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# A Study of the Ecological Distribution of Income, Education and Occupation in Omaha, Nebraska

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A STUDY OF THE  
ECOLOGICAL DISTRIBUTION OF INCOME,  
EDUCATION AND OCCUPATION  
IN OMAHA, NEBRASKA

BY

FRANCIS A. WEATHERS

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SUBMITTED IN PARTIAL FULFILLMENT OF THE  
REQUIREMENTS FOR THE DEGREE OF  
MASTER OF ARTS  
in the  
GRADUATE DIVISION  
of the  
UNIVERSITY OF OMAHA  
1954

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F. A. W.

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## CHAPTER I

### THE PROBLEM AND ITS SCOPE

#### The Problem

A social ecological study involves the spatial, selective and distributive functions and relations of human beings in a given geographical and cultural area. In the present study, Omaha is viewed as an ecological area for purposes of the following analysis.

Briefly stated, the purpose of this study is to present the ecological distribution of income, education, and occupation in the several census tracts in Omaha, Nebraska. Following the pattern of ecological studies in general, it is assumed that such characteristics will be distributed in a pattern. Ecological distribution, of these indices, refers to the differential distribution of income, education, and occupation in Omaha. An arbitrary scaling technique, representing numbers from "1" to "5," was employed in order to measure and classify the different levels in the various tracts and to draw conclusions therefrom.

#### Need for the Study

Census tracts were delineated for Omaha in 1944 by the City Planning Commission<sup>1</sup> and the United States Bureau of the Census tabulated certain data by census tracts for the first time in 1950.

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1. City Plan, Omaha, Nebraska, "Population," 1945, p. 4.



Information on a small-area basis is essential for the analysis of phenomena in large cities. To meet this need certain large cities have been divided into census tracts. Census tracts provide a common base for all local statistics. Thus, various phenomena such as income, education, and occupation data may be related on an ecological basis and can be shown by census tracts.

Census tract data make it possible to isolate areas of change within a community which are obscured in the city totals. For example, future enumerations by the United States Bureau of the Census for the Omaha census tracts could be compared to the 1950 totals for purposes of analysis and interpretation.

Tax-supported agencies, semi-public agencies, and business organizations use census tract data, either the basic census statistics or local data classified by census tracts. These organizations are especially interested in census tract data because the census enumerations present precise information on various phenomena such as income levels in a particular area of a city.

New York City has been using census tract data since 1910. Chicago and Cleveland obtained census tract tabulations in the mid-twenties. There were sixty-eight census tract cities in the United States in 1950 but only a few of the larger cities have made use of the figures.<sup>1</sup> For this reason it is apparent that there is

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1. Bureau of the Census, Census Tract Manual, pp. 1-2.

a need for a study to determine the ecological distribution of income, education, and occupation in the Omaha census tracts.

Delimitations

The scope of this study is limited to the ecological distribution of income, education, and occupation in Omaha, Nebraska.

The three indices are based on definitions used by the United States Census Department and they were arbitrarily classed and weighted according to values ranging from "1" to "5".

This study was limited to sixty of the sixty-two Omaha census tracts. Tracts one and five are sparsely populated and consequently have been omitted.

No attempt was made to explain the causes for the different weighted values of the indices in the various tracts. To do this would have necessitated a brief analysis of each tract separately.

The data were limited to the year 1949 for income, and 1950 for education and occupation.

A small listing of standard occupations, representative of the main occupational groups, were presented rather than stating all the occupations in the principle classes.

It is not necessarily true that Omaha has the same ecological distribution of income, education, and occupation as any other city in the United States because

other cities may be different regardless of size, location and other phenomena. In other words, Omaha should not be viewed as a "typical" American city.

### Definitions

The following terms have been defined by the United States Bureau of the Census and are used in this study.

"Census tracts" are<sup>1</sup> relatively small in size and include minute segments of the city. They are planned areas and possess marked demographic, economic, and social homogeneity. The tract boundaries follow clearly identifiable boundaries such as streets, rivers, lakes, and railroads. The population is usually 3,000 to 6,000 in number. Tracts are sometimes called "areas," "sections," "divisions," or "locations."

"Income," as used in this work,<sup>2</sup> includes the sum of money received by families and unrelated individuals, in 1949, from wages or salaries, net income (or loss) from self-employment, and income other than earnings before personal income taxes, social security, bond purchases, union dues and other deductions were taken from the gross income. The income data were based on information gathered by the United States Bureau of the Census and obtained from a representative sample of about 20 per cent of the population, or approximately 20 per cent of the dwelling units in each census tract. Estimates of the number of

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1. Bureau of the Census, Selected Population and Housing Characteristics, p. 1.

