work consists of a detailed analysis of the population data available from the reports of the Bureau of the Census on Houston, Texas, along with other pertinent information assembled from other sources. The demographic material is presented in a logical and orderly sequence in somewhat the same manner as is utilized in T. Lynn Smith's book entitled Population Analysis.[1]

Population is probably the most important factor in any community. The size, composition, vital processes, and migration experience of any population aggregate, as well as the changes in these factors, have important repercussions in many areas of community life. Public services, health, family stability, and many other areas of city life are affected by population make-up and changes. The whole nature of social interaction in a community is to a considerable extent influenced by these fundamental demographic factors. Thus it is of paramount importance to get a total picture of the population of a city from the point of view of size, composition, vital processes, migration, and growth as the basis not only of much public policy but also as a basis for further research and analysis of a city.

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[1] T. Lynn Smith, Population Analysis (New York, Toronto, and London: McGraw-Hill Book Company, Inc., 1948).

The fact that cities are becoming increasingly important adds significance to studies of urban areas. When the federal census was first taken in 1790, there were no towns of 50,000 people, and only a small portion of the population of the United States lived in towns of 2,500 or more inhabitants. In contrast, over half of the people of the United States were living in urban areas by 1920, and in 1946 about 60 per cent of the population could be classed as urban residents. In 1950 almost one-third of the total population of the United States lived in big cities of over 100,000 people. In fact, the urban population represented about two-thirds of the total population of the United States as of April 1, 1950.[2] This increasing urbanization has been accompanied by a high rate of industrialization--to such an extent that less than one-fifth of our employed people are engaged in agriculture. This is a significant change in view of the fact that as late as 1870 over 50 per cent of American workers were gainfully employed in agriculture. Thus our type of life has been profoundly changed within a relatively short period of time, developing from an agrarian economy into an urban, industrialized society.

The South has been one of the last strongholds of rural life in the United States. However, with the movement of industry into the South and the mechanization of agriculture, industrialized urban areas have been growing more and more important there. In the Proceedings of the Southern Social Science Research Council for 1937, it was pointed out that the

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[2] This relationship was to some extent affected by the 1950 change in the census definition of "urban." However, this change does not greatly affect the significance of the comparison.

greatest growth of United States cities in recent decades has occurred in the South and the West.[3] A great portion of this southern urban industrial growth has been centered in the Gulf Coast area. This fact is vividly portrayed by the map reproduced on the cover of the January, 1951, issue of Population Index, official publication of the Office of Population Research at Princeton University and the Population Association of America. Virtually the entire Gulf Coast area extending from Florida to Texas experienced an increase in population from 1940 to 1950. Florida had an increase of over 40 per cent, and Texas an increase of over 20 per cent, in its population during this period. Much of this growth occurred in the large cities of the Gulf Coast area.

This rapid urbanization of the South poses certain important questions as to the source of this population growth, the importance of race in the change, variations in sex and age composition, and effects on fertility.[4]

In view of this rapid urbanization of the South and particularly of the Gulf Coast area, and of the questions which it poses, then, it is fitting that a demographic study should be made of the largest city in this area of urban population upsurge. Houston, Texas, is not only the largest city in the Gulf Coast area but also the largest city in the South. It ranks first among southern cities in many factors, a few of these being retail sales, industrial production, payrolls, oil refining, and value of manufactured products.

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[3] "The Growth of Cities in Relation to Population Changes in the South," in Problems and Methods in the Study of Population (Proceedings of the Southern Social Science Research Conference, mimeographed and distributed by the Southern Regional Committee of the Social Science Research Council in 1937).

[4] Ibid.

This study should not only be of importance in presenting a demographic picture of the largest southern city, located in an area of tremendous urban growth, but should also have general educational value and be of practical use to city planners of Houston.

Objectives and Scope

The main objective of this study is to analyze the population of Houston from the standpoint of number and distribution, composition, vital processes, migration, and growth. It is also the aim of the writer to present the findings in such a manner that they may be understood by anyone desiring to become acquainted with the population of Houston. Still a third purpose of this study is to show the relative position of Houston in the South by comparing a number of its demographic characteristics with those of Atlanta and New Orleans, the other two cities in the deep South with a population of over 300,000 in 1940.

The population of Houston as enumerated in 1940 by the United States Bureau of the Census forms the basis for this study. However, some information from all decennial population census reports since 1850 has also been utilized. Some of the information on the vital processes is of a later date, since vital statistics volumes are issued annually. Only total population figures for 1950 are available at this time— and these in preliminary census releases. Insofar as is possible, these data from the seventeenth and most recent decennial census have been utilized in the analysis.

Sources of the Data

The decennial reports of the United States Bureau of the Census, as has been indicated, form the basis for most of the data used in this study. The vital statistics reports of the United States comprise the other main source of information. In addition, some information has been obtained from material distributed by the Houston Chamber of Commerce, the City Health Department, the City Planning Board, and the Council of Social Agencies. Background information has been obtained from many historical publications on Houston. The writer has also become personally acquainted with the city of Houston in order better to interpret and present the facts.

Methods

This study relies heavily on the statistical method. For the most part, however, the techniques used can be readily grasped by one who is not a student of statistics. Graphs and charts have been utilized to the greatest possible extent. Tables have also been used to present all of the basic information either in the body of the study or in the Appendix.

Techniques used for analyzing the population are largely those outlined in Smith's Population Analysis. The method described by Reed and Merrell[5] has been used in constructing the life tables. The method for

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[5] Lowell J. Reed and Margaret Merrell, "A Short Method for Constructing An Abridged Life Table," American Journal of Hygiene, XXX (September, 1939), 33-62, reprinted in Vital Statistics: Special Reports (Washington: Department of Commerce, Bureau of the Census, 1940), Vol. IX, No. 54, pp. 681-713.

computing the gross reproduction rates may be found in Hagood's Statistics for Sociologists.[6]

A more complete discussion of the methods used will be found in the various sections of the study.

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[6] Margaret Jarman Hagood, Statistics for Sociologists (New York: Reynal and Hitchcock, Inc., 1941).

CHAPTER II

REVIEW OF LITERATURE

In this section no attempt has been made to review all of the literature on the subject of population. Such an attempt would have resulted in a book itself. Instead of pursuing such a course, the author has deemed it more worthwhile to review those materials which are pertinent to this particular study or which are closely related to the field of demographic analysis.

The literature has been grouped under the following general headings: specific studies of a similar type, literature giving specific techniques of population analysis, and literature of a general nature which has been of help in the interpretation of the data. There has, of necessity, been some overlapping, since some books have been of value for more than one reason.

Specific Studies of a Similar Type

Howard Whipple Green, Natural Increase and Migration, Greater Cleveland, 1919-1937 (Cleveland: Cleveland Health Council, 1938), is a seventy-five page pamphlet describing a study conducted in Cleveland. It deals with increase in population, births, deaths, and migration by census tracts from 1919 to 1937. Charts are used to a considerable extent to present the data. Detailed information is presented in tabular form. Significant conclusions are presented on the changes taking place in various parts of the city. This type of study involves considerable work in

checking registration certificates to locate births and deaths with reference to census tracts. It should prove valuable to those who wish to understand the many problems with which a city is concerned.

There are two sections of great value in the treatise by H. A. Shannon and E. Grebenik entitled The Population of Bristol (National Institute of Economic and Social Research Occasional Papers II [Cambridge: The University Press, 1943]). One is on adult migration from 1931 to 1938. This deals with migration not only into Bristol but into the fringe areas as well. Natural increase and net migration are dealt with by various areas of the city. The other section is concerned with certain special aspects of population in Bristol. Mortality, fertility, and future population are considered. A rather extensive investigation of differential fertility is presented. Life tables and reproduction rates are used extensively. Statistical techniques for estimating the future population of a population aggregate are outlined.

Sara E. Gilliam, Virginia's People--A Study of the Growth and Distribution of the Population of Virginia from 1607 to 1943 (Richmond: Population Study, Virginia State Planning Board, 1944), presents much valuable information on the growth, trends, urban and rural population, migration, and composition of the population in the state of Virginia. However, the vital processes are conspicuous by their absence. Detailed tables of considerable value may be found in the appendix.

John Bellenger Knox's book entitled The People of Tennessee--A Study of Population Trends (Knoxville: The University of Tennessee Press, 1949) is divided into four main parts under the headings "Who They Are,"

"Where They Are," "How They Are," and "What They Do." This study presents the information in a highly readable manner. Charts are utilized, but much emphasis is placed on the written word. The people of Tennessee are traced from their origins through their growth, distribution, vital processes, and industrial and educational condition. The study may be criticized as lacking for the most part in refined demographic techniques. However, it is a very readable work.

The first complete demographic analysis of a large southern city was C. A. McMahan's The People of Atlanta: A Demographic Study of Georgia's Capital City (Athens: The University of Georgia Press, 1950). This study systematically analyzes the population of Atlanta, using the same outline or method of development utilized by T. Lynn Smith in his Population Analysis. The material is presented in a readable form, with excellent use being made of cartographic techniques.

Valuable Sources for Techniques of Population Analysis

The best orderly presentation of techniques and methodology available to the student of demography is Population Analysis, by T. Lynn Smith (New York, Toronto, and London: McGraw-Hill Book Company, Inc., 1948). One can acquire most of the techniques needed for population analysis from this treatise. However, the book does not go into a detailed presentation of the life table or of reproduction rates. (Excellent sources for those techniques are listed elsewhere in this review.) This study is also important for the many demographic facts and principles which are presented and for the tremendous amount of demographic data presented relative to the United States and to the world. To sum up, it must be said that the

work is a classic in the field of population study and is probably the most complete and useful study in the field.

Homer L. Hitt, in an article entitled "The Use of Selected Cartographic Techniques in Health Research" (Social Forces, XXVI [December, 1947], 189-96; reprinted in pamphlet form), has presented a method of eliminating surface bias by using circles as the units of shading in a geographical division. By the use of these circles, several factors may be introduced into the graphic presentation. This technique is of inestimable value to one engaging in population research.

An excellent method for constructing a life table has been outlined by Lowell J. Reed and Margaret Merrell ("A Short Method for Constructing An Abridged Life Table," American Journal of Hygiene, XXX [September, 1939], 33-62; reprinted by permission in Vital Statistics: Special Reports [Washington: Department of Commerce, Bureau of the Census, 1940], Vol. IX, No. 54, pp. 681-713). This thirty-two-page article is easily understood and is probably the best source of information for one who wishes to use life tables in population research.

Margaret Jarman Hagood's study entitled Statistics for Sociologists (New York: Reynal and Hitchcock, Inc., 1941) has a section on selected techniques for population data. The last chapter, dealing with life tables, may be of great value to one wishing to examine the various methods of life-table construction. This chapter is also important for its explanation of the computation of reproduction rates.

Length of Life--A Study of the Life Table, by Louis I. Dublin and Alfred J. Lotka (New York: The Ronald Press Company, 1936), is an excellent book treating not only the construction of a life table but also

various aspects and applications of the life table. The problem of longevity is discussed in considerable detail, as is the application of the life table to population problems.

Robert R. Kuczynski has written three works of great value in explaining certain techniques of population research. The first of these in order of publication was The Balance of Births and Deaths (Volume I, Western and Northern Europe [New York: The Macmillan Company, 1928], Volume II, Eastern and Southern Europe [Washington: The Brookings Institution, 1931]). In this study Kuczynski treated the fundamental problem of whether the countries of Europe are reproducing themselves. It is thus devoted mainly to birth rates, fertility rates, and reproduction rates. Life tables and fertility tables are given for many of the countries under consideration. The explanation of net reproduction rates is probably the best to be found in existing literature.

Kuczynski's second work, entitled Fertility and Reproduction: Methods of Measuring the Balance of Births and Deaths (New York: The Falcon Press, 1932), deals largely with methods of measuring fertility and reproduction.

A still more recent study by Kuczynski, The Measurement of Population Growth: Methods and Results (New York: Oxford University Press, 1936), is concerned not only with modern-day techniques for evaluating the vital processes of a population aggregate but also with techniques which have been utilized in the past when population data were not so complete as they are today. Thus there are sections treating the measurement of fertility by the exclusive use of vital statistics, the measurement of fertility by the use of census statistics only, and the measurement of fertility by the use of both vital statistics and census statistics.

There are also sections on the measurement of mortality and on the balance of births and deaths. This book deals largely with fertility and is of great value to one who desires to know the various techniques of fertility measurement.

Works of Assistance in Interpretation

A classic in the field of urban sociology is The City, by Robert E. Park, Ernest W. Burgess, and Robert D. McKenzie (Chicago: The University of Chicago Press, 1925). This book is a composite of a number of independent chapters, each written individually by one of the three authors. Of especial significance is the chapter entitled "The Growth of the City," in which Burgess has explained his concentric-pattern theory. "The Ecological Approach to the Study of the Human Community," a chapter by McKenzie, is also important for its explanation of the ecological processes.

Homer Hoyt has presented a contrasting theory of urban growth in The Structure and Growth of Residential Neighborhoods in American Cities (Washington: United States Government Printing Office, 1939). This theory is referred to as the sector theory of urban growth. It is based on the study of rent areas in a number of American cities.

Warren S. Thompson's book entitled Population Problems (New York and London: McGraw-Hill Book Company, Inc., 1942) is of value not only in presenting many demographic techniques but also in helping the reader to understand the many changes which have taken place in the population of the United States and the world. Several chapters are devoted to the growth of the modern city, to its advantages and disadvantages, and to its future.

The topic "The Growth of Cities in Relation to Population Changes in the South," in Problems and Methods in the Study of Population (Proceedings of the Southern Social Science Research Conference, mimeographed and distributed by the Southern Regional Committee of the Social Science Research Council in 1937), is of particular relevance to the study of Houston, Texas. In this article it is pointed out that the greatest growth of United States cities in recent decades has occurred in the South and the West. The South is in a phase of rapid urbanization. This poses certain important questions, such as "What classes of our population will this urbanization be selective of?" "Where will this population come from?" "Of what importance will race be in this population change?" "What changes will occur in sex and age composition as a result of this population increase?" and "How will fertility be affected?" These and many other questions are posed in this treatise as points of departure for studies of population changes in the South.

Paul H. Landis' book entitled Population Problems: A Cultural Interpretation (New York, Cincinnati, Chicago, Boston, Atlanta, Dallas, and San Francisco: The American Book Company, 1943) ranges in content from population facts and theories through cultural forces in vital processes; sex, age, and ethnic composition; sociocultural factors in the distribution of population; problems of migration; and population policy for the United States.

Four historical works on Houston were of value in the interpretation of the data concerning the population of the city. The best and most complete of these is Houston: A History and Guide, compiled by

workers of the Writers' Program of the Works Projects Administration in the State of Texas (Houston: The Anson Jones Press, 1942). This book contains an enormous amount of information on Houston and is an excellent portrayal of the city from its beginning to the present day. Part I presents in chronological order the growth of Houston from the earliest inhabitants in 1528 to the metropolis of 1941. Part II treats such topics as the people, education, churches, etc., while Part III is devoted to a description of what to see and where to see it. Maps which pinpoint the major points of interest are provided.

An excellent resume of the economic growth and development of Houston during the last century is given in the work by Clarence Peckham Dunbar and William Hunter Dillard entitled Houston, 1836-1936: Chronology and Review (Houston: Business Research and Publications Service, 1936). Economic developments are labeled with dates of occurrence throughout this work, which is essentially an economic history of the city.

Dr. S. O. Young's A Thumb-Nail History of the City of Houston, Texas, from Its Founding in 1836 to the Year 1912 (Houston: Rein and Sons Company, 1912) is an interesting and warmly human account of the growth of the South's largest city. It is filled with stories behind and around the development of Houston. The city's history is told chiefly through stories of the many and varied personalities who have been responsible for its growth and development.

A combined historical and novelistic approach has been employed by Jesse A. Ziegler in his Wave of the Gulf (San Antonio: The Naylor Company, 1938), which tells the story of the development of the Texas Gulf Coast with emphasis on Houston.

Three more specialized studies of Houston have been of assistance to the writer. The first of these, Family Mobility in Houston, Texas, 1922-1938, written by Carl M. Rosenquist and Walter Gordon Browder of the Bureau of Research in the Social Sciences, with the assistance of the Works Projects Administration, Official Project No. 665-66-3-183 (Austin: The University of Texas, 1942), reveals much about the population of Houston on a family basis. Information is presented by census tracts by means of cross hatching and detailed tables. Family density, changes in the number of families, persons eighteen years of age and older per family, the percentage of families reporting employment, intercity movement into and out of Houston, intertract movements, the number of families per occupied dwelling unit, dwelling units owner-occupied, occupied residential units, stability of families, and changes in land use are topics of sections which indicate the manner in which the city is analyzed. City directories were used to a considerable extent in arriving at the information.

A Population Study of Houston and the Houston Area, by Joseph Dishron (Unpublished Doctoral Dissertation, The University of Houston, 1949), is largely devoted to population growth and projection, but contains other information in both the historical and social realm. Seven methods of population projection are developed in detail. They are population projection by logistic curve, population projection by analogy, population projection by proportion, population projection by the method of least squares, the cohort survival method of projection, population growth in relation to public utilities and school census, and population growth estimates from probability paper.

A study by Arthur Coleman Comey entitled Houston: Tentative Plans for Its Development. Report to the Park Commission (Boston: George H. Ellis Co., 1913) has value to anyone interested in city land utilization.

CHAPTER III

FORMAT OF THE CITY

In a study entitled The Structure and Growth of Residential Neighborhoods in American Cities, Homer Hoyt of the Federal Housing Administration has pointed out that there are three ways in which new building may add to the supply of dwelling units in a city which is experiencing a building boom: "It may (1) expand vertically in areas already settled through the replacement of single-family by multifamily structures, (2) fill in the interstices in the existing settled area, i.e., build on vacant lots in blocks already partially developed with structures, or (3) extend the existing settled area on the periphery of the city by the erection of new homes on newly subdivided land."[1]

The third of these methods of growth--the lateral extension of urban areas--has been characterized by some writers as the growth about a central core, the originally settled nucleus of the city. One of the earlier writers to set forth conceptually this now widely recognized pattern of city growth was Ernest W. Burgess, who termed it the concentric-pattern theory.[2] According to this concept, there are a series of concentric zones extending out from the center of the city. In the central zone is found the chief concentration of specialized services. It

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[1] Homer Hoyt, The Structure and Growth of Residential Neighborhoods in American Cities (Washington: United States Government Printing Office, 1939), p. 96.

[2] Ernest W. Burgess, "The Growth of the City," in Robert W. Park, Ernest W. Burgess, and Robert D. McKenzie, The City (Chicago: The University of Chicago Press, 1925), pp. 47-62.

is characterized by big hotels, skyscrapers, motion-picture houses, department stores, and a high mobility of population. The next zone is often characterized as the zone of transition, or as a section of rapid change. Rooming houses and light industry are important features of this zone. In Zone 3 are found the workingmen's homes and subcenters of retail stores, schools and parks. As the concentric pattern extends out, better residences are found in Zone 4 and the suburban and commuter area in Zone 5. Thus, it can be seen that ideally there is a gradation from the center of a city to the periphery in terms of service, income, and status.[3]

Very few cities could be found which would conform closely to the pattern described by Burgess. However, there are many which conform to the concentric-pattern type of growth with some modifications. Natural as well as artificial barriers in many cases prevent the development of a city according to a definite pattern. Several bayous running through Houston, as well as the ship channel on the eastern side, are examples of barriers of the type mentioned above. They have prevented Houston from developing in an even concentric-pattern type and have tended to locate many industrial and residential areas. However, in spite of these barriers one can see the operation of the concentric-pattern theory in the growth of Houston.

The operation of the concentric-pattern theory is clearly revealed in the central area of Houston. Tracts 24, 25, and 26 and parts of adjoining tracts comprise the central business district. Around these tracts

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[3] Kimball Young, Sociology: A Study of Society and Culture (2d ed.; New York, Cincinnati, Chicago, Boston, Atlanta, Dallas, and San Francisco: American Book Company, 1949), pp. 275-76.

is to be found the transitional zone. In this zone there are heavy concentrations of racial and ethnic minority groups, mainly Negroes and Mexicans. Poor families are heavily concentrated in this section. An examination of the employment status of the people in these areas reveals the fact that they are largely from the lower socioeconomic groups. The tract having the greatest population density is composed mainly of domestic-service workers, other service workers, and laborers. Tracts with lower population densities generally have a much more equitable distribution of population among the employment groups. Also in line with the concentric-pattern of growth, we generally find the higher socioeconomic classes living on the outer edges of the city.

In contrast to this type of expansion, some scholars claim that lateral extension occurs by (1) axial growth, or the extension of buildings in radial lines extending from the main body along fast transportation lines whereby the city becomes star-shaped in appearance; (2) development of isolated groups of houses beyond the periphery of the main urban area; and (3) development of isolated groups of houses which coalesce with each other or the main body of the city.

In line with this explanation of lateral extension, Hoyt has concluded from a study of a number of American cities that rent areas tend to conform to a pattern of sectors rather than of concentric circles. He found that the highest-rent areas tend to be located in one or more of the sectors of the city and that there was a gradation of rentals downward from these high rent areas in all directions. He also found that low-rent areas make up entire sectors of the city from the center to the

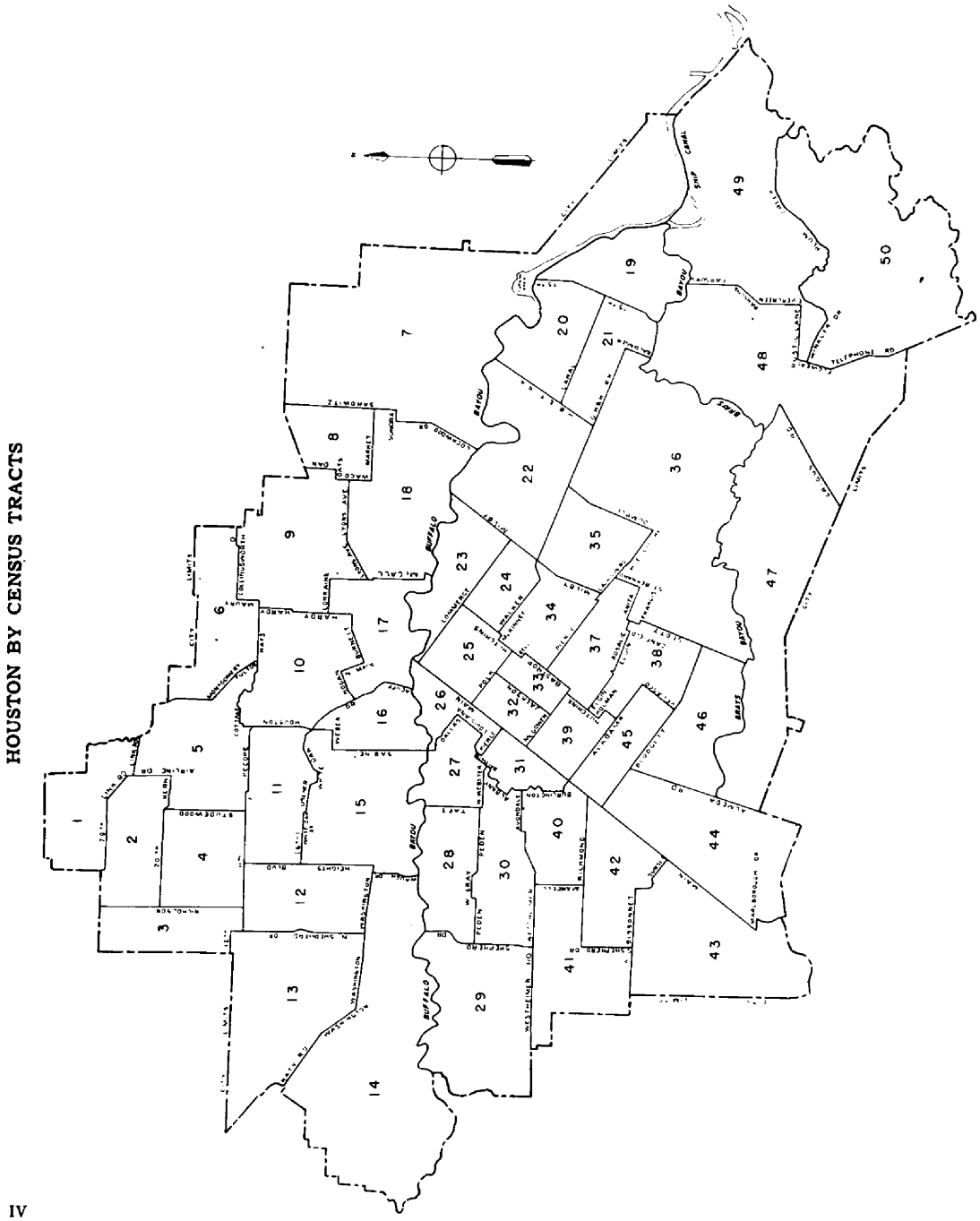

FIGURE 1. Houston by census tracts.

periphery. Intermediate rental areas are sometimes found on the outer edge of the high-rent areas.[4]

The high-rent area in the southwestern part of Houston and the low-rent area extending out from the center through the northeastern sector of the city would indicate that Hoyt's theory is applicable to some extent to Houston.

It should be pointed out that these various types of growth are not mutually exclusive of each other, but may be taking place simultaneously in the same city.

The growth and development of transportation has had tremendous effects on the configuration of cities. Most cities had a compact circular form until late in the nineteenth century. Prior to this time horse-car transportation was the principal means of transportation in most cities--which were therefore concentrated as closely as topography would permit. With the development and growth of transportation, axial growth and the development of isolated groups of houses have become more important.

The following paragraphs will give a brief socioeconomic description of Houston. Generally speaking, it may be said that the socioeconomic status of the people living south of Buffalo Bayou in Houston is higher than is that of the people living north of this bayou. The highest socioeconomic-status group is to be found in the River Oaks section, or in Census Tract 29. This is a very exclusive section occupied by those in the upper strata of Houston's society. The inhabitants of the general

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[4]Hoyt, Structure and Growth of Residential Neighborhoods, p. 76.

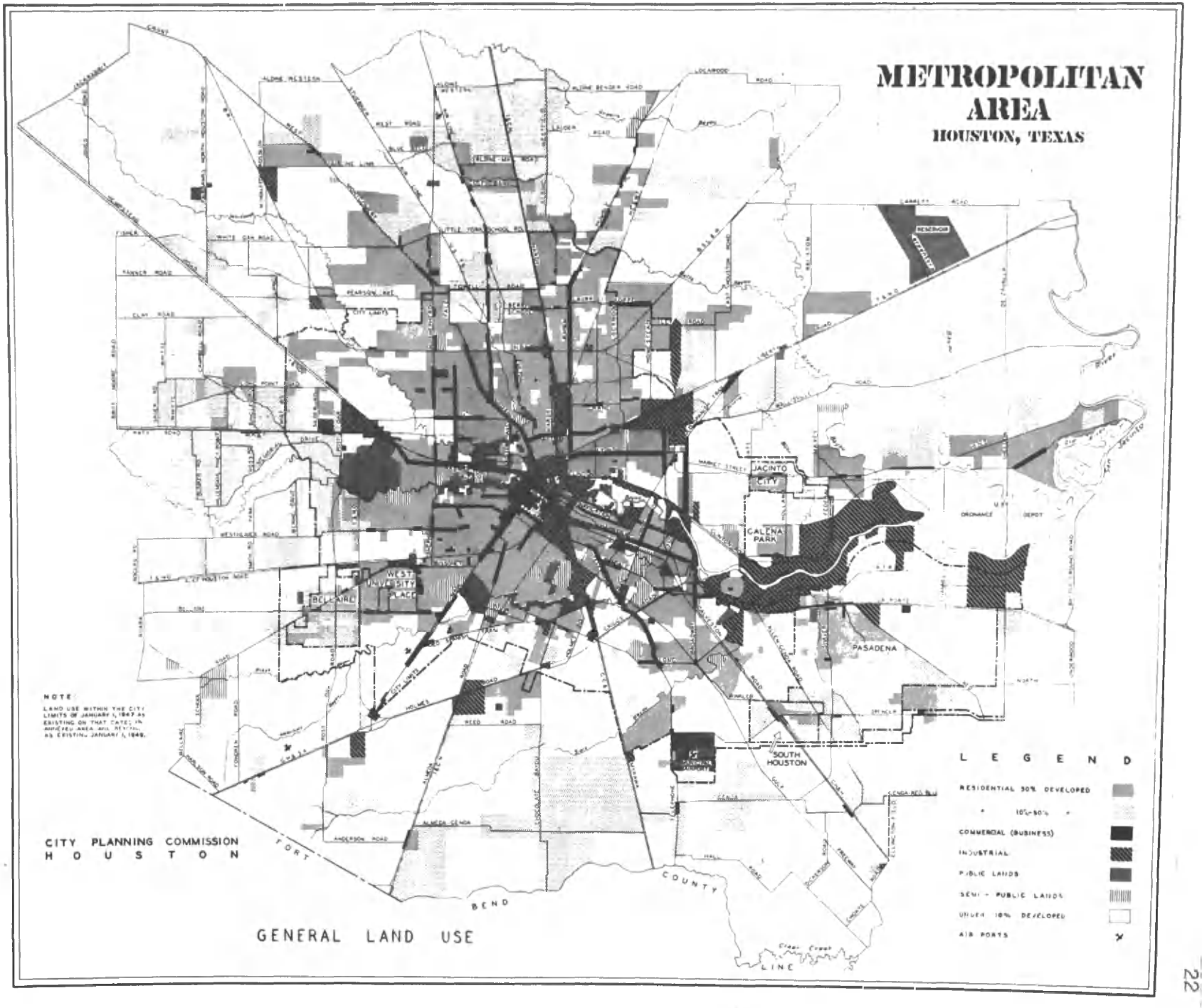

FIGURE 2. Land-use map of Houston.

area south and southeast of River Oaks extending along Bray's Bayou may also be considered as well up in the socioeconomic strata. On either side of Buffalo Bayou in the industrial area of the city, generally poor living conditions are found. The areas north of Buffalo Bayou are occupied mainly by workers in middle or lower socioeconomic status. The western area above Buffalo Bayou tends to rank higher than the central and eastern area above the bayou.

The industry of Houston is largely concentrated along Buffalo Bayou, the ship channel, and the railroads extending out of the city. Commercial business extends out from the downtown section along the main thoroughfares. It is heavily concentrated along Main, Washington, Harrisburg, Jensen, Telephone, and Lyons streets.

CHAPTER IV

NUMBER AND DISTRIBUTION OF THE POPULATION OF HOUSTON

Houston, Texas, is the largest city in the South, with a total population of 594,321[1] as of April 1, 1950. The only other city in the South approaching Houston in size is New Orleans, with a total population of 567,257[2] as of April 1, 1950. New Orleans was the largest city in the South up through the census of 1940. However, the fast-growing Houston was not to be denied and forged ahead in the last decade. The rate of growth evidenced by Houston has been much greater than that of New Orleans for all decades since 1850, which was the first year for which census data were available for Houston. The rate of population increase shown by Houston would seem to indicate that New Orleans will never again approach Houston in size unless some extraordinary factors, unforseeable at the present, enter into the situation.

Density of Population

Houston has an area of approximately 155 square miles. By dividing this area into the total population (594,321) we find the population density of Houston to be 3834.3 persons per square mile as of April 1, 1950.

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[1] 1950 Census of Population Preliminary Counts (Washington: United States Department of Commerce, Bureau of the Census), Series PC-2, No. 29 (August 30, 1950), p. 3.

[2] Ibid., Series PC-2, No. 43 (September 14, 1950), p. 6.

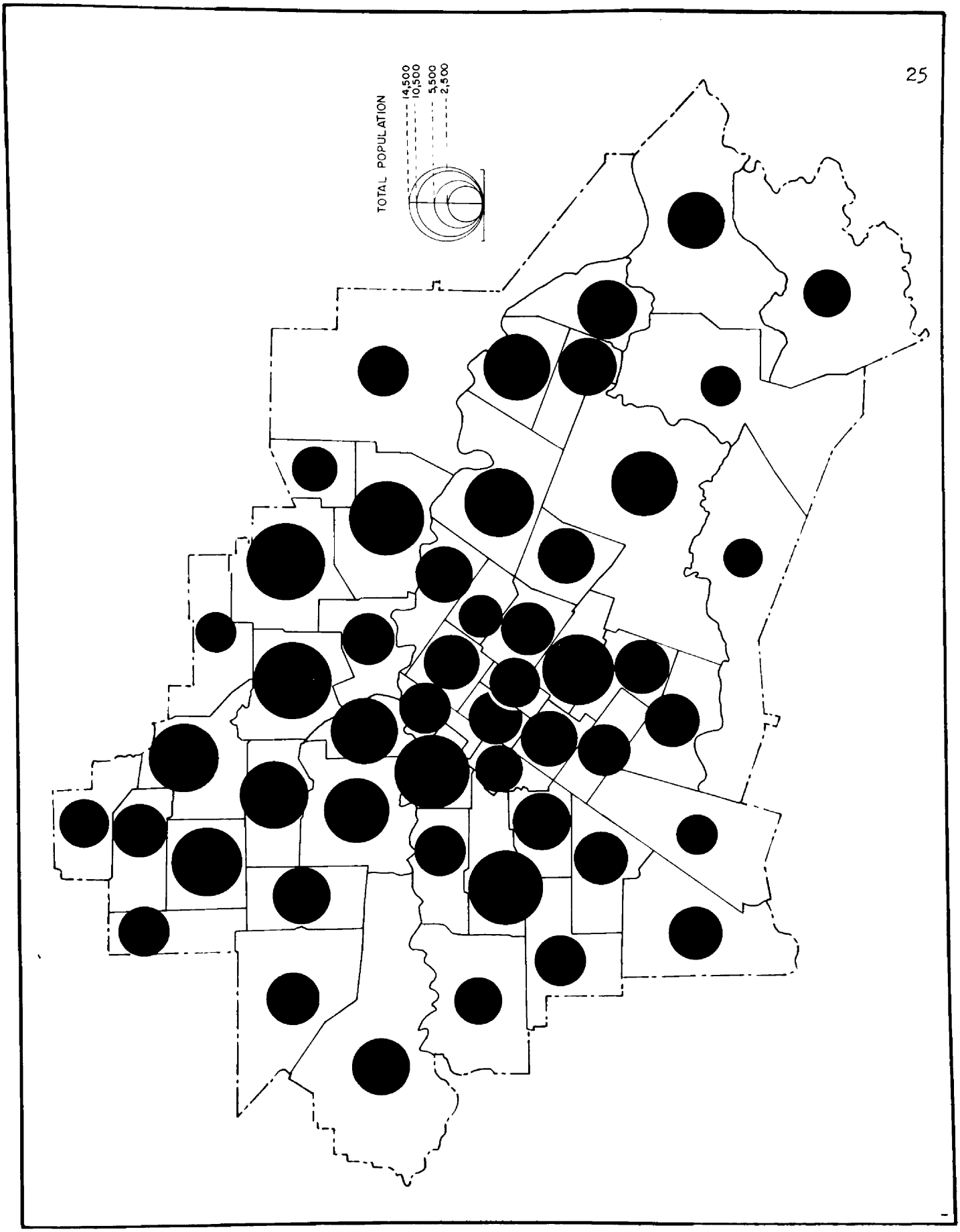

FIGURE 3. Distribution of the population of Houston by census tracts: 1940.

The following table gives a comparison of the population density of Houston with that of certain other Southern cities.

TABLE I

POPULATION, LAND AREA, AND POPULATION DENSITY OF SELECTED METROPOLITAN DISTRICTS OF THE UNITED STATES: 1940*

Metropolitan Districts	Population	Land Area in Square Miles	Population Per Square Mile
Atlanta	442,294	257.5	1717.6
In Central City	302,288	34.7	8711.5
Outside Central City	140,006	222.8	628.4
Houston	510,397	1024.3	498.3
In Central City	384,514	72.8	5281.8
Outside Central City	125,883	951.5	132.3
New Orleans	540,030	333.8	1617.8
In Central City	494,537	199.4	2480.1
Outside Central City	45,493	134.4	338.5

*Source: Sixteenth Census of the United States, 1940, Population (Washington: United States Government Printing Office, 1942-1943), Vol. I (Number of Inhabitants), pp. 58-59.

The table shows that Houston has a lower population density than Atlanta both in the central city and outside the central city. Houston also has a lower population density than New Orleans outside the central city. However, the population density of Houston is greater in the central city than is that of New Orleans. It may be deduced from the table that Houston has less than one-third the population density of either Atlanta or New Orleans for its metropolitan area.

Density of Population by Census Tracts

Figure 4 reveals that the greatest population density of Houston is to be found in Tracts 16, 25, 26, 27, 30, 31, 32, 33, 37, and 39. These tracts have over 12,000 people per square mile. Thus the areas of greatest concentration tend to be located in the center of the city. It is interesting to note that the tract (No. 27) having the greatest population density per square mile (23,058) is 86.7 per cent nonwhite. This tract is located just outside the central business district of the city in what may be termed the transitional zone. Tract 33, which has the next densest population (18,105), is 24.1 per cent nonwhite. The foreign-born white are also very important in this area, representing 8.4 per cent of the total population of the tract. The third-ranking tract in density of population is No. 37, which is 98.4 per cent nonwhite.

Tracts which have the fewest persons per square mile are Tracts 7, 14, 44, 47, 48, 49, and 50. All of these tracts have fewer than 2,000 persons per square mile. All of these tracts are on the periphery of the city and would be expected to have a low population density. It is an established demographic fact that the population of a city tends to be least dense in the outlying areas.

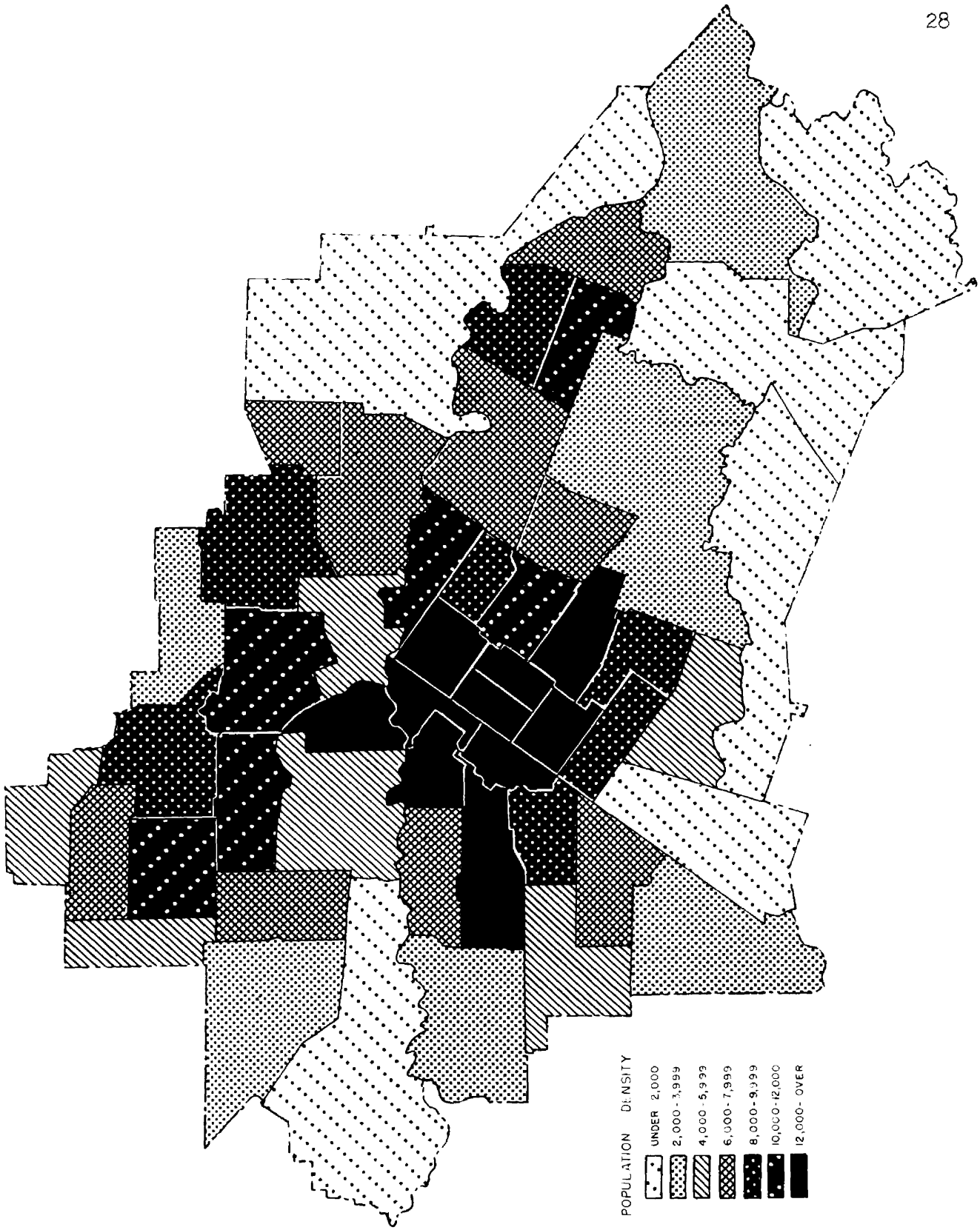

FIGURE 4. Density of population of Houston by census tracts: 1940.

CHAPTER V

RACE AND NATIVITY

It is of paramount importance in any analysis of a population group that an examination be made of its composition by race and nativity. The fundamental classification of white and Negro has been used herein to present the data which have been assembled.[1] Other races have been excluded because the percentages for these groups are too small to be represented in the table. The white population is broken down into native and foreign-born. In addition, the native white population is further broken down into native parentage, foreign parentage, and mixed parentage. This classification is quite adequate for an analysis of Houston's population. However, in some cities, where other races are of more importance, a further breakdown may be necessary in order to examine carefully the make-up of the component parts.

Table II gives a clear picture of the race and nativity characteristics of the population of Houston since 1890. It also provides a basis for comparing Houston with two other large Southern cities, namely Atlanta and New Orleans. The white population of Houston has increased proportionately, whereas the Negro population has declined proportionately since 1890. The percentage of the population which was white increased from 62.3 per cent in 1890 to 77.4 per cent in 1940, whereas the percentage of the population which was Negro decreased from 37.6 per cent in 1890

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[1] In many places in this study the classification of white and nonwhite has been used because of the census classification of basic data in this manner. It should be remembered in these cases that nonwhite is practically synonymous with Negro because of the small number of other nonwhite races in Houston.

TABLE II

PER CENT DISTRIBUTION OF THE POPULATIONS OF ATLANTA, HOUSTON, AND NEW ORLEANS BY COLOR, NATIVITY, AND PARENTAGE: 1890-1940*

City, Color, and Nativity	Per Cent Distribution					
	1890	1900	1910	1920	1930	1940
Atlanta	100.0	100.0	100.0	100.0	100.0	100.0
White	57.1	60.2	66.4	68.7	66.7	65.4
Native	54.3	57.5	63.6	66.3	64.9	64.0
Native Parentage	49.9	52.5	59.4	62.3	61.6	-
Foreign or Mixed Parentage	4.4	5.0	4.2	4.0	3.3	-
Foreign Parentage	-	-	2.4	2.4	1.9	-
Mixed Parentage	-	-	1.8	1.6	1.4	-
Foreign-Born	2.8	2.7	2.8	2.4	1.7	1.4
Negro	42.9	39.8	33.5	31.3	33.3	34.6
Houston	100.0	100.0	100.0	100.0	100.0/	100.0
White	62.3	67.1	69.5	75.4	78.2	77.4
Native	51.1	57.4	61.5	66.7	72.1	73.4
Native Parentage	37.0	39.4	47.1	52.4	-	-
Foreign or Mixed Parentage	14.1	18.0	14.3	14.3	-	-
Foreign Parentage	-	-	8.5	8.5	-	-
Mixed Parentage	-	-	5.9	5.8	-	-
Foreign-Born	11.2	9.7	8.0	8.7	6.1	4.0
Negro	37.6	32.8	30.3	24.6	21.7	22.4
New Orleans	100.0	100.0	100.0	100.0	100.0	100.0
White	73.3	72.8	73.6	73.7	71.4	69.7
Native	59.3	62.5	65.4	67.1	67.1	66.7
Native Parentage	29.1	35.9	43.5	49.2	52.8	-
Foreign or Mixed Parentage	30.2	26.5	21.9	17.8	14.3	-
Foreign Parentage	-	-	13.5	10.8	8.0	-
Mixed Parentage	-	-	8.4	7.1	6.3	-
Foreign-Born	14.0	10.3	8.2	6.6	4.3	3.0
Negro	26.6	27.1	26.3	26.1	28.3	30.1

*Sources: Eleventh Census of the United States, 1890, Population (Washington: Government Printing Office, 1895-1897), Part I, pp. 527, 532, 555; Twelfth Census of the United States, 1900, Population (Washington: United States Census Office, 1901), Vol. I, Part I, pp. 650, 656, 681; Thirteenth Census of the United States, 1910, Population (Washington: Government Printing Office, 1913-1914), Vol. II (Reports by States), pp. 403, 793; ibid., Vol. III (Reports by States), p. 852; Fourteenth Census of the United States, 1920, Population (Washington: Government Printing Office, 1921-1923), Vol. III (Composition and Characteristics of the Population by States), pp. 226, 403, 1026; Fifteenth Census of the United States, 1930, Population (Washington: United States Government Printing Office, 1931-1933), Vol. III (Reports by States), Part I, pp. 501, 990; ibid., Vol. III, Part II, p. 1008; Sixteenth Census of the United States, 1940, Population, Vol. II (Characteristics of the Population), Part II, p. 375; ibid., Vol. II, Part III, p. 427; ibid., Vol. II, Part VI, p. 1045.

/ Figures for white population have been revised to include Mexicans, who were included with other races in the 1930 reports.

to 22.4 per cent in 1940. The Negro population gained somewhat percentagewise in the decade 1930-1940. However, this was true of all the cities compared, as well as of the United States as a whole. The gain in the Negro group was less in Houston than in either New Orleans or Atlanta. The white population of Atlanta gained much less than did that of Houston. In New Orleans the white population, as compared with the Negroes, sustained a loss in relative importance between 1890 and 1940.

All three cities experienced a decline in the percentage of foreign-born white and an increase in the percentage of native white from 1890 to 1940.

The table reveals the significant fact that Houston's population is much more white than is that of either Atlanta or New Orleans. Over three-fourths (77.4 per cent) of Houston's population is white, whereas the corresponding percentage for New Orleans is 69.7 and that for Atlanta is 65.4. On the other hand, Table II reveals that the percentage of Atlanta's total population which is Negro is higher than that of either Houston or New Orleans. Atlanta's population is 34.6 per cent Negro, as compared with 30.1 per cent for New Orleans and 22.4 per cent for Houston.

The relative numerical positions of the white and Negro populations of Houston since 1850, the first year that data were available, are presented in Table III. It is to be noted that the white and Negro populations of Houston occupied about the same relative position in 1940 that they did in 1850. The Negro population represented 22.2 per cent of the total population in 1850 and 22.4 per cent of the total population in 1940. It should also be noted that the Negro population of Houston increased relative to the white population from 1860 to 1870. The Negro population gained to the point of becoming two-fifths (39.3 per cent) of the total

TABLE III

TRENDS IN THE TOTAL, WHITE, AND NEGRO POPULATIONS OF HOUSTON: 1850-1940*

Year	Total Population	White Population	Per Cent of Total Population White	Negro Population	Per Cent of Total Population Negro
1850	2,396	1,863	77.7	533	22.2
1860	4,845	3,768	77.7	1,077	22.2
1870	9,382	5,691	60.6	3,691	39.3
1880	16,513	10,026	60.7	6,479	39.2
1890	27,557	17,178	62.3	10,379	37.6
1900	44,633	29,979	67.1	14,608	32.7
1910	78,800	54,832	69.5	23,929	30.3
1920	138,276	104,268	75.4	33,960	24.6
1930	292,352	228,836	78.2	63,337	21.7
1940	384,514	297,959	77.4	86,246	22.4

*Sources: Seventh Census of the United States, 1850, Population (Washington: Robert Armstrong, Public Printer, 1853), p. 514; Eighth Census of the United States, 1860, Population (Washington: Government Printing Office, 1864), p. 486; Tenth Census of the United States, 1880, Population (Washington: Government Printing Office, 1883), p. 424 (data for both 1870 and 1880 obtained from this source); Eleventh Census of the United States, 1890, Population, Part I, p. 482; Twelfth Census of the United States, 1900, Population, Vol. I, Part I, p. 643; Thirteenth Census of the United States, 1910, Population, Vol. III, p. 859; Fourteenth Census of the United States, 1920, Population, Vol. III, p. 1001; Fifteenth Census of the United States, 1930, Population, Vol. III, Part II, p. 375; Sixteenth Census of the United States, 1940, Population, Vol. II, Part VI, p. 1045.

population in 1870. Then began a decline which reached a low of one-fifth (21.7 per cent) in 1930. As previously pointed out, the decade between 1930 and 1940 showed a slight increase in the proportion of the population classified as Negro.

The largest proportion of the foreign-born white population of Houston comes from Mexico. About one-third of the total number of foreign-born whites in Houston are Mexicans. Germany, Italy, Russia, England, and Poland rank next in order of their importance as sources of population for Houston. With a few exceptions, the males outnumber the females among all nationalities in the foreign-born white population. This is to be expected, as it is an established demographic fact that long-distance migration tends to be selective of the male population. The sex ratio in the foreign-born population of Houston is 120, which means that for every 100 females there are 120 males.

These sex ratios of the foreign-born in Houston should be viewed with caution, however, as Table IV actually shows an excess of females over males for some of the nationality groups. Even a close approximation of females to males -- much less a balance in favor of the females -- is contrary to the demographic fact that long-distance migration is selective of the male population. Such conditions may be accounted for by incorrect reporting of foreign-born whites as native-born whites. This is probably more likely to be true for the male than the female population.[2] The result of more foreign-born males than females being incorrectly reported as native-born would be an erroneously low sex ratio for the foreign-born group.

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[2] Smith, Population Analysis, p. 114.

TABLE IV

FOREIGN-BORN WHITE BY COUNTRY OF BIRTH, BY SEX FOR THE CITY OF HOUSTON: 1940*

Country of Birth	Total 15,313	Per Cent 100.0	Male 8,355	Female 6,958
England	845	5.5	449	396
Scotland	232	1.5	143	89
Wales	17	0.1	11	6
Northern Ireland	35	0.2	20	15
Irish Free State (Eire)	398	2.6	109	289
Norway	138	0.9	94	44
Sweden	269	1.8	177	92
Denmark	136	0.9	95	41
Netherlands	84	0.5	55	29
Belgium	35	0.2	18	17
Luxemburg	3	-	2	1
Switzerland	110	0.7	63	47
France	195	1.3	92	103
Germany	1,702	11.1	941	761
Poland	720	4.7	388	332
Czechoslovakia	368	2.4	186	182
Austria	489	3.2	252	237
Hungary	127	0.8	70	57
Yugoslavia	29	0.2	17	12
Russia (U.S.S.R.)	1,129	7.4	591	538
Lithuania	55	0.4	26	29
Latvia	28	0.2	17	11
Finland	30	0.2	17	13
Rumania	125	0.8	68	57
Bulgaria	4	-	3	1
Turkey in Europe	3	-	1	2
Greece	419	2.7	307	112
Italy	1,346	8.8	810	536
Spain	54	0.4	40	14
Portugal	5	-	5	-
Other Europe	23	0.2	11	12
Palestine and Syria	217	1.4	132	85
Turkey in Asia	65	0.4	52	13
Other Asia	48	0.3	27	21
Canada, French	29	0.2	14	15
Canada, Other	519	3.4	259	260
Newfoundland	18	0.1	9	9
Mexico	5,035	32.9	2,654	2,381
Cuba and Other West Indies	73	0.5	44	29
Central and South America	70	0.5	39	31
Australia	25	0.2	8	17
Azores	-	-	-	-
All Other and Not Reported	61	0.4	39	22

*Source: Sixteenth Census of the United States, 1940, Population, Vol. II, Part VI, p. 1047.

Spatial Distribution of Selected Race and Nativity Groupings

White Population.--The white population is well distributed over Houston except for those census tracts where Negroes are heavily concentrated. Figure 5 gives a clear picture of this distribution. The small white population in Census Tracts 1, 8, 18, 27, 34, 37, and 38 is indicative of the large nonwhite population in these areas.

As can be seen from Figure 6, the foreign-born white population is to a considerable extent concentrated along Buffalo Bayou and White Oak Bayou in Tracts 10, 15, 16, 17, 19, 20, and 23. These are important industrial and transportation areas.

Nonwhite Population.--As has been noted elsewhere, the nonwhite population is practically synonymous with the Negro population because of the small number of other races in Houston. Bearing this in mind, one can observe from Figures 7 and 8 that the Negro population is largely concentrated in a few census tracts. The great bulk of the Negro population of Houston is to be found in Census Tracts 1, 8, 9, 18, 27, 34, 37, and 38. This fact is clearly revealed in Figure 7.

Figure 8 shows the percentage of the population classified as nonwhite by census tracts. There are four main areas of concentration, as is shown by the figure. These areas are clearly defined and delineated. Three of the areas surround or lead out from the central part of the city, while the fourth (Tract 1) is located on the periphery. The percentage of Negroes is extremely small in the northeastern part of the city and in a few tracts in the northwestern part of the city.

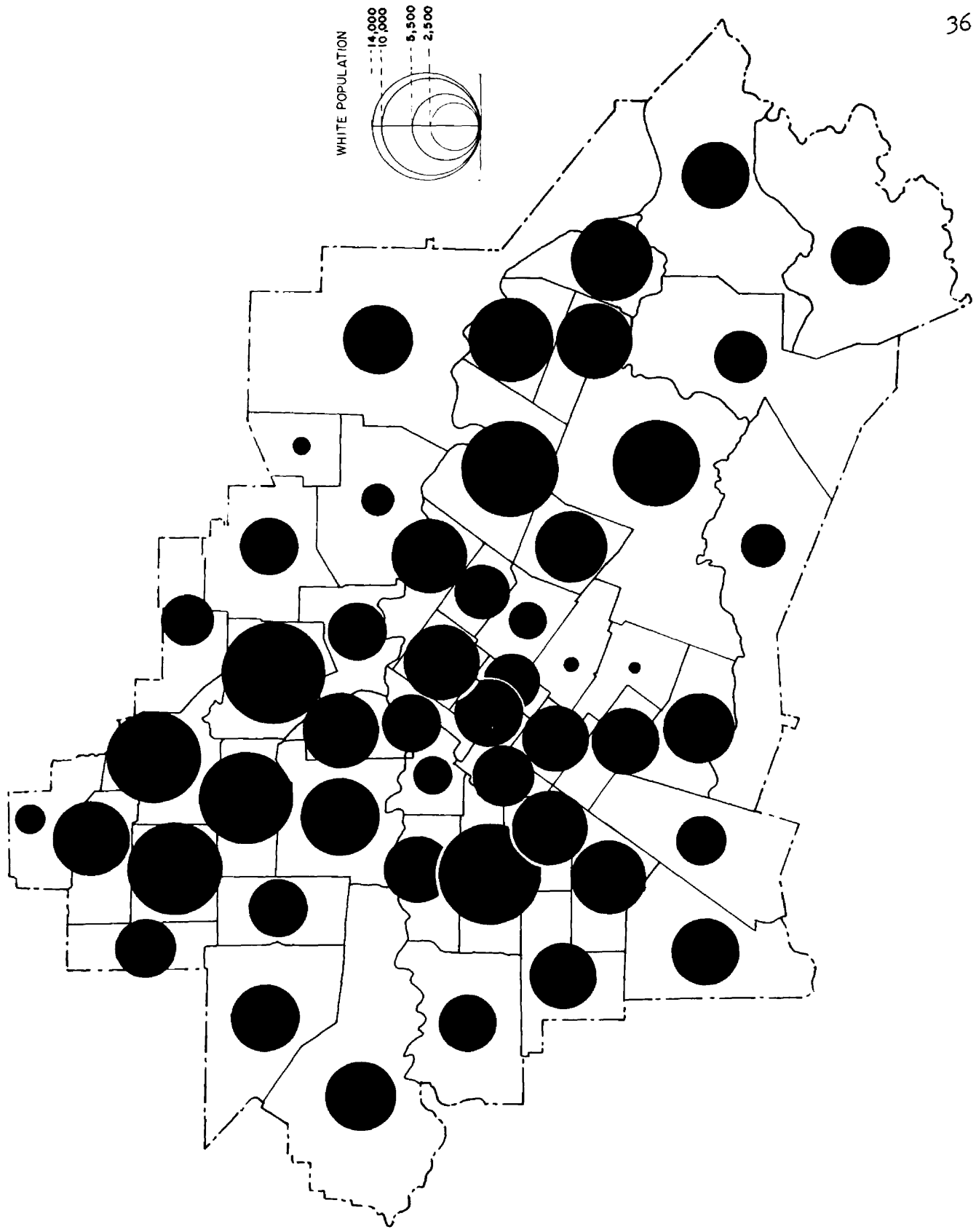

FIGURE 5. Distribution of the white population of Houston by census tracts: 1940.

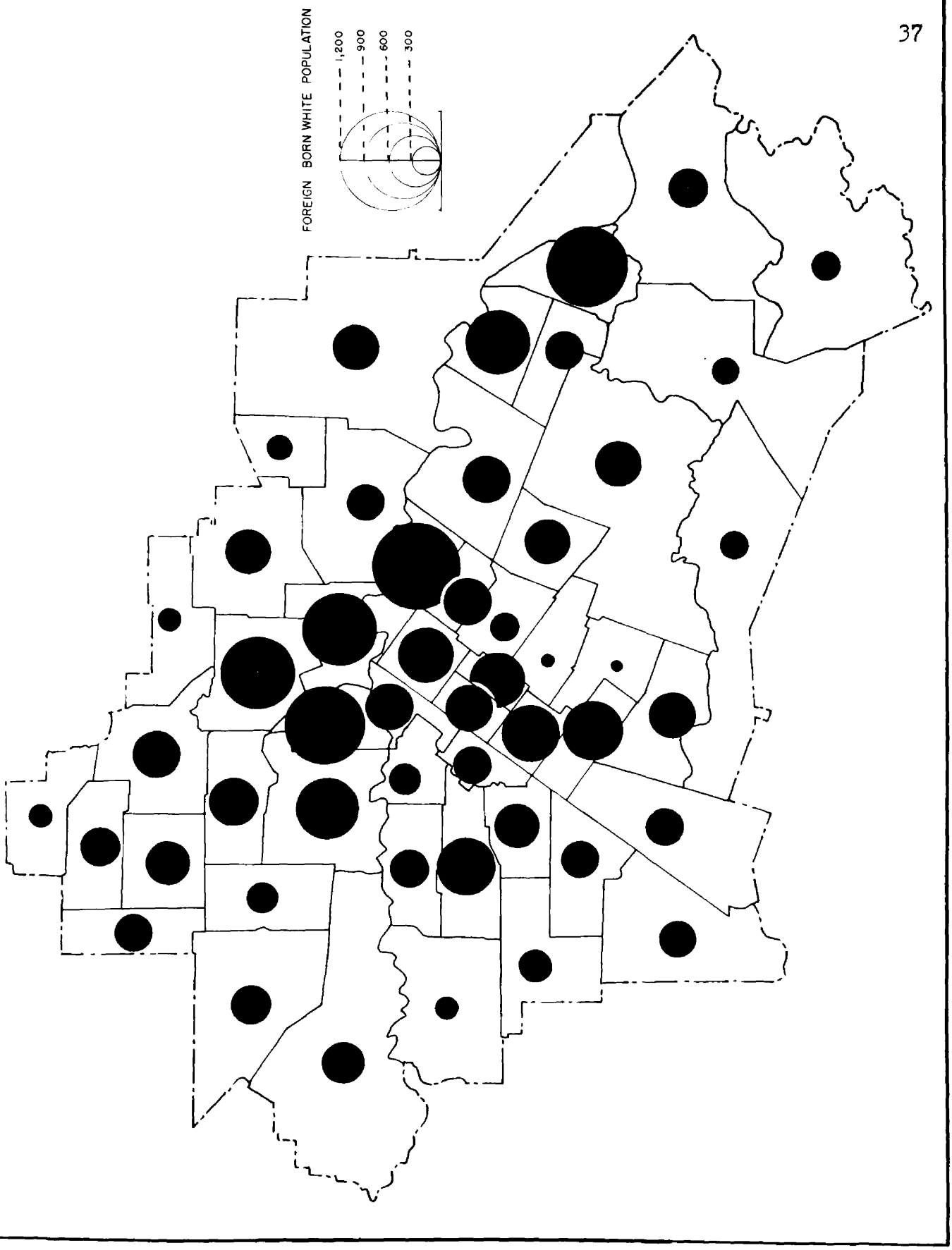

FIGURE 6. Distribution of the foreign-born white population of Houston by census tracts: 1940.

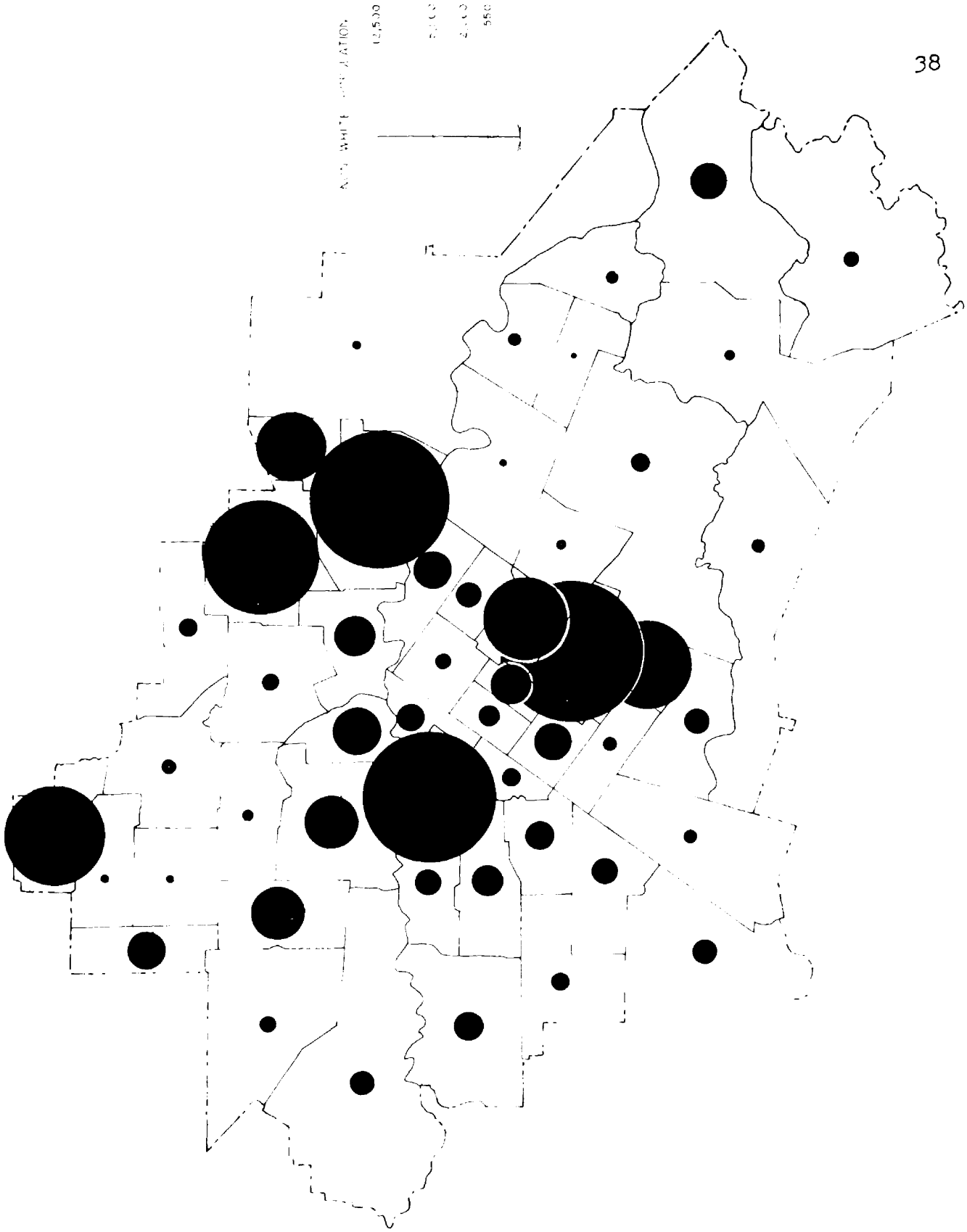

FIGURE 7. Distribution of the nonwhite population of Houston by census tracts: 1940.

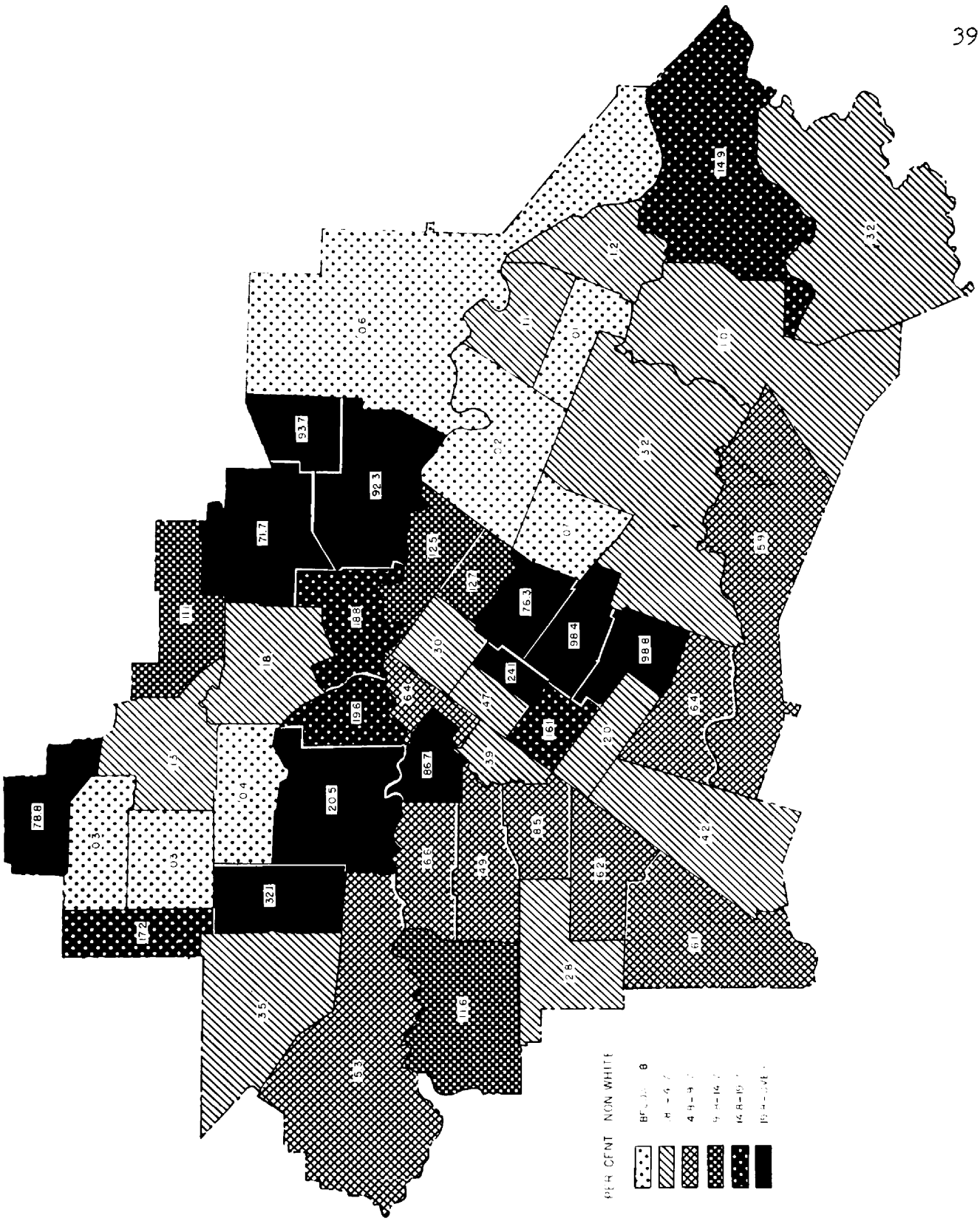

FIGURE 8. Per cent of the population of Houston nonwhite by census tracts: 1940.

CHAPTER VI

AGE COMPOSITION

It may safely be stated without fear of exaggeration that the facts relating to the age structure of a population aggregate are of crucial importance. The age distribution of a population affects to a considerable extent the pattern of relationships existing within its community life. Many community organizations depend on effective young leadership to carry out their objectives. The tempo of life within a community is vitally influenced by the age distribution of the population. The age structure often largely determines whether a community is progressive or decadent. The number, size, and quality of institutions within a community are vitally conditioned by the age structure. Thus recreational groups are not as important to a community with few young people as they are to one in which there are a large number of young folk. On the other hand, some communities have such large concentrations of young people that it is a great burden on them to maintain adequate educational institutions. A disproportionate number in the older age brackets might also impose a heavy burden on the productive age groups. The age distribution is important to community planners, business leaders, school officials, welfare organizations, and many other people in various lines of endeavor. These illustrations serve to show the value of information concerning the age distribution of a community.

This section will analyze the age-sex distribution of Houston mainly by means of age-sex pyramids. Age-sex pyramids will be used to

present the information for the total population, the white population, and the nonwhite population. The distribution of young children and old people will be presented by census tracts. Finally, Houston will be compared with Atlanta and New Orleans with reference to age distributions for the entire cities.

Techniques other than the age-sex pyramid which have been used in analyzing and presenting the data are index numbers and cross-hatched statistical maps.

The age-sex pyramid involves first the computation of percentages by age groups showing the distribution of male and female in the population aggregate under consideration. The age groupings are placed on the vertical scale, starting with the youngest at the bottom and continuing to the oldest group at the top. The horizontal scale is used for the percentages, with a line drawn through the center separating the males on the left from the females on the right. As the percentages are plotted for each age group, bars are drawn showing the per cent of males or females in any age group. By repeating this process to the top age group, an age-sex pyramid is produced. Thus one can tell at a glance the percentage and relative distribution of either sex or of both sexes for any age group.

The computation of index numbers may be explained by the use of a simple illustration. Assume that one wishes to find out significant differences in the age composition of the urban and rural population of Texas. By dividing the percentage of individuals in the total population who are under five years of age into the percentage of individuals in the urban population who are under five years of age and multiplying by 100

an index number is obtained. The same process would, of course, be repeated for each age group in the urban category and for each age group in the rural category. The resulting numbers are plotted, using the vertical axis for the index numbers and the horizontal axis for the age groupings. The plotted points are connected, thus producing curves sometimes referred to as "age profiles." Variations are shown above or below 100, indicating the deficiency or excess in that age group as compared to the standard population. Index numbers are a more refined technique than age-sex pyramids. By using index numbers it is possible to discover all of the important variations in the age composition of different population groups. Index numbers bring out many important differences which are not revealed by the use of age-sex pyramids.

Reliability of Data

It is apparent that there is a discrepancy between actual and census ages. There is a tendency for ages to cluster in even years, in numbers ending with 5, and (especially) in ages ending with 0. Likewise, there is a deficiency in the ages not exactly divisible by 2 or by 5.[1] There is a tendency for the nonwhite groups to show more discrepancy than the white groups.[2] These facts should be allowed for in any unusual distribution of the population in these age groupings. While there is some variation in the reliability of data between different cities, it is probably not of sufficient importance to rule out important comparisons between cities.

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[1] Smith, Population Analysis, p. 89.

[2] Ibid., p. 90.

Age-Sex Pyramids

Total Population.--Urban populations are usually characterized by a deficiency of children and of old people and a heaping up of population in the working ages (twenty to sixty).[3] The age-sex pyramid for the United States urban population reveals an excess of females for almost all ages except those under fifteen. It also shows a heavy concentration of people in the productive age brackets.[4]

Thus the age-sex pyramid for the nation's urban people is cut at the base on both sides, with the heaviest indentation on the female side. The pyramid bulges in the middle, the greatest bulge being on the female side.

The population of Houston broadly follows what is considered a normal age-sex distribution for an urban population. Certain marked similarities can be observed between the age-sex distribution of Houston, shown in Figure 9, and that of the urban population of the United States. However, there are two main points of departure which should be pointed out. In the first place, for the ages forty through fifty-nine, the men outnumber the women in the population of Houston. It is also to be noted that Houston has a somewhat heavier concentration of people in the productive age brackets than does the urban population of the country.

Native White.--The age-sex pyramid for the native white population (Figure 10) shows a greater concentration in the age groups under twenty-four as contrasted with the total population of the city. There is also

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[3] Ibid., pp. 106-107.

[4] Ibid., p. 92.

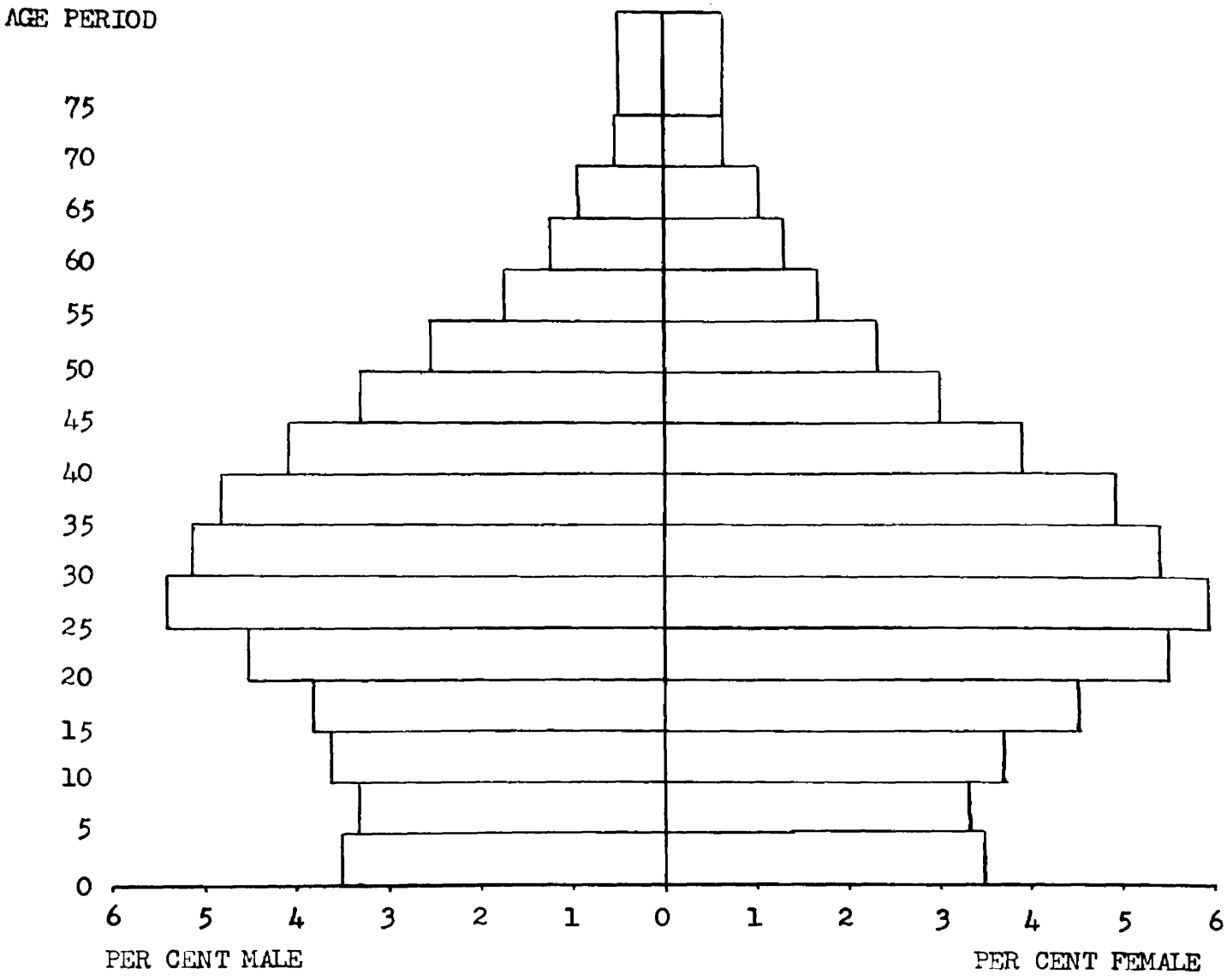

FIGURE 9. Age-sex pyramid for the total population of Houston: 1940.

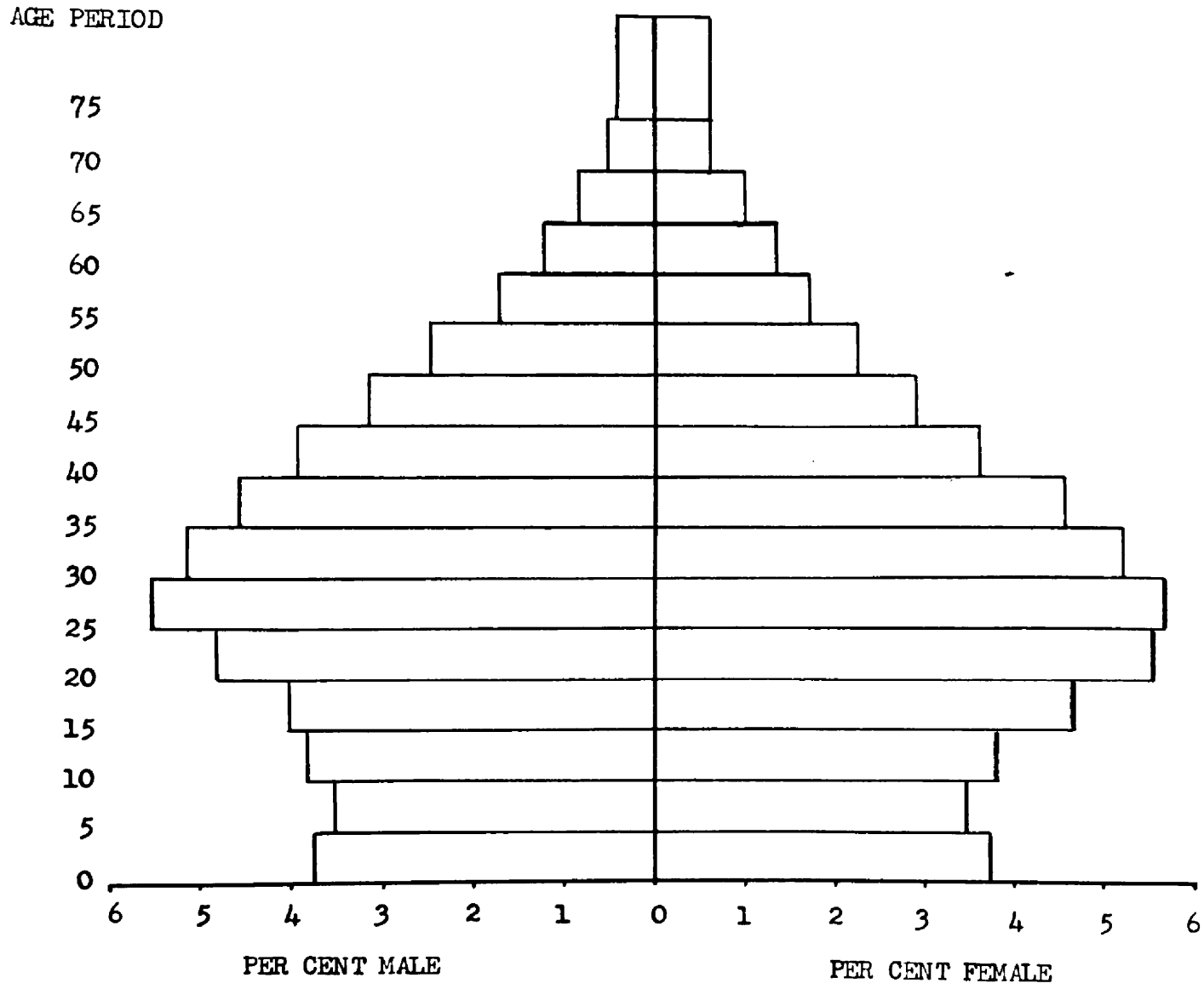

FIGURE 10. Age-sex pyramid for the native white population of Houston: 1940.

a more equitable distribution of the sexes among the various age groups. However, the native white population follows somewhat the general pattern of the total population except for the variations noted above.

Foreign-Born White.--The age-sex pyramid for the foreign-born white population (Figure 11) reveals an extremely heavy concentration in the age groups above thirty-five years of age. The predominance of males in the foreign-born population of Houston is clearly demonstrated by Figure 11. It is also to be noted that there is a great scarcity of children among the foreign-born white population.

It is a well-established demographic principle that immigrants are drawn in disproportionately large numbers from young adults aged fifteen to twenty-five years. The fact that the foreign-born in Houston are concentrated in more advanced age groups, primarily above thirty-five years, reflects the relative absence of European emigration to this country since World War I. Thus, the bulk of our European immigrants, while growing up the age structure, have not been replaced by foreign-born; and their children born here are, of course, in the native white category. The foreign-born whites of Houston would undoubtedly be of even older average age, were it not for the substantial number of Mexican immigrants who have entered in recent years.

The fact that the foreign-born white population of Houston is predominately male is in accord with the demographic fact that long-distance migration selects excessive proportions of males.

Negro.--The age-sex pyramid for Negroes (Figure 12) reveals a heavy concentration in the age groupings under forty-four years of age. The Negro population, in comparison with the total population, has a

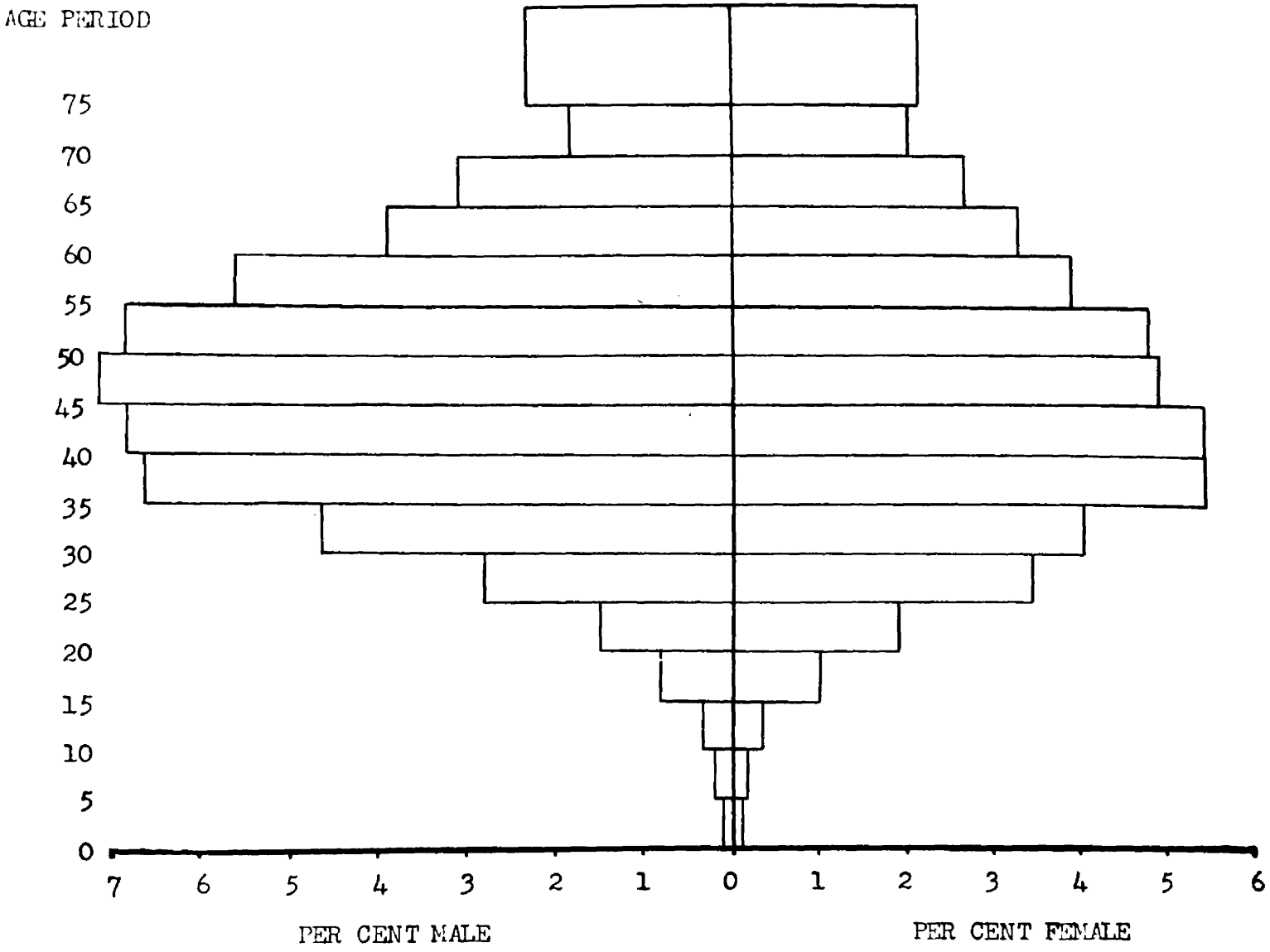

FIGURE 11. Age-sex pyramid for the foreign-born white population of Houston: 1940.

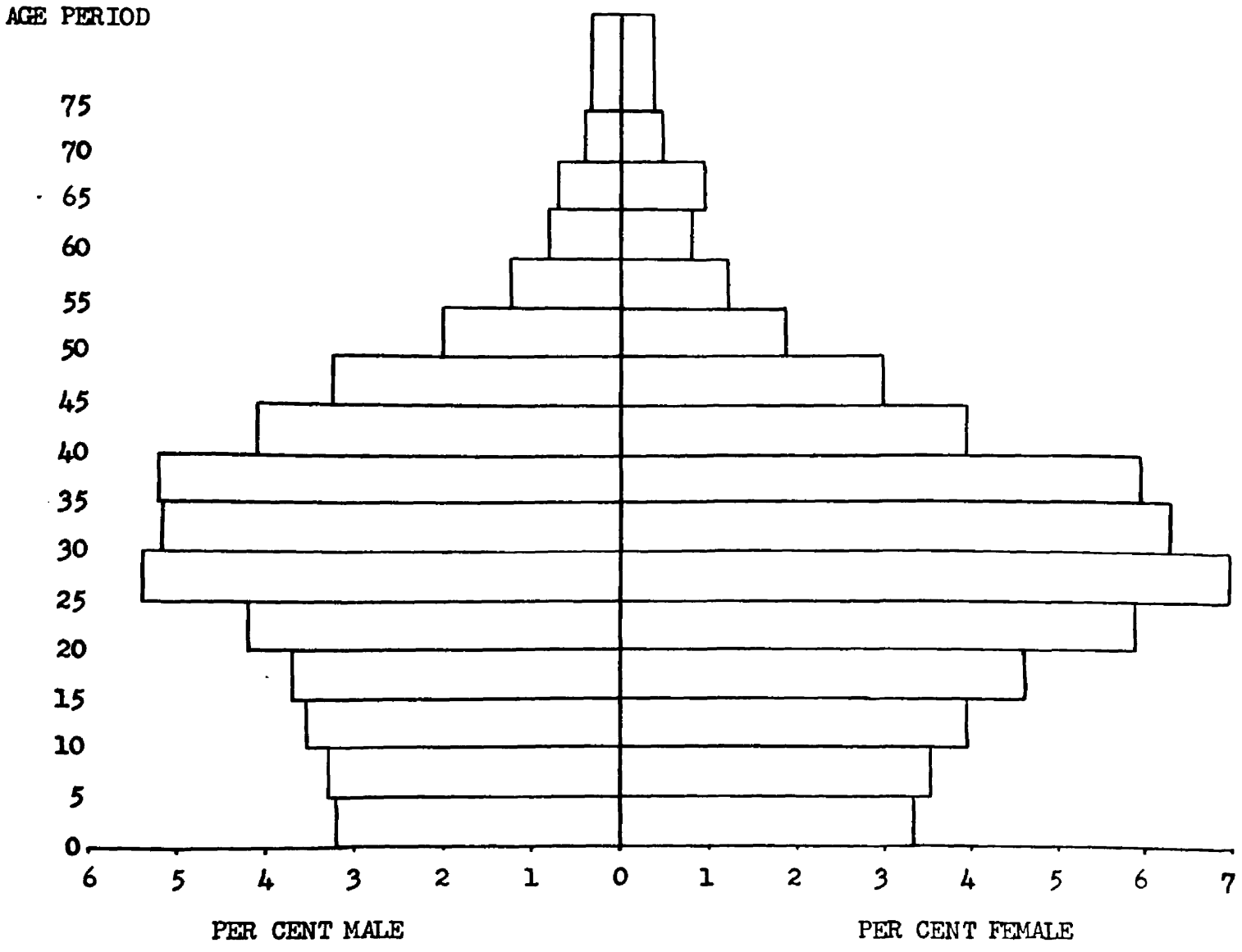

FIGURE 12. Age-sex pyramid for the Negro population of Houston: 1940.

higher percentage of persons in all age groups under forty-four except for the ages under five and between fifteen and twenty-four. On the other hand, the Negroes of Houston have a comparatively small proportion of their number in the older age brackets.

The females greatly outnumber the males in the Negro population of Houston. The difference between the male and female components seems to be greatest from age fifteen through thirty-nine years. To a considerable extent this disparity in age groupings may be due to misstatement of ages by the women.[5] It should also be pointed out that most of the Negro migration into Houston is from Texas and Louisiana, and, as is true for short-distance migration, this migration is highly selective of the female population.

Distribution of the Population Under Five Years of Age

The greatest concentrations of children under five years of age are to be found in Census Tracts 1, 7, 19, and 23. In each of these tracts the children under five years of age comprise over 10 per cent of the total population of the tract. Tract 1 has a percentage of 11.6 and ranks highest; it is followed by Tract 23 with 10.9 per cent. Tract 7 has 10.8 per cent; and Tract 19, 10.8 per cent. All of these tracts are located on the outer fringe of the city with the exception of Tract 23, which has a heavy concentration of Mexican families. All of these tracts have a concentration of workers in the middle or lower socioeconomic category.

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[5] See T. Lynn Smith and Homer L. Hitt, "The Misstatement of Women's Ages and the Vital Indexes," Metron, XIII (1939), 95-108.