2. Ibid., p. 2.

persons with specified characteristics based on sample data have in all cases been obtained by multiplying the number of persons or dwelling units in the sample containing these characteristics by five.

"Education," as used here, refers to<sup>1</sup> educational attainment by individuals 25 years and over and their years of school completed as of 1950 in "regular schools." The educational attainment is based on the median number of school years completed and is expressed in terms of a continuous series of numbers. For example, the first year of high school is indicated by 9 and the last year of college by 16. The number of years of school completed is based on information gathered from a representative sample of about 20 per cent of the people in each census tract 25 years or older. The result from this sample was then multiplied by five in order to present an estimate of the educational attainment of the population.

"Education," in this study, is sometimes referred to as "educational attainment" or "years of school completed."

"Regular schools"<sup>2</sup> are public, private or parochial schools, colleges, universities, or professional schools, either day or night, that is, those schools where enrollment leads to an elementary or high school diploma, or to a college, university, or professional school degree. Training in a vocational, trade, or business school was excluded unless the school was graded and considered part of the regular school system.

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1. Ibid.

2. Ibid.

"Occupation," as used in this study, is<sup>1</sup> the kind of work the person was doing at the time the 1950 census was taken and includes only employed and experienced civilians in the labor force 14 years of age and over. If a person was employed at two or more jobs, the job at which he worked the greatest number of hours during the census week was reported.

A "family," as defined in the 1950 Census, is<sup>2</sup> a group of two or more persons related by blood, or marriage, or adoption and living together as a household unit; all such persons are regarded as members of one family.

"Unrelated individuals" are<sup>3</sup> persons (other than inmates of institutions) who are not living with any relatives. In this study, statistics on unrelated individuals are limited to those persons 14 years old and over.

The category "professional, technical, and kindred workers"<sup>4</sup> includes physicians, pharmacists, accountants, clergymen and all other related occupations.

"Managers, officials, and proprietors"<sup>5</sup> consist of buyers, credit men, inspectors, officials and administrators,

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1. Ibid., pp. 11-16.

2. Ibid., p. 2.

3. Ibid.

4. Bureau of the Census, Characteristics of the Population, p. 261.

5. Ibid., pp. 261-2.

postmasters, retail traders, bankers and other kindred workers.

"Clerical and kindred workers"<sup>1</sup> are represented by bank tellers, stenographers, and cashiers.

"Sales workers"<sup>2</sup> include advertising agents and salesmen, real estate agents and brokers, and other salesmen and sales clerks.

"Craftsmen, foremen, and kindred workers"<sup>3</sup> include bakers, electricians, construction workers, and mechanics.

"Operatives and kindred workers"<sup>4</sup> include apprentices, taxicab drivers, milliners, and welders.

"Private household workers"<sup>5</sup> are represented by housekeepers and laundresses of private households.

"Service workers, except private household"<sup>6</sup> include barbers, firemen, janitors, policemen, ushers, and other related occupations.

"Laborers except farm and mine"<sup>7</sup> consist of fishermen, lumbermen, and gardeners.

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1. Ibid., p. 262.

2. Ibid.

3. Ibid., p. 263.

4. Ibid., pp. 264-5.

5. Ibid., p. 265.

6. Ibid.

7. Ibid., p. 265-6.

"Kindred workers"<sup>1</sup> are those persons engaged in occupational activities that are similar in nature to the occupational classification in which they are included.

#### Other Definitions Used in this Work

The term "ecology" has been borrowed from the natural sciences and has been defined as<sup>2</sup> that phase of biology that considers plants and animals as they exist in nature, and studies their interdependence and the relationships of each kind and individual to its environment. The word ecology<sup>3</sup> is derived from the Greek word oikos--a house or place to live in.

"Human ecology"<sup>4</sup> is a study of the spatial and temporal relations of human beings as affected by selective, distributive, and accomodative forces of the environment. Human ecology is fundamentally interested in the effect of position, in both time and space, upon human institutions and human behavior. Consequently, the human ecologist is concerned with the problems of man's spatial arrangements and their bearing on his social life.

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1. Ibid., p. 266.
  2. Robert E. Park, Ernest W. Burgess, and Roderick D. McKenzie, The City, p. 63.
  3. Amos Hawley, Human Ecology, p. 3.
  4. Park, Burgess, and McKenzie, op. cit., pp. 63-64.