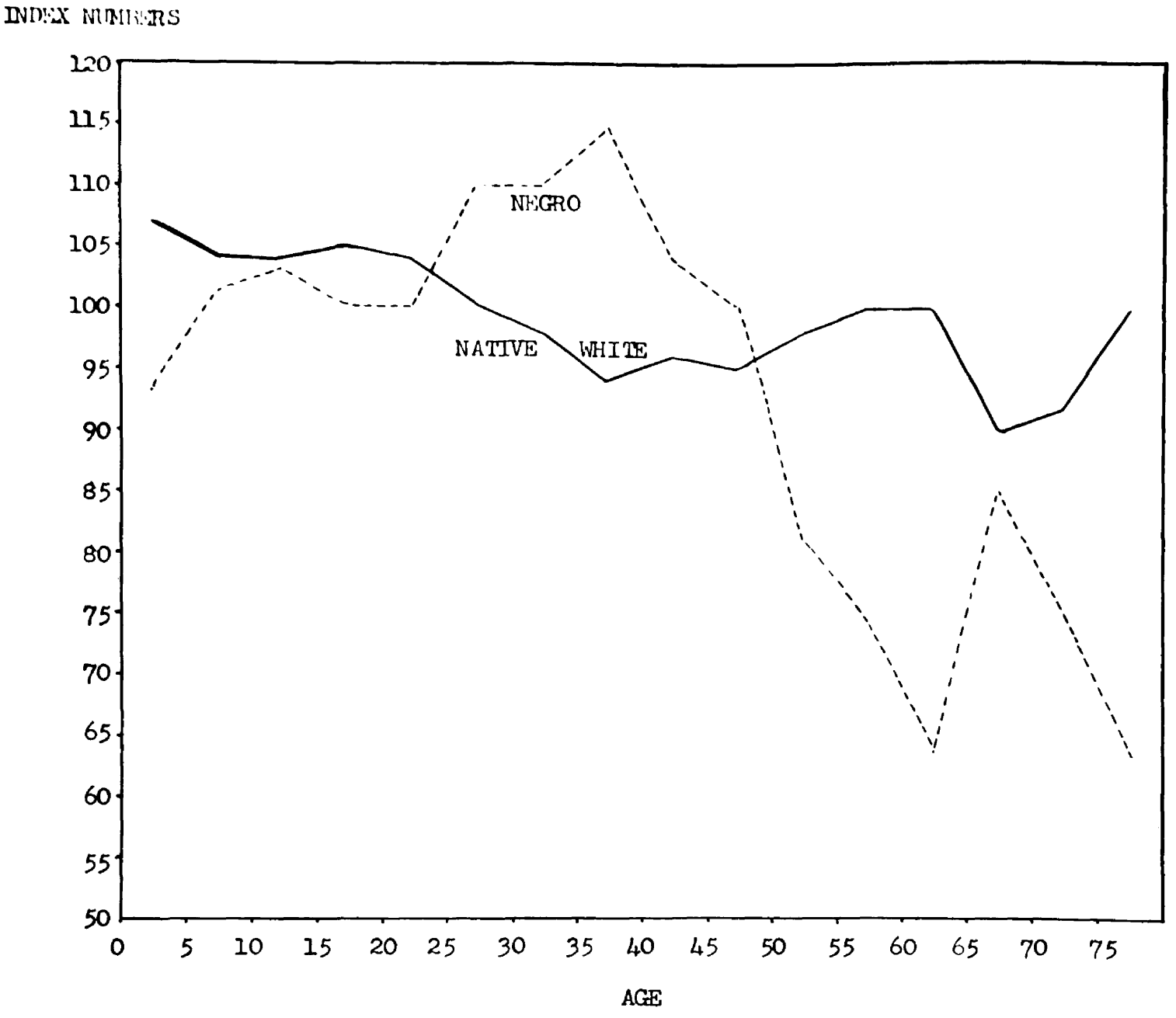

FIGURE 13. Index numbers showing the relative importance of each age group in the native white and Negro populations of Houston: 1940 (total population of Houston equals 100).

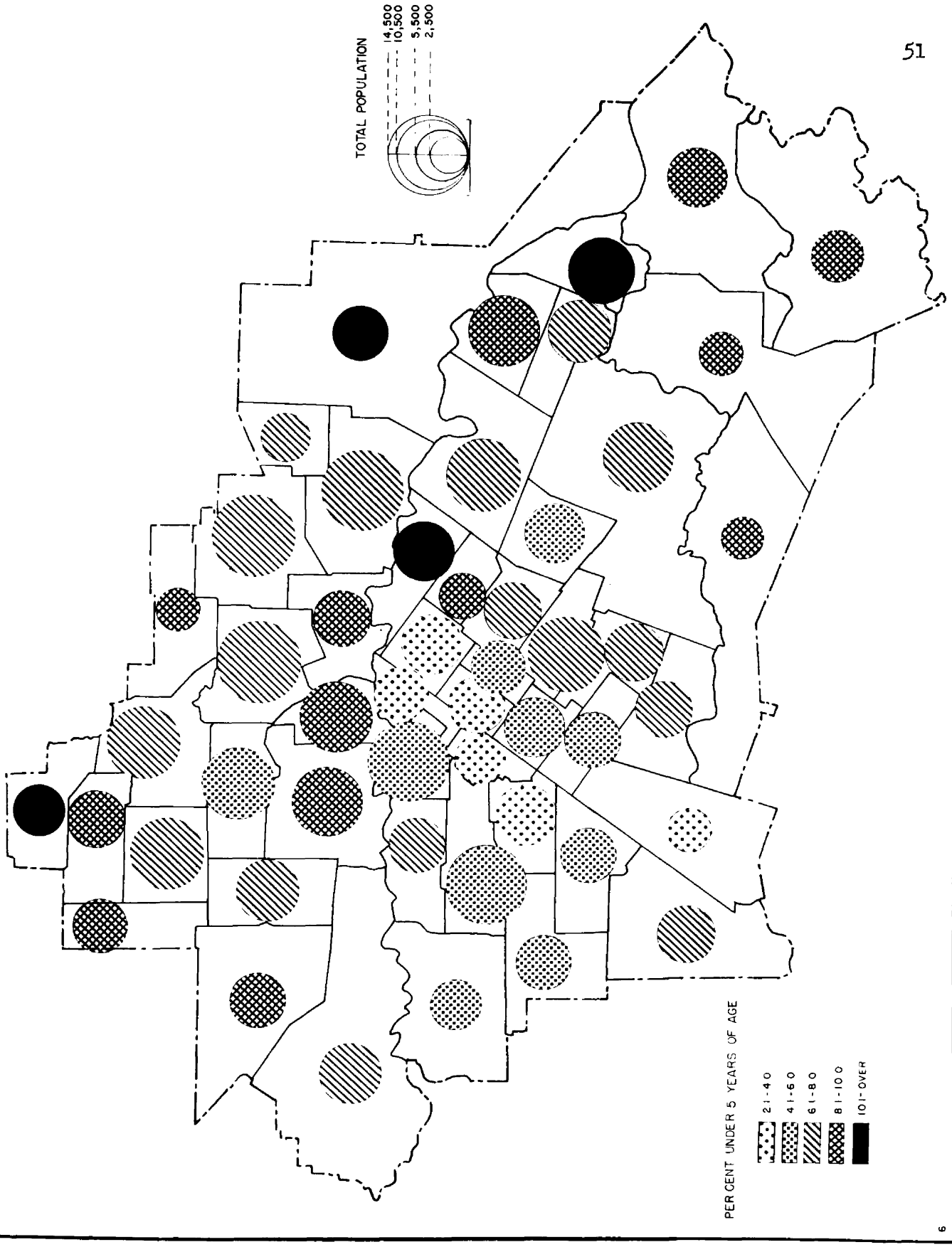

FIGURE 14. Distribution of the population of Houston under five years of age by census tracts: 1940.

Tracts 25, 26, 32, and 40 have the smallest percentages of children under five years of age. Only 2.1 per cent of the total population of Tract 26 are under five years of age. Tract 40 has only 2.9 per cent, followed by Tract 25 with 3.3 per cent and Tract 32 with 3.4 per cent. Tracts 25 and 26 are located in the center of the city, where there is a high sex ratio and a heavy concentration of old people. An analysis of the occupations of dwellers in Tracts 32 and 40 reveals a concentration of people in occupations associated with a relatively high socioeconomic status. Tract 40 also has a high concentration of older people, and Tract 32 has a rather high sex ratio.

Distribution of the Population Sixty-Five Years of Age and Over

That the population of the United States is an aging one can be easily ascertained by comparing the percentage of the total population who were over sixty-five years of age in earlier years with the percentage in that category today. In 1880 the percentage of the total population who were over sixty-five years of age was 3.4. By 1940 the percentage of the population over sixty-five years of age had increased to 6.9, and it is estimated that by 1980 the percentage will have risen to 14.4.[6]

> As an increasing proportion of the population becomes old new interests will take precedence in American life. Instead of the interests of the middle-aged and the young dominating the American scene as they have in the past, it is possible that those of the old will command increasing attention as indeed they have done since about 1932.[7]

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[6] "Estimated Future Population, by Age and Sex: 1945 to 1980," Series P-3, No. 15, July 23, 1941, United States Bureau of the Census, and Population Series P-10, No. 21, Table 4, May 5, 1943, as cited in Paul H. Landis, Population Problems: A Cultural Interpretation (New York, Cincinnati, Chicago, Boston, Atlanta, Dallas, and San Francisco: The American Book Company, 1943), p. 279.

[7] Landis, Population Problems, p. 294.

As our population ages and older people constitute a greater percentage of it, their needs and problems will become more vital in community life. In the past we have devoted much of our time and effort to developing community programs aimed at meeting the needs of our young population. As our aged population increases, communities will probably be called upon to develop various programs designed to meet the needs of this sector of our population.

The data in Figure 15 show that Tracts 4, 10, 11, 25, 26, 30, 31, 33, 39, 40, and 44 have the greatest percentage of people sixty-five years of age and over. In each of these tracts over 4.9 per cent of the total population is over sixty-five years of age. Tract 31, with 8.3 per cent, ranks first, followed by Tract 40 with 7.5 per cent and Tracts 25 and 26 with 6.3 per cent each. It is interesting to note that these tracts are all located in the center of the city, where the density of the population is greatest and living conditions are poor.

Figure 15 also shows that the tracts in the outlying areas have the lowest percentages of people sixty-five years of age and over. Tract 20 has the lowest percentage of all, with 2.9 per cent. Tract 48 ranks next lowest, with 2.8 per cent; and Tract 8 follows, with 3.1 per cent.

Age Composition of Houston Compared with That of Atlanta and New Orleans

Figure 16, showing index numbers of the relative importance of each age group in the populations of Atlanta, Houston, and New Orleans, reveals the following important contrasts. In the first place, Houston has the greatest concentration of its population in the productive age brackets--

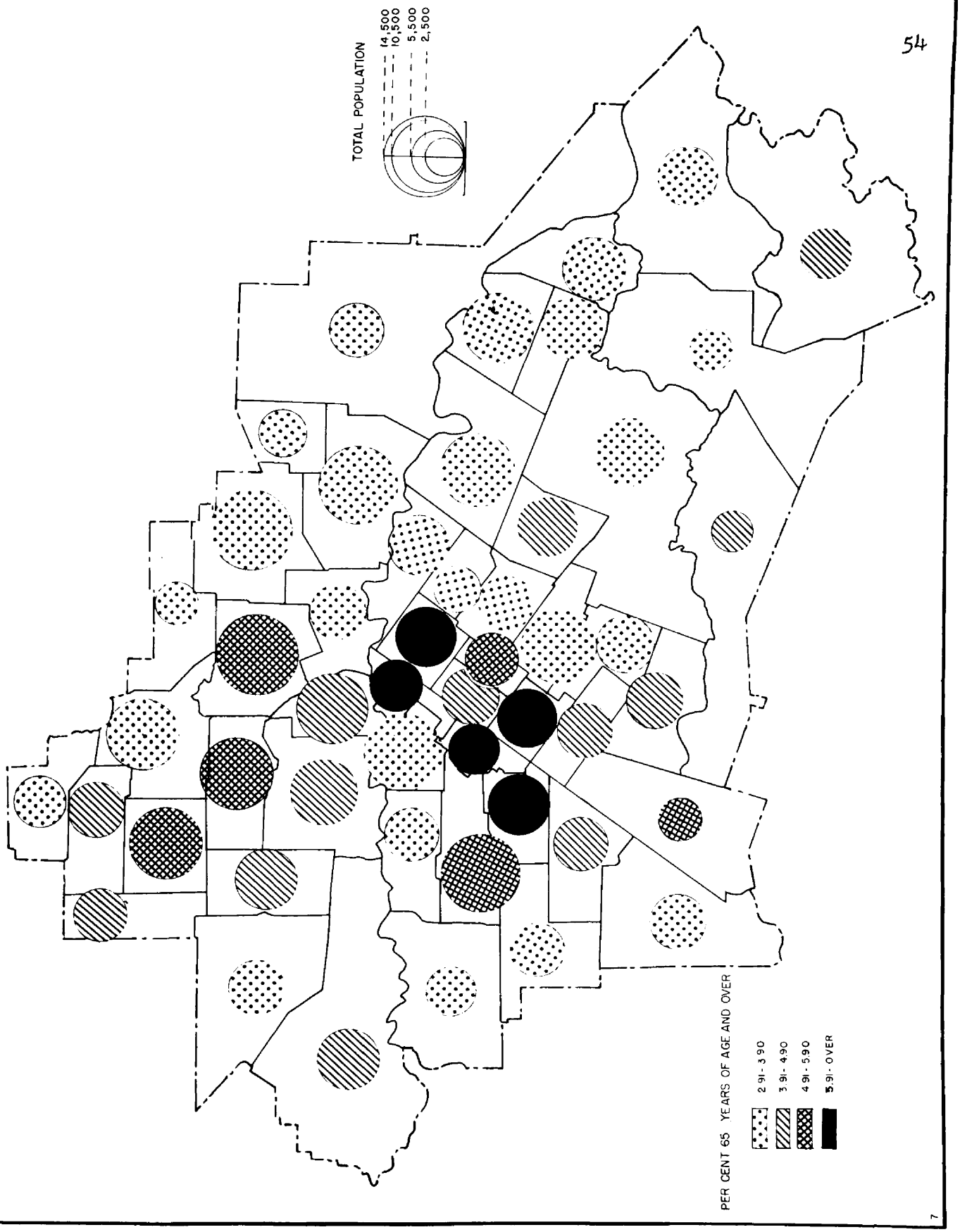

FIGURE 15. Distribution of the population of Houston sixty-five years of age and over by census tracts: 1940.

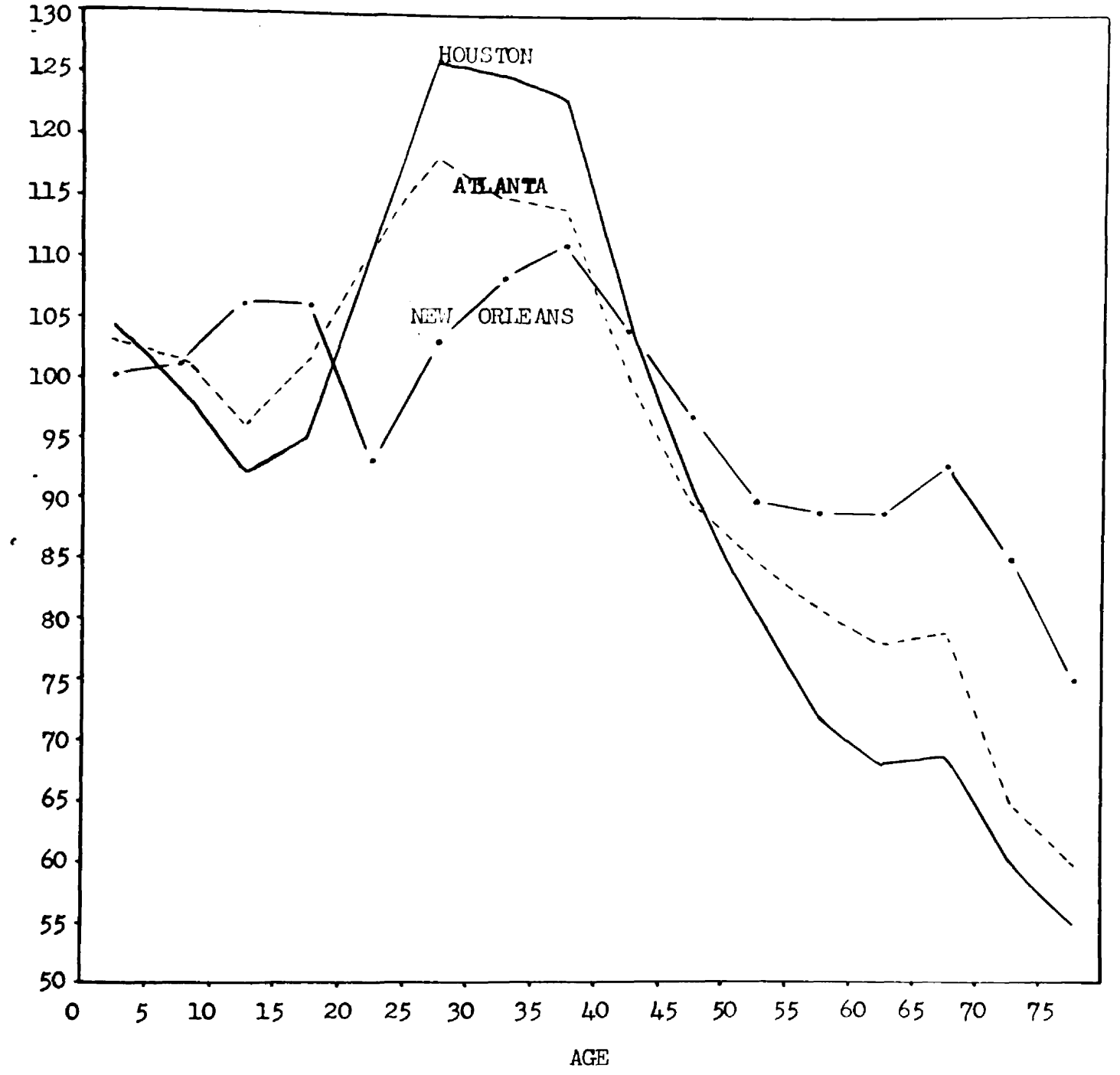

FIGURE 16. Index numbers showing the relative importance of each age group in the population of Atlanta, Houston, and New Orleans: 1940 (urban population of the United States equals 100).

more than either Atlanta or New Orleans. Atlanta follows, with New Orleans coming in last. These data suggest that Houston, as compared with these other two cities of the South, may attract disproportionately large numbers of migrants in the younger productive ages. This conceivably could result from the more predominant role of manufacturing and heavy industry in the fast-expanding economy of Houston. In any event, the population of this Texas metropolis contains relatively large concentrations of youthful adults.

In the second place, of the three cities Houston has the highest proportion of its population under five years of age. However, from age five through age nineteen New Orleans ranks first among the three cities. Third, Houston, which is a younger city, has a smaller proportion of its population among the older age groups than either Atlanta or New Orleans. Fourth, Houston has a deficiency of children in the age group five through nineteen when compared with New Orleans and Atlanta.

CHAPTER VII

THE BALANCE BETWEEN THE SEXES

The balance between the sexes is usually thought of in terms of the sex ratio. The sex ratio is computed by dividing the total number of women into the total number of men and multiplying by 100. Thus the index is stated in terms of the number of males per 100 females. An index above 100 indicates an excess of males, whereas an index below 100 indicates more females than males.

The sex ratio has been used extensively in analyzing the sex distribution of Houston for its total population, for its nativity groupings, and by its census tracts. Trends in sex ratios have been shown for Houston, and sex ratios in Houston have been compared with those in Atlanta and New Orleans.

It is beyond question that the balance between the sexes is an important feature of the composition of a population. The relative importance of the two sexes affects many other aspects of a population aggregate. If there are more males than females, the proportion of men who can marry will be smaller than would be true if there were an equal distribution of the population among the two sexes. Likewise, if there are more females than males, as is true in a number of European countries, there will be a large proportion of unmarried women. A high proportion of males will also mean more workers available for the heavy industries. The death rate is also vitally affected by the sex ratio of a population. Women usually have a lower death rate than men; and therefore where they

constitute over half of the population, as is true in many of the older countries (England, France, etc.), the crude death rate is greatly affected by this fact. The sex ratios are also important in determining the crude birth rate. An unequal balance between the sexes makes marriage impossible for a number of people and hence reduces the possibility of their raising children.

Many other factors in the life of a community are also affected by the balance between the sexes.[1]

Urban populations, in general, are characterized by a relative excess of females. This is largely due to selective migration. For example, between 1920 and 1930 females constituted 55 per cent of the migrants out of rural areas in the United States.[2] One important reason for this excess of female over male migration to urban areas is that urban areas offer relatively greater employment opportunities for female laborers than is true in rural territory.[3] When it is remembered that women live longer than men on the average, this excess of female migrants to urban areas assumes greater significance.

It should also be noted that the Negro population of this country possesses, as compared with the white population, a relative deficiency of males. This femininity of the Negro population is largely to be accounted for by the low sex ratio at birth among the Negro population.

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[1] See Warren S. Thompson, Population Problems (3d ed.; New York and London: McGraw-Hill Book Company, Inc., 1942), pp. 99-100, for a fuller discussion of the effects of the balance between the sexes on a population aggregate.

[2] Ibid., p. 404.

[3] Landis, Population Problems, p. 272.

The sex ratio at birth is 106 for whites, as compared to 103 for Negroes. There is very little migration of Negroes into or out of the country. The low life expectation of Negroes as contrasted with that of whites has a buoying rather than a depressing effect upon the sex ratio among Negroes. Thus the low sex ratio at birth must be considered the main factor in accounting for the femininity of the Negro population.[4]

Reliability of Data

The total data relative to sex are probably among the most reliable of census data. There is no question of interpretation, and there is very little motive for giving incorrect information on sex. However, there are apt to be errors in distribution among the various racial and nativity groupings. There is usually a large floating male population on which it is difficult to get accurate and complete returns. Also, some of the foreign-born and more males than females are likely to be incorrectly returned as native-born. These errors of distribution are usually not important enough to be of statistical significance.

As Smith has pointed out, there is an important error in the data concerning the sex distributions among young Negro children. Census after census has reported an unexplained excess of females over males under five years of age. As Smith has further observed, these discrepancies are not in accord with the sex distributions at birth and could not come about through differential mortality.[5]

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[4] Smith, Population Analysis, pp. 124-25.

[5] Ibid., p. 114.

An important discrepancy in the sex distribution by age should be pointed out. While the total sex ratio can be considered very accurate, conclusions drawn from age-sex ratios must be treated with caution because of the understatement of women's ages. It is an established demographic fact that there is a tendency among women to understate their ages.[6]

Houston's Present and Past Sex Balance

Table V presents the balance between the sexes by race and nativity groupings. The table shows that the women have gained in proportionate importance since 1910. Prior to that time the sex ratio was in favor of the men. The sex ratio of 108.4 in 1890 declined to 103.8 in 1910. Since 1910 the ratio has dropped to 96.

The sex ratio for the native white group has been somewhat at variance with the sex ratio for the total population. The native white sex ratio has always been higher than that for the total population except for the year 1920. Native white men have outnumbered native white women in all years except 1920 and 1940. In 1940 the ratio stood at 97.2.

The sex ratio for the foreign-born white population has always been heavily in favor of the male population. It was 153.5 in 1890 but had declined to 120.1 in 1940. This high sex ratio is in line with the demographic fact that long-distance migration tends to be selective of the male population.

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[6] Smith and Hitt, "The Misstatement of Women's Ages and the Vital Indexes," loc. cit., pp. 95-108.

TABLE V

SEX RATIOS BY RACE AND NATIVITY GROUPINGS FOR HOUSTON: 1890-1940*

Year	Total Population	Native White	Foreign-Born White	Negro
1890	108.4	119.5	153.5	85.8
1900	103.4	109.9	153.3	82.2
1910	103.7	—	—	88.3
1920	99.7	98.6	130.9	93.3
1930	99.7	100.4	125.1	90.9
1940	96.0	97.2	120.1	88.3

*Sources: Eleventh Census of the United States, 1890, Population, Part I, p. 555; Twelfth Census of the United States, 1900, Population, Vol. I, Part I, p. 643; Thirteenth Census of the United States, 1910, Population, Vol. III, p. 852; Fourteenth Census of the United States, 1920, Population, Vol. III, p. 1027; Fifteenth Census of the United States, 1930, Population, Vol. III, Part II, p. 1008; Sixteenth Census of the United States, 1940, Population, Vol. II, Part VI, p. 1044.

Among the Negroes of Houston, women have outnumbered men in every year shown in the table. The sex ratio stood at 88.3 in 1940--which was the lowest sex ratio of any nativity grouping in Houston.

Sex Ratios by Age for Race and Nativity Groupings

The sex ratios for the total population reveal that the females outnumber the males in all age groupings up to forty years. From age forty through fifty-nine the men exceed the women, but the women are greatly in excess in the remaining age groups. The low sex ratios for the age groups between fifteen and twenty-four may be somewhat influenced by the understatement of women's ages. The demand for young women workers in Houston, causing in-migration, is probably also a very important factor in accounting for the low sex ratios. It is difficult to say how much of

the high sex ratios between forty and fifty-four is due to understatement of women's ages and how much to a high sex ratio in earlier years.

The age-sex ratios for the native white population are somewhat similar to those for the total population except that the men outnumber the women up through age fourteen.

The foreign-born white population shows the characteristic excess of males over females except for the age groupings under thirty. The excess of females in these groupings probably reflects the migration of Mexican women workers into Houston.

Among Negroes, the women outnumber the men in all age groups except those from forty through sixty-four. The Negro population has unusually low sex ratios for the age groupings from fifteen through thirty. While the understatement of women's ages is an important factor, the demand for domestic Negro workers probably accounts for the presence of many young women through migration.

Sex Ratios by Census Tracts

The sex ratios by census tracts vary from 78.2 in Tract 46 to 139.4 in Tract 26. Tract 26 is in the middle of the city, while Tract 46 is on the outer edge. It is interesting to note that the lowest sex ratios are to be found in the southwestern area of the city. In fact, as may be observed from Figure 18, the whole southern area of the city tends to have a predominance of women over men. This is due in part to a concentration of the working women and aged women in the better residential areas of the city.

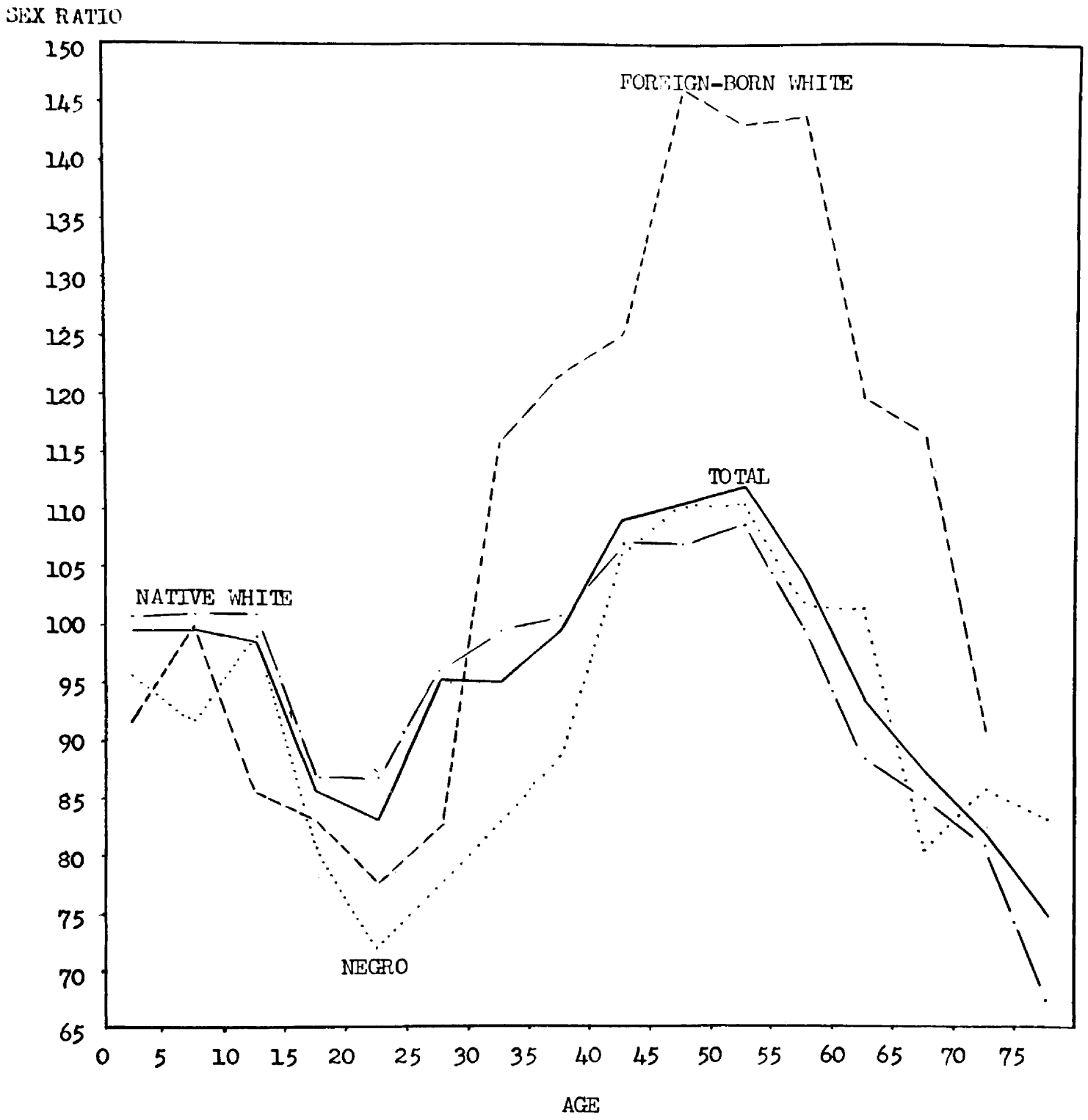

FIGURE 17. Sex ratios by age for the total, native white, foreign-born white, and Negro populations of Houston: 1940.

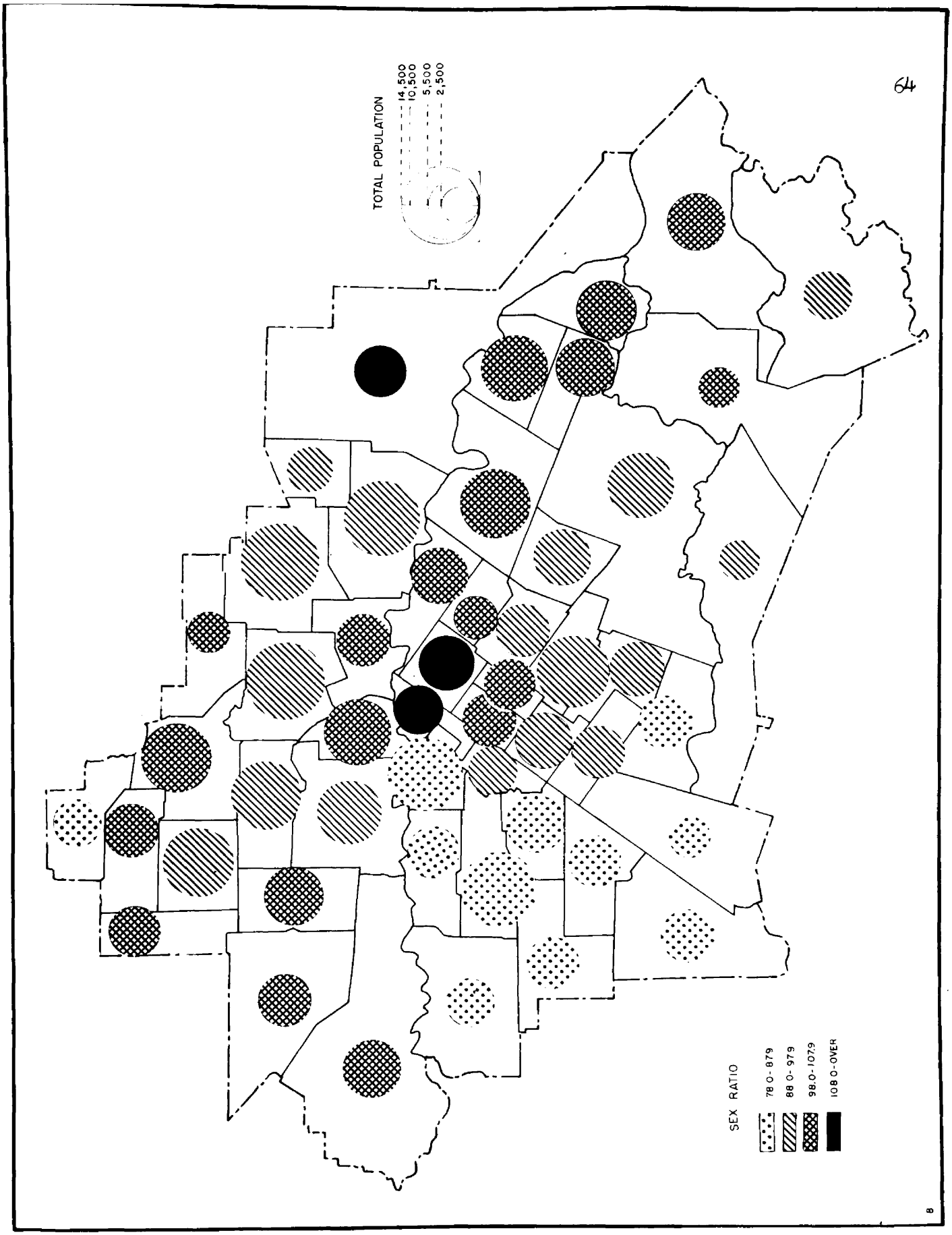

FIGURE 18. Sex ratios in the population of Houston by census tracts: 1940.

The highest sex ratios are to be found in the center of the city. It seems to be characteristic of large cities that homeless men concentrate near the center. The northwestern and eastern areas of the city also have relatively high sex ratios. The importance of children in these areas largely accounts for this condition. It is a well-recognized fact that the sex ratio at birth is favorable to the male population. In the nation as a whole, the sex ratio at birth for the white population is approximately 106, and for the Negro population it is approximately 103. It can be seen from Figure 14 that the northwestern and eastern areas of the city have a high concentration of children under five years of age. Thus, the higher sex ratio at birth is still exerting its influence in these areas.

Sex Ratios of Houston Contrasted with Those of Atlanta and New Orleans

Houston has a more equitable distribution of population among the sexes than either Atlanta or New Orleans, as can be seen from Table VI. Houston has a sex ratio of 96, as compared to 90 for New Orleans and 86 for Atlanta. Houston has a higher sex ratio than Atlanta or New Orleans for all the nativity groupings except the foreign-born. The lower sex ratio in the foreign-born white population is probably to Houston's advantage, inasmuch as the higher sex ratios indicate a greater disparity between the sexes of the foreign-born. It is also interesting to note that Houston's sex ratio approximates that for the urban United States.

Atlanta and New Orleans are both much older cities than Houston, and both have more of their population concentrated in the older age

TABLE VI

SEX RATIOS BY RACE AND NATIVITY FOR ATLANTA, HOUSTON, AND NEW ORLEANS: 1940*

City	All Classes	Native White	Foreign-Born White	Negro
Atlanta	86	89	127	79
Houston	96	97	120	88
New Orleans	90	90	131	86

Source: Sixteenth Census of the United States, 1940, Population, Vol. II, Part II, p. 374; ibid., Vol. II, Part III, p. 426; ibid., Vol. II, Part VI, p. 1044.

brackets than does Houston. It is a well-known fact that women tend to live longer than men and cling more to the cities during advanced ages than is true of males. Perhaps having some bearing on this relatively high sex ratio in Houston is the predominance of heavy industry--with its emphasis on masculine labor--in this city.

Census figures reveal that the United States urban Negro population has a sex ratio of 88.1, as compared with 94.5 for the native white population and 106.8 for the foreign-born white population.[7] Houston's population is 22.4 per cent Negro, whereas New Orleans' population is 30.1 per cent, and Atlanta's 34.6 per cent, Negro. Thus the large Negro populations in Atlanta and New Orleans would have the effect of lowering the sex ratios in those cities.

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[7] Smith, Population Analysis, p. 123.

CHAPTER VIII

MARITAL STATUS

Information concerning marital status has an important place among modern census materials. When one realizes the manifold influence of marital status, this emphasis can be easily understood. It often accounts for many characteristics which distinguish one group from another. For example, the crude birth rate would be considerably influenced--where illegitimacy is not great--by the proportion of women married, and especially by the proportion married in the younger age groups (fifteen to thirty).[1]

Ogburn has shown that there is

> a strong relationship between marital condition and death, crime, insanity and pauperism. Larger proportions of persons never-married, of the widowed and of divorced persons are found among the insane, the prisoners and the paupers, both men and women, than are found in the general population of the same age groups. The death rate is higher among men who have never married and among widowed or divorced males, than among married men.
>
> The correlation between marital condition and death, crime and pauperism is much higher among men than among women and somewhat higher between marital condition and insanity. The death rates of unmarried women and married women are not greatly different. The causes of these relationships are not shown. The argument as to causes, though theoretical and speculative, suggests that marital condition is an important factor in causing these relationships, though perhaps not the only one.[2]

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[1] Thompson, Population Problems, p. 107.

[2] William Fielding Ogburn, "The Relationship of Marital Condition to Death, Crime, Insanity and Pauperism," Bulletin de L'Institt International de Statisque, XXII (1926), 449.

Marital data in western countries are usually restricted to persons fifteen years of age and over. This restriction is based on the knowledge that very few people marry before passing through the period of adolescence. In some countries, of course, marriages at an early age are of considerable importance.

Four basic categories are used for classifying a population according to marital status: (1) single, (2) married, (3) widowed, and (4) divorced. In addition, the United States census further divides the married population into (1) those living with the spouse, and (2) those living apart. The census also gives breakdowns by age, which greatly enhance the value of the data. These breakdowns would be of much greater significance if it were not for the fact that women understate their ages. The married category is by far the most important group, as this is the normal state for a large percentage of American adults.

Relative Importance of Marital Categories

The state of marriage is the normal condition for the adult population of Houston, as is true for that of the whole United States. Table VII reveals that 64.5 per cent of Houston's male population fifteen years of age and over, and 61.3 per cent of its female population in the same age brackets, are married.

The next most important category is that of "single bliss." Much of this group is concentrated in the early age brackets. There are more single males than females -- the percentages being 29 and 21.5, respectively.

The widowed category ranks third in importance, encompassing 3.8 per cent of the male population fifteen years of age and over and 13.0 of the female. Much of this difference between the male and female populations can probably be correctly accounted for by the tendency of widowers to remarry and by the longevity of women.

As would be expected, the divorced group contains a lower proportion of the adult population than any other category. However, the differential between the sexes in this respect is significant. The percentage of males so classified is only 2.7, as compared with proportionately almost twice as many females, specifically 4.2 per cent.

TABLE VII

MARITAL STATUS BY SEX IN HOUSTON: 1940*

Sex	Per Cent			
	Single	Married	Widowed	Divorced
Male	29.0	64.5	3.8	2.7
Female	21.5	61.3	13.0	4.2

*Source: Sixteenth Census of the United States, 1940, Population, Vol. IV (Characteristics by Age), Part IV, p. 519.

Relation of Marital Status to Age and Sex

There is a very close relationship between age and marital status. This is to be expected, since individuals in America usually remain single through the adolescent age. In fact, as has been pointed out, census records on marital status start with age fifteen. Marital statistics are not deemed important enough for census presentation at earlier ages. As Figure 19 will show, the single category is more important than the

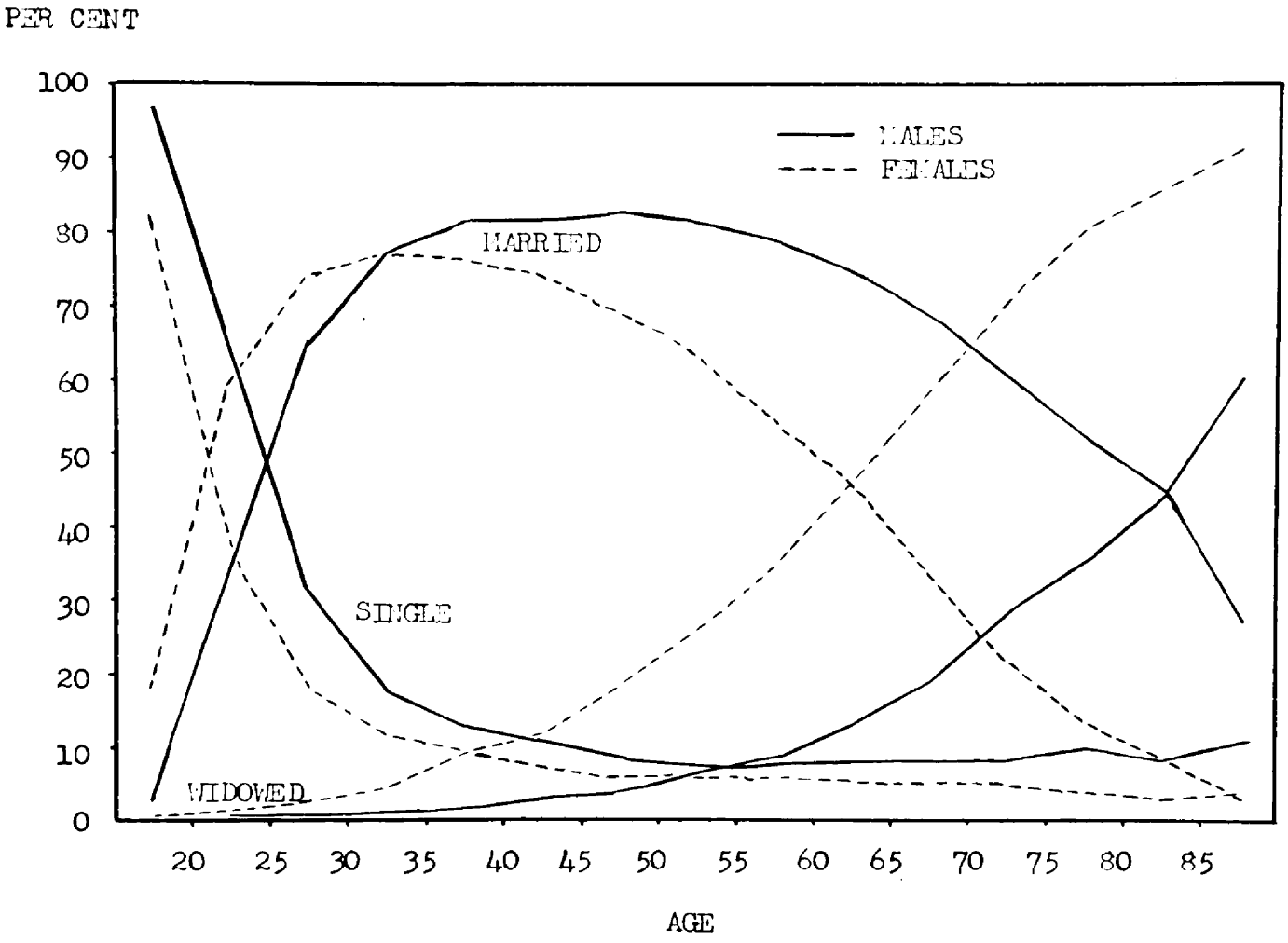

FIGURE 19. The relationship of age to marital status by sex in the population of Houston: 1940.

married category for males up to approximately age twenty-four. From age twenty-four, the married category becomes increasingly important for the male group until it reaches its peak at about forty-seven years of age. It is at approximately this age that the greatest proportion of Houston's male population are married.

For the female population, the married group assumes more importance than the single category at about age twenty-one and reaches its greatest importance at about age thirty-two. As can be noted from Figure 19, the curve for the female married population makes a sharper rise, remains at its crest for a shorter period, and then declines much more rapidly than does the curve for the male population. This is in line with the fact that men tend to marry women somewhat younger than they are. Some of the significance attaching to the comparison between the sexes must be discounted, however, because of the understatement of women's ages. In the age brackets above thirty-two years a much greater proportion of the male population than of the female is married. As Smith has pointed out, this situation is probably to be accounted for by the fact that women tend to outlive men and that widowers and divorced men are more apt to remarry than are widows and divorced women.[3]

As Figure 19 shows, the single category declines rapidly from age fifteen to age thirty, where it starts leveling off and becomes fairly constant beyond age fifty. The proportion of men single is higher than the proportion of women single for all age groupings. However, the trend is about the same for members of both sexes.

---

[3] Smith, Population Analysis, p. 138.

Males and females characteristically differ sharply from each other in the relationship of age to widowhood. The curve for the females is much steeper and higher than that for the males. As would be expected, the percentage of widowed is relatively small in the early years, but it becomes increasingly important with advancing age--until it becomes the most important category for women at about age sixty-two and for men at about age eighty-two. The disparity between the two curves is due in large part to the fact that women have a longer life span than men, and therefore, in general, their spouses tend to die earlier, thus making the female widowed category more important for all ages. Also, as has been mentioned, men, after being widowed, are more likely than women to remove themselves from this category by remarriage.

The divorced category never exceeds 3.9 per cent for the men, this figure being the percentage for the forty to fifty-nine age grouping. However, for the women the divorce category reaches a somewhat higher percentage, rising to 6.1 per cent for the age group thirty-five to thirty-nine. Table K in the Appendix reveals that the percentage of females divorced is much greater than that of males in the age brackets from fifteen to fifty-four. For the older age brackets, the percentage divorced is higher for the male group.