"Ecological distribution" or other synonymous terms, as used in this study, refers to the distribution of the different levels of income, education, and occupation in each of the Omaha census tracts.

"Weighted Values," in this work, include arbitrary numbers from one to five. The numbers are used to show the different levels of income, education, and occupation in the census tracts. They are sometimes referred to as "arbitrary weights" in this study.

"White Collar Workers," in this study, include the professional, technical, and kindred workers; managers, officials, and proprietors; clerical and kindred workers; and sales workers.

"Blue Collar Workers" have been arbitrarily classified in this thesis to include craftsmen, foremen, and kindred workers; operatives and kindred workers; private household workers; service workers; and laborers except farm and mine.

A "mean"<sup>1</sup> is an arithmetic average. It is obtained by taking the sum of the cases in the frequency distribution and dividing the total by the number of cases. For example, if the numbers 4, 5, 7, and 8 represented the frequency distribution the sum would be 24. Then dividing by 4 (the number of cases) an answer of 6 would be obtained. Six would therefore be the "mean" in this case.

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1. Herbert Arkin and Raymond R. Colton, Statistical Methods, p. 11.



"Median"<sup>1</sup> is the value which divides the distribution into two equal parts—one-half of the cases falling below this value and one-half of the cases exceeding this value. Thus, "median income," "median education," and "median occupation" are terms to signify that the indices are divided so that one-half of the cases are below and the other half above the median value.

The "transitional zone"<sup>2</sup> is the area around the central business district. Pickens<sup>3</sup> stated that the "transitional zone" in Omaha includes census tracts 16, 17, 19, 39, 40, and 41 and that the central business district was almost inclusively located in tract 18.

"Census" refers to the United States Bureau of the Census in Washington D. C., and the statistics gathered by the Bureau of the Census in the 1950 enumeration.

Income levels, as used here, are arbitrary classifications that include median incomes of persons residing in the Omaha census tracts. The levels are classed as "low," 0-1,999 dollars; "below average," 2,000-2,999 dollars; "average," 3,000-3,999 dollars; "above average," 4,000-4,999 dollars; and "high," 5,000 dollars and over.

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1. William A. Neiswanger, Elementary Statistical Methods p. 9.

2. Park, Burgess, and McKenzie, op. cit., p. 179.

3 Magdalene Pickens; "A Study of Intra-Urban Mobility in Omaha," pp. 20-1.

Education levels, in this study, are arbitrary classifications that include median educational attainment of persons residing in the Omaha census tracts. The levels are classed as "low," 8.4-9.3 years; "below average," 9.4-10.3 years; "average," 10.4-11.3 years; "above average," 11.4-12.3 years; and "high," 12.4-13.3 years.

Occupational levels are arbitrary classifications that take into account the relative distributions of "white" and "blue collar" workers in the Omaha census tracts. The levels are classed as "low," 0-19.9 per cent "white collar" workers and 80.0-100.0 per cent "blue collar" workers; "below average," 20.0-39.9 per cent "white collar" workers and 60.0-79.9 per cent "blue collar" workers; "average," 40.0-59.9 per cent "white collar" and/or 40.0-59.9 per cent "blue collar" workers; and "high," 80.0-100.0 per cent "white collar" and 0-19.9 per cent "blue collar" workers.

In these classifications of population by income, education and occupation, a five-point scale results. An explanation of these scales and the background and methods employed are offered in the next chapter.

## CHAPTER II

### BACKGROUND AND METHOD

This chapter attempts to present briefly a background for ecological research and the method employed in this study.

There are in the metropolitan district various classes of society. Ecological studies have shown that each class tends to group itself in certain general areas of the city. Burgess proposed the hypothesis that there are five main types of such general areas or zones that make more or less the center to the outskirts of the city. They are: 1) the central business district, 2) the zone of transition, 3) the working-class zone, 4) the middle-class zone, 5) the suburbs and urban fringe.<sup>1</sup> The zone immediately around the business district is characterized by blight. These areas consistently show a high mobility of population, a high sex ratio, a small percentage of children, high rates of death and disease, a large number of detached individuals, a small percentage of families, poor housing conditions, less average schooling per individual, and so forth. They are areas where there is comparatively little social control. As we move to the outer zones, we find these factors consistently improving. Since this is the general pattern in most American industrial cities, a number of communities can be measured

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1. Robert E. Park, Ernest W. Burgess, Roderick D. McKenzie, The City, pp. 178-184.

and thus placed into this ecological picture by measuring some or all of the above factors.

A number of ecological studies have been made of cities in the United States. The New York City 1920 Census Committee Incorporated<sup>1</sup> made an ecological study showing the distribution of income, education, occupation and other phenomena for New York City. Firey<sup>2</sup> made an ecological study showing land use in central Boston. Schmid<sup>3</sup> made an ecological study of the natural areas in Minneapolis and St. Paul. Shevky and Williams<sup>4</sup> used census tract data in making an ecological study of social areas in Los Angeles. The Cleveland City Planning Commission<sup>5</sup> used census tract data to show the ecological distribution of residential population in Cleveland in 1945.

Census tract data are being used now more extensively in ecological studies and in the recording of various phenomena or events. Census tract data<sup>6</sup> serve as a basis for dividing a city into administrative or business areas

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1. Bureau of the Census, Census Tract Manual, pp. 1-2.
  2. Walter Firey, Land Use in Central Boston, pp. 3-10.
  3. Calvin F. Schmid, Social Saga of Two Cities, p. 38.
  4. Eshref Shevky and Marilyn Williams, The Social Areas of Los Angeles, pp. 125-48.
  5. City Plan, Cleveland, Ohio, "A General Plan of Central Cleveland," 1945, pp. 15-16.
  6. Census Tract Manual, op. cit., p. 1.

having homogeneous populations of known characteristics. Local data by tracts can be analyzed against the background of population and housing information provided by the Census. Finally, tracts provide a common small-area base for the comparison of all local data as well as census data.

The concept of census tracts was originated by the late Dr. Walter Laidlaw<sup>1</sup> in New York City in 1906. At his request the United States Bureau of the Census made tabulations of 1910 data by census tracts not only for New York City but also for seven other cities. Tract data were again tabulated for the same eight cities in 1920, and in 1930 this number increased to eighteen. By 1940 there were sixty cities, and in 1950 there were<sup>2</sup> sixty-eight cities and, in some cases, their adjacent areas for which tract data were available. Omaha was included as one of the cities in which census tract statistics were available in 1950. The Omaha census tracts<sup>3</sup> were classified into fifteen income levels by the Bureau of the Census. The first classification included persons earning 500 dollars or less in 1949. The various income groups were divided every 500 dollars until the income exceeded 5,000 dollars per year. After the 5,000 dollar bracket the classifications were divided every thousand dollars until the families and unrelated individuals earned 10,000 dollars or more. The 10,000 dollar a year and over group were included as

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1. Bureau of the Census, Census Tract Statistics, p. 1.

2. Ibid., p. 5.

3. Census Tract Statistics, op. cit., p. 7-10.

a separate class and those who did not report their income were also included as a distinct class. The United States Census Department recorded the median income for Omaha and each census tract according to data obtained from the total families and unrelated individuals residing in Omaha at the time of the 1950 census.

The Bureau of the Census classified education<sup>1</sup> into five main groups for the Omaha census tracts. The first classification included persons who completed no years of school; the elementary group included persons who finished from 1 to 8 years of school; the high school group represented persons who completed from 9 to 12 years of school; the college classification included persons who completed 13 or more years of school; and the last category included people who did not report their educational attainment. The Bureau of the Census recorded the median education for the city and for each census tract according to data obtained from the total population 25 years and over residing in Omaha.

The Bureau of the Census used nine major occupations groups<sup>2</sup> to classify the employed persons in the census tracts. The major occupations were: (1) professional, technical, and kindred workers; (2) managers, officials, and proprietors; (3) clerical and kindred workers; (4) sales workers; (5) craftsmen, foremen, and kindred workers; (6) operatives and kindred workers; (7) private household

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1. Census Tract Manual, op. cit., p. 7-10.

2. Ibid., pp. 11-18.

workers; (8) service workers, except private household; and (9) laborers, except farm and mine. Alba Edwards<sup>1</sup> classified these occupational groups for the Bureau of the Census in 1950. The occupational classification consisted of a homogeneous group of 469 items, 270 of which are specified occupation categories; the remaining 199 are subgroupings.

W. L. Warner<sup>2</sup> made a study of income, education, and occupation in an anonymous community called Jonesville. In this study he used seven levels of income, education, and occupation and assigned arbitrary weighted values from one to seven for the different levels of income, education, and occupation and classified them from very high to very low. He stated that an income of 6,000 dollars or more was very high; income 3,000-5,999 dollars was high; above average income ranged from 1,800-2,999 dollars; average income was 1,200-1,799 dollars; and below average, low, and very low incomes ranged from zero to 1,199 dollars. His seven educational classifications were rated as follows; professional or graduate school, very high educational attainment; college education (1 to 4 years), high; high school graduate, above average; one to three years of high school, average; four to seven years of school, low; and zero to three years of school, very low educational attainment. Warner

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1. Alba Edwards, Alphabetical Index of Occupations and Industries, p. v.