Race and Marital Status

The proportion of the population single is similar for the white and nonwhite populations. The total percentages are almost the same, and the trend lines are very similar.

The married category shows significant variations with reference to race when the white and nonwhite male and female populations are compared. Figures 20 and 21 show that most of the variation occurs after age thirty in the case of the males and after age twenty-five in the case of the females. In the male population, the nonwhite group has a higher percentage of its members married up to about age twenty-eight than does the white population. After age twenty-eight, however, the white population has a much higher percentage of its population married than does the nonwhite group.

There is very little variation between the white and nonwhite females up to about age twenty-four. After this point the variation between the two is much greater than that characterizing the white and nonwhite males.

The figures also reveal that a much greater percentage of the nonwhite population, both male and female, is widowed than is true for the white population. This is largely to be accounted for by the low sex ratio in the nonwhite population. The relatively small number of men limits the opportunity for remarriage after a woman has lost her husband. It should also be remembered that the nonwhite population tends to marry at a younger age.

The most significant observation to be made about the percentage of divorced is that there is quite a wide variation between the white and the nonwhite females, with the latter having the higher percentage of divorced people. Of the nonwhite females, 5.6 per cent are divorced, as compared with 3.7 per cent of the white females.[4]

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[4] Sixteenth Census of the United States, 1940, Population, Vol. IV, Part IV, p. 519.

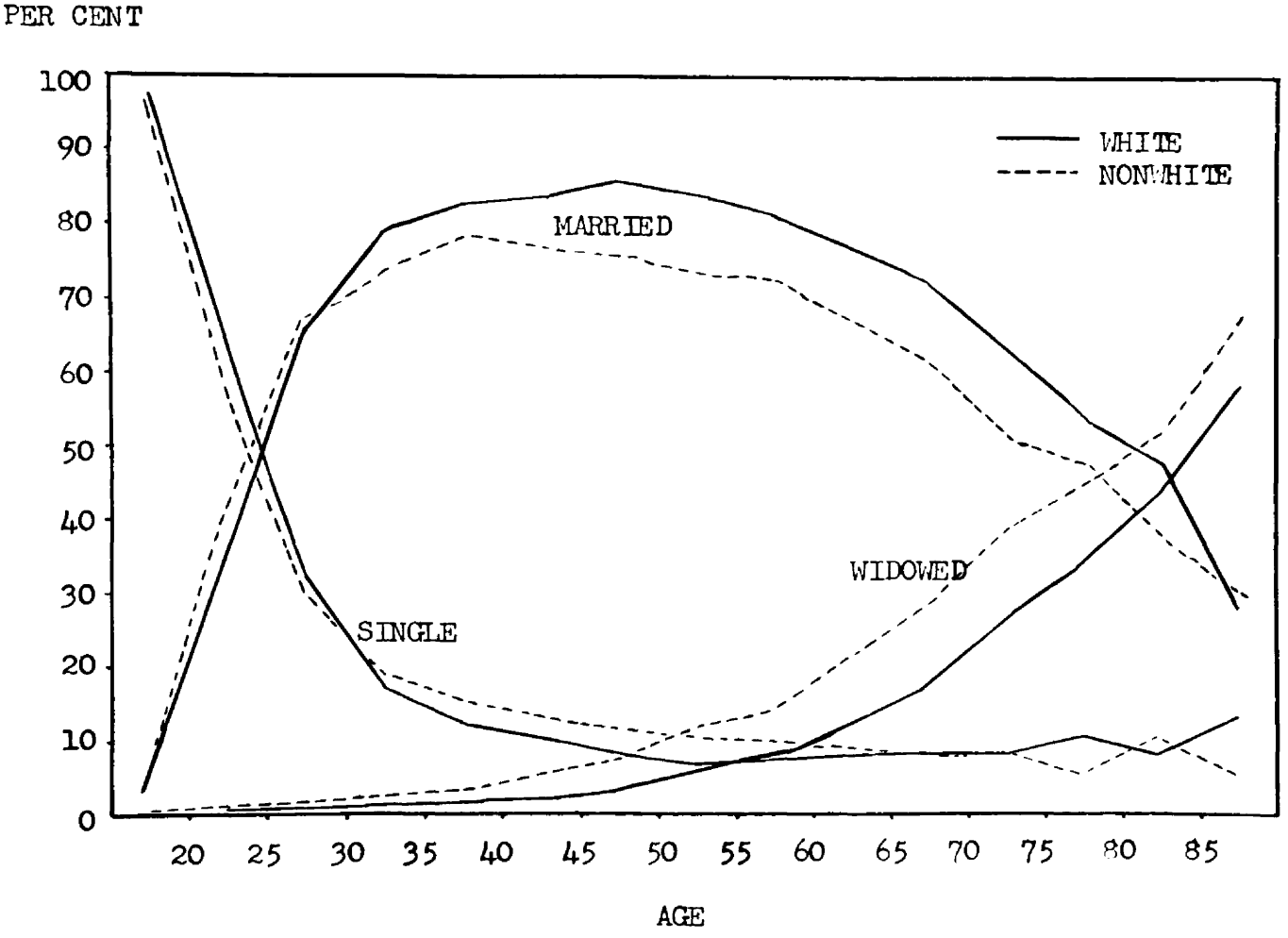

FIGURE 20. A comparison of the marital status of white and nonwhite males in Houston by age: 1940.

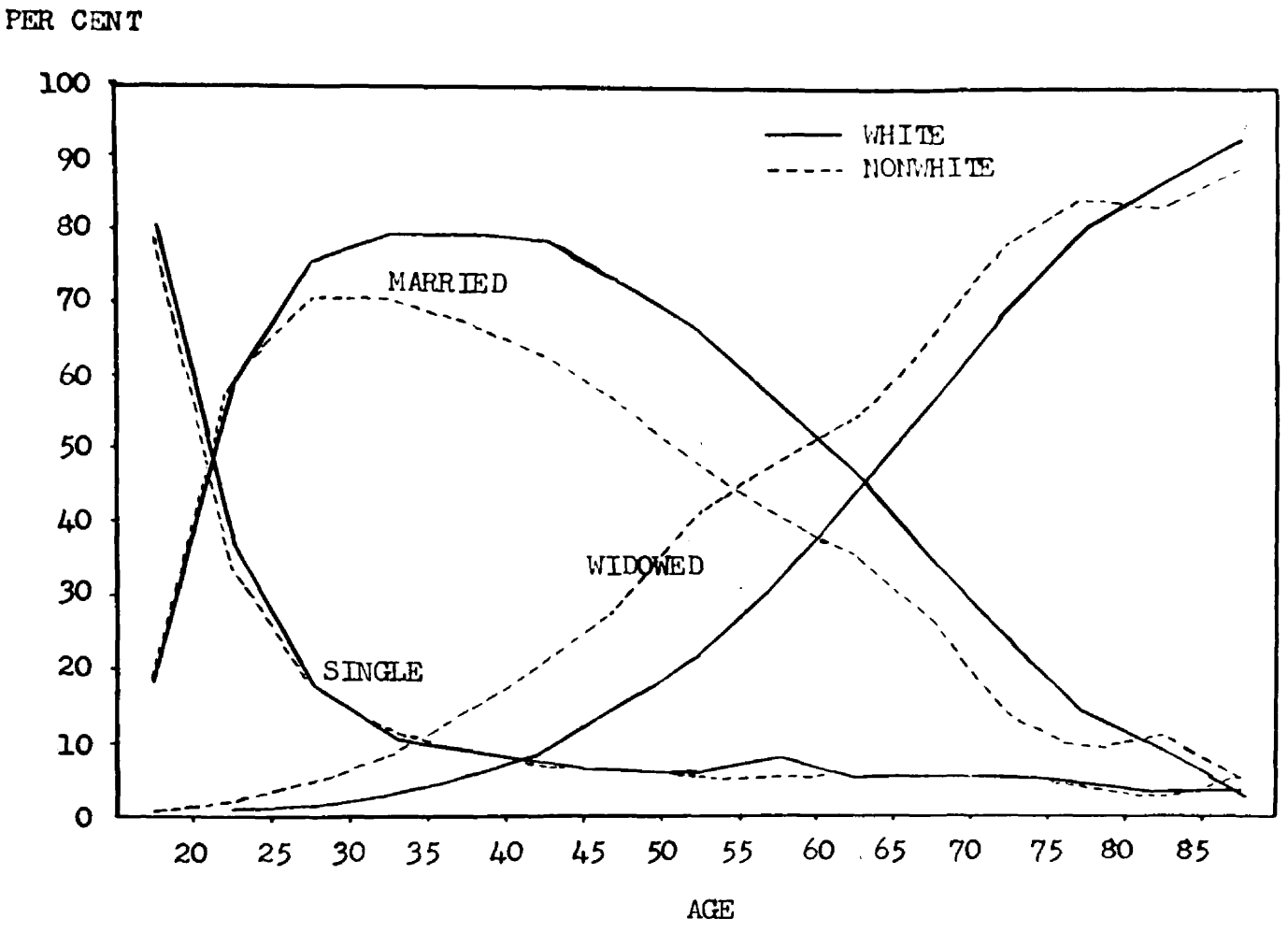

FIGURE 21. A comparison of the marital status of white and nonwhite females in Houston by age: 1940.

There is very little variation in the percentage divorced between the white and the nonwhite male populations.

Marital Status--Past and Present

Figures 22 and 23 demonstrate that there was a greater proportion of single people, a smaller proportion of married people, and a larger proportion of widowed people in the male and female populations of Houston in 1910 than in 1940. While these conditions existed in both the male and the female population, the variation between 1910 and 1940 was greater in the male population.

The higher sex ratio that existed in 1910 (104), as contrasted with that in 1940 (96), may partially account for the greater proportion of single people and smaller proportion of married people. The widowed population may have been less inclined to remarry in the early part of the century than they are now.

Per Cent Married in Atlanta, Houston, and New Orleans

Several interesting relationships in the percentages of the populations of Atlanta, Houston, and New Orleans married are apparent from Figures 24 and 25. The trends are virtually the same for all three cities, but the degree of the curve varies. In the case of the male population married, Atlanta has the greatest percentage, followed by Houston and New Orleans in that order. In the female population married, Houston has the greatest percentage, followed by New Orleans and Atlanta. This is probably due in great part to the higher sex ratio in Houston. It should be pointed out, however, that in the case of the female

population which is married, Atlanta has a higher percentage for the early age groups than does Houston. Since nonwhites tend to marry earlier than whites and Atlanta has a higher percentage of nonwhites than Houston, Atlanta would tend to have a higher percentage of its female population married in the early age groups.

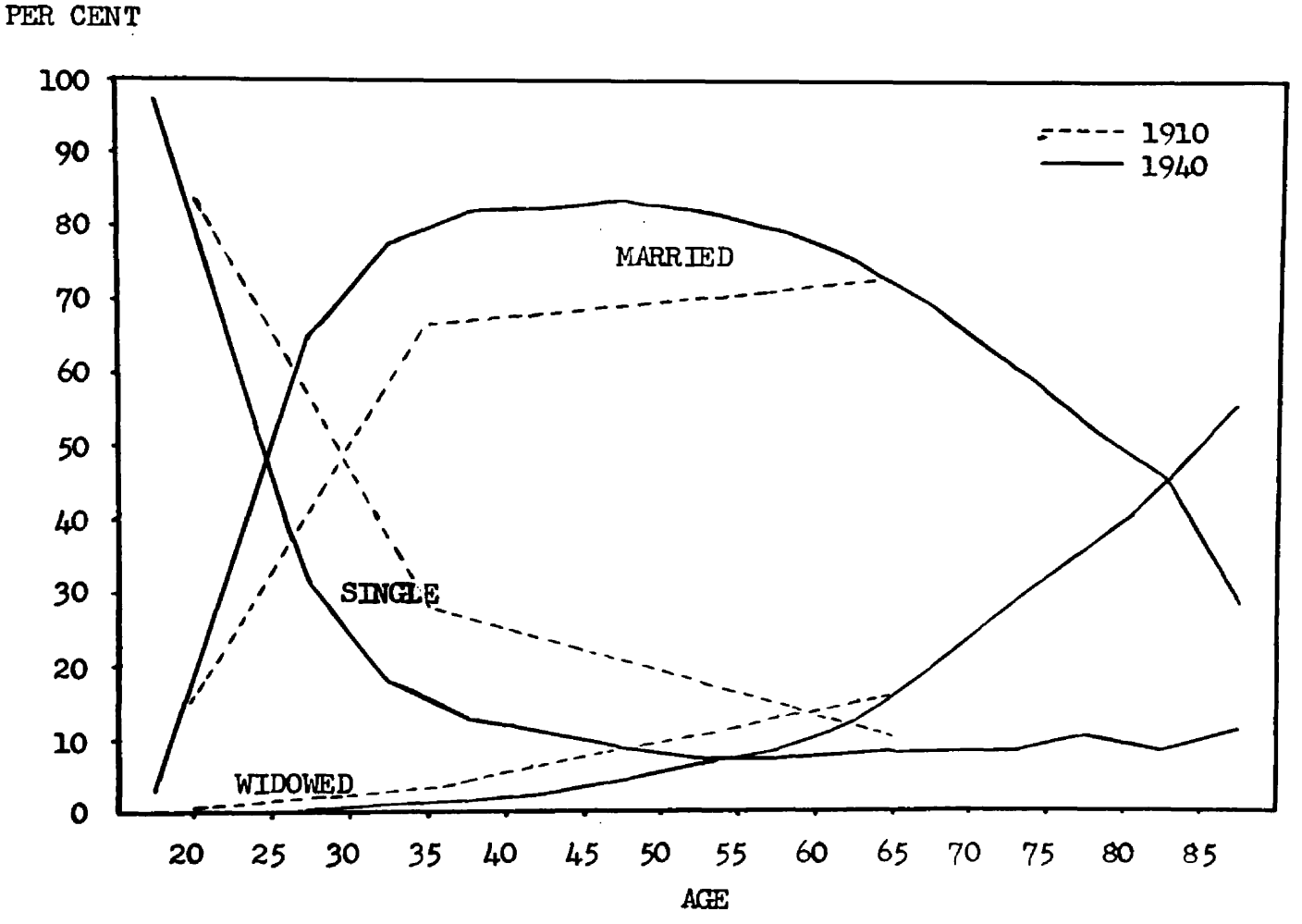

FIGURE 22. Changes in the marital status of males in Houston by age: 1910 to 1940.

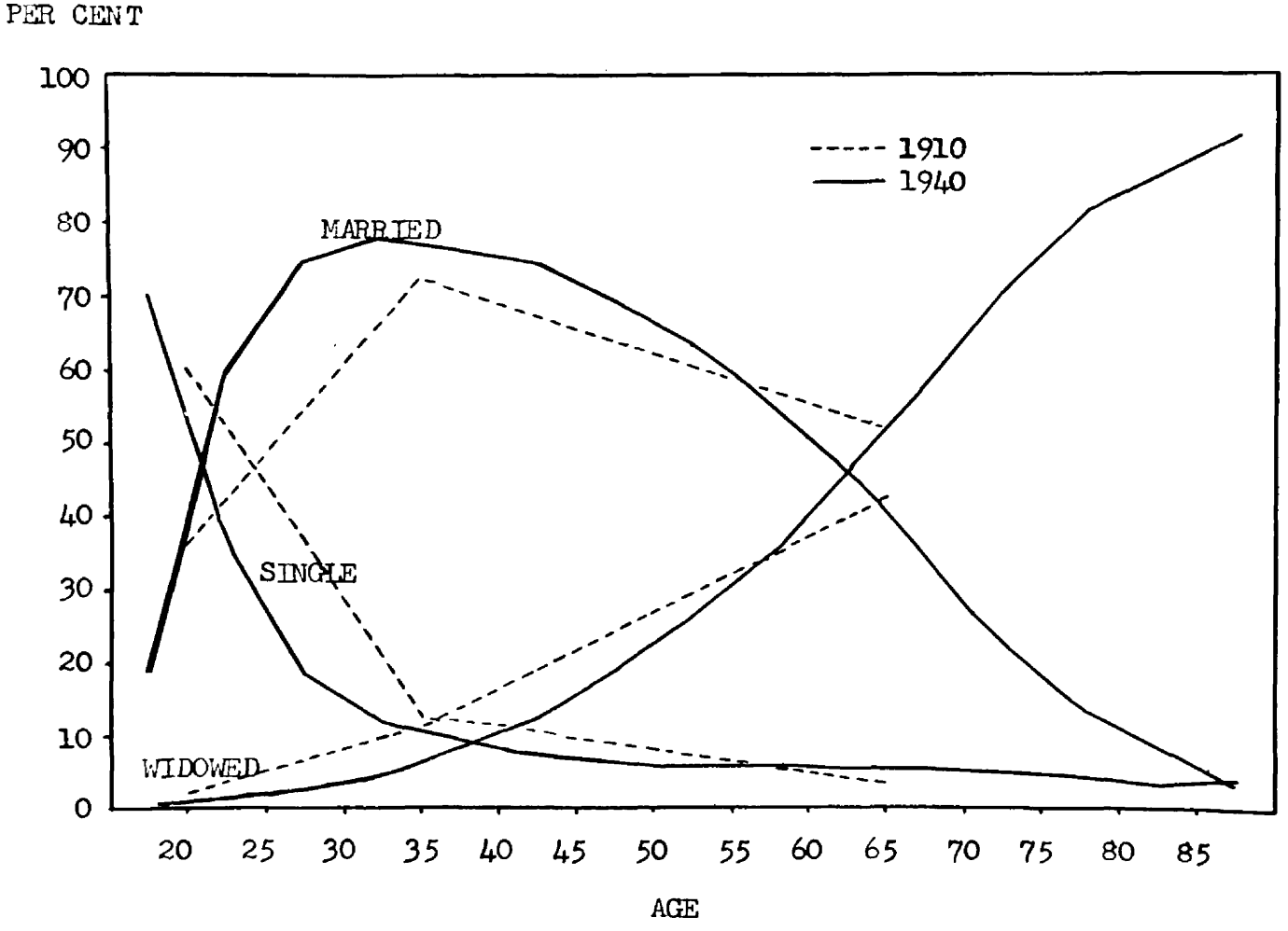

FIGURE 23. Changes in the marital status of females in Houston by age: 1910 to 1940.

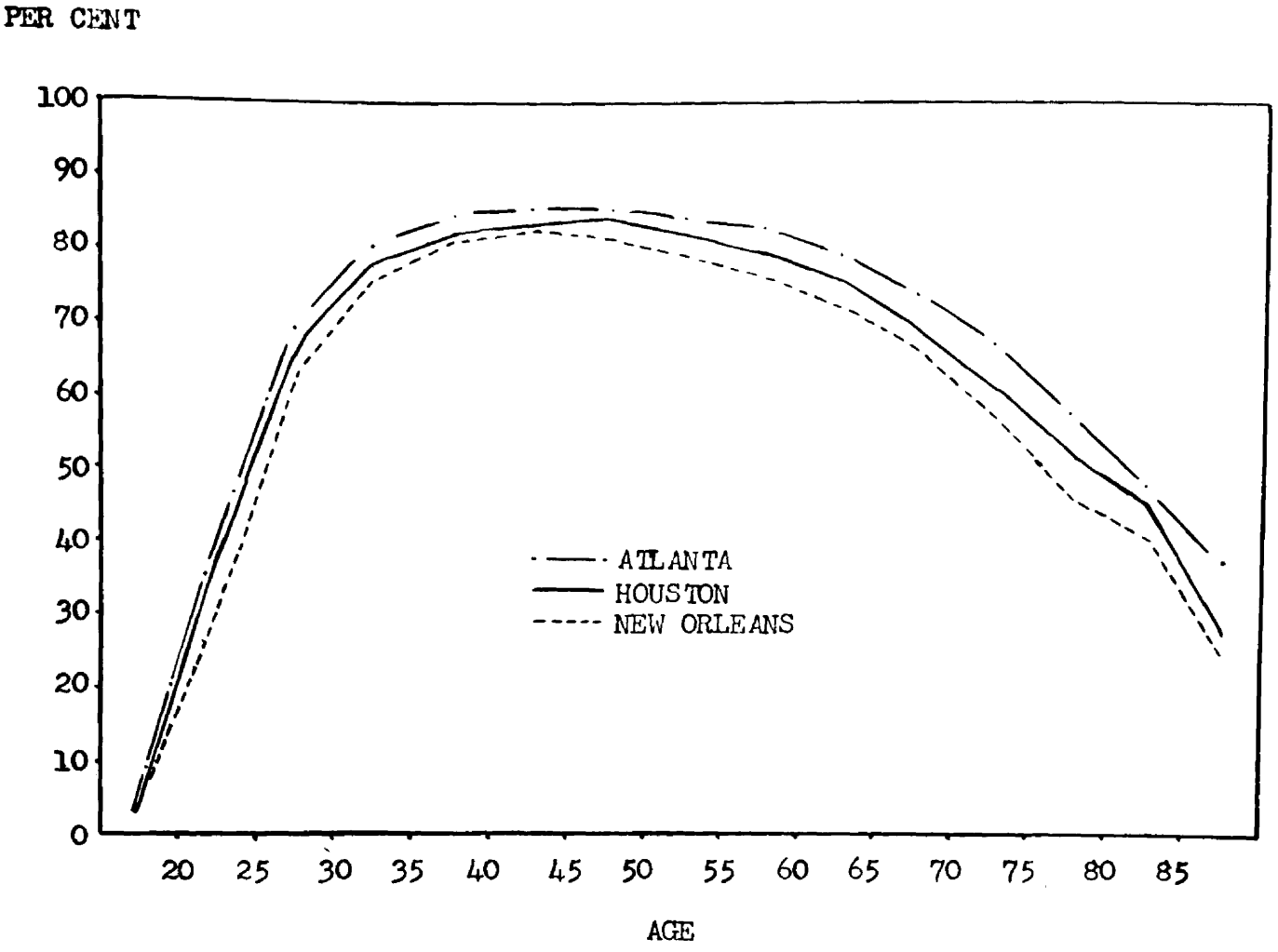

FIGURE 24. Variations in the proportions of married persons in the male populations of Atlanta, Houston, and New Orleans by age: 1940.

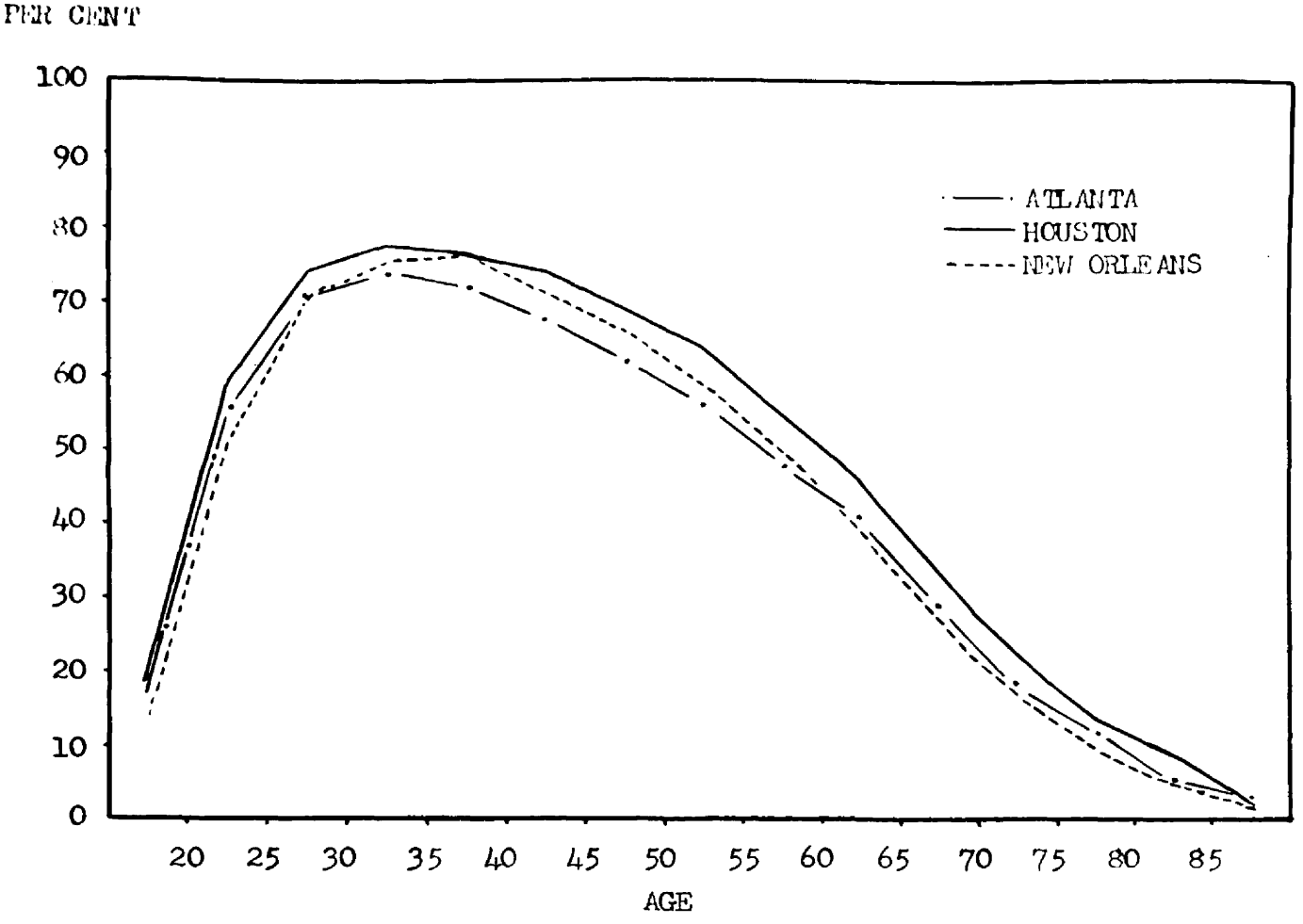

FIGURE 25. Variations in the proportions of married persons in the female populations of Atlanta, Houston, and New Orleans by age: 1940.

CHAPTER IX

EDUCATIONAL STATUS

The educational status of a population reflects to a considerable extent the economic and social well-being of the people. It has been largely through education in one form or another that the American people have achieved the high level of living for which their civilization is noted. The educational level attained by a population is indicative of the amount of money, time, and effort being devoted to the well-being and advancement of its members. The degree of education achieved by a group is an indication of the emphasis being placed on one of the most important methods of raising the level of living of a people. Moreover, a formal education has become more or less essential to the earning of a comfortable income in modern society. Economic achievement is, within limits, correlated with the amount of schooling received.

One would expect that because of differences in literacy and schooling many of the social problems of various communities would take on widely different forms. For example, the social and economic problems in Mississippi and Iowa are quite different, and probably some of these differences are due to variations in educational status--although other factors may be of more importance.[1]

The mental attitudes of people who are illiterate or have had little education are quite different from those of persons who have had

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[1] Thompson, Population Problems, p. 120.

more schooling. A health or educational program would be more difficult to promote among the former than the latter. The very existence of large classes with widely different educational attainments complicates the social problems of our society.

Indexes of Measurement

Until the 1940 census the chief index for evaluating the educational status of the population of the United States was the percentage of illiteracy, i.e., the percentage of the population that was unable to read and write. This index is subject to many weaknesses, as has been pointed out by Smith.[2] Percentages of illiteracy have been calculated for entire populations without taking into consideration the proportions of children in the different population groupings. Such a comparison between two population groups with unequal proportions of children would, of course, prove very misleading. In addition, there is often disagreement as to what constitutes ability to read and write. Some communities, therefore, have tried to improve their relative ratings by educating persons to the minimum point where they would be classified as literate. Illiteracy rates are so low in some countries that comparisons or interpretations on an international plane are very difficult.

In the census of 1940 informants were asked to state the number of school years which they had completed. Information obtained from this question make it possible to relate education to such factors as age, sex, race, etc. in a more satisfactory manner.

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[2] Smith, Population Analysis, pp. 153-54.

The three most important indexes which may be used in interpreting census data are the median years of schooling received, the percentage of the population with no schooling, and the proportion finishing high school.[3] The percentage of illiteracy, however, was the main index used prior to, and including, the 1930 census.

All of these indexes have been used to some extent in analyzing the population data for Houston. The median years of school completed has been used most extensively as an index in analyzing the data, as the author believes that this figure gives the best over-all measurement of the educational status of a population.

Percentage of Illiteracy in Houston

Illiteracy in Houston showed a marked decline from 1900 to 1930. The percentage of the total population ten years of age and over which was illiterate in 1900 was 11.4, as compared with 2.9 in 1930. This reduction is largely to be accounted for by improvements in the educational status of the Negro population. The per cent of illiteracy in the Negro population showed a reduction from 29.8 per cent in 1900 to 7.1 per cent in 1930. The foreign-born white population and the native white population also had decreases in the percentages of the population ten years of age and over which were illiterate. However, it should be noted that the native white population had, throughout the period under consideration, less than one per cent of its population ten years of age and over classed as illiterate.

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[3] Ibid., p. 154.

The tremendous increase noted in the illiteracy of the foreign-born population in 1920 probably reflects the rather heavy immigration of Mexicans, Italians, and Russians in the decade immediately preceding.

A Comparison of Illiteracy in Atlanta, Houston, and New Orleans

When the illiteracy rates of Atlanta, Houston, and New Orleans are compared, one finds the rates lower in Houston, as can be seen from Table VIII. In 1930, the last year that the percentage of illiteracy index was used, Houston had a percentage of 2.9, as compared with 4.1 for Atlanta and 5.4 for New Orleans. The lower percentage for Houston existed for all of the census years shown in Table VIII. Houston had lower illiteracy rates for all of the nativity groupings shown in the table except the foreign-born. The relatively high illiteracy rates in the foreign-born group reflect the tremendous influx of Mexicans into Houston. Houston greatly outdistances the other cities when the Negro group is considered. This may reflect selectivity in migration. In 1930, the percentage of illiteracy in Houston's Negro population was 7.1, while Atlanta had a percentage of 10.4, and New Orleans a percentage of 13.4. Insofar as the percentage of illiteracy may be considered a reflection of the economic and social well-being of a group, it indicates that Houston has occupied a very favorable position as compared with Atlanta and New Orleans.

Per Cent With No Schooling in Houston

The percentage of Houston's population twenty-five years of age and over with no schooling by race, sex, and nativity groupings is shown in Table IX. About 2.5 per cent of the total population twenty-five years

TABLE VIII

PER CENT ILLITERACY IN THE POPULATION TEN YEARS OF AGE AND OVER BY RACE AND NATIVITY IN ATLANTA, HOUSTON, AND NEW ORLEANS: 1900-1930*

City	Race and Nativity	1900	1910	1920	1930
Atlanta					
	Total Population	15.8	8.1	6.6	4.1
	Native Whites	2.6	1.7	1.2	0.9
	Foreign-Born Whites	8.6	4.4	4.8	4.5
	Negroes	35.1	21.7	17.8	10.4
Houston					
	Total Population	11.4	6.4	5.4	2.9
	Native Whites	0.8	0.7	0.6	0.4
	Foreign-Born Whites	8.0	8.9	22.6	6.3
	Negroes	29.8	16.4	10.8	7.1
New Orleans					
	Total Population	13.6	6.5	5.9	5.4
	Native Whites	2.0	0.9	1.0	1.3
	Foreign-Born Whites	18.3	9.8	13.9	14.8
	Negroes	36.1	17.1	15.7	13.4

*Sources: Twelfth Census of the United States, 1900, Population, Vol. II, Part II, pp. cxx-cxxii; Thirteenth Census of the United States, 1910, Population, Vol. I (General Report and Analysis), pp. 1253, 1260-61; ibid., Vol. III, p. 853; Fourteenth Census of the United States, 1920, Population, Vol. III, pp. 222,399, 1015; Fifteenth Census of the United States, 1930, Population, Vol. III, Part I, p. 69.

of age and over in 1940 was listed as not having had any schooling. The male population had a somewhat lower percentage than did the female population, 2.4 as compared with 2.6 per cent.

Only a very small per cent (1.0) of the native white population twenty-five years of age and over had not had any schooling. There is very little variation between the native white males and females on this index of educational status.

TABLE IX

PER CENT OF THE POPULATION TWENTY-FIVE YEARS OF AGE AND OVER WITH NO SCHOOLING BY RACE, NATIVITY, AND SEX FOR ATLANTA, HOUSTON, AND NEW ORLEANS: 1940*

City	Race and Nativity	Total	Male	Female
Atlanta				
	All Classes	3.0	3.1	2.8
	Native White	1.1	1.3	1.0
	Foreign-Born White	5.6	4.5	7.0
	Negroes	6.4	6.9	5.9
Houston				
	All Classes	2.5	2.4	2.6
	Native White	1.0	1.0	1.1
	Foreign-Born White	13.2	11.7	15.0
	Negroes	4.3	4.4	4.1
New Orleans				
	All Classes	4.5	4.4	4.6
	Native White	2.0	2.0	2.1
	Foreign-Born White	14.6	12.9	16.8
	Negroes	8.7	8.7	8.8

*Source: Sixteenth Census of the United States, 1940, Population, Vol. II, Part II, p. 377; ibid., Vol. II, Part III, p. 437; ibid., Vol. II, Part VI, p. 1047.

The foreign-born white population had the highest percentage of persons with no schooling (13.2) of any of the groups listed in Table IX. The foreign-born white female population twenty-five years of age and over had a higher percentage with no schooling (15.0) than did the foreign-born white male population twenty-five years of age and over (11.7).

The Negro population twenty-five years of age and over had 4.3 per cent listed with no schooling. The male group had a slightly higher percentage with no schooling (4.4) than was true for the female group (4.1).

A Comparison of the Per Cent with No Schooling in Atlanta, Houston, and New Orleans

Houston had a smaller percentage of its population twenty-five years of age and over with no schooling than either Atlanta or New Orleans. Only 2.5 per cent of the population of Houston over twenty-five years of age had had no schooling, whereas the percentages for Atlanta and New Orleans were 3.0 and 4.5, respectively. Houston excelled in all nativity groupings except the foreign-born white population, where she ranked second to Atlanta. The comparatively recent influx of Mexicans into Houston would probably account for this relatively low rating. It is to be noted that in all the cities the percentage with no schooling was lower for the females than for the males in all nativity groupings except the foreign-born white. The foreign-born white females had a higher per cent with no schooling than did the foreign-born white males for all the cities under consideration.

Per Cent Completing High School in Houston

About one-fifth of Houston's population twenty-five years of age and over in 1940 had completed high school. A slightly higher percentage of the female population (21.7) had completed high school than was true for the male population (17.2).

A higher percentage of the native white population twenty-five years of age and over had completed high school than was true for any of the other groups shown in Table X. A much higher percentage of the women in this group (27.0) had completed high school than was true for the males (21.1).

TABLE X

PER CENT COMPLETED HIGH SCHOOL FOR THE POPULATION TWENTY-FIVE YEARS OF AGE AND OVER BY RACE, NATIVITY, AND SEX FOR ATLANTA, HOUSTON, AND NEW ORLEANS: 1940*

City	Race and Nativity	Total	Male	Female
Atlanta				
	All Classes	17.2	15.4	18.6
	Native White	23.5	20.8	25.9
	Foreign-Born White	21.6	19.6	24.0
	Negroes	4.4	3.7	4.9
Houston				
	All Classes	19.5	17.2	21.7
	Native White	24.0	21.1	27.0
	Foreign-Born White	13.4	12.8	14.2
	Negroes	6.9	6.1	7.6
New Orleans				
	All Classes	12.7	11.0	14.2
	Native White	16.6	14.2	18.8
	Foreign-Born White	12.5	11.6	13.8
	Negroes	3.2	2.7	3.5

*Source: Sixteenth Census of the United States, 1940, Population, Vol. II, Part II, p. 377; ibid., Vol. II, Part III, p. 437; ibid., Vol. II, Part VI, p. 1047.

Approximately one-eighth (13.4 per cent) of the foreign-born population twenty-five years of age and over was listed as having completed high school. A somewhat higher proportion of the females in the foreign-born white population over twenty-five years of age had completed high school than was the case for the male population of this group.

A relatively low percentage (6.9) of the Negro population twenty-five years of age and over had completed high school. More of the Negro females than males in this age category had completed high school.

A Comparison of the Per Cent Completing High School in Atlanta, Houston, and New Orleans

Houston compares quite favorably with Atlanta and New Orleans with respect to the percentage of the population twenty-five years of age and over that had completed high school in 1940. Of the population twenty-five years of age and over in Houston at that time, 19.5 per cent had completed high school, as compared with 17.2 per cent for Atlanta and only 12.7 per cent for New Orleans. Houston had a higher per cent listed as having completed high school for all nativity groupings except the foreign-born white, where Atlanta was ahead, followed by Houston and New Orleans in that order. The females had a higher rating than the males for all the cities under consideration. The percentage of native white females completing high school was much greater than the corresponding percentage for native white males in all of the cities. In fact, the disparity between the male and female groupings appears to have been greatest in the native white group for all of the cities under consideration.

Median Years of School Completed in Houston

The median years of school completed by the population twenty-five years of age and over in Houston in 1940 was 9.7 years. The female population in this age category had a slightly higher educational status as measured by this index than was the case with the male population.

The native white population twenty-five years of age and over had the highest median years of school completed of any of the classes (11.1). The native white female population had a slightly higher median years of school completed (11.2) than did the male population (10.9).

The foreign-born white and Negro populations twenty-five years of age and over both had the same median years of school completed (7.1). However, when a further breakdown by sex is made, a variation is found to have existed. In the case of the foreign-born whites, the male group had a higher figure for the median years of school completed than the female group; for the Negro population, however, the opposite was true.

Median Years of School Completed by Census Tracts in Houston

In 1940, the median years of school completed by residents of Houston varied from 5.9 in Tract 17 to 13.0 in Tract 29. The highest educational attainments were to be found in the southern and southwestern sections of the city, as can be seen from Figure 26. It is significant to note that the sex ratios for the city were the lowest in these areas. In other words, the excess of women in these areas may have exerted some influence on the educational status. It should also be pointed out that this is probably one of the most desirable residential areas in the city. People in the middle and higher social and economic strata predominate in this area. Most of the homes are occupied by clerical people, businessmen, and professional workers.

Tract 17, which had the lowest educational status, is composed to a considerable extent of Mexicans and Negroes. Tract 23, which had only 6.0 years of school completed for its population twenty-five years of age and over, is also heavily populated with Mexicans and Negroes. Tract 38, another low-rating tract, is occupied almost entirely by Negroes. Many other census tracts characterized by a low educational status are heavily settled with nonwhite population.

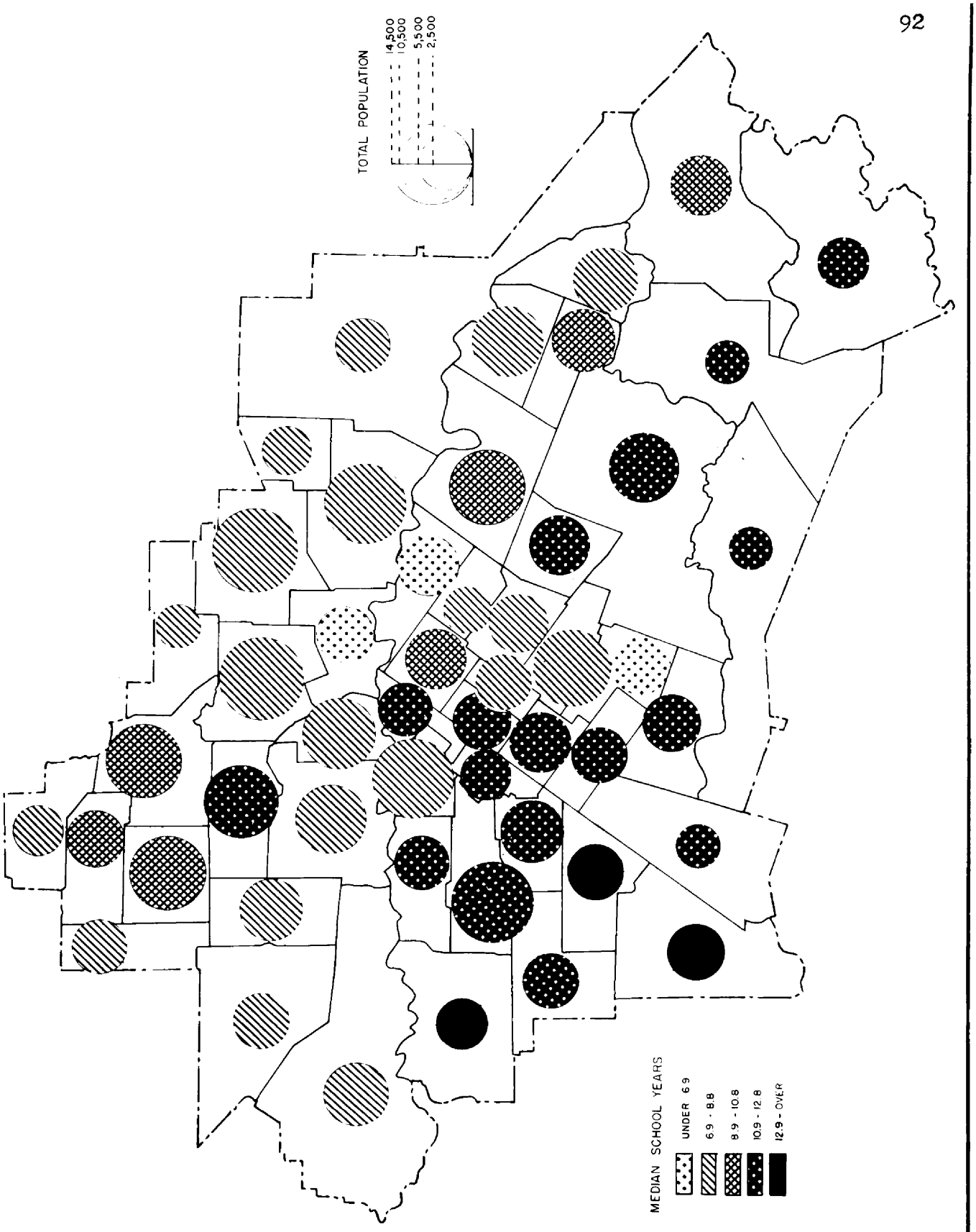

FIGURE 26. Median years of school completed by the population of Houston twenty-five years of age and over by census tracts: 1940.

A Comparison of the Median Years of School Completed in Atlanta, Houston, and New Orleans

Houston had a very high rating on the median years of school completed by persons twenty-five years of age and over. Houston's population twenty-five years of age and over had completed an average of 9.7 school years--which is above the median figure for the urban population of the United States twenty-five years of age and over. Houston ranked well ahead of both Atlanta and New Orleans not only for median years of school completed by the total population but also for breakdowns by race and sex. For the total population Houston ranked well ahead of both Atlanta and New Orleans, with a median of 9.7, as compared with 8.6 for Atlanta and 7.7 for New Orleans. The Negro population of Houston also had a much higher number (7.1) for the median years of school completed than did the Negro population of Atlanta (with 5.9) or of New Orleans (with 5.7). This leading position held true also for both the male and female aggregates of the total populations and nativity groupings.

It should be pointed out that the women in all of the cities under consideration ranked well ahead of the men on educational status. As a matter of fact, this is a universal phenomenon so far as the United States is concerned, holding true for all racial, residential, and geographical breakdowns.

TABLE XI

MEDIAN YEARS OF SCHOOL COMPLETED BY THE POPULATION TWENTY-FIVE YEARS OF AGE AND OVER BY RACE, NATIVITY, AND SEX FOR ATLANTA, HOUSTON, AND NEW ORLEANS: 1940*

City	Race and Nativity	Total	Male	Female
Atlanta				
	All Classes	8.6	8.6	8.7
	Native White	10.7	10.5	10.8
	Foreign-Born White	8.9	9.0	8.8
	Negroes	5.9	5.6	6.2
Houston				
	All Classes	9.7	9.5	9.9
	Native White	11.1	10.9	11.2
	Foreign-Born White	7.1	7.3	6.8
	Negroes	7.1	6.8	7.4
New Orleans				
	All Classes	7.7	7.7	7.8
	Native White	8.4	8.4	8.4
	Foreign-Born White	7.3	7.4	7.2
	Negroes	5.7	5.6	5.8

*Source: Sixteenth Census of the United States, 1940, Population, Vol. II, Part II, p. 377; ibid., Vol. II, Part III, p. 437; ibid., Vol. II, Part VI, p. 1047.

CHAPTER X

OCCUPATIONAL STATUS

There are many social implications of an individual's occupation. To a considerable extent, a person's surroundings, his cultural attainments, the type of institutions which he supports, the family-behavior patterns of his group, and even many of his individual characteristics are determined by his occupation. Occupational status is thus of extreme importance because of the many and varied insights into social structure and organization which it permits. Occupational analysis of a group is of importance to social planners, to population experts, and, in general, to anyone who wishes to acquire a complete understanding of a particular society.

The Labor Force of Houston

In 1940, Houston had 181,311 persons in the labor force (persons fourteen years of age or over either working or seeking work). Of these, 163,161 were totally employed. The totally employed group were distributed as follows: 132,808 were "private wage or salary workers," 8,104 were "government workers," 20,949 were "employers and own-account workers," and 1,300 were "unpaid family workers."[1]

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[1] Sixteenth Census of the United States, 1940, Population, Vol. III (The Labor Force), Part V, p. 462.