2. W. L. Warner, Social Class in America, pp. 153-155.

classified occupations in the following groups: professionals and proprietors, very high occupational status; semi-professionals and smaller officials of large businesses, high; clerks and kindred workers, above average; skilled workers, average; proprietors of small businesses, below average; semi-skilled workers, low; and unskilled workers, including laborers and domestic servants, were rated a very low occupational status. In order to adapt Edwards'<sup>1</sup> classification certain changes were made by Warner. Warner combined certain categories and where it seemed advisable he subdivided some of the occupational groups in the Edwards classification.

Seymour E. Harris<sup>2</sup> included professional, technical, and kindred workers; officials and proprietors; clerical and kindred workers; and sales workers as "white collar" workers. C. Wright Mills<sup>3</sup> said that "white collar" workers do not fulfill one central positive function that can define them. They deal in general with symbols and with people, co-ordinating, recording, and distributing; but fulfill these functions as dependent employees, and the skills they thus employ are sometimes similar in form and required mentality to those of many wage-workers.

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1. Edwards, op. cit., p. v.

2. Seymour E. Harris, The Market for College Graduates, p. 18.

3. C. Wright Mills, White Collar, p. 75.



The occupational groups: craftsmen, foremen and kindred workers; operatives and kindred workers; private household; and laborers except farm and mine; have been classed as "blue collar" groups in this study.

In this work, the three indices, income, education, and occupation, have been based on definitions used by the Bureau of the Census and the levels of income, education, and occupation have been arbitrarily classed and weighted according to values ranging from one to five. The method used shows the locations of the census tracts and the weighted value for each tract and each index.

Income, in this study, has been arbitrarily grouped into five levels. The \$0-1,999 tracts represent a weighted value of "1" and are considered "low" income; the \$2,000-2,999 class tracts are arbitrarily weighted as "2" and represent "below average" income; \$3,000-3,999 is weighted as "3" and is arbitrarily rated "average" income; income from \$4,000-4,999 is classed "above average" and is weighted as "4"; and the \$5,000 and over class is weighted as "5" and is classed as "high" income. The five levels of education for each tract were based on years of school completed. Weighted value "1" represents median years of school completed from 8.4-9.3 and is arbitrarily rated as a "low" education group; weight "2" includes school years completed from 9.4-10.3 and is rated "below average" educational attainment; weight "3" classifies the 10.4-11.3 educational group and is considered "average" education; weight "4" stratifies

the 11.4-12.3 class and is rated "above average"; and weighted value "5" represents 12.4-13.4 median school years completed and is classified as "high" in educational attainment.

The weighted values for the occupational classes are scaled according to the percentage distribution of "white" and "blue collar" workers residing in each census tract. A tract with a weighted value of "1" includes fewer than 20.0 per cent "white collar" workers and 80.0 per cent or more "blue collar" workers and is viewed as having a "low" occupational rank; weight "2" includes 20.0-39.9 per cent "white collar" workers and 60.0-79.9 per cent "blue collar" workers and is classed as having a "below average" occupational rank; weighted value "3" represents 40.0-59.9 per cent "white" and/or "blue collar" workers and is rated as "average" occupational distribution; weight "4" stratifies the 60.0-79.9 per cent "white collar" group and 20.0-39.9 per cent "blue collar" group and is considered "above average" occupational distribution; and weight "5" represents a distribution of 80.0 per cent or more "white collar" workers and 20.0 per cent or less "blue collar" employees, and is classified as a "high" occupational ranking of "white collar" workers, and a "low" occupational distribution of "blue collar" workers.

The following chapters present a more detailed analysis of the indices levels in the Omaha census tracts, according

to weighted values, and based on an ecological pattern, so that the geographical locations (census tracts) having different levels of income, education, and occupation may be presented more analytically.

## CHAPTER III

### INCOME

This chapter deals with the ecological distribution of income in the several census tracts in Omaha. The ecological distribution of "income," in this study, refers to the geographical locations of the various census tracts and the income of the persons residing in the tracts.

The median income of the 90,875 families and unrelated individuals in Omaha in 1949 was \$2,951. The range of income was from \$1,573 in tract 15 to \$7,313 in tract 47. These areas represent an income difference of \$5,740. Table I presents the median incomes for all the Omaha census tracts.

Six tracts (11, 12, 14, 15, 17, and 18) had "low" median incomes. The "mean"<sup>a</sup> income for these tracts was \$1,731 representing \$1,220 less than the median income for the city and \$4,481 below the "mean" income for the census tracts having a "high" income level. The tracts having a "low" "mean" income are generally located from the Missouri river west to Thirtieth Street, and from Pacific Street north to Locust.

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a. "Mean," as used here, refers to the arithmetic average of the median income levels in the Omaha census tracts. It is ideally the "mean" of the median.

TABLE I

MEDIAN INCOME IN 1949 FOR FAMILIES AND UNRELATED INDIVIDUALS  
BY CENSUS TRACTS, OMAHA, NEBRASKA\*

Tract	Income in Dollars	Tract	Income in Dollars
1	--	32	2,541
2	3,937	33	2,972
3	3,408	34	3,568
4	3,000	35	4,463
5	--	36	4,563
6	3,556	37	4,528
7	3,216	38	2,906
8	3,222	39	2,900
9	2,588	40	2,530
10	2,411	41	2,140
11	1,967	42	2,481
12	1,694	43	2,553
13	2,552	44	3,390
14	1,625	45	4,089
15	1,573	46	5,111
16	2,155	47	7,313
17	1,696	48	3,975
18	1,832	49	3,337
19	2,433	50	3,320
20	2,868	51	3,319
21	2,526	52	2,950
22	2,104	53	2,976
23	2,156	54	3,445
24	3,000	55	4,728
25	3,145	56	3,380
26	3,214	57	4,000
27	2,654	58-	4,000
28	3,198	59	3,632
29	2,385	60	3,387
30	3,399	61	3,118
31	3,629	62	3,897

\* Source: 1950 Census

There were twenty-one census tracts that had "below average" median incomes. The "mean" income for these tracts was \$2,561 and represents an income of \$390 less than the median for all the Omaha census tracts and \$3,651 below the "mean" income for the tracts classified as "high."

Twenty-five census tracts had median incomes represented in the "average" classification. The "mean" income for these tracts is \$3,420. This figure reveals that these tracts had an income of \$469 higher than the median for the city. The "mean" income difference between the "average" and "high" classified income tracts is \$2,792.

Six tracts (36, 37, 45, 55, 57, and 58) had "above average" incomes. The "mean" income for these areas was \$4,301. The "mean" income of these tracts is \$1,350 higher than the median for all the tracts and \$1,911 less than the tracts classified as "high."

Tracts 46 and 47 had "high" "mean" incomes of \$6,212 and exceed the median income for all the Omaha census tracts by \$3,261.

Table II presents the "mean" income for the Omaha census tracts and the income classes in the several tracts in Omaha.

Table III and Map I show the classification of the income levels according to arbitrary weighted values for the sixty Omaha census tracts and the number and percentage of tracts in each classification.

TABLE II  
 AVERAGE<sup>a</sup> INCOME FOR THE OMAHA CENSUS TRACTS  
 AND THE CLASSIFIED INCOME LEVELS  
 IN THE OMAHA CENSUS TRACTS, 1949

Census Tracts by Income Level	Mean Income
All Census Tracts <sup>b</sup>	\$2,951 <sup>c</sup>
Low Income Tracts	1,731
Below Average Income Tracts	2,561
Average Income Tracts	3,420
Above Average Income Tracts	4,301
High Income Tracts	6,212

- a. Average here refers to the arithmetic "mean." In reality it represents the average of the median.
- b. All census tracts, in this table, refer to the sixty-two tracts in Omaha.
- c. This figure represents the median income for all the census tracts; but it is represented as the "mean" income in this table.