A Comparison of the Labor Force in Atlanta, Houston, and New Orleans

The percentage of persons fourteen years of age and over in the labor force varied somewhat among the three cities in 1940, as is clear from Table XII. In 1940, Atlanta had more (60.5 per cent) of its population fourteen years of age and over in the labor force than did Houston (with 58.6 per cent); New Orleans (with a percentage of 55.5) had much less than either Houston or Atlanta. Houston had a higher percentage of its male population employed than did Atlanta, while New Orleans ranked third. Atlanta had a much greater percentage of its female population aged fourteen and over in the labor force than did either Houston or New Orleans. This may be attributable in part to the large number of Negro females employed as domestics in Atlanta.

TABLE XII

PER CENT OF PERSONS FOURTEEN YEARS OF AGE AND OVER IN THE LABOR FORCE OF ATLANTA, HOUSTON, AND NEW ORLEANS BY SEX: 1940*

Total and Sex	Per Cent		
	Atlanta	Houston	New Orleans
Total	60.5	58.6	55.5
Male	82.7	83.8	81.0
Female	42.2	34.6	33.2

*Source: Sixteenth Census of the United States, 1940, Population, Vol. III, Part II, p. 715; ibid., Vol. III, Part III, p. 221; ibid., Vol. III, Part V, p. 461.

Classification of Workers

One of the clearest and most logical explanations of the classification of workers employed by the United States Bureau of the Census is to be found in The Labor Force in Louisiana, by Rudolf Heberle. According to Heberle, the 1940 census

> presents two classifications which can be used for a study of the socioeconomic structure of the labor force. The first classification is by "class of worker," the second by major occupation group; the former is based on the distinction between employers and employees, the latter on differences in skill and responsibility....
> .....
>
> The class of worker concept has no immediate relation to social classes, but it may be used as an approximation to the main economic classes. However, the class of employers and workers on own account includes large numbers of sharecroppers and share tenants, also of other producers and distributors whose main income must be regarded as a compensation for their own labor. Although these should rather be classified as wage or salary workers, the latter group, especially the salary workers, includes a certain number of executives, managers, and other persons whose income and economic function would justify their classification with employers. On the whole one may assume that the proportions of persons depending virtually on compensation for their own labor are understated and that the proportions of real entrepreneurs are much smaller than the "class" of employers and workers on own account.
> .....
>
> The other classification of occupations in the Census of 1940 represents an attempt to classify workers according to the degree of skill or training required for the job and the degree of authority and responsibility connected with the position held.
>
> Some of the major occupation groups comprise quite a motley assembly of workers of very different income levels and social positions. The "clerical, sales and kindred workers," for instance, include not only a great variety of office workers and of clerks in stores, but also hucksters and peddlers, newsboys, and insurance and real estate agents. Even the legendary office boy who is to become president of a corporation is found in this company.

> The sociological usefulness of this classification consists in the information which it discloses concerning the relative importance of the skilled and unskilled occupations among wage earners and of the various types of "office work" and other "white-collar" occupations.[2]

The "class of worker" concept is presented in this study as employment status, whereas the "major occupation group" concept is considered as occupational classification.

Employment Status by Color and Sex in Houston

Employed persons in Houston are concentrated to a considerable extent in the "private wage or salary workers" category. About four-fifths of the total employed persons in Houston were in this category in 1940. The male and female employed persons occupied the same relative importance in this regard. The next most important category in Houston is that of "employers and own-account workers." Approximately one-eighth of the employed persons were in this category in 1940. Proportionately the males were over one and one-half times as important as the females in this class of workers. "Government workers" accounted for only about one-twentieth of the total employed persons in Houston in 1940, with the females having a larger proportion in this category than did the males. "Unpaid family workers" are of minor importance in Houston: less than one per cent of the total employed persons were in this group in 1940.

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[2] Rudolf Heberle, The Labor Force in Louisiana (Baton Rouge: Louisiana State University Press, 1948), pp. 66, 72, 81.

A much higher proportion of the nonwhite than of the white employed was engaged as "private wage or salary workers" in 1940. However, the situation was reversed in the case of "employers and own-account workers," "government workers," and "unpaid family workers." It is significant that a greater proportion of white males than white females were listed as "employers and own-account workers," whereas just the opposite condition existed in the nonwhite employed group. In the "unpaid family workers" class the females had a greater proportional representation than the males in the white as well as the nonwhite population. However, the relative proportion was greater in the white population.

Employment Status by Color and Sex in Atlanta, Houston, and New Orleans

As would be expected, a much greater percentage of the nonwhite than of the white employed persons was working for a "private wage or salary" in 1940. This statement holds true for all of the cities under consideration in both the male and female populations. The nonwhite population had a small proportion of its employed persons classed as "government workers." The percentage of white employed persons working for the government was over twice as large as the percentage of Negroes working for the government in Atlanta and Houston. This statement may also be applied to both the male and female populations in 1940. In the case of New Orleans, the percentage of white employed persons working for the government was almost four times as high as the percentage of Negro employed persons working for the government. These variations existed in both the male and female populations. The white population also had a greater percentage of its population classified as "employers and

own-account workers" than was the case for the Negro population. The significant point about the "unpaid family workers" group is that the percentage of white females in this group was substantially higher than was the corresponding proportion of Negro females.

It is apparent from Table XIII that Houston had more of its employed persons in the "employers and own-account workers" category than did either New Orleans or Atlanta. This condition prevailed for the white male and female and the nonwhite female populations. However, New Orleans had more of its nonwhite male population in the "employers and own-account workers" category than did Houston. From the standpoint of the total male and female populations, Houston ranked well ahead of both Atlanta and New Orleans. As can be seen from Table XIII, Houston had 14.2 per cent of its male employed persons listed under "employers and own-account workers," whereas the corresponding figures for New Orleans and Atlanta were 13.6 per cent and 10.8 per cent, respectively. Somewhat the same condition existed in the female population, with Houston having the highest per cent listed as "employers and own-account workers"; however, in this category New Orleans ranked slightly ahead of Atlanta.

In 1940 "government workers" were much less plentiful proportionally in Houston than in either Atlanta or New Orleans. In the male population, Houston had only 4.2 per cent of its employed population listed as "government workers," whereas New Orleans had 10.6 per cent and Atlanta 7.9 per cent of its labor force so listed. The relative standings were the same for the female population, with New Orleans and Atlanta both having much higher percentages than Houston. These relative standings were maintained for both the white and nonwhite populations except in the

TABLE XIII

PER CENT DISTRIBUTION OF EMPLOYED PERSONS (EXCEPT THOSE ENGAGED IN EMERGENCY WORK) BY CLASS OF WORKER, COLOR, AND SEX FOR ATLANTA, HOUSTON, AND NEW ORLEANS: 1940*

City	Private Wage or Salary Workers	Government Workers	Employers and Own-Account Workers	Unpaid Family Workers
Atlanta				
All Classes				
Total	81.5	8.1	9.8	0.6
Male	81.0	7.9	10.8	0.2
Female	82.2	8.4	8.2	1.2
White				
Male	77.7	9.4	12.7	0.2
Female	79.0	11.7	7.4	1.9
Nonwhite				
Male	89.1	4.5	6.3	0.1
Female	86.2	4.3	9.2	0.3
Houston				
All Classes				
Total	81.4	5.0	12.8	0.8
Male	81.4	4.2	14.2	0.2
Female	81.4	6.8	9.7	2.2
White				
Male	79.2	4.7	15.9	0.2
Female	78.9	8.3	9.7	3.1
Nonwhite				
Male	89.9	2.3	7.7	0.1
Female	85.9	4.1	9.6	0.4
New Orleans				
All Classes				
Total	77.1	10.1	11.7	1.0
Male	75.4	10.6	13.6	0.4
Female	80.7	9.2	8.0	2.2
White				
Male	71.6	12.7	15.2	0.5
Female	74.7	12.8	9.2	3.3
Nonwhite				
Male	87.6	3.8	8.4	0.2
Female	90.3	3.4	5.9	0.3

*Source: Sixteenth Census of the United States, 1940, Population, Vol. III, Part II, p. 716; ibid., Vol. III, Part III, p. 222; ibid., Vol. III, Part V, p. 462.

case of nonwhite females. In this category, New Orleans had the smallest percentage employed as "government workers," with 3.4 per cent; Houston, with 4.1 per cent, and Atlanta, with 4.3 per cent, ranked about the same.

"Private wage or salary workers" were of approximately the same relative importance in Atlanta and Houston but of much less importance in New Orleans. A breakdown by color reveals that in all three cities a much greater percentage of the nonwhite population than of the white population was working for wages. A similar relationship was also found among both male and female nonwhites. This probably reflects the fact that in these cities the nonwhite population controls a smaller proportion of the means of production and distribution than does the white group.

Atlanta had a smaller percentage of persons in the "unpaid family workers" category than either Houston or New Orleans.

Occupational Classification in Houston

More than one-fifth of Houston's male employed workers were listed as "professional workers," "semiprofessional workers," and "proprietors, managers, and officials except farm." (See Table XIV.) However, most of the male employed workers were concentrated in the groups listed as "clerical, sales, and kindred workers," "craftsmen, foremen, and kindred workers," and "operatives and kindred workers." These groups accounted for 56.2 per cent of the total male employed workers. The "clerical, sales, and kindred workers" group was the most important one, as it contained over one-fifth of the total male employed workers. Service workers and laborers also accounted for about one-fifth of the total male employed workers. The remaining male employed persons were somewhat evenly distributed between service workers and laborers.

The female employed workers were heavily concentrated in the "clerical, sales, and kindred workers" group (29.4 per cent), "domestic-service workers" (30.3 per cent), "service workers except domestic" (15.3 per cent), and "professional workers" (9.2 per cent). These concentrations indicate that the women in Houston have followed traditional patterns in their type of work.

TABLE XIV

PER CENT DISTRIBUTION BY MAJOR OCCUPATION GROUP, FOR MALE EMPLOYED WORKERS FOURTEEN YEARS OF AGE AND OVER IN ATLANTA, HOUSTON, AND NEW ORLEANS: 1940*

Major Occupational Group	Per Cent Distribution		
	Atlanta	Houston	New Orleans
Total (Public Emergency Work Excluded)	100.0	100.0	100.0
Professional Workers	5.1	5.7	5.1
Semi-Professional Workers	1.3	1.5	1.2
Proprietors, Managers, and Officials Except Farm	11.9	13.4	12.3
Clerical, Sales, and Kindred Workers	23.8	21.1	21.5
Craftsmen, Foremen, and Kindred Workers	15.7	17.4	14.9
Operatives and Kindred Workers	18.1	17.7	18.0
Domestic-Service Workers	1.6	1.6	0.6
Service Workers Except Domestic	12.8	9.3	11.2
Laborers Except Farm	8.9	11.1	14.3
Occupation Not Reported	0.6	0.9	0.3

*Source: Sixteenth Census of the United States, 1940, Population, Vol. II, Part I, p. 173.

Occupational Classification in Atlanta, Houston, and New Orleans

In general, the males of Houston occupied the classes of "professional workers," "semiprofessional workers," and "proprietors, managers, and officials except farm" to a much greater extent in 1940 than was true for Atlanta and New Orleans. (See Table XIV.) Houston also had a lower percentage of male employed workers classified as "service workers except domestic." However, while Houston had a lower percentage of "laborers except farm" than New Orleans, Atlanta had an even smaller percentage in this category.

In the female occupational classification, Houston ranked about with New Orleans in having the highest percentage of workers among "professional workers," "semiprofessional workers," and "proprietors, managers, and officials except farm." (See Table XV.) Houston also had the highest percentage of employed females listed as service workers. However, Houston had the smallest per cent of any of the cities in the "operatives and kindred workers" class. All of the cities had relatively high proportions of their female workers in the "clerical, sales, and kindred workers" category.

Distribution of Workers by Industry Group in Houston

Much can be learned about the economic base of Houston by examining Table XVI. This table gives a percentage distribution of members of the labor force who were employed other than on emergency work in 1940, according to the industry in which they were engaged. It shows that personal services; wholesale and retail trade; manufacturing; and transportation, communication, and other public utilities employed the largest

TABLE XV

PER CENT DISTRIBUTION BY MAJOR OCCUPATION GROUP, FOR FEMALE EMPLOYED WORKERS FOURTEEN YEARS OF AGE AND OVER IN ATLANTA, HOUSTON, AND NEW ORLEANS: 1940*

Major Occupational Group	Per Cent Distribution		
	Atlanta	Houston	New Orleans
Total (Public Emergency Work Excluded)	100.0	100.0	100.0
Professional Workers	8.0	9.2	10.2
Semi-Professional Workers	0.7	1.1	1.0
Proprietors, Managers, and Officials Except Farm	2.6	3.7	3.3
Clerical, Sales, and Kindred Workers	30.0	29.4	28.7
Craftsmen, Foremen, and Kindred Workers	0.8	0.7	0.8
Operatives and Kindred Workers	13.8	8.4	15.2
Domestic-Service Workers	31.2	30.3	27.3
Service Workers Except Domestic	11.9	15.3	12.1
Laborers Except Farm	0.5	0.7	0.8
Occupation Not Reported	0.6	1.0	0.4

*Source: Sixteenth Census of the United States, 1940, Population, Vol. II, Part I, p. 174.

percentages of Houston's workers at that time. When an analysis is made by sex, one finds that the same groups--with the exception of personal services--contained a large proportion of the male workers. However, the female workers were mainly concentrated in personal services, wholesale and retail trade, and professional and related services.

TABLE XVI

PER CENT DISTRIBUTION OF EMPLOYED WORKERS FOURTEEN YEARS OF AGE AND OVER BY INDUSTRY GROUP AND SEX FOR ATLANTA, HOUSTON, AND NEW ORLEANS: 1940*

Industry Group	Per Cent Distribution					
	Atlanta		Houston		New Orleans	
	Male	Female	Male	Female	Male	Female
Total Employed (Except on Public Emergency Work	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Agriculture, Forestry, and Fishery	0.5	0.1	0.7	0.1	1.2	0.2
Mining	-	-	2.9	0.7	0.2	-
Construction	9.2	0.4	9.6	0.5	8.9	0.3
Manufacturing	21.5	12.6	23.1	8.3	18.1	12.8
Transportation, Communication, and Other Public Utilities	13.2	4.4	14.8	3.6	18.9	3.5
Wholesale and Retail Trade	26.5	18.2	24.8	22.1	25.4	21.2
Finance, Insurance, and Real Estate	5.8	5.4	4.8	4.8	5.0	4.1
Business and Repair Services	2.9	0.8	3.2	0.7	2.9	0.6
Personal Services	7.8	42.3	6.5	42.5	5.4	37.2
Amusement, Recreation, and Related Services	1.3	0.7	1.1	0.7	1.9	1.2
Professional and Related Services	4.8	11.3	4.4	13.4	5.3	15.4
Government	5.4	2.9	2.7	1.2	5.7	2.6
Industry Not Reported	1.1	1.0	1.5	1.4	1.3	1.0

*Source: Sixteenth Census of the United States, 1940, Population, Vol. II, Part I, pp. 189, 193, 195.

A Comparison of the Distribution of Workers by Industry Group in Atlanta, Houston, and New Orleans

In 1940 all three of these cities had a high proportion of their workers located in personal services; wholesale and retail trade; manufacturing; and transportation, communication, and other public utilities. An important difference among the cities is to be noted in the case of transportation, communication, and other public utilities; and personal services: New Orleans had a higher proportion of its workers in transportation, communication, and other public utilities than did Houston, whereas exactly the opposite was true in the case of personal services. The high proportion of New Orleans' workers concentrated in transportation, communication, and other public utilities may have been due to several factors. Some of these are (a) the location of a large number of steamship companies in New Orleans, (b) the importance of the city as a river port and transshipping point and as a focus point for South American travel, and (c) the presence of large naval establishments in New Orleans. The demand for workers by the various concerns in transportation, communication, and other public utilities may account to a large degree for the relatively small proportion of New Orleans' workers who were engaged in personal-service work. Houston had proportionately only about half as many of its workers employed by the government as did either Atlanta or New Orleans. This variation reflects to a considerable extent the importance of United States governmental agencies in Atlanta and New Orleans.

Trends in the Occupational Structure of the Population of Houston

Trends in the occupational structure of the population of Houston from 1900 to 1930 are clearly revealed in Figure 27. These trends are shown only through 1930 because the data for 1940 are not comparable with previous data. The manufacturing and mechanical industries group has become increasingly important in the occupational structure of Houston, as has professional service. Clerical service has also shown a great increase from 1910 to 1930. The number of persons in domestic and personal service, on the other hand, has decreased considerably; and agriculture has become of extremely minor importance. The trade, transportation, and communication grouping has shown a decline since 1900.

Occupational-structure trends for the male and female populations reveal the importance which each has had in the changes in the occupational structure of the total population. Occupational-structure trends for the male population (Figure 28) show that the manufacturing and mechanical industries group was more important in 1930 than in 1900, whereas the trade, transportation, and communication category declined in importance during the same period. Only small variations have occurred in other male occupational groups. In the case of the female population, the significant trend (Figure 29) has been a great increase in the proportion employed in the clerical and professional groups.

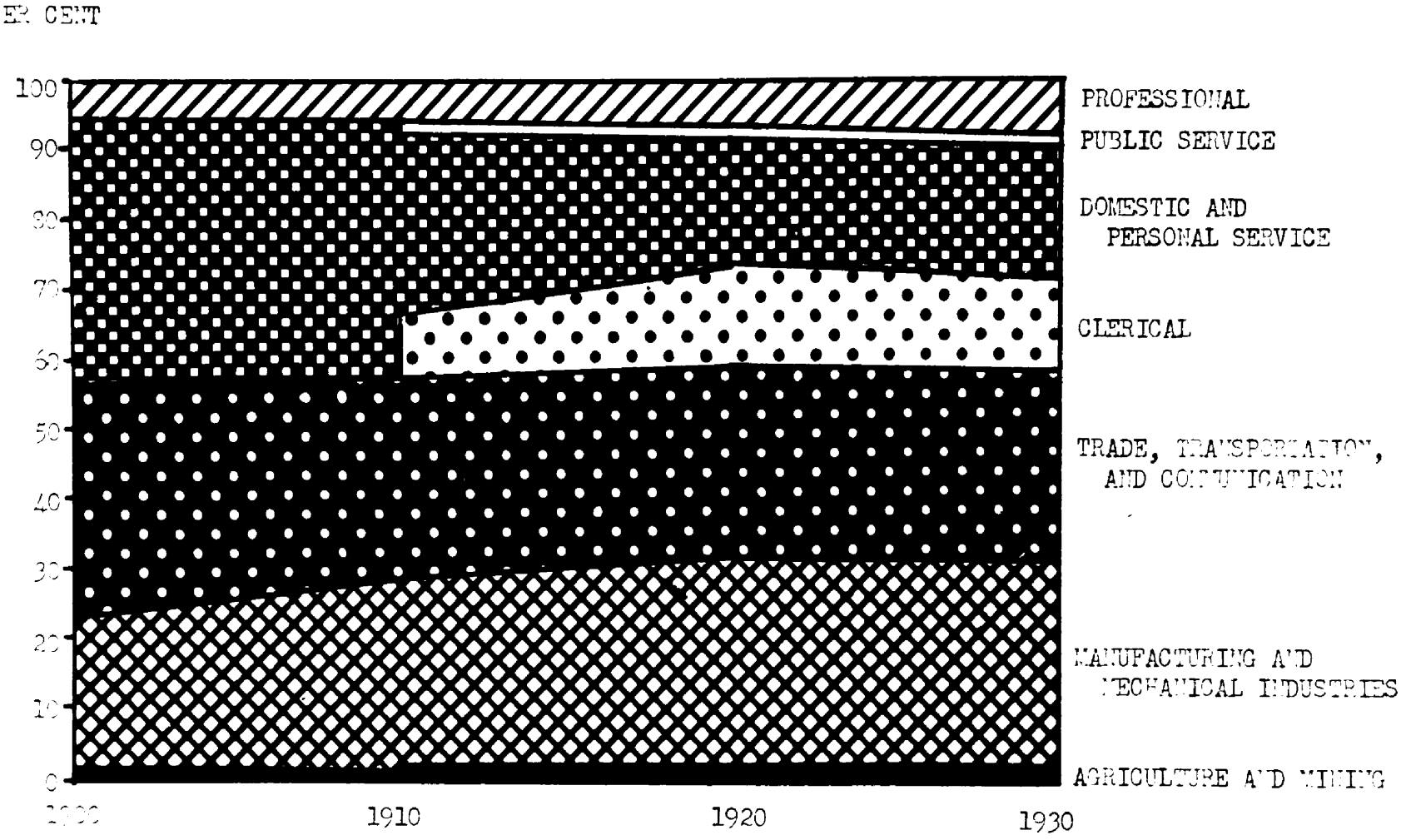

FIGURE 27. Changes in the occupational structure of the population of Houston: 1900 to 1930.

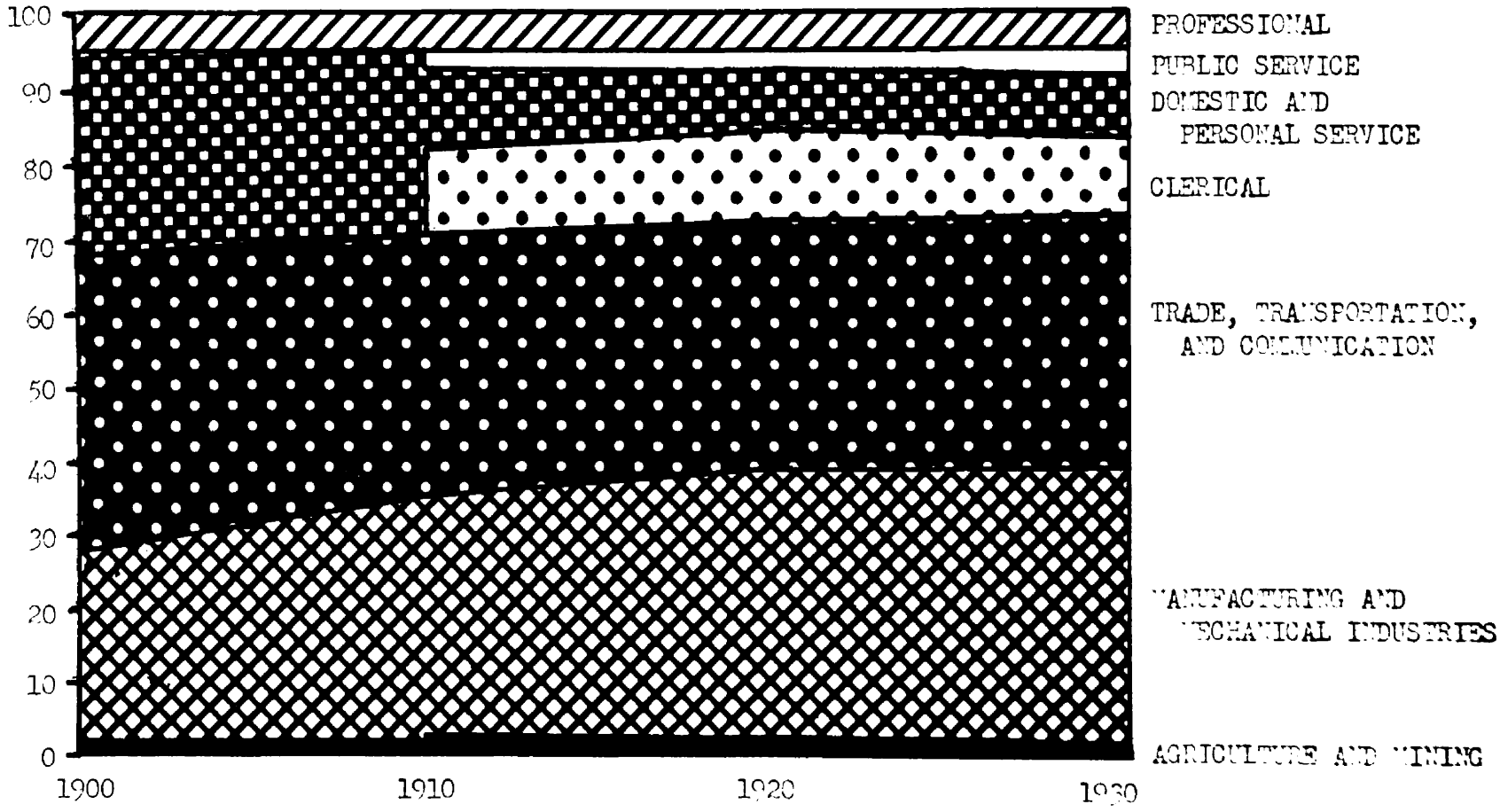

FIGURE 28. Changes in the occupational structure of the male population of Houston: 1900 to 1930.

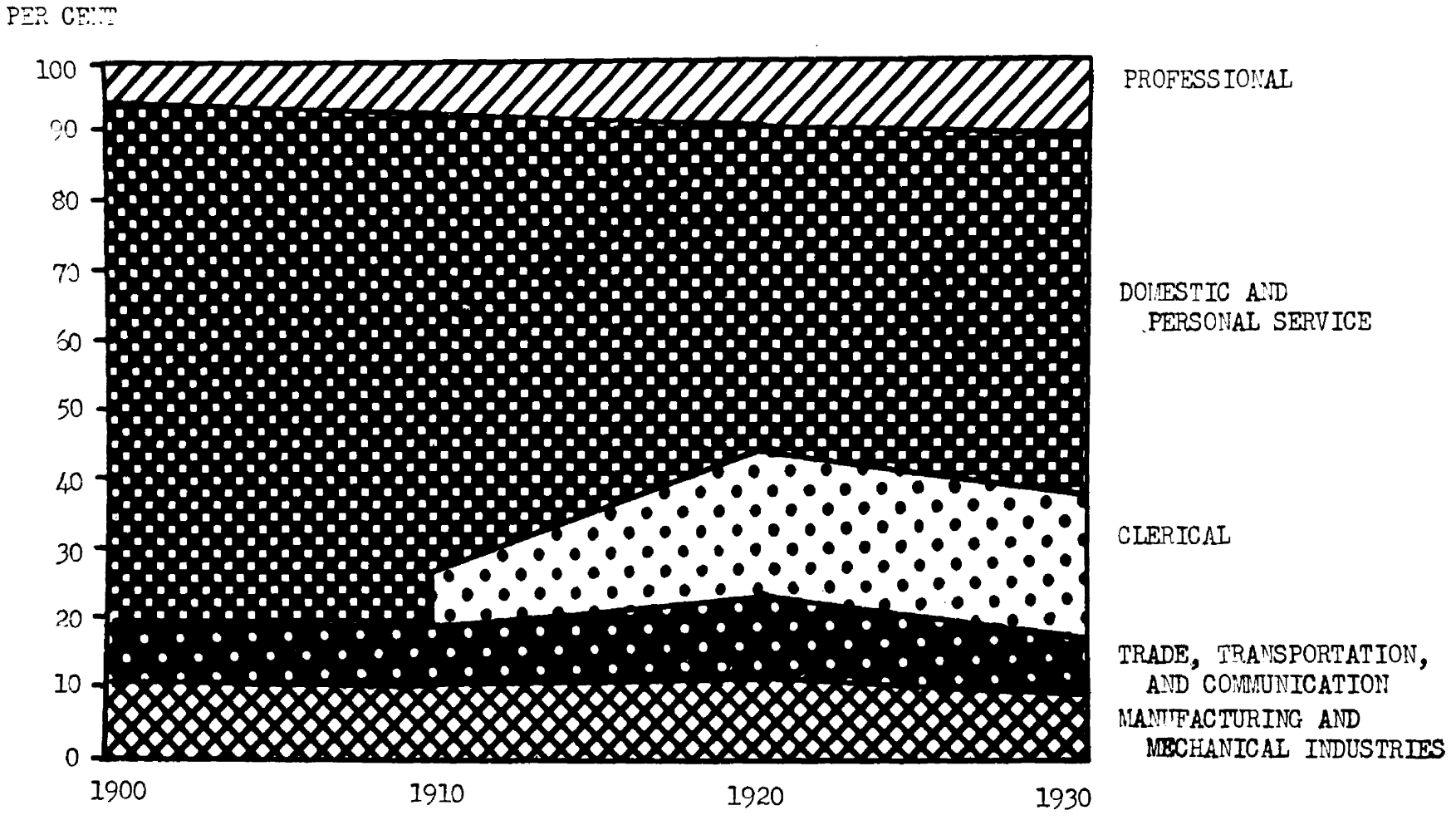

FIGURE 29. Changes in the occupational structure of the female population of Houston: 1900 to 1930.

CHAPTER XI

RELIGIOUS COMPOSITION

Variations in religious composition become of special significance when one realizes that persons belonging to certain groups display different mental attitudes and habits of life from those identified with other groups. For example, there are distinct differences in some countries in the birth rates of different religious groups. Likewise, some differences may be found in death rates. However, both of these differences are probably due much less to religious differences than to the variations in the social and economic statuses of the members of the different religious groups.[1]

Nevertheless, some of a people's ways of thinking and acting can be attributed in great measure to different religious beliefs. Those persons who conform to the standards set up by the various churches will, as a result, have different ways of thinking and acting from others. For example, some churches are very strict in the dress prescribed for members; some prohibit drinking, dancing, card-playing, the use of make-up, tobacco, movies, and/or various other activities. Such prohibitions undoubtedly have influence on the social participation of the members of the various groups.

Emile Durkheim found that the suicide rate varied among different religious groups. He presented evidence to show that free-thinkers have

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[1] Thompson, Population Problems, p. 119.

the highest suicide rates and Protestants the next highest. Catholics have low rates; and Jews have the lowest rates of all the groups examined. According to Durkheim, this variation is due mainly to the degree of integration of the different religious groups. In other words, Protestantism involves a greater amount of religious individualism than Catholicism, and the group is less integrated by uniformities of belief. In contrast, Judaism, as a result of a heritage of persecution, binds its members closely together in order to face a hostile environment.[2]

It can readily be seen from the above paragraphs that the religious composition of a population often has significant influences on other demographic and social phenomena.

Religious data are rendered somewhat unreliable by the manner in which they are collected. The census is really one of religious organizations rather than of individual church preference.[3] Thus, complete and accurate information on the total population of Houston is not available. The data, which are collected every tenth year ending with the number six, are reported by the various churches to the Bureau of the Census. This method in itself would tend to result in incomparability of data on a population group. The reason why the data are not collected by the Bureau of the Census directly from the individual citizens is an interpretation of the federal constitution to mean that the decennial census should not inquire into church membership or preference.[4]

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[2] Emile Durkheim, Le Suicide: Etude de Sociologie (nouvelle ed.; Paris: F. Alcan, 1930), pp. 146-73.

[3] Census of Religious Bodies, 1936 (Washington: United States Government Printing Office, 1941), Vol. I (Summary and Detailed Tables), p. 3.

[4] Smith, Population Analysis, p. 175. Cf. H.K. Carroll, The Religious Forces of the United States (New York: The Christian Literature Company, 1893), p. xiii.

Houston's Church Population

In 1936 Houston had 42 different religious bodies with a total membership of 154,260; it had 335 churches with an average membership of 460. Of this total church membership of 154,260, 13.5 per cent were under thirteen years of age. About 44 per cent of the total population of Houston were reported as church members.[5] This is the same as the percentage for the country as a whole.[6]

The most important church bodies in Houston from the standpoint of membership are the Baptists, the Roman Catholics, the Methodists, and the Jews, ranking in importance in the order named. The relative importance of these bodies is clearly brought out in Figure 31.

There are many more women than men in Houston's church population. (See Table XVII.) For every one hundred women in the churches of Houston in 1936, there were only about sixty-six men. This low sex ratio becomes of greater significance when one realizes that there is a fairly even distribution of males and females in Houston's total population.

TABLE XVII

SEX RATIOS AMONG THE CHURCH MEMBERSHIP OF ATLANTA, HOUSTON, AND NEW ORLEANS: 1936*

City	Sex Ratios
Atlanta	66.0
Houston	66.3
New Orleans	78.5

*Source: Census of Religious Bodies, 1936, Vol. I, pp. 426, 428, 436.

[5] Census of Religious Bodies, 1936, Vol. I, p. 541.

[6] Smith, Population Analysis, p. 178.

Distribution of Church Membership in Atlanta, Houston, and New Orleans

The cities of Atlanta, Houston, and New Orleans vary considerably in their religious composition. In New Orleans, the Roman Catholic group virtually dominates the religious picture, with the Baptists ranking second. As can be seen from Figure 32, the Catholics comprise approximately three-fourths of the total reported church population in New Orleans. The other two cities have a more even distribution of church population among the various religious bodies. Houston probably has a somewhat more balanced representation of the various religious bodies than does Atlanta. The members of the various Protestant bodies outnumber the non-Protestants in both of these cities, as Figures 30 and 31 show. The Baptists are the Protestant body claiming the most members in these two cities. In Houston, the Roman Catholics rank second and the Methodists third as to number of members. In Atlanta, the Methodists are second and the Roman Catholics are fifth.

Sex Ratios Among Church Members in Atlanta, Houston, and New Orleans

All three of the cities shown in Table XVII have low sex ratios for the church population. However, the Atlanta and Houston ratios are about the same, while that for New Orleans is much higher. The higher sex ratio in New Orleans can be partially accounted for by the presence in that city of a large Roman Catholic population. The Roman Catholic Church has a much higher sex ratio than do the religious bodies which make up the bulk of the church population of Atlanta and Houston. The Roman Catholic Church includes in its membership disproportionately

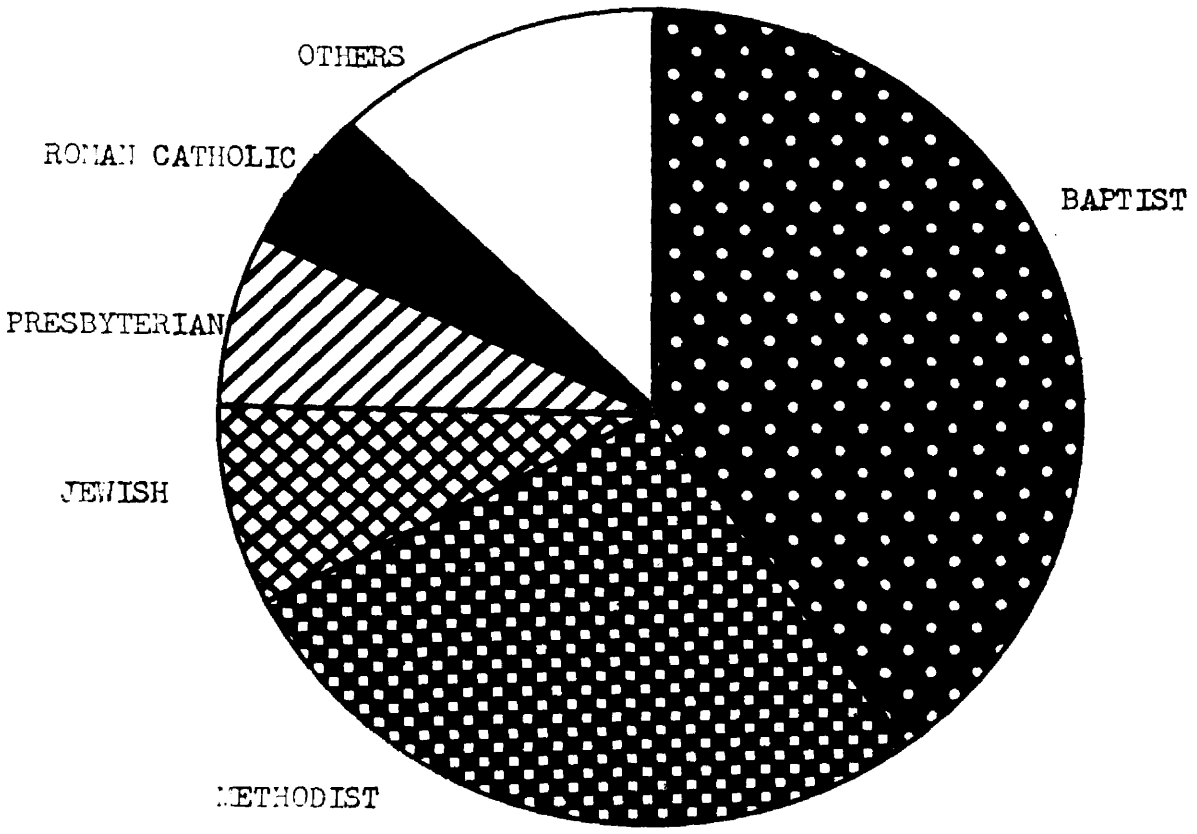


FIGURE 30. Distribution of reported church membership by major religious groupings in Atlanta: 1936.

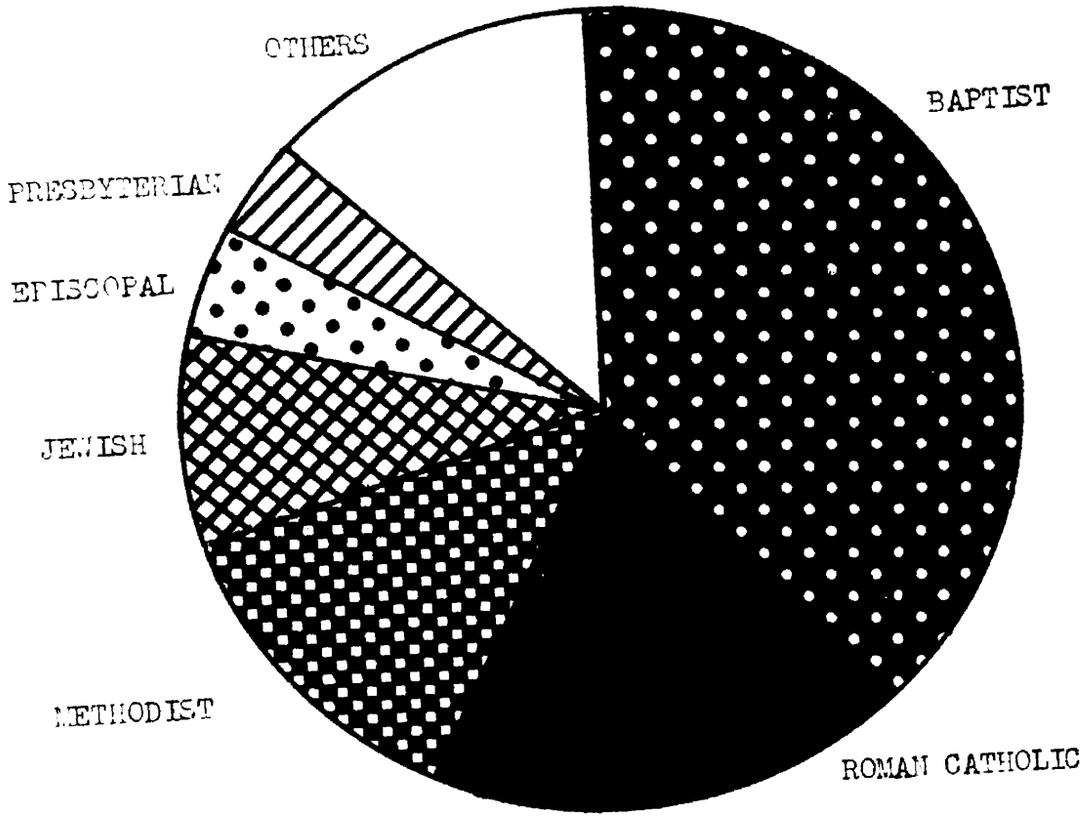
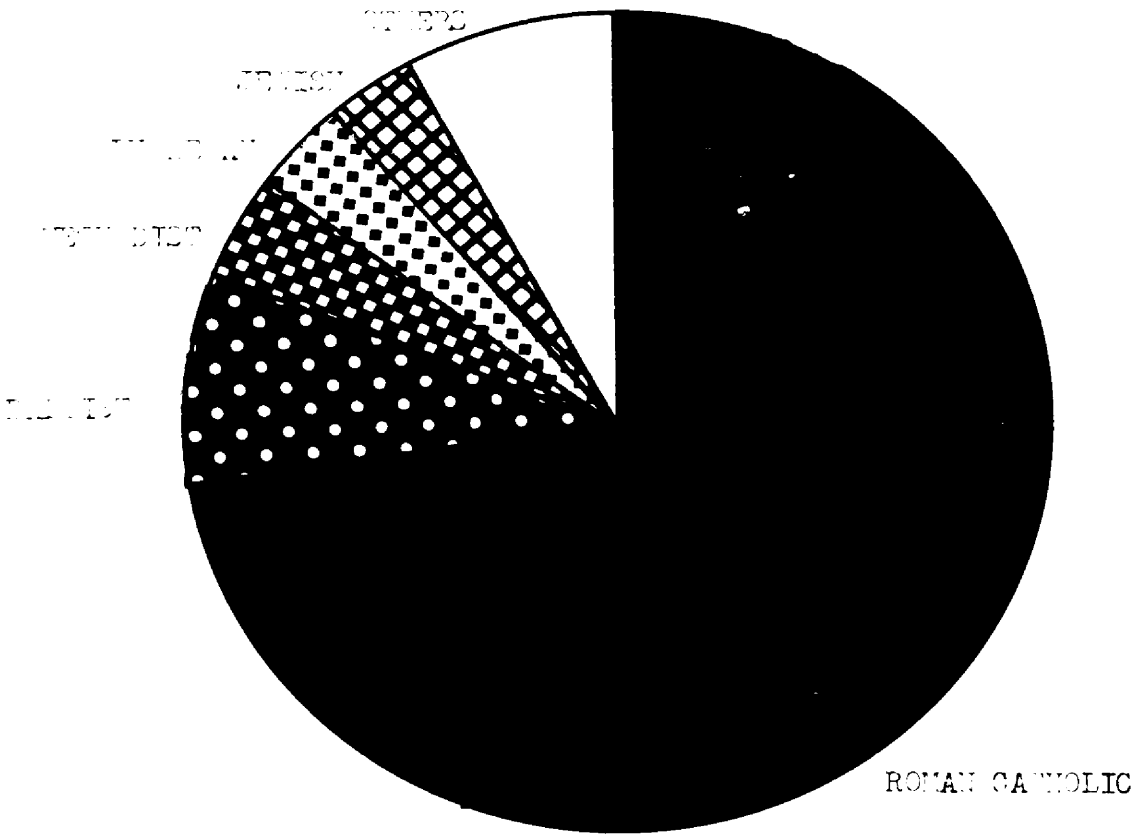


FIGURE 31. Distribution of reported church membership by major religious groupings in Houston: 1936.



. Distribution of reported church membership by religious groupings in New Orleans: 1936.

high numbers of the foreign-born, among whom the sex ratio is very high. The Roman Catholic Church also includes greater proportions of children under thirteen years of age in its membership than do the predominant (Protestant) faiths in Atlanta and Houston. It is recognized that the younger age groups have higher sex ratios. It should also be pointed out that membership from older groups is highly selective of the female population.

When the sex ratios of the church bodies of Atlanta, Houston, and New Orleans are compared with the sex ratios for the total populations of those cities, it can readily be seen that the churches are selective of females. This is in line with the general pattern of the urban United States church membership, which has a sex ratio of 78.6.

Both Atlanta and Houston have lower sex ratios for their church membership than is true for the national average. This is probably to be accounted for in large part by the presence of a large Negro population which is extremely feminine.

In 1936 New Orleans had a sex ratio about equal to the United States urban ratio. It has been previously pointed out how the importance of the Roman Catholic denomination largely explains this fact.

CHAPTER XII

FERTILITY

The rate at which a population is reproducing itself is of great importance, since it is one of the prime determinants of the population growth of an area. The term "fertility" is generally used today to express the actual reproduction of the population. It is probably one of the most important phases of present-day population study. The social and economic problems both of the world and of small population aggregates are influenced to a tremendous extent by the fertility of the population. Many trouble spots in the twentieth-century world are directly attributable to the high fertility of the populations of those areas. Low fertility may likewise affect the life of a community. It may lead to a dearth of young people and to dormant social institutions.

Indexes of Fertility

There are three main indexes of fertility in widespread use today. These are the birth rate, the fertility ratio, and the reproduction rate. Although there are other indexes of fertility which may be used, these three give a fairly complete and accurate picture of the fertility of a population. These indexes are the basic ones which have been used in this study.

The birth rate is the simplest and the most widely used of the fertility indexes. The crude birth rate may be expressed in mathematical

terms as the number of births in a given year divided by the population and multiplied by one thousand. However, because of variations in age and sex composition, the crude birth rate should be used only with caution in making comparisons of different populations. If one desires to use the birth rate as a lone basis for comparative purposes, it would be wise for him to use a standardized birth rate which eliminates the bias introduced by unequal sex and age distributions. From the standpoint of this study, the crude birth rate serves as a valuable index.

The fertility ratio is another important index of fertility. It relates the number of children under five years of age to the number of women of childbearing age (this usually being considered as the ages from fifteen to forty-four inclusive). This ratio is computed by dividing the number of children under five years of age by the number of women aged fifteen to forty-four inclusive and multiplying by one thousand. This index virtually eliminates the sex and age bias from comparisons of population groups. It is more refined than the birth rate and is one of the best indexes of fertility. It cannot be used with nativity groupings, however, and should be used with caution in studies dealing with southern Negroes. Kemp found that young Negro females tend to leave their children in the country while they work in the city.[1]

A third important index of fertility is the reproduction rate. In the case of the net reproduction rate, fertility is related to mortality. The net reproduction rate shows whether a population will increase or

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[1] Louise Kemp, "A Note on the Use of the Fertility Ratio in the Study of Rural-Urban Differences in Fertility," Rural Sociology, X (September, 1945), 312-13.

decrease if the age-specific birth rates and mortality rates do not change. A rate of one indicates that a population is exactly reproducing itself, whereas a rate below one means that it is failing to reproduce itself and a rate higher than one demonstrates that it more than replacing itself.