TABLE III

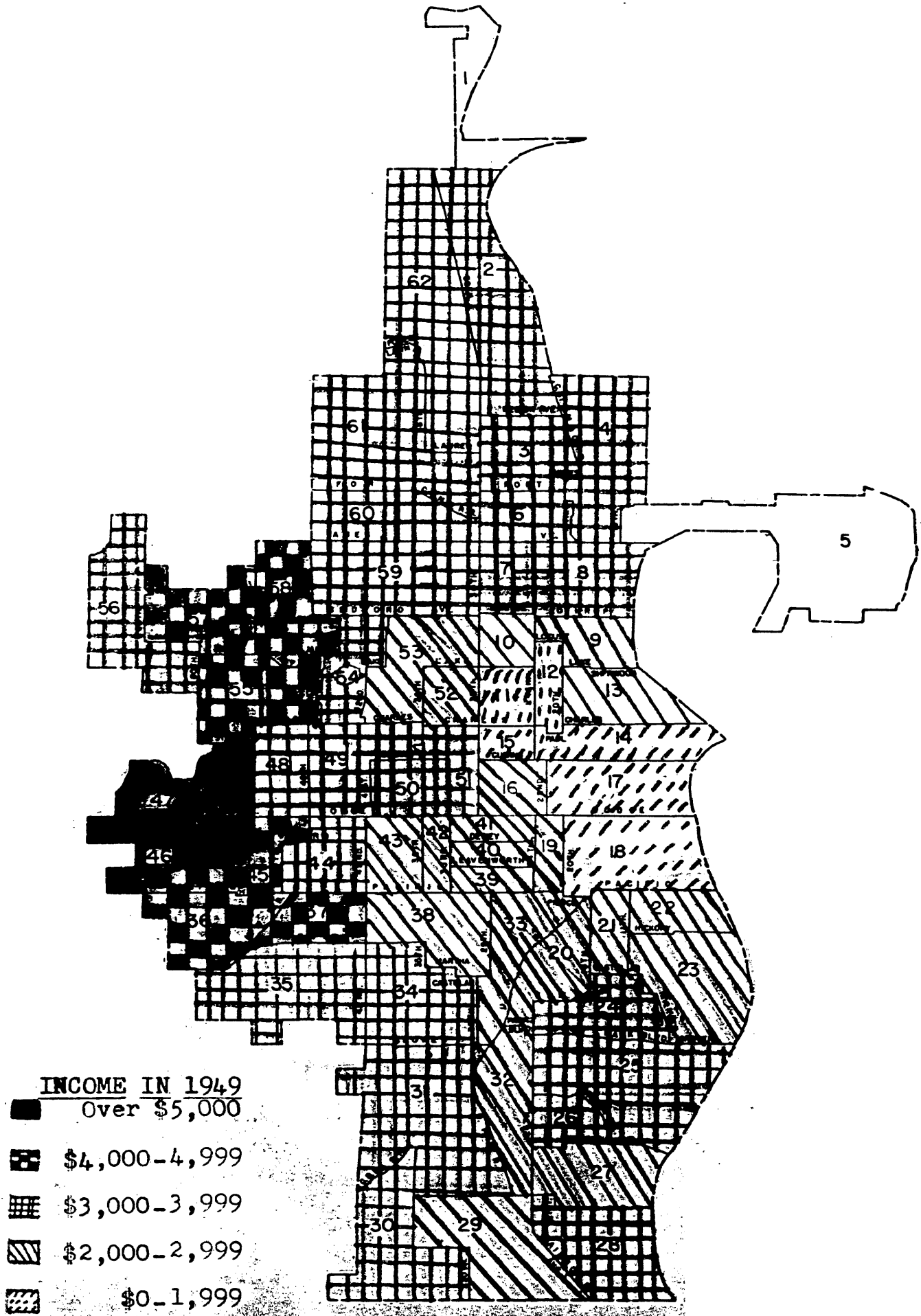
INCOME LEVELS ACCORDING TO WEIGHTED  
VALUES FOR THE OMAHA CENSUS TRACTS, THE NUMBER  
OF TRACTS IN EACH CLASS, AND THE PERCENTAGE EACH  
WEIGHTED VALUE REPRESENTS OF THE TOTAL TRACTS, 1949

Income Levels for Census Tracts	Income in 1949	Weighted Values	Census Tracts <sup>a</sup> Number Per Cent	
All Tracts	--	--	60	100.0
Low	\$0-\$1,999	1	6	10.0
Below Average	\$2,000-\$2,999	2	21	35.0
Average	\$3,000-\$3,999	3	25	41.7
Above Average	\$4,000-\$4,999	4	6	10.0
High	\$5,000 and over	5	2	3.3

a. There are sixty-two census tracts in Omaha, but tracts one and five were omitted here because of sparse population.



DISTRIBUTION OF INCOME ACCORDING TO WEIGHTED INCOME LEVELS FOR THE OMAHA CENSUS TRACTS, 1949



The "below average" and "average" income classes include 76.7 per cent of the total census tracts. This indicates that approximately three-fourths of the family and unrelated individuals in Omaha earn \$2,000-3,999. Approximately ten per cent of the census tract residents had incomes less than \$2,000; about ten per cent had an income from \$4,000-4,999; and approximately 3.3 per cent of the families and unrelated individuals in the census tracts recorded an income of \$5,000 or over in 1949.