The gross reproduction rate is similar to the net reproduction rate except that it does not allow for mortality. It has been aptly described by Hagood as follows:

> The gross reproduction rate is computed by determining the number of daughters that would be borne by a cohort of 1,000 women passing through the childbearing period if subjected to observed age specific fertility rates for female births and by expressing this as a ratio to the number in the cohort, 1,000. If we use quinquennial rates, the 1,000 women will bear a number of children equal to the rate during each year of the quinquennium, and to five times the rate during the age interval. Therefore, we can compute the gross reproduction rates by simply adding the age specific fertility rates for female births for each 5-year age group of the childbearing period, multiplying the sum by five, and dividing the result by 1,000.[2]

It should be pointed out, of course, that "The net reproduction rate...must always be smaller than the gross reproduction rate. Both rates could only be equal, if all newly born girls reached childbearing age and passed through childbearing age."[3] However, it should be kept in mind that this variation is becoming less important in the United States with the great reduction in the death rate in the ages prior to

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[2] Hagood, Statistics for Sociologists, p. 890.

[3] Robert R. Kuczynski, The Balance of Births and Deaths (Volume I, Western and Northern Europe [New York: The Macmillan Company, 1928], Volume II, Eastern and Southern Europe [Washington: The Brookings Institution, 1931]), I, 48.

and including the female reproductive period. Science is constantly increasing the possibility of a newborn female living beyond the child-bearing age.

The method of arriving at the gross reproduction rate is demonstrated in Tables XXI, XXII, and XXIII, showing the computation of rates for the various cities under consideration. While the net reproduction rate is more refined, the gross reproduction rate may be readily computed for all of the cities under consideration and has been used in the present study because it admits of comparison. The gross rate is always somewhat higher than the net rate, but it is easier to compute, since the net rate is based on a life table.

Only the total white and nonwhite births are available from the volumes of Vital Statistics of the United States. Therefore, it has been necessary to distribute these births between the male and female populations. In making this distribution, the generally accepted sex ratios at birth of 106 for the white population and 103 for the nonwhite population have been used. It has been pointed out previously that the nonwhite and Negro categories are virtually the same for the cities under consideration. While there are some people other than Negroes in the nonwhite category, they are of relatively minor importance.

The population figures used in computing the gross reproduction rates have been arrived at by linear interpolation. The census of 1940 was taken on April 1. Since the average birth rates for 1939-1940 have been used, the population for the midpoint of this period (January 1, 1940) had to be calculated. As the census of 1930 was likewise taken on April 1, the increase in population may be divided into ten yearly parts (the

assumption of linearity of form means that the annual increments were equal). The period of time from January 1, 1940, to April 1, 1940, is one-fourth of a year, and therefore the total time from April 1, 1930, to January 1, 1940, is 9.75 years. Thus, to make the estimate it was necessary to compute the proportion $\frac{9.75}{10.00} = 0.975$ of the population increase during the decade and add the amount to the population of 1930. The assumption of linearity means that the increase over 1930 at any time during the ten-year period is proportional to the elapsed time since 1930. The farther away the date of the estimate is from the year in which the population is known, the more inaccurate the estimate probably will be.[4]

Crude Birth Rates in Houston

Before the subject of crude birth rates is discussed, the construction of Table XVIII should be explained. The total number of births listed for each city is to be found in those volumes of the annual Vital Statistics of the United States which give the data by residence. Data were available for the years 1937 to 1948, inclusive. Birth statistics by residence were first published in 1937. Prior to that date the data had been given only by place of occurrence. The most recent statistics available are those to be found in the 1948 Vital Statistics report.

The crude birth rate has been arrived at by dividing the number of births by interpolated population figures and multiplying by one thousand. The 1930, 1940, and 1950 census figures have been used as bases for interpolating the population for the intervening years. Since Houston annexed

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[4] For a fuller discussion of this method of estimating population, see Hagood, Statistics for Sociologists, pp. 796-97.

considerable territory in 1949, it was necessary to use census figures based on the "old city." The total population of the old city in 1950 was 455,238. This figure was obtained from the Houston Chamber of Commerce, which had been given a "Special Tabulation of Preliminary Data" by the Bureau of the Census. It was necessary to use the population for the old city because the births had been reported by place of residence, which meant the old city for the data up through 1948.

The rates are somewhat lower than those given in the Vital Statistics volumes because of the fact that midyear population figures have been used in the computation of the birth rates for this study, whereas April 1 population figures were used in the computation of rates for the Vital Statistics reports. It is the opinion of the writer that the midyear population figure gives a more accurate rate. This method of computation has been followed by Hagood.[5] It is logical to assume that there is a fairly even distribution of births over a period of a year, or, to put it another way, that approximately the same number of births occur in the second half as in the first half of the year. If this assumption is followed, then the midyear population figure is the one to be used in computing rates. However, if the April 1 population figure is used, it must be based on the assumption that twice as many births occur in the first half as in the second half of the year.

The crude birth rates in Houston have increased considerably in recent years. Table XVIII shows that the rates increased more than 100 per cent in the period from 1937 to 1948. In 1937 the crude birth rate

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[5] Ibid., p. 815.

TABLE XVIII

NUMBER OF BIRTHS AND CRUDE BIRTH RATES OF ATLANTA, HOUSTON, AND NEW ORLEANS: 1937-1948*

Year	Atlanta		Houston		New Orleans	
	Number of Births	Crude Birth Rate	Number of Births	Crude Birth Rate	Number of Births	Crude Birth Rate
1937	5,605	19.1	6,165	17.2	7,722	16.8
1938	5,888	19.8	6,839	18.6	7,999	16.4
1939	6,099	20.3	7,143	18.9	8,187	16.6
1940	6,344	20.9	8,255	21.4	9,138	18.4
1941	6,973	22.8	9,444	24.0	10,093	20.0
1942	7,443	24.2	10,706	26.7	11,229	22.0
1943	7,212	23.2	12,140	29.8	12,331	23.8
1944	7,218	23.1	11,853	28.6	12,157	23.1
1945	7,416	23.5	11,322	26.9	11,758	22.1
1946	9,599	30.2	13,520	31.5	14,024	26.0
1947	9,165	28.6	15,378	35.3	15,502	28.3
1948	8,429	25.8	16,257	36.7	14,814	26.7

*Sources: Vital Statistics of the United States, 1937 (Washington: United States Government Printing Office, 1939), Part II (Natality and Mortality Data for the United States Tabulated by Place of Residence), p. 13; Vital Statistics of the United States, 1938 (Washington: United States Government Printing Office, 1940), Part II (Natality and Mortality Data for the United States Tabulated by Place of Residence), p. 14; Vital Statistics of the United States, 1939 (Washington: United States Government Printing Office, 1941), Part II (Natality and Mortality Data for the United States Tabulated by Place of Residence), p. 14; Vital Statistics of the United States, 1940 (Washington: United States Government Printing Office, 1943), Part II (Natality and Mortality Data for the United States Tabulated by Place of Residence) p. 13; Vital Statistics of the United States, 1941 (Washington: United States Government Printing Office, 1943), Part II (Natality and Mortality Data for the United States Tabulated by Place of Residence), pp. 13-14; Vital Statistics of the United States, 1942 (Washington: United States Government Printing Office, 1944), Part II (Natality and Mortality Data for the United States Tabulated by Place of Residence), p. 11; Vital Statistics of the United States, 1943 (Washington: United States Government Printing Office, 1945), Part II (Natality and Mortality Data for the United States Tabulated by Place of Residence), p. 11; Vital Statistics of the United States, 1944 (Washington: United States Government Printing Office, 1946), Part II (Natality and Mortality Data for the United States Tabulated by Place of Residence), p. xv; Vital Statistics of the United States, 1945 (Washington: United States Government Printing Office, 1947), Part II (Natality and Mortality Data for the United States Tabulated by Place of Residence), pp. 20, 27, 47; Vital Statistics of the United

(continued)

in Houston was 17.2, as compared with 36.7 in 1948. This tremendous increase in Houston's crude birth rate has been reflected to some extent in the phenomenal population growth in recent years. The increase in the birth rate was gradual in the late 1930's but showed a remarkable upsurge in the early 1940's with the outbreak of World War II. There was a slight decline after the peak of 1943, but the trend was abruptly reversed with the return of the men at the end of hostilities, and a large increase occurred in 1946 and 1947.

The crude birth rate in Houston varies by race, as can be seen from Table XIX. In 1940, the white crude birth rate was 22.3, whereas the nonwhite (largely Negro) rate was 18.7. The higher crude birth rate of the white population is reflected in the larger proportionate increase in that group. Additional factors in this proportionate increase are that the white population has a more favorable mortality experience than the nonwhite population and that it has received a proportion of migrants which is greater than the proportion which its population bears to the total population.

(Continuation of Sources for Table XVIII) States, 1946 (Washington: United States Government Printing Office, 1948), Part II (Natality and Mortality Data for the United States Tabulated by Place of Residence), pp. 36, 54, 98; Vital Statistics of the United States, 1947 (Washington: United States Government Printing Office, 1949), Part II (Natality and Mortality Data for the United States Tabulated by Place of Residence), pp. 18, 36, 80; Vital Statistics of the United States, 1948 (Washington: United States Government Printing Office, 1950), Part II (Natality and Mortality Data for the United States Tabulated by Place of Residence), pp. 17, 35, 80.

TABLE XIX

NUMBER OF BIRTHS AND CRUDE BIRTH RATES FOR THE TOTAL, WHITE, AND NONWHITE POPULATIONS OF ATLANTA, HOUSTON, AND NEW ORLEANS: 1940*

	Atlanta		Houston		New Orleans	
	Number of Births	Crude Birth Rate	Number of Births	Crude Birth Rate	Number of Births	Crude Birth Rate
Total	6,344	21.0	8,255	21.5	9,138	18.5
White	4,139	20.9	6,634	22.3	5,532	16.0
Nonwhite	2,205	21.1	1,621	18.7	3,606	24.1

*Sources: Vital Statistics of the United States, 1940, Part II, pp. 25, 31, 48; Vital Statistics of the United States, Supplement, 1939-1940 (Washington: United States Government Printing Office, 1943), Part III (Natality and Mortality Data for the United States Tabulated by Place of Residence), pp. 100, 115, 152.

A Comparison of the Crude Birth Rates in Atlanta, Houston, and New Orleans

The crude birth rates showed an upward trend in all the cities under consideration from 1937 to 1947, inclusive. The 1948 rates were lower than the 1947 rates in Atlanta and New Orleans but still continued their upward trend in Houston. In 1937 Atlanta had the highest crude birth rates, followed by Houston and New Orleans. However, by 1940 Houston had the highest rates of the three cities, and she has maintained the lead ever since. In fact, in 1948 the crude birth rates in Houston were over one-third higher than those in Atlanta and New Orleans. All of the cities had a marked increase in birth rates at the beginning of World War II and particularly so at the end of hostilities.

Variations in birth rates by racial groups exist in Atlanta, Houston, and New Orleans. In 1940 the nonwhite population had a higher crude birth rate than the white population in each of the cities except Houston. The difference was most marked in New Orleans, where the nonwhite group had a crude rate of 24.1, as compared with 16.0 for the white population. On the other hand, the nonwhite population in Houston had a crude birth rate of 18.7, as contrasted with a rate of 22.3 for the white population. For the nonwhite population, New Orleans had the highest crude birth rate, followed by Atlanta and Houston in that order. The crude birth rate for the white population was the highest in Houston, with that of Atlanta next; the index for New Orleans, however, lagged far behind.

In comparing crude birth rates of different population aggregates, one must realize that the age and sex composition of a population has a great influence on this index of fertility. Thus, the fact that the crude birth rate of Houston is higher than that of either Atlanta or New Orleans is probably a reflection of the large number of people in the reproductive age groups, as well as the relatively equal balance of the sexes, in Houston. As Thompson has pointed out, a younger population would probably have a higher birth rate.[6]

Fertility Ratios in Houston

The fertility ratios of Houston for 1940 are given in Table XX. The fertility ratio for the total population was 233. When an analysis by race is made, the white population of Houston is seen to have had a much higher fertility ratio in 1940 than the Negro population. The white population had a fertility ratio of 246, as compared with 194 for the

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[6] Thompson, Population Problems, p. 102.

Negro population. This is in accordance with a statement by Smith to the effect that "urban life dries up the reproductive springs of the Negro population even more rapidly than it leads to race suicide among whites."[7]

TABLE XX

FERTILITY RATIOS FOR THE TOTAL, WHITE, AND NEGRO POPULATIONS OF ATLANTA, HOUSTON, AND NEW ORLEANS: 1940*

	Children Under Five Years of Age	Women Aged Fifteen to Forty-Four Inclusive	Fertility Ratio
Total Population			
Atlanta	20,767	92,605	224.3
Houston	26,834	115,070	233.2
New Orleans	33,084	138,358	239.1
White Population			
Atlanta	13,084	57,328	228.2
Houston	21,179	86,076	246.1
New Orleans	21,111	93,816	225.0
Negro Population			
Atlanta	7,681	35,267	217.8
Houston	5,634	28,963	194.5
New Orleans	11,881	44,431	267.4

*Source: Sixteenth Census of the United States, 1940, Population, Vol. II, Part II, p. 374; Vol. II, Part III, p. 426; Vol. II, Part VI, p. 1044.

Fertility Ratios in Houston by Census Tracts

As can be seen from Figure 33, most of the tracts with high fertility ratios are located in the northern or eastern portions of the city. The tracts having the highest fertility ratios in 1940 are to be found on the

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[7] T. Lynn Smith, "A Demographic Study of the American Negro," Social Forces, XXIII (March, 1945), 384.

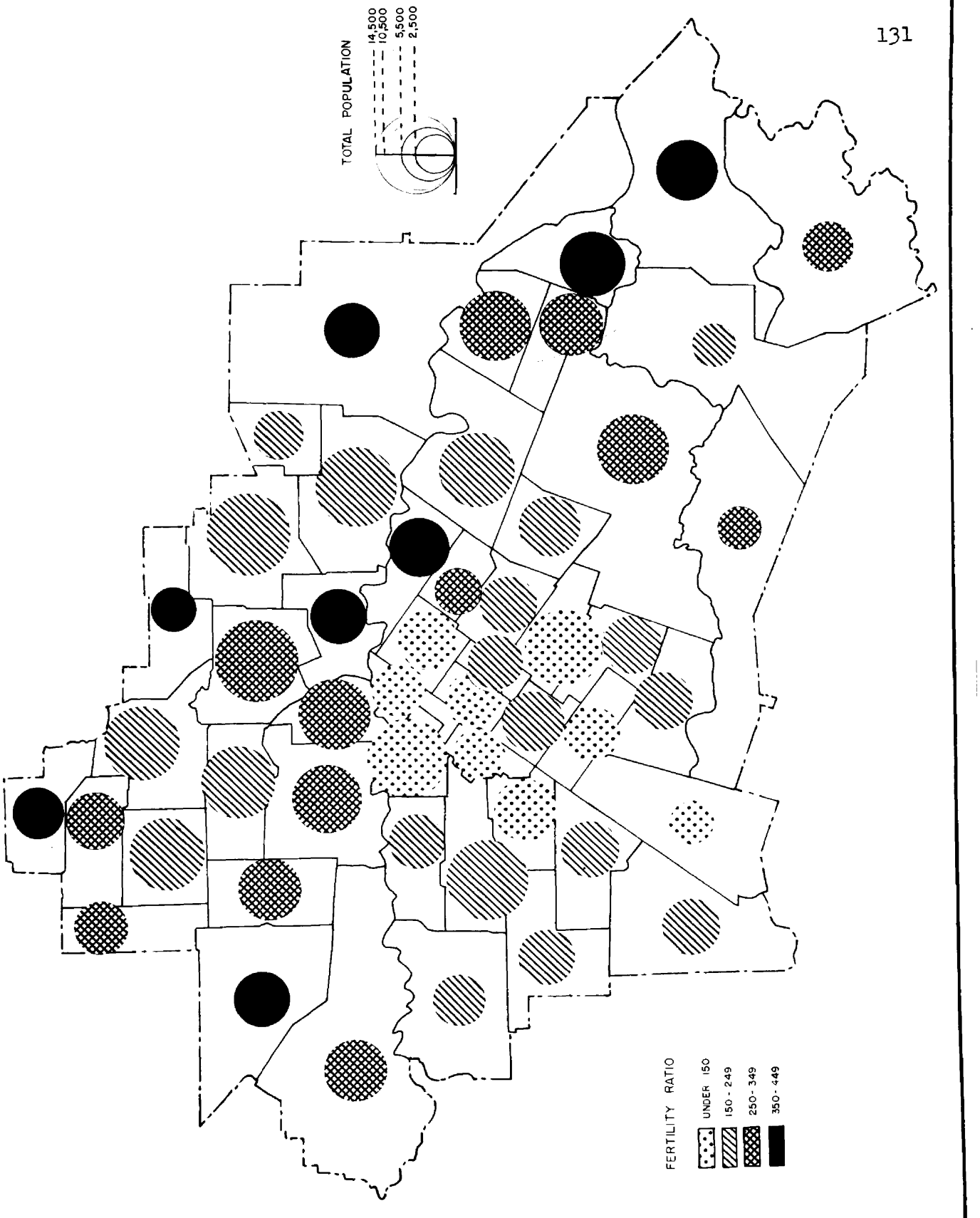

FIGURE 33. Fertility ratios of the population of Houston by census tracts: 1940.

periphery, or along Buffalo Bayou. Tracts 1, 6, 7, 13, 17, 19, 23, and 49 all had fertility ratios above 350. Tract 1, with a fertility ratio of 428, ranked first, followed by Tract 23, with a fertility ratio of 427. Tracts 7 and 19 also had ratios above 400. Tract 1 is composed largely of Negro population; and Negroes and foreign-born are also heavily concentrated in Tract 23, which is located on the fringe of the central business section and has very poor living conditions. Tracts 7 and 19 are mainly inhabited by industrial workers.

The lowest fertility ratios are to be found in the central part of the city and extending to the southwest below Buffalo Bayou. The tract with the lowest fertility ratio in 1940, Tract 26, with a ratio of 74, is located in the central business section of the city (which has a high sex ratio and a concentration of old people). The southwestern part of the city is an area of relatively high socioeconomic status and also has a large aged population.

With the exception of Tract 1, which is largely Negro, low fertility ratios seem to be largely associated with a concentration of the Negro population, high socioeconomic status of the population, or a concentration of the aged population. The high fertility ratio in Tract 1 may be explained by the fact that family mobility is relatively low there. In fact, Tract 1 had the highest percentage of families remaining in it from 1922 to 1938 of all the tracts for the Negro population, and one of the highest for the total population.[8]

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[8] Carl M. Rosenquist and Walter Gordon Browder, Family Mobility in Houston, Texas, 1922-1938 (Publication of the Bureau of Research in the Social Sciences and the Works Projects Administration, Official Project No. 665-66-3-183 /Austin: The University of Texas, 1942/), pp. 94-96.

A Comparison of the Fertility Ratios in Atlanta, Houston, and New Orleans

When the 1940 fertility ratios of Houston are compared with those of Atlanta and New Orleans, it can be seen that Houston had a higher fertility ratio for the white population, but a lower fertility ratio for the Negro population, than either of the other two cities. New Orleans had a higher fertility ratio for the total population than either Atlanta or Houston; this is attributable to the high fertility ratio evidenced in the Negro population of New Orleans.

The high fertility ratio of the Negro population in New Orleans is reflected in the gain which the Negro population has been making relative to the white population. New Orleans is unique among the large southern cities in this respect.

Gross Reproduction Rates in Houston

The computation of gross reproduction rates for the white and nonwhite populations of Houston from 1939 to 1940 is shown in Table XXII. The gross reproduction rate of the white population (0.98) was much higher than that of the nonwhite population (0.76). It should be remembered that these reproduction rates are based on the female births occurring in 1939 and 1940. It has been previously stated in this chapter that the crude birth rates in Houston began to increase rapidly about this time. In the subsequent eight years they increased almost 100 per cent. Thus, it would be logical to assume that gross reproduction rates computed at a later date would be very much higher. However, the material essential for the computation of these rates is not yet available.

A Comparison of the Gross Reproduction Rates in Atlanta, Houston, and New Orleans

The computation of gross reproduction rates for the three cities for 1939-1940 (shown in Tables XXI, XXII, and XXIII) gives an additional basis for comparing their fertility experience. The gross reproduction rate of the white population of Houston was the highest, followed by the corresponding rates for Atlanta and New Orleans. The significant fact is the low gross reproduction rate in New Orleans: that city had a rate of only 0.79, as contrasted with 0.98 for Houston, and 0.97 for Atlanta.

In the case of the nonwhite population, New Orleans had the highest rate, 1.09, followed by Atlanta with a rate of 0.86 and Houston with a rate of 0.76. Thus, the white populations in Atlanta and Houston were doing a much better job of reproducing themselves in 1939-1940 than were the nonwhite inhabitants, whereas the exact opposite was true in the case of New Orleans.

As has been pointed out before, the gross rates do not take mortality into consideration and therefore are higher than the net rates. However, the excess is probably not over 10 per cent in the case of the white population and not over 20 per cent in the case of the nonwhite group. On the basis of these assumptions, it can be seen that none of the cities under consideration were reproducing themselves as of 1940. The rates are very unfavorable for the nonwhite population of Houston and the white population of New Orleans. However, the birth rates have increased in all three cities since 1940, and therefore reproduction rates for 1950 would doubtless be much higher.

TABLE XXI

COMPUTATIONS FOR GROSS REPRODUCTION RATES OF THE WHITE AND NONWHITE POPULATIONS OF ATLANTA: 1939-1940*

Age Groups of Mothers	White Population: Number of Women in Observed Population Jan. 1,1940	White Population: Two-Year Average Number of Female Births 1939-1940	White Population: Fertility Rate for Female Births (Col. 2 ÷ Col. 1 x 1000)	Nonwhite Population: Number of Women in Observed Population Jan. 1,1940	Nonwhite Population: Two-Year Average Number of Female Births 1939-1940	Nonwhite Population: Fertility Rate for Female Births (Col. 2 ÷ Col. 1 x 1000)
15-19	9,153	283	30.919	5,298	305	57.569
20-24	10,719	639	59.614	6,640	333	50.151
25-29	10,528	551	52.337	7,185	229	31.872
30-34	10,243	331	32.315	5,811	113	19.446
35-39	9,057	138	15.237	5,990	58	9.683
40-44	7,628	25	3.277	4,353	13	2.986
15-44	57,328	1,967	193.699	35,277	1,051	171.707

Gross Reproduction Rate = $\frac{5(193.699)}{1000} = 0.968$

Gross Reproduction Rate = $\frac{5(171.707)}{1000} = 0.859$

*Source: Vital Statistics of the United States, Supplement, 1939-1940, Part III, p. 176; Sixteenth Census of the United States, 1940, Population, Vol. II, Part II, p. 374.

TABLE XXII

COMPUTATIONS FOR GROSS REPRODUCTION RATES OF THE WHITE AND NONWHITE POPULATIONS OF HOUSTON: 1939-1940*

Age Groups of Mothers	White Population: Number of Women in Observed Population Jan. 1, 1940	White Population: Two-Year Average Number of Female Births 1939-1940	White Population: Fertility Rate for Female Births (Col. 2 ÷ Col. 1 x 1000)	Nonwhite Population: Number of Women in Observed Population Jan. 1, 1940	Nonwhite Population: Two-Year Average Number of Female Births 1939-1940	Nonwhite Population: Fertility Rate for Female Births (Col. 2 ÷ Col. 1 x 1000)
15-19	13,173	419	31.807	3,968	207	52.167
20-24	15,963	1,005	62.958	5,025	243	48.358
25-29	16,689	815	49.014	6,003	161	26.820
30-34	15,196	537	35.338	5,366	80	14.909
35-39	13,553	180	13.281	5,093	43	8.443
40-44	10,954	36	3.286	3,353	7	2.088
15-44	85,528	2,995	195.684	28,808	741	152.785

Gross Reproduction Rate = $\frac{5(195.684)}{1000}$ = 0.978

Gross Reproduction Rate = $\frac{5(152.785)}{1000}$ = 0.764

*Source: Vital Statistics of the United States, Supplement, 1939-1940, Part III, pp. 228-29; Sixteenth Census of the United States, 1940, Population, Vol. II, Part VI, p. 1044.

TABLE XXIII

COMPUTATIONS FOR GROSS REPRODUCTION RATES OF THE WHITE AND NONWHITE POPULATIONS OF NEW ORLEANS: 1939-1940*

Age Groups of Mothers	White Population: Number of Women in Observed Population Jan. 1, 1940	White Population: Two-Year Average Number of Female Births 1939-1940	White Population: Fertility Rate for Female Births (Col. 2 ÷ Col. 1 x 1000)	Nonwhite Population: Number of Women in Observed Population Jan. 1, 1940	Nonwhite Population: Two-Year Average Number of Female Births 1939-1940	Nonwhite Population: Fertility Rate for Female Births (Col. 2 ÷ Col. 1 x 1000)
15-19	16,125	272	16.868	7,389	430	58.195
20-24	15,889	818	51.482	7,084	509	71.852
25-29	16,625	766	46.075	8,161	342	41.907
30-34	16,396	449	27.385	7,920	219	27.652
35-39	15,126	199	13.156	7,926	112	14.131
40-44	13,512	40	2.960	5,964	26	4.359
15-44	93,673	2,544	157.926	44,444	1,638	218.096

Gross Reproduction Rate = $\frac{5(157.926)}{1000}$ = 0.789

Gross Reproduction Rate = $\frac{5(218.096)}{1000}$ = 1.09

*Source: Vital Statistics of the United States, Supplement, 1939-1940, Part III, p. 191; Sixteenth Census of the United States, 1940, Population, Vol. II, Part III, p. 426.

CHAPTER XIII

MORTALITY

The mortality experience of a people is important from many standpoints. In the first place, it reflects to a considerable degree the general health conditions existing within a society. Over a period of time the death rate would be lower in a country in which good health conditions existed than in one with poor health conditions. Secondly, mortality is an important factor in determining whether a population increases or decreases in size. Mortality experience is also an indication of the longevity of a population. Finally, an analysis of mortality experience indicates the progress of a group in controlling various types of diseases and points out the areas which need more attention and research.

Lowering the death rate has been one of the great achievements of the western world. The chief reasons for the reduction of the death rate during the last century have been scientific advances in the field of medicine and the industrial revolution. Advances in the field of medicine have greatly increased man's ability to cope with disease. The industrial revolution has improved the general economic conditions and has made increasing amounts of wealth available to communities to establish and improve public sanitation. Much of this additional wealth has been used in intensifying medical research.[1]

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[1] Thompson, Population Problems, p. 242.

Measurements of Mortality

Crude Death Rate. -- The crude death rate is calculated in a manner similar to that employed in arriving at the crude birth rate. The number of deaths occurring during a given year is divided by the population and the result is multiplied by 1,000, the result thus being expressed as the number of deaths per 1,000 people. The limitations of the crude death rate are similar to those of the crude birth rate: i.e., both rates are influenced to a considerable extent by age and sex. This fact should be kept in mind when comparisons of different populations are being made. The influences of age and sex can be eliminated, however, by standardizing death rates by age and sex.

Expectation of Life. -- The expectation of life is often considered one of the best and most useful measurements of mortality. Smith has aptly described the importance of the life table as follows:

> Perhaps the most useful manner of combining the age-specific death rates is to construct what is called a life table. Such a table shows the average duration of life for persons born at the same time and for persons of any given age who are alive at the same time. It indicates the average number of years that those of any given age from birth on up may expect to live. This average is called the expectation of life.[2]

The longevity of a people is an index to the health conditions existing within the group. Also, life-expectation figures at different ages serve to indicate periods of life in which improvements should be made in health situations. Life tables by color and sex also indicate needed areas of health improvement.

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[2] Smith, Population Analysis, pp. 235-36.

Life tables for Houston, based on the Reed-Merrell method, have been constructed.[3] These tables have been computed for the total population and for the white and nonwhite populations by sex. (These tables appear in a subsequent part of this chapter.) In computing the age-specific death rates used in the construction of the life tables, the January 1, 1940, population has been used. This population has been arrived at by linear interpolation.

Infant Mortality Rates. -- The infant mortality rate is an excellent index of the general welfare of a population. It is very valuable in revealing the health conditions existing in any population. Those groups which have high infant mortality rates usually have poor living conditions also.

The infant mortality rate is computed by dividing the number of children under one year of age dying during the year by the number of live births for the same year and multiplying by 1,000.

The infant mortality rate is a very important factor in determining the longevity of a people. It is a well-known fact that the average length of life has been greatly increased in this country, as well as in many other parts of the world. This has been due in great degree to a

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[3] For a complete description of this method of life-table construction, see Reed and Merrell, "A Short Method for Constructing an Abridged Life Table," loc. cit., pp. 695-96.

Some difficulty was encountered in arriving at the age distributions over seventy-four years, as distributions by five-year groups are not given beyond that age in the census data on Houston. However, a distribution is given for the urban population of Texas for all five-year age groupings beyond age seventy-four. This was used as the basis for distributing the population of Houston beyond age seventy-four. In other words, the population of Houston aged seventy-five and over was distributed in the same proportion in which the urban population aged seventy-five and over of Texas was distributed.

reduction in the infant mortality rates. Thompson has pointed out that these reductions have been mainly the result of the following factors:

> (a) the better care that children are receiving at home, that is, primarily, the improvement in the methods and sanitation of infant feeding; (b) the decline in the number of children born to a large portion of the mothers, thus enabling them to give their children better care both before and after birth; (c) the more expert medical care of children; and (d) the generally more comfortable circumstances in which a large part of the people in the more advanced nations now live.[4]

Crude Death Rates in Houston

The crude death rates of Houston, while evidencing considerable fluctuation, have shown an upward trend in the period from 1939 to 1948. The data in Table XXIV are for the years 1939 to 1948, inclusive. Deaths were first reported by residence in 1939, and the latest data available are those for 1948. The population data used in computing the crude birth rates were also used in computing the death rates. The crude death rate in Houston was 10.5 in 1939, as compared with 11.6 in 1948. The high point for the period was 1947, when the rate was 13.1. The increase in the crude death rate for Houston is probably a reflection of the large increases in the infant mortality rates.

Marked differentials exist in the crude death rates of Houston by color. Table XXV gives the white crude death rate in 1940 as 9.8, whereas the nonwhite crude death rate is listed as 14.6. The high infant mortality rates in Houston's nonwhite population as contrasted to the white population probably account for much of this differential.

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[4] Thompson, Population Problems, pp. 221-22.

TABLE XXIV

NUMBER OF DEATHS AND CRUDE DEATH RATES OF ATLANTA, HOUSTON, AND NEW ORLEANS: 1939-1948*

Year	Atlanta		Houston		New Orleans	
	Number of Deaths	Crude Death Rate	Number of Deaths	Crude Death Rate	Number of Deaths	Crude Death Rate
1939	4,108	13.7	3,954	10.5	6,387	13.0
1940	3,975	13.1	4,196	10.9	6,675	13.4
1941	3,677	12.0	4,161	10.6	6,160	12.2
1942	3,604	11.7	4,194	10.5	6,075	11.9
1943	3,901	12.6	4,701	11.5	6,746	13.0
1944	3,499	11.2	4,603	11.1	6,379	12.1
1945	3,913	12.4	4,386	10.4	5,993	11.2
1946	3,679	11.6	4,625	10.8	5,886	10.9
1947	3,779	11.8	5,713	13.1	6,154	11.2
1948	3,541	11.0	5,133	11.6	6,093	11.0

*Source: Vital Statistics of the United States, 1939, Part II, p. 8;
Vital Statistics of the United States, 1940, Part II, pp. 8, 9;
Vital Statistics of the United States, 1941, Part II, p. 9;
Vital Statistics of the United States, 1942, Part II, p. 8;
Vital Statistics of the United States, 1943, Part II, p. 8;
Vital Statistics of the United States, 1944, Part II, p. xii;
Vital Statistics of the United States, 1945, Part II, pp. 20, 27, 47;
Vital Statistics of the United States, 1946, Part II, pp. 36, 54, 98;
Vital Statistics of the United States, 1947, Part II, pp. 18, 36, 80;
Vital Statistics of the United States, 1948, Part II, pp. 17, 35, 80.

A Comparison of the Crude Death Rates in Atlanta, Houston, and New Orleans

The crude death rate has shown a decline for all of these cities except Houston from 1939 to 1948, as is clear from Table XXIV. Atlanta's crude death rate declined from 13.7 in 1939 to 11.0 in 1948; New Orleans' rate declined from 13.0 in 1939 to 11.0 in 1948. Houston's relatively unfavorable infant mortality experience may partly explain this difference among the cities. The crude death rates showed marked increases for 1943 and 1947 for all the cities being compared. This may be partly a reflection of the increased birth rate at the beginning and end of World War II, which in turn resulted in higher infant mortality rates in 1943 and 1947.

The death rates for the nonwhite group are much higher than those for the white population in all the cities under consideration (see Table XXV). When it is remembered that the nonwhite population of these cities is largely Negro, it may be said that the unfavorable death statistics indicate that relatively poor health conditions prevail in their Negro populations. In 1940 Atlanta had the highest nonwhite crude death rate, 18.8, followed by New Orleans with 16.0 and Houston with 14.6. In 1940 the crude death rate for the white population of New Orleans was 12.4, as compared with rates of 10.1 in Atlanta and 9.8 in Houston.

Life Expectation

The following observations may be made from the life tables for Houston (Tables XXVI, XXVII, XXVIII, XXIX, and XXX):

TABLE XXV

NUMBER OF DEATHS AND CRUDE DEATH RATES FOR THE TOTAL, WHITE, AND NONWHITE POPULATIONS OF ATLANTA, HOUSTON, AND NEW ORLEANS: 1940*

	Atlanta		Houston		New Orleans	
	Number of Deaths	Crude Death Rate	Number of Deaths	Crude Death Rate	Number of Deaths	Crude Death Rate
Total	3,975	13.1	4,196	10.9	6,675	13.5
White	2,005	10.1	2,931	9.8	4,282	12.4
Nonwhite	1,970	18.8	1,265	14.6	2,393	16.0

*Source: Vital Statistics of the United States, 1940, Part II, pp. 25, 31,48, 258, 262, 286.

1. The greatest remaining life expectancy exists in the age interval one to four. In 1940, the greatest life expectation at ages one to four was that for the white female population, which was 66.7. The next longest life expectancies in order were those of the male white, 61.5; the female nonwhite, 56.5; and the male nonwhite, 53.1. The age interval under one year has a shorter life expectancy than does the interval one to four. In other words, a child under one year of age has a shorter average remaining life than does one between one and four years of age. Thus, at age one to four the life expectancy in 1940 for the total population was 61.9, whereas under one year of age the life expectancy was 59.1. This generalization holds true for the male and female categories of the white and nonwhite populations as well as for the total population.

2. The female population has a greater life expectancy than does the male population for both the white and nonwhite populations.

3. Below age sixty the white population has a longer life expectancy than does the nonwhite population. However, above age sixty the nonwhite

TABLE XXVI

COMPUTATION OF ABRIDGED LIFE TABLE FOR THE TOTAL POPULATION OF HOUSTON: 1939-1940*

Age Interval	Number Surviving to Exact Age x out of 100,000 Born Alive	Number Dying in Interval x to x+n out of 1,000 Alive at Age x	Number Dying in Interval x to x+n	Sum of l_x at 5-year Intervals from Age x to End of Life	Total Years of Life Remaining to Survivors at Age x	Average Years of Life Remaining to Survivors at Age x
x to x+n	l_x	$1{,}000_nq_x$	$_nd_x$	$\sum_{a=0}^{\infty} l_{x+5a}$	T_x	e_x^o
Under 1	100,000	61.41	6,141		5,905,839	59.06
1- 4	93,859	15.13	1,420		5,810,286	61.90
5- 9	92,439	6.18	571		5,438,592	58.83
10-14	91,868	7.82	718		4,977,996	54.19
15-19	91,150	13.96	1,272	949,719	4,520,306	49.59
20-24	89,878	16.72	1,503	858,569	4,067,572	45.26
25-29	88,375	17.65	1,560	768,691	3,621,880	40.98
30-34	86,815	21.58	1,873	680,316	3,183,828	36.67
35-39	84,942	30.61	2,600	593,501	2,754,218	32.42
40-44	82,342	42.25	3,479	508,559	2,335,674	28.37
45-49	78,863	60.40	4,763	426,217	1,932,211	24.50
50-54	74,100	91.28	6,755	347,354	1,549,121	20.91
55-59	67,345	125.06	8,422	273,254	1,194,746	17.74
60-64	58,923	157.01	9,252	205,909	878,556	14.91
65-69	49,671	200.46	9,957	146,986	606,752	12.22
70-74	39,714	300.01	11,915	97,315	382,733	9.64
75-79	27,799	400.16	11,124	57,601	213,708	7.69
80-84	16,675	500.17	8,340	29,802	103,268	6.19
85-89	8,335	608.71	5,074	13,127	42,003	5.04
90-94	3,261	657.60	2,144	4,792	14,305	4.38
95-99	1,117	629.31	703	1,531		
100 and over	414	662.12	274			

*Source: Vital Statistics of the United States, Supplement, 1939-1940, Part III, p. 481; Sixteenth Census of the United States, 1940, Population, Vol. II, Part VI, p. 1044.

TABLE XXVII

COMPUTATION OF ABRIDGED LIFE TABLE FOR WHITE MALES IN HOUSTON: 1939-1940*

Age Interval	Number Surviving to Exact Age x out of 100,000 Born Alive	Number Dying in Interval x to x+n out of 1,000 Alive at Age x	Number Dying in Interval x to x+n	Sum of l_x at 5-year Intervals from Age x to End of Life	Total Years of Life Remaining to Survivors at Age x	Average Years of Life Remaining to Survivors at Age x
x to x+n	l_x	$1{,}000\,{}_nq_x$	${}_nd_x$	$\sum_{s=0}^{\infty} l_{x+5s}$	T_x	e_x^o
Under 1	100,000	57.45	5,745		5,894,886	58.94
1- 4	94,255	14.79	1,394		5,799,046	61.53
5- 9	92,861	4.49	417		5,425,709	58.43
10-14	92,444	7.82	723		4,962,577	53.68
15-19	91,721	11.04	1,013	946,341	4,502,041	49.08
20-24	90,708	12.38	1,123	854,620	4,045,885	44.60
25-29	89,585	15.75	1,411	763,912	3,595,070	40.13
30-34	88,174	19.18	1,691	674,327	3,150,554	35.73
35-39	86,483	24.42	2,112	586,153	2,713,766	31.38
40-44	84,371	35.51	2,996	499,670	2,286,359	27.10
45-49	81,375	58.65	4,773	415,299	1,871,439	23.00
50-54	76,602	94.20	7,216	333,924	1,475,977	19.27
55-59	69,386	134.52	9,334	257,322	1,109,698	15.99
60-64	60,052	178.54	10,722	187,936	785,372	13.08
65-69	49,330	263.84	13,015	127,884	511,150	10.36
70-74	36,315	366.70	13,317	78,554	296,497	8.16
75-79	22,998	490.96	11,291	42,239	148,573	6.46
80-84	11,707	542.31	6,349	19,241	63,258	5.40
85-89	5,358	706.33	3,785	7,533	22,159	4.14
90-94	1,573	730.85	1,150	2,175	5,915	3.76
95-99	423	577.29	244	602		
100 and over	179					

Source: Vital Statistics of the United States, Supplement, 1939-1940, Part III, p. 481; Sixteenth Census of the United States, 1940, Population, Vol. II, Part VI, p. 1044.

TABLE XXVIII

COMPUTATION OF ABRIDGED LIFE TABLE FOR WHITE FEMALES IN HOUSTON: 1939-1940*

Age Interval	Number Surviving to Exact Age x out of 100,000 Born Alive	Number Dying in Interval x to x+n out of 1,000 Alive at Age x	Number Dying in Interval x to x+n	Sum of l_x at 5-year Intervals from Age x to End of Life	Total Years of Life Remaining to Survivors at Age x	Average Years of Life Remaining to Survivors at Age x
x to x+n	l_x	$1{,}000\,{}_nq_x$	${}_nd_x$	$\sum_{a=0}^{\infty} l_{x+5a}$	T_x	e_x^o
Under 1	100,000	45.20	4,520		6,464,077	64.64
1- 4	95,480	12.23	1,168		6,367,349	66.69
5- 9	94,312	5.34	504		6,090,268	64.58
10-14	93,808	5.78	542		5,620,112	59.91
15-19	93,266	9.06	845	1,077,162	5,152,356	55.24
20-24	92,421	11.68	1,079	983,896	4,688,027	50.72
25-29	91,342	10.15	927	891,475	4,228,602	46.29
30-34	90,415	10.65	963	800,133	3,774,235	41.74
35-39	89,452	18.83	1,684	709,718	3,324,409	37.16
40-44	87,768	25.06	2,199	620,266	2,881,101	32.83
45-49	85,569	31.29	2,677	532,498	2,447,552	28.60
50-54	82,892	45.37	3,761	446,929	2,026,073	24.44
55-59	79,131	77.72	6,150	364,037	1,620,293	20.48
60-64	72,981	105.32	7,686	284,906	1,239,196	16.98
65-69	65,295	141.54	9,242	211,925	892,862	13.67
70-74	56,053	245.08	13,737	146,630	588,231	10.49
75-79	42,316	360.60	15,259	90,577	341,054	8.06
80-84	27,057	500.72	13,548	48,261	167,661	6.20
85-89	13,509	594.45	8,030	21,204	67,752	5.01
90-94	5,479	695.17	3,809	7,695	22,311	4.07
95-99	1,670	672.85	1,124	2,216		
100 and over	546	577.31	315			

*Source: Vital Statistics of the United States, Supplement, 1939-1940, Part III, p. 481; Sixteenth Census of the United States, 1940, Population, Vol. II, Part VI, p. 1044.

TABLE XXIX

COMPUTATION OF ABRIDGED LIFE TABLE FOR NONWHITE MALES IN HOUSTON: 1939-1940*

Age Interval	Number Surviving to Exact Age x out of 100,000 Born Alive	Number Dying in Interval x to x+n out of 1,000 Alive at Age x	Number Dying in Interval x to x+n	Sum of l_x at 5-year Intervals from Age x to End of Life	Total Years of Life Remaining to Survivors at Age x	Average Years of Life Remaining to Survivors at Age x
x to x+n	l_x	$1{,}000\,{}_nq_x$	${}_nd_x$	$\sum_{s=0}^{\infty} l_{x+5a}$	T_x	e_x^o
Under 1	100,000	108.65	10,865		4,824,359	48.24
1- 4	89,135	21.62	1,927		4,732,225	53.09
5- 9	87,208	14.06	1,226		4,380,676	50.23
10-14	85,982	12.23	1,052		3,948,060	45.92
15-19	84,930	25.45	2,161	746,716	3,520,585	41.45
20-24	82,769	32.40	2,682	661,786	3,101,000	37.47
25-29	80,087	35.79	2,866	579,017	2,693,712	33.63
30-34	77,221	43.12	3,330	498,930	2,300,307	29.79
35-39	73,891	59.50	4,397	421,709	1,922,209	26.01
40-44	69,494	88.06	6,120	347,818	1,563,164	22.49
45-49	63,374	112.38	7,122	278,324	1,230,426	19.42
50-54	56,252	183.90	10,345	214,950	930,481	16.54
55-59	45,907	252.87	11,609	158,698	674,149	14.69
60-64	34,298	268.28	9,201	112,791	473,874	13.82
65-69	25,097	226.74	5,690	78,493	326,621	13.01
70-74	19,407	306.82	5,954	53,396	216,037	11.13
75-79	13,453	298.76	4,019	33,989	134,235	9.98
80-84	9,434	452.33	4,267	20,536	77,369	8.20
85-89	5,167	408.62	2,111	11,102	41,265	7.99
90-94	3,056	303.89	929	5,935	21,402	7.00
95-99	2,127	646.55	1,375	2,879		
100 and over	752					

*Source: Vital Statistics of the United States, Supplement, 1939-1940, Part III, p. 481; Sixteenth Census of the United States, 1940, Population, Vol. II, Part VI, p. 1044.

TABLE XXX

COMPUTATION OF ABRIDGED LIFE TABLE FOR NONWHITE FEMALES IN HOUSTON: 1939-1940*

Age Interval	Number Surviving to Exact Age x out of 100,000 Born Alive	Number Dying in Interval x to x+n out of 1,000 Alive at Age x	Number Dying in Interval x to x+n	Sum of l_x at 5-year Intervals from Age x to End of Life	Total Years of Life Remaining to Survivors at Age x	Average Years of Life Remaining to Survivors at Age x
x to x+n	l_x	$1{,}000\,{}_nq_x$	$n^d x$	$\sum_{a=0}^{\infty} l_{x+5a}$	T_x	e_x^o
Under 1	100,000	90.22	9,022		5,238,171	52.38
1- 4	90,978	20.49	1,864		5,144,703	56.54
5- 9	89,114	7.32	652		4,785,698	53.70
10-14	88,462	10.25	907		4,341,960	49.08
15-19	87,555	29.20	2,557	824,226	3,901,522	44.56
20-24	84,998	32.84	2,791	736,671	3,469,746	40.82
25-29	82,207	32.02	2,632	651,673	3,051,717	37.12
30-34	79,575	40.67	3,236	569,466	2,647,171	33.26
35-39	76,339	52.20	3,985	489,891	2,257,104	29.56
40-44	72,354	71.34	5,162	413,552	1,884,969	26.05
45-49	67,192	106.36	7,147	341,198	1,535,445	22.85
50-54	60,045	164.20	9,859	274,006	1,216,375	20.25
55-59	50,186	167.92	8,427	213,961	940,931	18.74
60-64	41,759	218.57	9,127	163,775	710,821	17.02
65-69	32,632	171.80	5,606	122,016	525,430	16.10
70-74	27,026	270.08	7,299	89,384	376,667	13.94
75-79	19,727	217.46	4,290	62,358	260,059	13.18
80-84	15,437	277.19	4,279	42,631	172,778	11.19
85-89	11,158	281.33	3,139	27,194	106,530	9.55
90-94	8,019	345.31	2,769	16,036	58,902	7.35
95-99	5,250	473.04	2,483	8,017		
100 and over	2,767	884.68	2,448			

*Source: Vital Statistics of the United States, Supplement, 1939-1940, Part III, p. 481; Sixteenth Census of the United States, 1940, Population, Vol. II, Part VI, p. 1044.

population has a greater life expectancy than does the white population. This differential holds true for both the male and female populations. This is in line with the conclusions reached by Smith in his comparison of mortality in selected countries. He found that at age seventy the greatest life expectation in the United States was for Negro females.[5] 4. There is less variation between the life expectation of nonwhite males and females than between white males and females. The differential is about six years in favor of the white females over the white males. In comparison, the nonwhite females may expect to live about 3.5 years longer than the nonwhite males. These conclusions hold true for the early and middle ages. The favorable balance for the female populations becomes less as the older age groupings are approached. In the extreme old ages, the differential is only about one year in favor of the female population for both the white and nonwhite populations.

Infant Mortality Rates in Houston

The infant mortality rates in Houston did not change very much in the period from 1942 to 1948 (see Table XXXI). The rate for the total population was 40.0 in 1942, as contrasted with 38.7 in 1948. The highest rate for the period was 47.0 in 1943. There was a gradual decline (except for 1946) in the infant mortality rate from this peak of 47.0 in 1943 to 37.9 in 1947. However, the infant mortality rate for 1948 (38.7) again showed an increase.

The white and nonwhite populations have marked differences in their infant mortality rates. The infant mortality rate of the white population showed a decrease from 36.1 in 1942 to 32.7 in 1948. The nonwhite

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5 Smith, Population Analysis, p. 251.

population, on the other hand, actually showed an increase from 56.6 in 1942 to 59.2 in 1948. The rate for the nonwhite population was almost twice as high as that for the white population. In fact, for three of the years (1945, 1946, and 1947) the rates for the nonwhite population were more than twice as high as those for the white population.

TABLE XXXI

INFANT MORTALITY RATES FOR THE TOTAL, WHITE, AND NONWHITE POPULATIONS OF ATLANTA, HOUSTON, AND NEW ORLEANS: 1942-1948*

	Rates Per One Thousand Births								
	Atlanta			Houston			New Orleans		
Year	Total	White	Non-white	Total	White	Non-white	Total	White	Non-white
1942	40.8	29.9	65.4	40.0	36.1	56.6	44.3	35.7	59.4
1943	46.2	33.6	73.3	47.0	42.7	65.8	45.9	35.9	65.1
1944	45.9	32.8	76.0	38.3	32.9	61.2	43.0	35.2	58.3
1945	41.5	32.3	64.1	38.1	30.7	69.1	37.2	29.6	51.9
1946	31.0	22.3	54.0	38.4	31.1	70.4	33.9	28.5	44.2
1947	37.2	27.5	56.1	37.9	30.9	67.3	35.0	32.3	39.6
1948	36.3	28.0	49.9	38.7	32.7	59.2	30.9	27.1	36.7

*Source: Vital Statistics of the United States, 1942, Part II, pp.31,39,59; Vital Statistics of the United States, 1943, Part II, pp.35,42,62; Vital Statistics of the United States, 1944, Part II, pp.16,24,46; Vital Statistics of the United States, 1945, Part II, pp.20,27,47; Vital Statistics of the United States, 1946, Part II, pp.36,54,98; Vital Statistics of the United States, 1947, Part II, pp.18,36,80; Vital Statistics of the United States, 1948, Part II, pp.17,35,80.

A Comparison of Infant Mortality Rates in Atlanta, Houston, and New Orleans

Of the three cities under consideration, New Orleans has had the most favorable infant mortality experience for the total population, as is shown in Table XXXI. There is very little to choose between Atlanta and Houston. New Orleans also has had the most favorable infant mortality experience for the white and nonwhite populations. Houston has had a very poor rating for both the white and the nonwhite populations. The rates for Houston in 1948 were 38.7 for the total population, 32.7 for the white population, and 59.2 for the nonwhite population. The rates for Atlanta in 1948 were 36.3 for the total population, 28.0 for the white population, and 49.9 for the nonwhite population. Of the three cities, New Orleans had the most favorable rates in 1948, with figures of 30.9 for the total population, 27.1 for the white population, and 36.7 for the nonwhite population.

While the rates for the total population have gone down for all three cities since 1942, New Orleans has made more progress than either of the other two cities. In the case of the white population, the rates have declined for all the cities, with New Orleans making the most progress in reducing its infant mortality rates.

The infant mortality rate for the nonwhite population has shown a downward trend for both Atlanta and New Orleans. However, Houston actually had a higher infant mortality rate in 1948 than in 1942. The nonwhite infant mortality rates were over one and one-half times greater than the white infant mortality rates in Houston and Atlanta. The nonwhite infant mortality rates in New Orleans had a more equal rating, but

they were still about one and one-third times greater than the white infant mortality rates.

Causes of Death in Houston

Mortality data are rendered much more meaningful by an analysis of the causes for the deaths. The types of deaths may reflect an aging population, or they may indicate a serious health condition existing within the population. For example, a high death rate in a group may be due to causes which can be quickly brought under control by the health authorities. In other cases, a need for research in medical science may be indicated. Whatever the case may be, one can easily realize that it is of paramount importance to recognize the causes of death in a population.

Three causes accounted for 47.9 per cent of the total deaths in Houston in 1948. These three causes were diseases of the heart, cancer and other malignant tumors, and intracranial lesions of vascular origin. As can be seen from Figure 34, diseases of the heart were by far the most important cause of death in Houston. Other outstanding causes of death in that city in 1948, as shown in Figure 34, were motor-vehicle and other accidents, premature birth, nephritis, tuberculosis, and all forms of pneumonia and influenza.

A Comparison of Causes of Death in Atlanta, Houston, and New Orleans

The major causes of death for Atlanta, Houston, and New Orleans are shown in Figure 34. Diseases of the heart ranked as the number-one killer in all three cities in 1948, being well ahead of cancer and other malignant

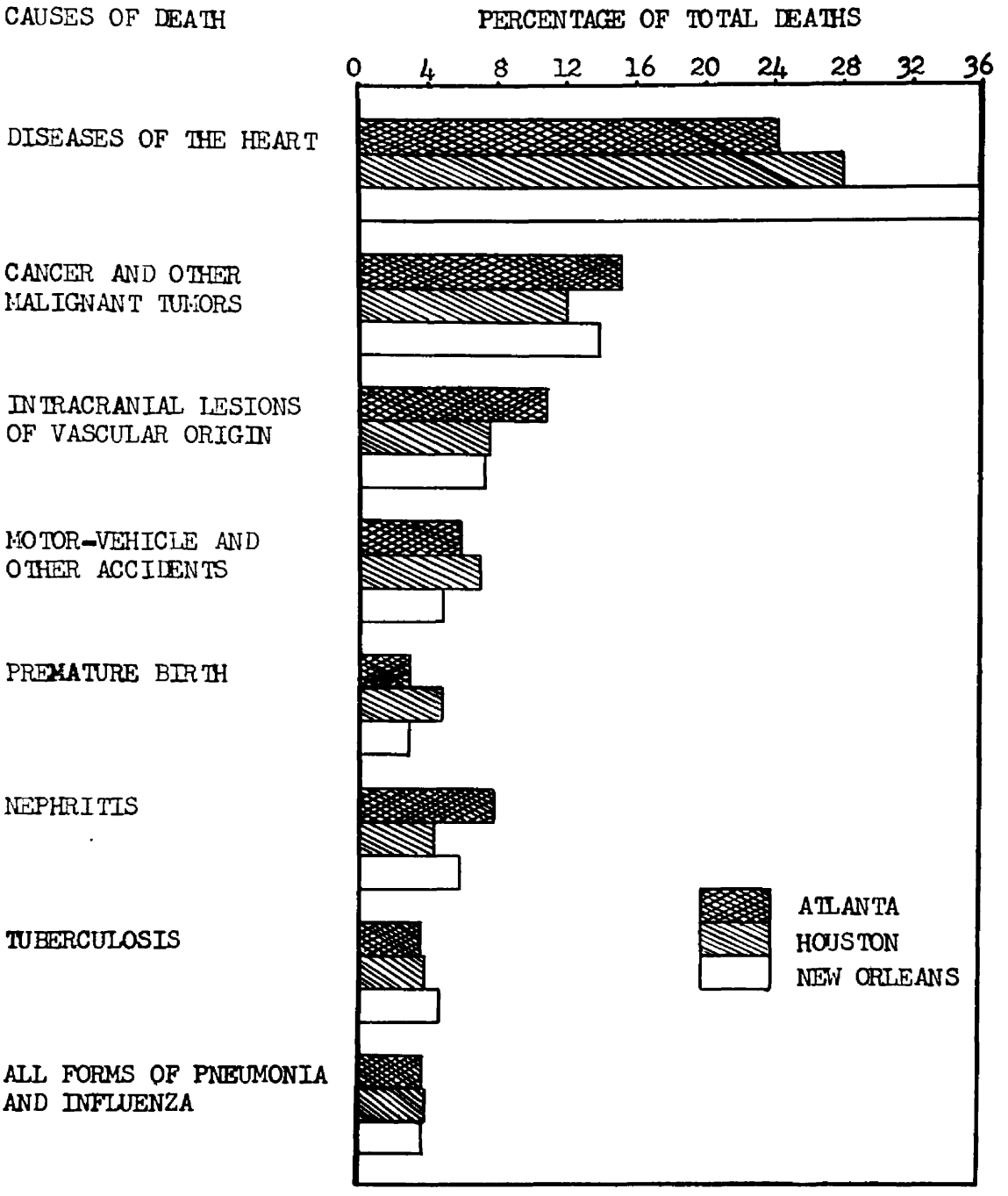

FIGURE 34. Major causes of death in Atlanta, Houston, and New Orleans: 1948.

tumors, and intracranial lesions of vascular origin, which ranked second and third, respectively. As has been previously pointed out, the age structure probably has a great influence in determining the relative importance of the various causes of death in the cities under consideration. New Orleans had the highest percentage of deaths resulting from diseases of the heart in 1948, followed by Houston and Atlanta in that order. In the case of cancer and other malignant tumors, Atlanta had the highest proportion of deaths, with New Orleans second and Houston third. Intracranial lesions of vascular origin caused a greater proportion of deaths in Atlanta than in Houston or New Orleans, which two cities had about the same relative rating.

It is significant that the so-called "great killers" of the past are now relegated to positions of secondary importance. As late as 1920 pneumonia and influenza were considered the most deadly diseases in the country, and tuberculosis took a toll almost equal to that of diseases of the heart. With the increase in life expectancy and the advances of medical science in controlling infectious diseases, the degenerative diseases are assuming greater importance. Motor-vehicle and other accidents are also assuming greater importance as causes of death.[6]

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[6] Smith, Population Analysis, pp. 280-82.

CHAPTER XIV

MIGRATION

Migration is an important factor in accounting for the number of inhabitants in a society. This is particularly true of urban localities, which are dependent to a considerable extent on rural areas for their population replacement. It is a well-recognized demographic fact that in the past urban populations have not been reproducing themselves and have been dependent on rural areas for much of their population growth.

In addition to its importance from the standpoint of numbers, migration has significance from a number of other standpoints. In the first place, migration of people is an important fact in itself. Secondly, migration is important in that social institutions are vitally affected by the degree of mobility of a population. Finally, the degree of mobility of a people is an important factor in personality integration within the group. This, in turn, plays an important part in social organization or disorganization.

In this chapter, an analysis has been made of migration into Houston from the standpoint of source of migrants, their former place of residence, their sex, and their color. Migration into Houston has been compared with that into Atlanta and New Orleans according to types of migration and the numbers which are involved. The source of the data is the 1940 census publication on internal migration.[1] In this volume the 1935 residence of the individual has been compared with his 1940 residence.

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[1] Sixteenth Census of the United States, 1940, Population, Internal Migration, 1935 to 1940, Color and Sex of Migrants (Washington: Government Printing Office, 1943).

Source of Migrants into Houston

Houston has received migrants from every state in the Union. However, the greatest number of migrants into Houston from 1935 to 1940 were from Texas (61.8 per cent) and contiguous states (14.7 per cent). As can be seen from Table XXXII, the greatest number came from Texas, with Louisiana, Oklahoma, Missouri, and Arkansas following in that order as sources for migration into Houston. The southeastern part of the United States is also a very important source of migration. In addition, certain of the large eastern and midwestern states are relatively important sources of migrants to Houston. California is the only state in the far West furnishing significant numbers of migrants into the city.

Migrants into Houston from possessions or foreign countries were of minor importance in 1940, a total of 967 individuals being listed in this category.[2] This amounts to little over one per cent of the total migration.

Characteristics of Migrants

By Residence.— Before an analysis of the characteristics of migrants by residence is undertaken, certain weaknesses or inaccuracies in the data should be brought out. Smith has pointed out that the attempt in the Sixteenth Census of the United States to determine residence in 1940 in relation to residence in 1935 seems to be faulty in many respects. Incompleteness is probably one of the greatest weaknesses of the data, as shown by the above author in the following statement:

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[2] Ibid., p. 487.

TABLE XXXII

RESIDENCE IN 1940 OF ALL MIGRANTS IN HOUSTON WITH DIVISIONS BY COLOR AND SEX, BY RESIDENCE IN 1935*

State of Residence 1935	Total		White				Nonwhite			
			Male		Female		Male		Female	
	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent
New England	479	0.60	282	0.81	194	0.57	2	0.06	1	0.02
Maine	37	0.05	19	0.05	18	0.05	-	-	-	-
New Hampshire	13	0.02	9	0.03	4	0.01	-	-	-	-
Vermont	17	0.02	9	0.03	8	0.02	-	-	-	-
Massachusetts	287	0.38	173	0.50	114	0.34	-	-	-	-
Rhode Island	31	0.04	15	0.04	14	0.04	2	0.06	-	-
Connecticut	94	0.12	57	0.16	36	0.11	-	-	1	0.02
Middle Atlantic	1,920	2.52	1,021	2.94	860	2.53	26	0.76	13	0.31
New York	1,167	1.53	608	1.75	534	1.57	18	0.53	7	0.17
New Jersey	202	0.26	111	0.32	87	0.26	3	0.08	1	0.02
Pennsylvania	551	0.72	302	0.87	239	0.70	5	0.15	5	0.12
East North Central	3,781	4.95	1,988	5.72	1,726	5.08	27	0.79	40	0.96
Ohio	881	1.15	464	1.34	404	1.19	5	0.15	8	0.19
Indiana	515	0.67	261	0.75	251	0.74	2	0.06	1	0.02
Illinois	1,630	2.14	849	2.44	749	2.20	11	0.32	22	0.53
Michigan	554	0.73	312	0.90	224	0.66	9	0.26	9	0.22
Wisconsin	201	0.26	102	0.29	98	0.29	-	-	-	-
West North Central	4,418	5.79	2,317	6.66	2,054	6.05	26	0.76	21	0.51
Minnesota	369	0.48	205	0.59	157	0.46	1	0.03	6	0.15
Iowa	432	0.57	226	0.65	201	0.59	3	0.09	2	0.05
Missouri	1,999	2.62	1,044	3.00	936	2.76	12	0.35	7	0.17
North Dakota	58	0.08	32	0.09	26	0.08	-	-	-	-
South Dakota	43	0.06	25	0.07	18	0.05	-	-	-	-
Nebraska	443	0.58	242	0.70	199	0.59	1	0.03	1	0.02
Kansas	1,074	1.41	543	1.56	517	1.52	9	0.26	5	0.12

(continued)

TABLE XXXII (Continued)

State of Residence 1935	Total		White				Nonwhite			
			Male		Female		Male		Female	
	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent
South Atlantic	1,929	2.53	1,038	2.98	835	2.46	29	0.85	27	0.65
Delaware	12	0.02	4	0.01	7	0.02	1	0.03	-	-
Maryland	121	0.16	66	0.19	54	0.16	1	0.03	-	-
Virginia	165	0.22	90	0.26	69	0.20	5	0.15	1	0.02
West Virginia	75	0.10	42	0.12	33	0.10	-	-	-	-
Washington, D.C.	171	0.22	95	0.27	70	0.21	2	0.06	4	0.10
North Carolina	157	0.21	82	0.23	72	0.21	2	0.06	1	0.02
South Carolina	90	0.12	45	0.13	41	0.12	1	0.03	3	0.08
Georgia	497	0.65	260	0.75	213	0.63	11	0.32	13	0.31
Florida	641	0.84	354	1.02	276	0.81	6	0.17	5	0.12
East South Central	2,785	3.54	1,360	3.91	1,244	3.66	44	1.29	57	1.37
Kentucky	280	0.37	147	0.42	129	0.38	2	0.06	2	0.05
Tennessee	787	1.03	403	1.16	358	1.05	7	0.20	19	0.46
Alabama	789	1.03	408	1.17	352	1.04	16	0.47	13	0.31
Mississippi	849	1.11	402	1.16	405	1.19	19	0.56	23	0.55
West South Central	58,162	76.21	25,209	72.49	25,785	75.91	3,199	93.76	3,969	95.39
Arkansas	1,765	2.31	830	2.39	866	2.55	26	0.76	43	1.03
Oklahoma	3,904	5.12	1,914	5.50	1,907	5.61	37	1.09	46	1.11
Louisiana	5,293	6.94	1,780	5.12	1,804	5.31	779	22.83	930	22.35
Texas	47,200	61.84	20,685	59.48	21,208	62.44	2,357	69.08	2,950	70.90
Mountain	1,060	1.39	566	1.63	469	1.38	12	0.35	13	0.31
Montana	36	0.05	22	0.06	14	0.04	-	-	-	-
Idaho	34	0.04	16	0.05	16	0.05	1	0.03	1	0.02
Wyoming	43	0.06	20	0.06	23	0.07	-	-	-	-
Colorado	421	0.55	227	0.65	192	0.57	1	0.03	1	0.02
New Mexico	252	0.33	117	0.34	130	0.38	1	0.03	4	0.10
Arizona	191	0.25	112	0.32	67	0.20	8	0.23	4	0.10
Utah	53	0.07	32	0.09	19	0.05	-	-	2	0.05
Nevada	30	0.04	20	0.06	8	0.02	1	0.03	1	0.02

(continued)

TABLE XXXII (Continued)

State of Residence 1935	Total		White				Nonwhite			
			Male		Female		Male		Female	
	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent
Pacific	1,861	2.44	993	2.86	801	2.36	47	1.38	20	0.48
Washington	111	0.15	55	0.16	55	0.16	1	0.03	-	-
Oregon	88	0.12	47	0.14	40	0.12	1	0.03	-	-
California	1,662	2.18	891	2.56	706	2.08	45	1.32	20	0.48
TOTAL	76,315	100.00	34,774	100.00	33,968	100.00	3,412	100.00	4,161	100.00

*Source: Sixteenth Census of the United States, 1940, Population, Internal Migration, 1935 to 1940, Color and Sex of Migrants, pp. 96-117, 188-210, 280-302, 392-94, 464-86.

> ...according to this enumeration the amount of migration from rural-farm to urban areas between 1935 and 1940 was only 765,797, a total slightly less than the number (814,872) counted as moving from urban centers to farms during the 5-year period. In view of what is known about the levels of natural increase in city and country and the fact that the urban population increased rapidly between 1930 and 1940 while the rural-farm population remained stationary, these results are open to serious question. Further analysis makes one even more skeptical of their validity. Thus, if the rural-nonfarm areas are grouped with the urban, the amount of movement from farm to nonfarm areas may be calculated. The total secured by summing the reported data is 1,411,573 persons. That for the movement from nonfarm to farm residence between 1935 and 1940 is 1,180,295. In other words, these data show a net loss of farm population due to migration of only 231,278 persons for the entire 5-year period. For the years 1935 to 1939 the estimates of the Bureau of Agricultural Economics indicate a movement from farm to nonfarm areas of 6,816,000 persons and a movement in the reverse direction of 4,044,000 people, or a net migration from farms of 2,772,000. This estimate is in line with what is known about the natural increase of our urban and rural populations and about recent changes in the numbers of inhabitants in rural and urban areas.[3]

Smith has further noted that part of the error in the census enumeration probably is due to the fact that persons who had migrated between 1935 and 1940 were not in a position to give information relative to their 1935 residence that fitted accurately into the Census Bureau's technical categories. Thus, some persons moving from the unincorporated suburban fringes of certain cities to homes within the corporate limits of others were counted as migrating from one urban center to another and not as moving from rural-nonfarm to urban places of residence. This error may have extended into the movement from farm homes surrounding an urban center to a distant city.[4] Therefore, the data on numbers are highly untrustworthy.

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[3] Smith, Population Analysis, pp. 297-98.

[4] Ibid., p. 298.

Data for migrants to Houston classified by residence are presented with the knowledge that there are doubtless errors in the enumeration. However, it is the belief of the writer that the data-- if one keeps in mind their limitations-- do serve a purpose in indicating the relative importance of different residential categories. The writer further believes that the data have a distinct bias in favor of the urban categories.

Of the total migrants into Houston, 1940 census data indicate that about two-thirds came from urban areas. (See Table XXXIII.) Cities of 100,000 or more accounted for slightly more than one-fourth, and other urban places accounted for somewhat less than two-fifths of the migrants. Thus, only about one-third of the total migrants into Houston came from rural areas, according to 1940 census figures. It is also interesting to note that the rural-nonfarm areas apparently contributed more migrants than the rural-farm areas. When a further analysis is made by color and sex, one finds that the white migrants into Houston are more apt to come from urban areas than are the nonwhite migrants. Slightly over half of the nonwhite migrants were reported as coming from urban areas. A further differentiation on the basis of color appears to be that a greater proportion of the white migrants than of the nonwhite migrants came from the rural nonfarm. However, the nonwhites recorded a much higher proportion of migrants from rural farm areas than did the whites.

By Sex.-- Long-distance migration into Houston is highly selective of the male population, whereas migration from contiguous states is selective of the female population. (See Table XXXII.) This is in line with the statement by Smith to the effect that "long-distance migration,

TABLE XXXIII

RESIDENCE IN 1940 OF ALL MIGRANTS BY COLOR AND SEX, BY RESIDENCE IN 1935, URBAN AND RURAL, FOR HOUSTON*

	Total	Cities of 100,000 or More		Other Urban		Rural Nonfarm		Rural Farm		Rural No Report Whether Farm or Nonfarm		No Report Whether Urban or Rural	
		Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent
All Migrants	76,315	21,306	27.9	29,428	38.6	14,204	18.6	8,546	11.2	2,413	3.2	418	0.5
White Male	34,774	10,754	30.9	13,185	37.9	6,223	17.9	3,402	9.8	1,052	3.0	158	0.5
White Female	33,968	9,767	28.8	13,077	38.5	6,521	19.2	3,549	10.4	945	2.8	109	0.3
Nonwhite Male	3,412	361	10.6	1,432	42.0	633	18.6	717	21.0	196	5.7	73	2.1
Nonwhite Female	4,161	424	10.2	1,734	41.6	827	19.9	878	21.1	220	5.3	78	1.9

*Source: Sixteenth Census of the United States, 1940, Population, Internal Migration, 1935 to 1940, Color and Sex of Migrants, pp. 96, 188, 280, 372, 464.

including emigration, selects excessive proportions of males; short-distance migration is highly selective of females."[5] The sex ratio for the total migration into Houston was 100.1. When the 1940 data are broken down by color, it is found that the white migrants had a sex ratio of 102.4, as compared with a sex ratio of 82 for the nonwhites.

By Color.— The white migration into Houston is of very much greater importance than the nonwhite migration. Table XXXII shows that of a total of 76,315 migrants into Houston, 68,742 were white and 7,573 were nonwhite. While the white migration is heavily concentrated in Texas and the contiguous states, it also comes to some extent from all of the states.

Most of the nonwhite migration into Houston comes from Texas and Louisiana. Of the total nonwhite migrants, 92.6 per cent came from these states. This migration, as would be expected, is highly selective of the female population.

A Comparison of Migration Into Atlanta, Houston, and New Orleans

A much greater percentage of Houston's migrants (61.8 per cent) came from the home state than was the case with Atlanta (52.5 per cent) or New Orleans (29.0 per cent), as is clear from Table XXXIV. Atlanta and New Orleans had about the same per cent of their migration from contiguous states, but Houston had a much smaller percentage. In the case of migration from noncontiguous states, New Orleans had about twice as high a percentage as the other two cities.

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[5] Smith, Population Analysis, p. 100.

TABLE XXXIV

MIGRANTS BY TYPE OF MIGRATION IN ATLANTA, HOUSTON, AND NEW ORLEANS: 1940*

	Total Migrants	Number From Balance of State	Per Cent of Total	Number From Contiguous States	Per Cent of Total	Number From Non-Contiguous States	Per Cent of Total
Atlanta	39,904	20,964	52.6	10,110	25.3	8,830	22.1
Houston	76,315	47,200	61.8	11,214	14.7	17,901	23.5
New Orleans	27,503	7,975	29.0	6,924	25.2	12,604	45.8

*Source: Sixteenth Census of the United States, 1940, Population, Internal Migration, 1935 to 1940, Color and Sex of Migrants, p. 20.

Table XXXV gives a clear picture of the migration into and out of Atlanta, Houston, and New Orleans. Houston had a favorable balance, i.e., it received many more people than it lost. Houston had a net migration of +3.5 per cent, as compared with -2.1 per cent for New Orleans and -6.2 per cent for Atlanta. A further analysis by sex reveals that both Atlanta and New Orleans had a higher net outward migration for the male than for the female population. In other words, these two cities were losing a much higher percentage of males than females from their populations during the period from 1935 to 1940. Houston, with its favorable net migration, gained a higher percentage of females than of males.

TABLE XXXV

IN-MIGRANTS, OUT-MIGRANTS, AND NET MIGRATION BY SEX FOR ATLANTA, HOUSTON, AND NEW ORLEANS: 1940*

	Atlanta		Houston		New Orleans	
	Number	Per Cent of 1940 Population	Number	Per Cent of 1940 Population	Number	Per Cent of 1940 Population
Total						
In-Migrants	39,904	13.2	76,315	19.8	27,503	5.6
Out-Migrants	58,563	19.4	62,845	16.3	37,716	7.6
Net Migration	-18,659	- 6.2	+13,470	+ 3.5	-10,213	-2.1
Male Migrants						
In-Migrants	19,191	13.8	38,186	20.3	13,501	5.8
Out-Migrants	29,946	21.5	32,612	17.3	19,607	8.4
Net Migration	-10,755	- 7.7	+ 5,574	+ 3.0	- 6,106	-2.6
Female Migrants						
In-Migrants	20,713	12.7	38,129	19.4	14,002	5.4
Out-Migrants	28,617	17.6	30,233	15.4	18,109	7.0
Net Migration	- 7,904	- 4.9	+ 7,896	+ 4.0	- 4,107	-1.6

*Source: Sixteenth Census of the United States, 1940, Population, Internal Migration, 1935 to 1940, Color and Sex of Migrants, p. 25.

CHAPTER XV

GROWTH OF POPULATION

The study of population growth may be broken down into two general headings, namely: (1) that of the growth which has occurred in the past, and (2) that of the growth which may occur in the future. This study deals with the first of these aspects. According to Smith, attempts to forecast future population growth are not likely to be very accurate unless one deals entirely with the immediate future.[1] The reader who is interested in forecasts of the future population of Houston should see the study devoted primarily to that subject by Joseph Dishron.[2]

It should be borne in mind that the number of persons in a population can be influenced by only three factors: fertility, mortality, and migration. Such other factors as prosperity, depression, the price of livestock, etc. can only influence population growth by affecting the rate of reproduction, the death rate, or the net migration to or from the area being studied.

In this chapter, the growth of Houston's population has been traced from its earliest census (that of 1850) through the latest one (that of 1950). The rates of growth in Houston have been compared with those in New Orleans, since New Orleans is the only southern city approaching Houston in size. The territorial growth of Houston from its small beginning to its present-day encompassement of approximately an eleventh of the

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[1] Smith, Population Analysis, p. 371.

[2] "A Population Study of Houston and the Houston Area" (Unpublished Doctoral Dissertation, The University of Houston, 1949).

area of Harris County (155 of Harris County's 1,747 square miles) has also been described. Finally, some of the causes of Houston's growth have been discussed.

A Comparison of Population Growth in Houston and New Orleans

Table XXXVI gives the population of Houston and New Orleans according to the earliest data available on these cities. Percentages of population increase are also given for each year from the earliest to the latest census reports. As can be seen from Table XXXVI, Houston has shown much higher percentage increases than New Orleans for all the comparable periods. This rapid rate of growth enabled Houston to surpass New Orleans in total population in the 1950 census. While it is true that additional annexation in 1949 made it possible for Houston to forge ahead in the population race, it is also true that Houston now has the largest metropolitan population in the South.[3] The migration and fertility experience of Houston as compared with that of New Orleans would seem to make secure for the foreseeable future Houston's claim to its position as the largest city in the South.

Territorial Growth

Figure 35 outlines the territorial growth of Houston since its founding in 1836 by John K. and A. C. Allen. Houston had an area of 9.00

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[3] The term "metropolitan population" is used by the Bureau of the Census to refer to the population in any given city and in adjacent or contiguous areas which have a population density of 150 or more per square mile.

TABLE XXXVI

TOTAL POPULATION AND PER CENT INCREASE IN POPULATION FOR HOUSTON AND NEW ORLEANS FROM 1810 TO 1950*

Year	Houston		New Orleans	
	Total Population	Per Cent Increase	Total Population	Per Cent Increase
1810			17,242	
1820			27,176	57.6
1830			46,082	69.6
1840			102,193	121.8
1850†	2,396		116,375	13.9
1860	4,845	102.2	168,675	44.9
1870	9,382	93.6	191,418	13.5
1880	16,513	76.0	216,090	12.9
1890	27,557	66.9	242,039	12.0
1900	44,633	62.0	287,104	18.6
1910	78,800	76.6	339,075	18.1
1920	138,276	75.5	387,219	14.2
1930	292,352	114.3	458,762	18.5
1940	384,514	31.5	494,537	7.8
1950	594,321	54.6	567,257	14.7

*Sources: Thirteenth Census of the United States, 1910, Population, Vol. II, p. 759; ibid., Vol. III, p. 771; Fourteenth Census of the United States, 1920, Population, Vol. III, pp. 399, 1027; Fifteenth Census of the United States, 1930, Population, Vol. III, Part I, p. 1011; ibid., Vol. III, Part II, p. 1008; Sixteenth Census of the United States, 1940, Population, Vol. II, Part III, p. 425; ibid., Vol. II, Part VI, p. 1044; 1950 Census of Population Preliminary Counts, Series PC-2, No. 29 (August 30, 1950), p. 3; ibid., Series PC-2, No. 43 (September 14, 1950), p. 6.

† Census reports were first available for Houston in 1850.

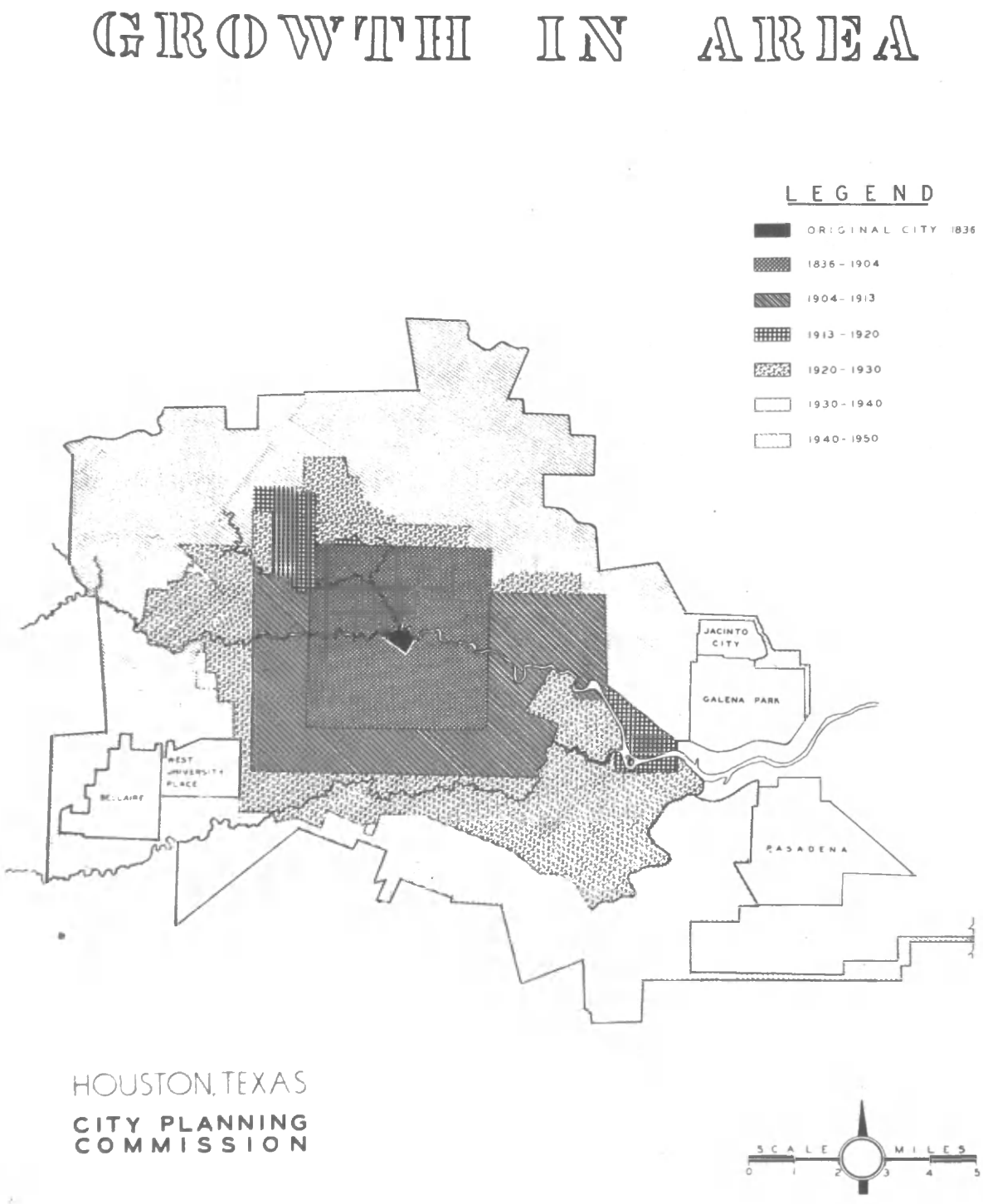

FIGURE 35. Territorial growth of Houston: 1836-1950.

square miles from the time of its first separate census in 1850 until 1904. From 1904 to 1913, this area was increased to 15.84 square miles. Then in the 1913 to 1920 era an additional annexation of land brought the size of the city to 38.70 square miles. The area was increased to 72.20 square miles from 1920 to 1930, to 73.16 square miles from 1930 to 1940, and to 155.00 square miles from 1940 to 1950.

The political boundaries of the city have undergone roughly equal amounts of growth in all directions from its original settlement on the south side of Buffalo Bayou. The greatest extension has occurred in the east along Buffalo Bayou and the ship channel. There is a heavy concentration of industry, shipping, and oil refining in this general area. This growth in different directions as measured by annexation has been somewhat the same for most of the periods. For the present city limits, the area south of Buffalo Bayou seems somewhat greater than that north of Buffalo Bayou.

Some Reasons for Houston's Growth

The main reasons for Houston's growth have been the tremendous migration into the city, largely from Texas and adjacent states (although other states have contributed important numbers of migrants), and the phenomenal increase in the birth rate during the last decade. The birth rate in Houston has more than doubled in the past ten years.

The high birth rate is due in large part to the fact that Houston's industry and commerce have attracted relatively large numbers of people in the productive age brackets. These people are concentrated in the child-producing years of life. Recent data released by the Houston Chamber of Commerce show that the greatest increases in population have occurred in

the areas largely inhabited by workers. The areas located near the industries and shipbuilding centers have shown great increases in population. The people living in these areas are relatively young and are in the middle or lower socioeconomic categories.

There are a number of economic factors which have attracted migrants into Houston. In the first place, Houston's favorable location from the standpoint of shipping and transportation has helped to make it possible for her to become an important wholesale and retail distributing point. The ship channel from the coast accommodates ocean-going vessels with a draft up to thirty-four feet. Houston is also a focal point for many large railroads and bus and air lines. Secondly, natural resources in the area have helped to accelerate the growth of Houston. The location of oil fields nearby has brought about the development of large refineries and has made the city an important center for the oil industry. The rich agricultural hinterland has made Houston an important location for rice mills, cotton mills, implement- and feed-distributing agencies, and other farm-supply firms. A third economic factor is the easy access to natural resources, transportation facilities, and the market, which has encouraged much industry to locate in Houston. Finally, expansion in the economic areas listed above has also led to the growth of food manufacturing and distributing companies, financial companies, and many other service organizations.

CHAPTER XVI

CONCLUSIONS AND IMPLICATIONS

The conclusions of this study can best be understood within each chapter, where the bases of the findings and their interpretations have been dealt with in some detail. Therefore, in this chapter the findings have been presented in very brief form, and an attempt has been made to point out some implications which may be drawn from the results.

The population of the United States is becoming increasingly urban. More and more people are leaving rural areas for urban centers. An important development in the population increase of the United States has been the extremely rapid growth in certain areas. The Gulf Coast has been such an area in recent years. The rapid growth of Gulf Coast cities poses such questions as "What are the characteristics of the people in these rapidly growing urban centers?" "What has brought about their growth?" and "How do they compare with some of the more stable urban population centers?"

Houston has become the largest metropolis of the South and is an example of the great industrial expansion which is occurring in many southern cities. There are 594,321 people in the city, which has an approximate area of 155 square miles. In 1950 the population density was 3,834 per square mile. The areas of greatest density are located near the center of the city. However, in the past decade (according to a Houston Chamber of Commerce release) these areas have been losing population rapidly, whereas the population of outlying areas has been increasing.

The population of Houston is largely white and is likely to continue so. An analysis of population growth shows that the nonwhite population has a much lower fertility rate, a much higher mortality rate, and a proportionately smaller migration experience than the white population. Negroes are the only racial group other than the whites of numerical significance in Houston. The white and Negro populations have about the same proportional relationship in numbers today as they did one hundred years ago. Negroes are largely located in Tracts 1, 8, 9, 18, 27, 34, 37, and 38. Less than 2 per cent of Houston's population are foreign-born white. This group (about one-third Mexican) is found in considerable numbers along Buffalo Bayou. A much smaller proportion of Houston's population is nonwhite than is the case for Atlanta and New Orleans.

The population of Houston is concentrated to a considerable extent in the productive ages, a fact which reflects the tempo of life in this fast-growing, industrial metropolis. Age-sex pyramids reveal that the Negro population is more highly concentrated in the middle ages and below than is the native white population, whereas the foreign-born white population is heavily grouped in the upper middle ages and above. People over sixty-five years of age are heavily concentrated in the center of the city, whereas children under five are to be found in greater proportion in outlying areas. Houston has a much younger population than either Atlanta or New Orleans.

The sex ratio is gradually declining in Houston, as women have become proportionally more numerous. However, in 1940 the city had a rather high sex ratio for a large urban center, 96. Houston's heavy industry will probably continue to attract large numbers of males and

thus help to sustain a relatively high sex ratio for the total population. The foreign-born whites had the highest sex ratio in 1940 (120), whereas the Negroes had the lowest (88). The highest sex ratios are to be found in the center of the city and the lowest in the southwestern area below Buffalo Bayou. Sex ratios in Houston are much higher than those in Atlanta and New Orleans.

The proportion of the population which was listed as married in 1940 was about the same for Houston as for the other large southern cities. The percentage of the population that is married is larger today than it was in the early part of the century. A higher proportion of the male population is in the single and married categories, and a smaller proportion is in the widowed and divorced categories, than is true of the female population.

Houston's population has a relatively high level of educational attainment. In 1940 the educational attainment of the city was slightly above that of the urban United States and much higher than that of Atlanta and New Orleans. The white population has a much higher educational status than the Negro population. Females have a higher educational level than males except among the foreign-born whites. The area of highest educational attainment is the southwestern portion of the city below Buffalo Bayou.

In 1940 almost three-fourths of the population who were fourteen years of age and over were in the labor force of Houston. This figure is higher than that for New Orleans but slightly under that for Atlanta. A higher percentage of Houston's labor force was concentrated in the "employers and own-account workers" category than was true in Atlanta or New Orleans.

The latter two cities had higher proportions of their labor forces engaged in government work. "Private wage or salary workers" was, of course, the most important classification in all three cities. Nonwhite workers were relatively more important in this group than white workers. Comparatively high proportions of Houston's workers were in the "professional," "semiprofessional," "proprietors, managers, and officials," and "clerical and sales" groupings. Manufacturing; personal services; and transportation, communication, and other public utilities were the most important industry groups in Houston. Manufacturing has become of increasing importance in Houston's occupational structure in recent decades.

The great majority of Houston's church membership is Protestant, with Baptists being the most numerous. New Orleans' church population is largely Catholic, whereas Atlanta's is even more Protestant than Houston's. The congregations in all three cities are dominated by women.

Houston has, in comparison with Atlanta and New Orleans, a relatively high crude death rate. This fact is largely to be accounted for by the high infant mortality rate in Houston. Death rates and infant mortality rates are much higher for the nonwhite than for the white population of Houston. Life tables for the city indicate that there is great room for improvement in infant mortality and in general health conditions of the nonwhite population. Almost half of the total deaths in Houston are due to diseases of the heart, cancer and other malignant tumors, and intracranial lesions of vascular origin, with diseases of the heart being the number-one killer.

The great population increase in Houston reflects a high birth rate as well as a large number of migrants into the city. The birth rate has almost doubled in the past ten years. In 1948, it was 36.7

per thousand. This increase may invalidate the common conception that large cities have a relatively low birth rate and are dependent on rural areas for the maintenance and growth of their populations. The trend toward high birth rates as evidenced by Houston seems to be apparent also in other large southern cities. Even some of the older cities, such as Atlanta and New Orleans, show such a trend. While the increase in birth rates has not been as great in these cities, the increases are nevertheless of great significance. A study of the fertility of large southern urban centers might reveal some significant trends. Our conception of cities as places of low fertility may have to undergo some modification in the future.

Migration has been an important source of Houston's population in the past and will probably continue to be so for some time in the future. During the five-year period from 1935 to 1940 Houston had a net inward migration of over 15,000, whereas Atlanta and New Orleans both had a net outward migration. Most of this migration was selective of the whites, and it was largely from Texas and contiguous states. Houston's industry and commerce undoubtedly will continue to attract many migrants for some time in the future.

The high fertility rates and the large net inward migration experienced by Houston indicate that the city will continue to grow at a rapid rate and to maintain its position as the largest city in the South for some time to come.

BIBLIOGRAPHY

BIBLIOGRAPHY

Unpublished Manuscripts

Beegle, J. Allan. "Differential Fertility in Louisiana." Unpublished Doctoral Dissertation, Louisiana State University, 1946.

Burrus, John N. "Differential Mortality in Mississippi." Unpublished Doctoral Dissertation, Louisiana State University, 1950.

Byrd, Mary. "Factors Influencing the Death Rates in Louisiana." Unpublished Master's Thesis, Louisiana State University, 1934.

Dishron, Joseph. "A Population Study of Houston and the Houston Area." Unpublished Doctoral Dissertation, The University of Houston, 1949.

Price, Paul Hurvey. "Migration to and from Louisiana, 1935-1940." Unpublished Master's Thesis, Louisiana State University, 1947.

Articles in Periodicals

Dorn, Harold F. "Migration and the Growth of Cities," Social Forces, XVI (March, 1938), 328-37.

Dublin, Louis I., and Alfred J. Lotka. "On the True Rate of Natural Increase as Exemplified by the Population of the United States, 1920," Journal of the American Statistical Association, XX (September, 1925), 305-39.

Edin, K. A. "The Birth Rate Changes," Eugenics Review, XX (January, 1929), 258-66.

Hitt, Homer L. "The Use of Selected Cartographic Techniques in Health Research," Social Forces, XXVI (December, 1947), 189-96.

Kemp, Louise. "A Note on the Use of the Fertility Ratio in the Study of Rural-Urban Differences in Fertility," Rural Sociology, X (September, 1945), 312-13.

Ogburn, William Fielding. "The Relationship of Marital Condition to Death, Crime, Insanity, and Pauperism," Bulletin de L'institt International de Statisque, XXII (1926), 441-54.

Reed, Lowell J., and Margaret Merrell. "A Short Method for Constructing An Abridged Life Table," American Journal of Hygiene, XXX (September, 1939), 33-62; reprinted in Vital Statistics--Special Reports (Bureau of the Census Publication), IX, No. 54 (June 25, 1940), 681-712.

Smith, T. Lynn. "A Demographic Study of the American Negro," Social Forces, XXIII (March, 1945), 379-87.

Smith, T. Lynn, and Homer L. Hitt. "The Misstatement of Women's Ages and the Vital Indexes," Metron, XIII (1939), 95-108.

Weaver, Robert C. "Economic Factors in Negro Migration--Past and Future," Social Forces, XVIII (October, 1939), 90-101.

Yule, C. Sidly. "The Growth of Population and the Factors Which Control It," Journal of the Royal Statistical Society, LXXXVIII (January, 1925), 1-58.

Zimmerman, C. C., and J. J. Corson. "The Migrations to Towns and Cities," Social Forces, VIII (March, 1930), 402-408.

Pamphlets

Beegle, J. Allan, and T. Lynn Smith. Differential Fertility in Louisiana. Baton Rouge: Louisiana State University and Agricultural and Mechanical College Agricultural Experiment Stations (Bulletin No. 403), 1946.

Green, Howard Whipple. Natural Increase and Migration, Greater Cleveland, 1919-1937. Cleveland: Cleveland Health Council, 1938.

Problems and Methods in the Study of Population. Proceedings of the Southern Social Science Research Conference. Mimeographed and Distributed by the Southern Regional Committee of the Social Science Research Council in 1937.

Smith, T. Lynn. The Population of Louisiana: Its Composition and Changes. Baton Rouge: Louisiana State University and Agricultural and Mechanical College Agricultural Experiment Stations (Bulletin No. 293), 1937.

Bureau of the Census Publications

A. Decennial Census of Population Reports

Seventh Census of the United States, 1850. Population. Washington: Robert Armstrong, Public Printer, 1853.

Eighth Census of the United States, 1860. Population. Washington: Government Printing Office, 1864.

Tenth Census of the United States, 1880. Population. Washington: Government Printing Office, 1883.

Eleventh Census of the United States, 1890, Population. 1 vol. in 2 separately bound parts. Washington: Government Printing Office, 1895-1897.

Twelfth Census of the United States, 1900. Population. 2 vols. Washington: United States Census Office, 1901.

Thirteenth Census of the United States, 1910, Population. 4 vols. Washington: Government Printing Office, 1913-1914.

Fourteenth Census of the United States, 1920, Population. 4 vols. Washington: Government Printing Office, 1921-1923.

Fifteenth Census of the United States, 1930, Population. 6 vols. Washington: United States Government Printing Office, 1931-1933.

Sixteenth Census of the United States, 1940, Population. 4 vols. in 17. Washington: United States Government Printing Office, 1942-1943.

B. Other Bureau of the Census Publications

Census of Religious Bodies, 1936. 3 vols. Washington: United States Government Printing Office, 1941.

1950 Census of Population Preliminary Counts. Washington: United States Department of Commerce. Series PC-2, No. 29 (August 30, 1950) and No. 43 (September 14, 1950).

Sixteenth Census of the United States, 1940, Population and Housing, Statistics for Census Tracts, Houston, Texas. Washington: United States Government Printing Office, 1942.

Sixteenth Census of the United States, 1940, Population, Internal Migration, 1935 to 1940, Color and Sex of Migrants. Washington: Government Printing Office, 1943.

Vital Statistics of the United States, 1937-1948. 12 vols. Washington: United States Government Printing Office, 1939-1950.

Vital Statistics of the United States, Supplement, 1939-1940. Washington: United States Government Printing Office, 1949.

Books

Bowen, Ezra. An Hypothesis of Population Growth. New York: Columbia University Press, 1931.

Carroll, H. K. The Religious Forces of the United States. New York: The Christian Literature Company, 1893.

Comey, Arthur Coleman. Houston: Tentative Plans for Its Development. Report to the Park Commission. Boston: Geo. H. Ellis Co., 1913.

Dublin, Louis I., and Alfred J. Lotka. Length of Life--A Study of the Life Table. New York: The Ronald Press Company, 1936.

Dublin, Louis I., Alfred J. Lotka, and Mortimer Spiegelman. Length of Life--A Study of the Life Table. Rev. ed.; New York: The Ronald Press Company, 1949.

Dunbar, Clarence Peckham, and William Hunter Dillard. Houston, 1836-1936: Chronology and Review. Houston: Business Research and Publications Service, 1936.

Durkheim, Emile. Le Suicide: Etude de Sociologie. Nouvelle ed.; Paris: F. Alcan, 1930.

Gilliam, Sara K. Virginia's People--A Study of the Growth and Distribution of the Population of Virginia from 1607 to 1943. Richmond: Population Study, Virginia State Planning Board, 1944.

Gist, Noel P., and L. A. Halbert. Urban Society. 2d ed.; New York: Thomas Y. Crowell Company, 1947.

Hagood, Margaret Jarman. Statistics for Sociologists. New York: Reynal and Hitchcock, Inc., 1941.

Heberle, Rudolf. The Labor Force in Louisiana. Baton Rouge: Louisiana State University Press, 1948.

Houston: A History and Guide. Compiled by Workers of the Writers' Program of the Works Projects Administration in the State of Texas. Houston: The Anson Jones Press, 1942.

Hoyt, Homer. The Structure and Growth of Residential Neighborhoods in American Cities. Washington: United States Government Printing Office, 1939.

Knox, John Bellenger. The People of Tennessee--A Study of Population Trends. Knoxville: The University of Tennessee Press, 1949.

Kuczynski, Robert R. The Balance of Births and Deaths. Volume I. Western and Northern Europe. New York: The Macmillan Company, 1928.

Kuczynski, Robert R. The Balance of Births and Deaths. Volume II. Eastern and Southern Europe. Washington: The Brookings Institution, 1931.

Kuczynski, Robert R. Fertility and Reproduction: Methods of Measuring the Balance of Births and Deaths. New York: The Falcon Press, 1932.

Kuczynski, Robert R. The Measurement of Population Growth: Methods and Results. New York: Oxford University Press, 1936.

Landis, Paul H. Population Problems: A Cultural Interpretation. New York, Cincinnati, Chicago, Boston, Atlanta, Dallas, and San Francisco: The American Book Company, 1943.

McMahan, C. A. The People of Atlanta: A Demographic Study of Georgia's Capital City. Athens: The University of Georgia Press, 1950.

Park, Robert E., Ernest W. Burgess, and Robert D. McKenzie. The City. Chicago: The University of Chicago Press, 1925.

Pearl, Raymond. The Biology of Population Growth. New York: Alfred S. Knopf, 1939.

Rosenquist, Carl M., and Walter Gordon Browder. Family Mobility in Houston, Texas, 1922-1938. Publication of the Bureau of Research in the Social Sciences and the Works Projects Administration, Official Project No. 665-66-3-183. Austin: The University of Texas, 1942.

Shannon, H. A., and E. Grebenik. The Population of Bristol. National Institute of Economic and Social Research Occasional Papers II. Cambridge: The University Press, 1943.

Smith, T. Lynn. Population Analysis. New York, Toronto, and London: McGraw-Hill Book Company, Inc., 1948.

Thompson, Warren S. Population Problems. 3d ed.; New York and London: McGraw-Hill Book Company, Inc., 1942.

Thornthwaite, Charles W. Internal Migration in the United States. Philadelphia: University of Pennsylvania Press, 1934.

Vance, Rupert B. All These People. Chapel Hill: The University of North Carolina Press, 1945.

Whipple, George Chandler. Vital Statistics: An Introduction to the Science of Demography. New York: John Wiley and Sons, Inc., 1923.

Young, Kimball. Sociology: A Study of Society and Culture. 2d ed.; New York, Cincinnati, Chicago, Boston, Atlanta, Dallas, and San Francisco: American Book Company, 1949.

Young, S. O. A Thumb-Nail History of the City of Houston, Texas, from Its Founding in 1836 to the Year 1912. Houston: Rein and Sons, 1912.

Ziegler, Jesse A. Wave of the Gulf. San Antonio: The Naylor Company, 1938.

Miscellaneous Publications

Population Index. Publication of the Office of Population Research, Princeton University, and the Population Association of America, Inc. Vol. XVII (January, 1951).

APPENDIX

TABLE A

DISTRIBUTION OF THE TOTAL, WHITE, AND NONWHITE POPULATIONS OF HOUSTON BY CENSUS TRACTS: 1940*

Census Tract Number	Total Population	White Population	Nonwhite Population	Census Tract Number	Total Population	White Population	Nonwhite Population
1	4,472	949	3,523	26	6,246	5,845	401
2	7,216	7,195	21	27	13,267	1,765	11,502
3	5,649	4,678	971	28	6,015	5,621	394
4	10,519	10,485	34	29	4,707	4,161	546
5	10,579	10,439	140	30	14,076	13,382	694
6	3,257	2,897	360	31	5,218	5,013	205
7	6,364	6,326	38	32	6,707	6,391	316
8	3,814	242	3,572	33	5,341	4,053	1,288
9	14,400	4,082	10,318	34	7,355	1,741	5,614
10	14,354	14,099	255	35	6,752	6,702	50
11	11,500	11,459	41	36	9,903	9,588	315
12	7,117	4,834	2,283	37	12,792	200	12,592
13	6,855	6,616	239	38	6,533	80	6,453
14	6,965	6,593	372	39	6,848	5,748	1,100
15	10,243	8,144	2,099	40	7,607	6,961	646
16	9,370	7,535	1,835	41	6,212	6,039	173
17	5,588	4,537	1,051	42	7,350	6,894	456
18	13,038	999	12,039	43	6,746	6,337	409
19	8,471	8,369	102	44	3,477	3,331	146
20	9,617	9,507	110	45	6,689	6,555	134
21	7,701	7,691	10	46	6,916	6,476	440
22	11,946	11,925	21	47	2,591	2,439	152
23	8,561	7,487	1,074	48	3,393	3,358	35
24	4,271	3,728	543	49	7,075	6,024	1,051
25	8,383	8,134	249	50	4,448	4,305	143

*Source: Sixteenth Census of the United States, 1940, Population and Housing, Statistics for Census Tracts, Houston, Texas, p. 4.

TABLE B

POPULATION DENSITY OF HOUSTON BY CENSUS TRACTS: 1940*

Census Tract Number	Area in Square Miles	Population	Density Per Square Miles	Census Tract Number	Area in Square Miles	Population	Density Per Square Miles
1	0.830	4,472	5,388	26	0.453	6,246	13,788
2	0.955	7,216	7,973	27	0.591	13,267	23,058
3	0.949	5 649	5,953	28	0.931	6,015	6,461
4	1.029	10,519	10,223	29	1.738	4,707	2,708
5	1.294	10,579	8,175	30	1.075	14,076	13,094
6	1.135	3,257	2,870	31	0.414	5,218	12,604
7	5.836	6,364	1,090	32	0.397	6,707	16,894
8	0.634	3,814	6,016	33	0.295	5,341	18.105
9	1.697	14,400	8,486	34	0.732	7,355	10,048
10	1,421	14,354	10,101	35	0.887	6,752	7,612
11	1.059	11,500	10,859	36	4.477	9,903	2,212
12	1.127	7,117	6,315	37	0.738	12,792	17.333
13	2.039	6,855	3,362	38	0.791	6,533	8,259
14	3.936	6,965	1.770	39	0.525	6,848	13,044
15	1.854	10,243	5,525	40	0.770	7,607	9,879
16	0.705	9,370	13,290	41	1.354	6.212	4,588
17	0.972	5,588	5 749	42	1.042	7,350	7,054
18	1.778	13,038	7,333	43	2.088	6,746	3,231
19	1.065	8,471	7,954	44	1.928	3,477	1,803
20	0.978	9,617	9,833	45	0.701	6,689	9,542
21	0.717	7,701	10,741	46	1.195	6,916	5,787
22	1.800	11,946	6,637	47	3.249	2,591	797
23	0.778	8,561	11,004	48	3.278	3,393	1,035
24	0.489	4,271	8,734	49	3.296	7,075	2,147
25	0.631	8,383	13,285	50	3.761	4,448	1,183

*Sources: Carl M. Rosenquist and Walter Gorden Browder, Family Mobility in Houston, Texas, 1922-1938 (Austin: The University of Texas, 1942), p. 26; Sixteenth Census of the United States, 1940, Population and Housing, Statistics for Census Tracts, Houston, Texas, 1940, p. 4.

TABLE C

FOREIGN-BORN WHITE POPULATION OF HOUSTON BY CENSUS TRACTS: 1940*

Census Tract Number	Foreign-Born White Population	Census Tract Number	Foreign-Born White Population
1	46	26	531
2	241	27	383
3	178	28	452
4	260	29	270
5	272	30	693
6	81	31	440
7	181	32	530
8	70	33	663
9	251	34	326
10	795	35	508
11	332	36	565
12	155	37	155
13	214	38	102
14	241	39	697
15	558	40	500
16	871	41	164
17	761	42	181
18	177	43	176
19	887	44	181
20	600	45	501
21	207	46	293
22	356	47	102
23	1,118	48	105
24	352	49	206
25	457	50	116

*Source: Sixteenth Census of the United States. 1940. Population and Housing. Statistics for Census Tracts. Houston, Texas. 1940. pp. 12-20.

TABLE D

DISTRIBUTION OF THE POPULATION BY AGE AND SEX FOR THE TOTAL, NATIVE WHITE, FOREIGN-BORN WHITE, AND NEGRO POPULATIONS OF HOUSTON: 1940*

Age Group	Total Population		Native White Population		Foreign-Born White Population		Negro Population	
	Per Cent		Per Cent		Per Cent		Per Cent	
	Male	Female	Male	Female	Male	Female	Male	Female
Under 5	3.48	3.49	3.75	3.73	0.08	0.09	3.19	0.09
5-9	3.34	3.35	3.53	3.47	0.18	0.18	3.27	0.18
10-14	3.63	3.69	3.83	3.79	0.31	0.36	3.55	0.36
15-19	3.83	4.48	4.03	4.63	0.82	0.98	3.72	0.98
20-24	4.55	5.47	4.82	5.56	1.48	1.90	4.21	1.90
25-29	5.39	5.93	5.53	5.75	2.80	3.39	5.40	3.39
30-34	5.12	5.38	5.12	5.19	4.67	4.02	5.19	4.02
35-39	4.81	4.89	4.57	4.53	6.64	5.44	5.27	5.44
40-44	4.06	3.75	3.88	3.61	6.79	5.43	4.16	5.43
45-49	3.29	2.98	3.09	2.88	7.15	4.88	3.28	4.88
50-54	2.53	2.25	2.44	2.24	6.84	4.78	2.04	4.78
55-59	1.74	1.67	1.68	1.68	5.58	3.87	1.24	3.87
60-64	1.22	1.30	1.19	1.35	3.91	3.27	0.83	3.27
65-69	0.92	1.05	0.84	0.99	3.10	2.66	0.77	2.66
70-74	0.53	0.64	0.50	0.62	1.85	2.03	0.41	2.03
75 years and over	0.49	0.65	0.44	0.65	2.35	2.15	0.32	2.15

*Source: Sixteenth Census of the United States, 1940, Population, Vol. II, Part VI, p. 1044.

TABLE E

INDEX NUMBERS SHOWING THE DISTRIBUTION BY AGE OF THE NATIVE WHITE, FOREIGN-BORN WHITE, AND NEGRO POPULATIONS OF HOUSTON: 1940*/

Age Group	Index Numbers		
	Native White Population	Foreign-Born White Population	Negro Population
Under 5	107.14	2.86	92.86
5-9	104.48	5.97	101.49
10-14	104.11	9.59	102.74
15-19	104.82	21.69	100.00
20-24	104.00	34.00	100.00
25-29	100.00	54.87	109.73
30-34	98.10	82.86	109.52
35-39	93.81	124.74	115.46
40-44	96.15	156.41	103.85
45-49	95.24	190.47	100.00
50-54	97.92	241.66	81.25
55-59	100.00	279.41	73.53
60-64	100.00	288.00	64.00
65-69	90.00	290.00	85.00
70-74	91.67	325.00	75.00
75 years and over	100.00	409.09	63.63

* Total Population of Houston = 100.

/ Source: Sixteenth Census of the United States, 1940. Population, Vol. II, Part VI, p. 1044.

TABLE F

POPULATION OF HOUSTON UNDER FIVE YEARS OF AGE BY CENSUS TRACTS: 1940*

Census Tract Number	Population Under Five Years of Age	Per Cent Under Five Years of Age	Census Tract Number	Population Under Five Years of Age	Per Cent Under Five Years of Age
1	518	11.58	26	133	2.13
2	604	8.37	27	695	5.24
3	476	8.47	28	373	6.20
4	682	6.48	29	281	5.97
5	821	7.76	30	750	5.33
6	309	9.48	31	183	3.51
7	688	10.81	32	224	3.35
8	284	7.45	33	314	5.88
9	1,074	7.46	34	481	6.54
10	1,058	7.37	35	342	5.07
11	649	5.64	36	739	7.46
12	559	7.85	37	791	6.18
13	637	9.29	38	442	6.77
14	557	8.00	39	306	4.47
15	859	8.38	40	220	2.89
16	753	8.04	41	336	5.41
17	553	9.90	42	420	5.71
18	899	6.90	43	519	7.69
19	915	10.80	44	129	3.71
20	899	9.35	45	300	4.48
21	566	7.35	46	436	6.30
22	887	7.43	47	209	8.09
23	929	10.85	48	306	9.89
24	360	8.43	49	707	9.99
25	275	3.28	50	387	8.70

*Source: Sixteenth Census of the United States, 1940, Population and Housing, Statistics for Census Tracts, Houston, Texas, 1940, pp. 5-11.

TABLE 6

POPULATION OF HOUSTON SIXTY-FIVE YEARS OF AGE AND OVER BY CENSUS TRACTS: 1940*

Census Tract Number	Population Sixty-Five Years of Age and Over	Per Cent Sixty-Five Years of Age and Over	Census Tract Number	Population Sixty-Five Years of Age and Over	Per Cent Sixty-Five Years of Age and Over
1	173	3.87	26	394	6.31
2	352	4.88	27	456	3.44
3	268	4.74	28	220	3.66
4	594	5.65	29	125	2.66
5	379	3.58	30	822	5.84
6	118	3.62	31	435	8.34
7	216	3.39	32	323	4.82
8	118	3.09	33	264	4.94
9	459	3.19	34	230	3.13
10	716	4.99	35	274	4.06
11	621	5.40	36	311	3.14
12	332	4.66	37	428	3.35
13	268	3.90	38	201	3.08
14	309	4.44	39	470	6.86
15	500	4.88	40	566	7.45
16	411	4.39	41	221	3.56
17	198	3.54	42	296	4.03
18	476	3.65	43	223	3.31
19	288	3.40	44	189	5.44
20	280	2.91	45	307	4.59
21	275	3.57	46	314	4.54
22	421	3.52	47	124	4.79
23	273	3.19	48	94	2.77
24	165	3.86	49	239	3.38
25	529	6.31	50	194	4.36

*Source: Sixteenth Census of the United States, 1940, Population and Housing, Statistics for Census Tracts, Houston, Texas, 1940, pp. 5-11.

TABLE H

INDEX NUMBERS SHOWING THE RELATIVE IMPORTANCE OF EACH AGE GROUP IN THE TOTAL POPULATIONS OF ATLANTA, HOUSTON, AND NEW ORLEANS: 1940*+

Age Group	Index Numbers		
	Atlanta	Houston	New Orleans
Under 5 years	102.99	104.48	100.00
5-9	101.47	98.53	101.47
10-14	96.20	92.41	106.33
15-19	102.30	95.40	105.75
20-24	110.99	109.89	93.41
25-29	117.78	125.56	103.33
30-34	115.48	125.00	108.33
35-39	113.92	122.78	111.39
40-44	100.00	105.41	104.05
45-49	89.85	91.30	97.10
50-54	84.75	81.36	89.83
55-59	80.85	72.34	89.36
60-64	78.38	67.57	89.19
65-70	79.31	68.97	93.10
70-74	65.00	60.00	85.00
75 years and over	60.00	55.00	75.00

*Urban population of the United States = 100.

+Source: Sixteenth Census of the United States, 1940, Population, Vol. II, Part I, p. 22; ibid., Vol. II, Part II, p. 374; ibid., Vol. II, Part III, p. 426; ibid., Vol. II, Part VI, p. 1044.

TABLE I

SEX RATIOS BY AGE FOR THE TOTAL (ALL CLASSES) NATIVE WHITE, FOREIGN-BORN, WHITE, AND NEGRO POPULATIONS OF HOUSTON: 1940*

Age Group	Sex Ratios			
	Total Population (All Classes)	Native White Population	Foreign-Born White Population	Negro Population
Under 5 years	99.4	100.6	92.3	95.6
5-9	99.5	101.9	100.0	91.7
10-14	98.2	101.0	85.4	98.9
15-19	85.5	87.0	83.3	80.7
20-24	83.2	86.7	77.6	72.3
25-29	94.2	96.1	82.4	77.4
30-34	95.1	98.5	116.0	89.0
35-39	98.5	100.8	122.0	88.5
40-44	108.3	107.3	125.0	106.2
45-49	110.5	107.1	146.0	110.5
50-54	112.0	108.7	143.0	110.2
55-59	104.2	99.7	144.1	101.9
60-64	93.5	88.4	119.5	101.5
65-69	87.4	85.1	116.4	80.6
70-74	83.1	81.0	90.9	86.2
75 years and over	75.1	67.4	109.0	83.4

*Source: Sixteenth Census of the United States, 1940, Population, Vol. II, Part VI, p. 1044.

TABLE J

SEX RATIOS BY CENSUS TRACTS FOR HOUSTON: 1940*

Census Tract Number	Sex Ratio	Census Tract Number	Sex Ratio
1	87.66	26	139.40
2	100.33	27	87.04
3	98.14	28	85.59
4	94.29	29	80.83
5	99.68	30	88.36
6	105.62	31	91.49
7	109.27	32	98.67
8	89.66	33	98.70
9	94.57	34	91.99
10	97.28	35	97.43
11	94.32	36	95.75
12	99.24	37	88.73
13	105.49	38	88.05
14	98.77	39	88.86
15	97.66	40	79.79
16	101.81	41	85.99
17	106.27	42	86.55
18	97.35	43	84.27
19	105.71	44	81.38
20	104.01	45	90.03
21	107.24	46	78.16
22	98.97	47	93.36
23	102.20	48	100.89
24	100.80	49	106.39
25	128.10	50	95.17

*Source: Sixteenth Census of the United States, 1940, Population and Housing, Statistics for Census Tracts, Houston, Texas, pp. 5-11.

TABLE K

MARITAL STATUS OF THE MALE AND FEMALE POPULATION FIFTEEN YEARS OF AGE AND OVER IN HOUSTON: 1940*

Age Group	Per Cent							
	Single		Married		Widowed		Divorced	
	Male	Female	Male	Female	Male	Female	Male	Female
15-19	97.1	80.1	2.8	19.0	-	0.2	-	0.7
20-24	62.6	36.7	36.1	59.5	0.3	1.1	1.0	2.8
25-29	31.5	18.5	65.8	74.3	0.6	2.5	2.1	4.7
30-34	18.0	11.9	77.8	77.3	1.1	4.8	3.1	6.0
35-39	13.1	9.3	81.6	76.4	1.7	8.2	3.6	6.1
40-44	11.1	7.5	82.1	74.7	2.9	12.2	3.9	5.6
45-49	8.8	6.5	83.3	69.6	4.1	18.8	3.8	5.1
50-54	7.8	6.1	81.6	63.9	6.7	26.0	3.9	4.0
55-59	8.0	6.5	79.3	55.0	8.8	34.9	3.9	3.6
60-64	8.5	5.8	75.2	46.0	13.3	46.0	3.0	2.2
65-69	8.3	5.9	69.6	33.7	19.2	58.6	2.9	1.8
70-74	8.4	5.4	61.2	22.5	28.1	71.0	2.3	1.1
75-79	10.1	4.6	52.7	14.0	35.1	80.8	2.1	0.6
80-84	8.7	3.5	46.0	9.4	44.1	86.4	1.2	0.7
85 and over	11.4	4.7	28.0	3.4	60.2	91.8	0.4	-

*Source: Sixteenth Census of the United States. 1940. Population. Vol. IV, Part IV, p. 519.

TABLE L

MARITAL STATUS OF THE WHITE MALE AND FEMALE POPULATION FIFTEEN YEARS OF AGE AND OVER IN HOUSTON: 1940*

Age Group	Per Cent							
	Single		Married		Widowed		Divorced	
	Male	Female	Male	Female	Male	Female	Male	Female
15-19	97.4	80.5	2.6	18.8	-	0.1	-	0.6
20-24	63.9	37.5	34.9	59.3	0.2	0.7	1.0	2.5
25-29	32.0	18.4	65.5	75.6	0.4	1.7	2.1	4.3
30-34	17.6	11.7	78.7	79.7	0.7	3.4	3.0	5.2
35-39	12.4	9.2	82.6	79.6	1.3	5.8	3.7	5.4
40-44	10.6	7.6	83.6	78.1	2.2	9.3	3.6	5.0
45-49	8.0	6.5	85.2	73.3	3.2	15.6	3.6	4.6
50-54	7.2	6.2	83.4	67.4	5.6	22.5	3.8	3.9
55-59	7.7	8.2	80.6	57.7	7.8	32.2	3.9	1.9
60-64	8.3	5.8	76.6	47.5	11.9	44.6	3.1	2.1
65-69	8.2	6.0	71.5	35.3	17.1	57.0	3.2	1.7
70-74	8.4	5.3	63.4	24.2	26.0	69.6	2.2	0.9
75-79	10.8	4.7	53.6	14.7	33.5	80.2	2.1	0.4
80-84	8.4	3.7	47.2	9.1	43.0	86.8	1.4	0.4
85 and over	13.1	4.5	28.6	2.9	58.3	92.5	-	0.1

*Source: Sixteenth Census of the United States. 1940. Population. Vol. IV, Part IV, p. 519.

TABLE M

MARITAL STATUS OF THE NONWHITE MALE AND FEMALE POPULATION FIFTEEN YEARS OF AGE AND OVER IN HOUSTON: 1940*

Age Group	Per Cent							
	Single		Married		Widowed		Divorced	
	Male	Female	Male	Female	Male	Female	Male	Female
15-19	96.1	79.0	3.7	19.6	0.1	0.6	0.1	0.8
20-24	57.5	34.2	40.3	60.0	0.8	2.1	1.4	3.7
25-29	29.7	18.5	66.7	70.7	1.3	4.8	2.3	6.0
30-34	19.4	12.3	74.8	70.8	2.6	8.8	3.2	8.1
35-39	15.2	9.5	78.5	68.0	3.1	14.5	3.2	8.0
40-44	13.0	7.2	77.1	63.5	5.4	21.4	4.5	7.9
45-49	11.6	6.6	76.9	56.9	7.4	29.7	4.1	6.8
50-54	10.5	5.4	73.4	48.8	11.5	41.2	4.6	4.6
55-59	9.5	5.6	72.5	41.6	14.2	48.6	3.8	4.2
60-64	9.2	5.7	66.8	36.5	21.1	54.6	2.9	3.2
65-69	8.4	5.8	61.1	27.6	28.1	65.0	2.4	1.6
70-74	8.5	5.6	50.9	14.0	38.4	78.4	2.2	2.0
75-79	5.7	4.0	47.5	9.7	44.3	84.7	2.5	1.6
80-84	10.9	2.4	37.5	11.8	51.6	83.5	-	2.3
85 and over	5.2	5.6	25.9	5.6	67.2	88.7	1.7	0.1

*Source: Sixteenth Census of the United States. 1940. Population. Vol. IV, Part IV, p. 519.

TABLE V

MARITAL STATUS OF THE MALE AND FEMALE POPULATION FIFTEEN YEARS OF AGE AND OVER IN HOUSTON: 1910*

Age Group	Per Cent							
	Single		Married		Widowed		Divorced	
	Male	Female	Male	Female	Male	Female	Male	Female
15-24	84.0	60.4	15.2	36.3	0.5	2.2	0.3	1.1
25-44	28.5	13.6	66.8	72.4	3.6	11.6	1.1	2.4
45 and over	10.3	3.9	72.6	52.0	16.1	42.7	1.0	1.4

*Source: Thirteenth Census of the United States, 1910, Population, Vol. I, p. 683.

TABLE O

MARITAL STATUS OF THE MALE AND FEMALE POPULATION FIFTEEN YEARS OF AGE AND OVER IN ATLANTA: 1940*

Age Group	Per Cent							
	Single		Married		Widowed		Divorced	
	Male	Female	Male	Female	Male	Female	Male	Female
15-19	96.4	81.7	3.6	17.7	-	0.2	-	0.4
20-24	59.8	41.6	39.5	55.7	0.1	1.3	0.6	1.4
25-29	29.1	22.6	69.2	70.9	0.5	3.6	1.2	2.9
30-34	16.7	15.7	80.7	74.1	0.9	6.6	1.7	3.6
35-39	11.6	11.3	84.5	72.4	1.9	12.2	2.0	4.1
40-44	8.9	9.5	85.5	68.7	3.4	18.1	2.2	3.7
45-49	7.4	9.1	85.6	62.7	4.9	25.2	2.1	3.0
50-54	7.2	8.5	84.2	56.7	6.6	32.5	2.0	2.3
55-59	6.4	8.6	83.1	48.1	9.1	41.0	1.4	2.3
60-64	6.2	9.0	79.2	40.8	13.2	49.1	1.4	1.1
65-69	5.9	8.0	74.4	29.4	18.5	61.9	1.2	0.7
70-74	6.4	7.4	67.7	18.6	25.1	73.7	0.8	0.3
75-79	4.1	8.1	58.3	12.9	36.8	79.0	0.8	-
80-84	3.0	7.6	48.4	5.9	47.8	86.6	0.8	-
85 and over	3.1	6.7	37.5	3.7	59.4	89.4	-	0.2

*Source: Sixteenth Census of the United States, 1940. Population, Vol. IV, Part II, pp. 510-11.

TABLE P

MARITAL STATUS OF THE MALE AND FEMALE POPULATION FIFTEEN YEARS OF AGE AND OVER IN NEW ORLEANS: 1940*

Age Group	Per Cent							
	Single		Married		Widowed		Divorced	
	Male	Female	Male	Female	Male	Female	Male	Female
15-19	97.6	87.4	2.4	12.4	-	0.1	-	0.1
20-24	69.8	47.3	29.9	51.1	0.1	0.6	0.2	1.0
25-29	36.4	25.5	62.5	70.9	0.4	1.8	0.7	1.8
30-34	22.5	18.0	75.6	75.4	0.7	4.1	1.2	2.5
35-39	16.3	13.8	80.5	75.5	1.6	7.8	1.6	2.9
40-44	13.8	13.0	82.2	71.5	2.4	12.8	1.6	2.7
45-49	13.1	12.0	81.3	66.7	4.0	19.1	1.6	3.2
50-54	12.4	12.2	79.4	59.2	6.4	27.1	1.8	1.5
55-59	12.5	13.2	76.5	50.1	9.5	35.1	1.5	1.6
60-64	12.6	14.3	72.3	39.4	13.7	45.5	1.4	0.8
65-69	12.0	16.2	66.9	27.0	20.0	56.3	1.1	0.5
70-74	13.1	16.4	58.1	17.7	28.0	65.6	0.8	0.3
75-79	13.8	17.4	47.0	9.9	38.1	72.3	1.1	0.4
80-84	11.7	17.6	40.6	5.2	47.1	77.0	0.6	0.2
85 and over	14.8	13.8	25.2	2.7	59.3	83.5	0.7	-

*Source: Sixteenth Census of the United States, 1940, Population, Vol. IV, Part II, pp. 894-95.

TABLE Q

MEDIAN SCHOOL YEARS COMPLETED FOR PERSONS TWENTY-FIVE YEARS OF AGE AND OVER FOR HOUSTON BY CENSUS TRACTS: 1940*

Census Tract Number	Median School Years Completed	Census Tract Number	Median School Years Completed
1	7.4	26	10.9
2	9.1	27	7.4
3	8.4	28	12.3
4	10.6	29	13.0
5	9.6	30	12.3
6	8.1	31	12.0
7	8.6	32	11.1
8	7.5	33	8.8
9	7.3	34	7.5
10	8.7	35	12.2
11	11.0	36	12.0
12	8.3	37	7.8
13	7.7	38	6.8
14	8.4	39	11.8
15	8.2	40	12.7
16	7.3	41	12.7
17	5.9	42	12.9
18	7.0	43	12.9
19	8.4	44	12.7
20	8.5	45	12.5
21	9.6	46	12.7
22	10.3	47	12.0
23	6.0	48	12.0
24	7.8	49	9.2
25	10.0	50	12.1

*Source: Sixteenth Census of the United States, 1940, Population and Housing, Statistics for Census Tracts, Houston, Texas, 1940, pp. 12-20.

TABLE R

PERCENTAGE DISTRIBUTION OF GAINFUL WORKERS TEN YEARS OF AGE AND OVER IN HOUSTON BY GENERAL DIVISION OF OCCUPATIONS: 1900-1930*

Major Occupation Group	Percentages			
	1900	1910	1920	1930
Agriculture	1.5	1.1	0.9	0.7
Forestry and Fishing	-	-	-	-
Extraction of Minerals	-	0.2	1.0	0.8
Manufacturing and Mechanical Industries	21.6	27.0	30.1	29.5
Trade and Communication	32.5	12.1	11.8	10.7
Transportation	-	16.7	16.0	17.3
Public Services	-	1.6	1.7	1.6
Professional Services	5.7	6.0	6.2	7.0
Domestic and Personal Services	38.7	25.7	17.7	19.0
Clerical	-	9.6	14.5	13.4

*Sources: Twelfth Census of the United States, 1900, Population, Vol. II, Part II, p. 567; Thirteenth Census of the United States, 1910, Population, Vol. IV (Occupational Statistics), pp. 233-37; Fourteenth Census of the United States, 1920, Population, Vol. IV (Occupations), pp. 151-67; Fifteenth Census of the United States, 1930, Population, Vol. IV (Occupations by States), p. 1561.

TABLE 8

PERCENTAGE DISTRIBUTION OF MALE GAINFUL WORKERS TEN YEARS OF AGE AND OVER IN HOUSTON BY GENERAL DIVISION OF OCCUPATIONS: 1900-1930*

Major Occupation Group	Percentages			
	1900	1910	1920	1930
Agriculture	1.9	1.4	1.2	0.9
Forestry and Fishing	-	-	-	-
Extraction of Minerals	-	0.3	1.4	1.1
Manufacturing and Mechanical Industries	25.2	32.9	36.5	37.4
Trade and Communication	40.6	15.8	14.5	13.7
Transportation	-	20.6	18.8	20.2
Public Services	-	2.1	2.2	2.2
Professional Services	5.6	5.4	5.2	5.5
Domestic and Personal Services	26.7	11.1	7.6	8.3
Clerical	-	10.4	12.6	10.7

*Sources: Twelfth Census of the United States, 1900, Population, Vol. II, Part II, p. 567; Thirteenth Census of the United States, 1910, Population, Vol. IV, pp. 233-37; Fourteenth Census of the United States, 1920, Population, Vol. IV, pp. 151-67; Fifteenth Census of the United States, 1930, Population, Vol. IV, p. 1561.

TABLE V

PERCENTAGE DISTRIBUTION OF FEMALE GAINFUL WORKERS TEN YEARS OF AGE AND OVER IN HOUSTON BY GENERAL DIVISION OF OCCUPATIONS: 1900-1930*

Major Occupation Group	Percentages			
	1900	1910	1920	1930
Agriculture	-	-	-	0.1
Forestry and Fishing	-	-	-	-
Extraction of Minerals	-	-	-	-
Manufacturing and Mechanical Industries	10.5	11.0	12.2	8.8
Trade and Communication	7.9	2.1	4.1	2.8
Transportation	-	6.0	8.1	9.6
Public Services	-	-	-	0.1
Professional Services	6.0	7.6	9.3	11.0
Domestic and Personal Services	76.0	65.9	46.5	47.3
Clerical	-	7.4	19.8	20.3

*Sources: Twelfth Census of the United States, 1900, Population, Vol. II, Part II, p. 567; Thirteenth Census of the United States, 1910, Population, Vol. IV, pp. 233-37; Fourteenth Census of the United States, 1920, Population, Vol. IV, pp. 151-67; Fifteenth Census of the United States, 1930, Population, Vol. IV, p. 1561.

TABLE U

DENOMINATIONAL MEMBERSHIP IN ATLANTA, HOUSTON, AND NEW ORLEANS: 1936*

Denomination	ATLANTA		HOUSTON		NEW ORLEANS	
	Number of		Number of		Number of	
	Churches	Members	Churches	Members	Churches	Members
American Old Catholics	-	-	-	-	1	375
American Rescue Workers	1	24	-	-	-	-
Assemblies of God, General Council	2	226	13	1,363	-	-
Baptist Bodies:						
Colored Primitive Baptists	2	51	-	-	-	-
Negro Baptists	129	32,044	132	41,579	99	18,822
Primitive Baptists	5	328	1	100	-	-
Southern Baptist Convention	28	28,358	19	17,481	7	3,029
Christian and Missionary Alliance	1	192	-	-	-	-
Christ's Sanctified Holy Church Colored	-	-	1	32	-	-
Church of Christ	1	42	-	-	-	-
Church of Christ Holiness	-	-	-	-	1	45
Church of Christ, Scientist	2	665	4	856	3	660
Church of God and Saints of Christ	1	200	-	-	-	-
Church of God in Christ	-	-	11	900	4	257
Church of the Living God, "The Pillar and Ground of Truth"	-	-	5	560	-	-
Church of the Nazarene	1	252	2	319	1	30
Churches of Christ	5	1,804	10	1,853	2	107
Churches of God:						
Church of God	1	188	-	-	1	34
Church of God (Headquarters, Anderson, Ind.)	2	149	3	195	2	77
Tomlinson Church of God	2	231	-	-	-	-
Churches of God, Holiness	2	1,302	-	-	-	-
Churches of New Jerusalem	-	-	-	-	1	10
Congregational and Christian Churches	4	861	1	81	3	482
Congregational Holiness Church	1	144	-	-	-	-

*Source: Census of Religious Bodies, 1936, Vol. I, pp. 450-51, 540-41, 602.

TABLE U (Continued)

Denomination	ATLANTA		HOUSTON		NEW ORLEANS	
	Number of		Number of		Number of	
	Churches	Members	Churches	Members	Churches	Members
Disciples of Christ	8	3,158	6	4,572	2	466
Eastern Orthodox Churches:						
Greek Orthodox Church (Hellenic)	1	1,500	1	310	1	388
Syrian Antiochian Church	1	166	-	-	-	-
Evangelican and Reformed Church	1	163	3	1,236	9	4,573
Evangelical Unity of Bohemian & Moravian Brethren in North America	-	-	1	98	-	-
Federated Churches	1	103	-	-	-	-
Independent Churches	-	-	1	63	-	-
Independent Negro Churches	-	-	-	-	1	206
Jewish Congregations	6	12,000	8	13,500	6	8,700
Latter-Day Saints:						
Church of Jesus Christ of Latter-Day Saints	1	223	1	140	1	75
Reorganized Church of Jesus Christ of Latter-Day Saints	-	-	2	353	-	-
Lutherans:						
American Lutheran Church	-	-	2	609	3	715
Evangelical Lutheran Augustana Synod of North America	-	-	1	103	-	-
Evangelical Lutheran Synod of Missouri, Ohio, & Other States	1	101	6	3,150	12	7,489
Negro Mission	1	34	-	-	6	1,554
United Lutheran Church in America	2	574	2	485	-	-
Liberal Catholics	1	30	-	-	-	-
Methodist Bodies:						
African Methodist Episcopal Church	33	10,281	2	94	10	3,286
African Methodist Episcopal Zion Church	5	759	2	120	5	475
Colored Methodist Episcopal Church	5	2,027	8	2,077	1	96
Free Methodist Church of North America	2	90	1	27	-	-
Methodist Episcopal Church	13	3,374	10	4,526	9	2,055
Methodist Episcopal Church, South	28	24,832	15	13,535	11	5,010
New Congregational	3	265	-	-	-	-
Wesleyan Methodists	1	27	-	-	-	-

TABLE U (Continued)

Denomination	ATLANTA		HOUSTON		NEW ORLEANS	
	Number of		Number of		Number of	
	Churches	Members	Churches	Members	Churches	Members
National Spiritualist Association	-	-	2	44	-	-
Pentacostal Assemblies:						
International	2	309	-	-	-	-
Pentacostal Assemblies of Jesus Christ	-	-	1	61	-	-
Pentacostal Church of God in America, Inc.	-	-	1	68	-	-
Pentacostal Fire Brethren	1	41	-	-	-	-
The Pentacostal Church, Incorporated	1	17	4	308	-	-
Plymouth Brethren II	1	24	1	140	-	-
Presbyterian Bodies:						
General Synod	1	288	-	-	-	-
Presbyterian Church in the United States	19	9,957	10	3,949	9	3,966
Presbyterian Church in the United States of America	-	-	4	1,935	4	526
Protestant Episcopal Church	10	4,420	11	7,233	12	8,377
Roman Catholics	6	8,430	22	29,477	53	191,933
Salvation Army	4	455	1	238	1	144
Seventh-Day Adventist Denomination	2	624	3	410	2	308
Triumph the Church and Kingdom of God in Christ	1	55	-	-	-	-
Unitarians	-	-	1	80	1	100
TOTAL	354	152,083	335	154,260	284	264,370

TABLE V

FERTILITY RATIOS BY CENSUS TRACTS FOR HOUSTON: 1940*

Census Tract Number	Fertility Ratio	Census Tract Number	Fertility Ratio
1	428.45	26	74.14
2	312.63	27	147.94
3	313.36	28	178.81
4	234.36	29	173.24
5	269.62	30	176.18
6	359.30	31	118.90
7	413.46	32	100.62
8	237.66	33	187.46
9	242.66	34	199.67
10	258.93	35	163.95
11	195.01	36	232.82
12	276.05	37	108.49
13	360.29	38	197.67
14	298.18	39	209.73
15	305.04	40	92.40
16	293.00	41	161.62
17	380.59	42	168.81
18	229.22	43	227.43
19	407.21	44	109.51
20	337.84	45	142.18
21	251.78	46	195.78
22	248.53	47	254.57
23	427.91	48	167.58
24	312.23	49	374.07
25	113.36	50	304.72

*Source: Sixteenth Census of the United States, 1940, Population and Housing, Statistics for Census Tracts, Houston, Texas, 1940, pp. 5-11.

TABLE W

DEATHS FROM SELECTED CAUSES IN ATLANTA, HOUSTON, AND NEW ORLEANS: 1948*

	Atlanta	Houston	New Orleans
Total Deaths	3,541	5,123	6,093
Typhoid and paratyphoid fever	1	1	3
Cerebrospinal (meningococcus) meningitis	-	2	7
Scarlet fever	-	-	1
Whooping cough	2	6	1
Diphtheria	1	-	3
Tuberculosis	133	210	295
Dysentery	5	3	3
Malaria	-	1	-
Syphilis	38	58	114
Measles	-	3	-
Poliomyelitis, polioencephalitis	1	19	1
Cancer and other malignant tumors	545	624	841
Acute rheumatic fever	3	2	2
Diabetes mellitus	78	98	162
Pellagra (except alcoholic)	5	3	-
Intracranial lesions of vascular origin	382	392	445
Diseases of the heart	895	1,443	2,193
Pneumonia (all forms and influenza)	143	213	245
Diarrhea, enteritis, and ulceration of intestines	18	104	26
Nephritis	288	236	357
Diseases of pregnancy, childbirth, & the puerperium	7	20	16
Congenital malformations	46	74	73
Premature birth	113	258	189
Other diseases peculiar to early infancy	83	86	103
Suicide	29	57	42
Homicide	89	129	56
Motor-vehicle accidents	72	166	78
Other accidents	148	207	234
Senility, ill-defined, and unknown causes	22	123	15
All other causes	394	595	588

*Source: Vital Statistics of the United States, 1948, Part II, pp. 522-23, 542-43, 596-97.

BIOGRAPHY

The author was born October 16, 1914, on a farm in Albemarle County, Virginia. He was graduated from the Stony Point High School in 1931 and from the University of Virginia in 1935. He was subsequently employed as a government clerk for two years and as a traveling salesman for one year. He then pursued graduate work in rural sociology at Virginia Polytechnic Institute, receiving the M.S. degree in 1939. During an additional year of graduate study he qualified himself to teach vocational agriculture. After teaching two years in Loudoun County, Virginia, high schools, the author served four years as a naval officer in World War II. Upon his discharge from the service in 1946, he taught two more years in high schools in Fauquier County, Virginia, and Washington County, Maryland. Following his marriage in June of 1948 to Miss Jane Wyatt Rudasill, of Woodville, Virginia, he accepted an assistantship in the Department of Agricultural Economics and Rural Sociology at Pennsylvania State College. The following year (1949) he accepted a part-time instructorship in the Department of Sociology at Louisiana State University. At the present time he is a candidate for the degree of Doctor of Philosophy in Sociology.

EXAMINATION AND THESIS REPORT

Candidate: William Edward Hopkins

Major Field: Sociology

Title of Thesis: A DEMOGRAPHIC ANALYSIS OF HOUSTON, TEXAS

Approved:

Howard W. Hill
Major Professor and Chairman

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May 11, 1951