The map above shows that the "low" income groups tend to reside in the downtown area and the tracts immediately north and northwest of the central business district. The "below average" income class is principally located in two large areas; one large clustering is in the north and east central part of the city, the second grouping is immediately south and west of the central business district. The "average" income groups are generally scattered throughout the city but there is a clustering of eight tracts in the northern part of the city and eight in the South Omaha district. The census areas classified as "above average" are generally located in the Benson, Dundee, and Ak-sar-ben areas. There were only two tracts that had a median income of \$5,000 and over. These areas are located north and south of Dodge street from Fifty-second to the city limits. There were very few Negroes or foreign-born whites in these tracts.

Cooley<sup>1</sup> said income classifies people by creating different standards of living. It usually decides whether men live in one quarter of the city or another. In Omaha the higher income classes tend to live in the western part of the city and the low classes in the downtown and transitional zones.

The next chapter shows the ecological distributions of education in the census tracts of Omaha by way of arbitrary weighted values.

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1. Charles Cooley, Social Organization, pp. 250-1.

## CHAPTER IV

### EDUCATION

The ecological distribution of education, in this study, refers to the geographical locations of the various census tracts and the educational attainment of the persons residing in the tracts.

There were 153,520 persons in the sixty Omaha census tracts at the time of the 1950 Census who were 25 years old or over. The median number of years school completed for these individuals was 11.4 years as shown in Table IV.

The range of educational attainment was from 8.7 years in tracts 14, 21, and 29 to 13.0 years in tract 47. These areas represent a difference of 4.3 years school completed.

Eighteen tracts had "low" median education. The "mean"<sup>a</sup> education for these tracts is 8.9 years representing 2.5 years less education than the median education for the city and 3.6 years below the "mean" education for the "high" classified census tracts.

Tracts 10, 25, 30, 33, 53, and 61 represented a "below average" education. The "mean" education for these tracts was 10.1 years and represents education of 1.3 years less than the "mean" for the tracts classified as having "high" educational attainment.

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a. "Mean," as used here, refers to the arithmetic average of the median education levels in the Omaha census tracts. It is ideally the "mean" of the median.

TABLE IV

MEDIAN SCHOOL YEARS COMPLETED FOR PERSONS 25 YEARS OLD AND  
OVER BY CENSUS TRACTS, OMAHA, 1950 \*

Tract	Median Years School Completed	Tract	Median Years School Completed
1	--	32	9.1
2	12.3	33	9.9
3	12.1	34	12.1
4	8.9	35	12.1
5	--	36	12.4
6	11.5	37	12.4
7	10.8	38	12.2
8	10.5	39	12.1
9	10.4	40	12.1
10	10.2	41	12.2
11	8.8	42	12.3
12	8.8	43	12.5
13	8.9	44	12.2
14	8.7	45	12.6
15	8.8	46	12.9
16.	12.0	47	13.0
17	8.8	48	12.8
18	9.2	49	12.2
19	12.0	50	12.5
20	9.2	51	12.4
21	8.7	52	13.3
22	8.9	53	9.9
23	8.9	54	12.0
24	9.1	55	12.5
25	10.3	56	11.4
26	10.6	57	12.2
27	9.0	58	12.4
28	9.0	59	12.0
29	8.7	60	11.9
30	9.8	61	10.1
31	8.8	62	12.4

\* Source: 1950 Census

Tracts 7, 8, 9, 26, and 52 represent "average" education. The "mean" number of years school completed for these areas is 10.6. This figure is .8 year less than the median for the city, and 2.1 years less school years completed compared to the "mean" education for the "high" educational classified tracts.

Nineteen tracts had "above average" median education. The "mean" education for these tracts was 12.1 years and represents .7 year higher education than the "mean" education for all the tracts and .6 year less than the "high" classified tracts.

There were twelve tracts that had "high" median educational attainment. These tracts average 12.7 years school completed and represent 1.3 years higher educational attainment than the median education for all the Omaha census tracts.

The "mean" school years completed for persons 25 years and over residing in the Omaha census tracts and the arbitrary educational classifications are shown in Table V.

Table VI shows the classification of the educational levels according to arbitrary weighted values for the sixty Omaha census tracts, the number of tracts in each class and the percentage each weighted value represents of the total tracts.

The "low" and "below average" educational classes include 40.0 per cent of the total census tracts, and

TABLE V  
 AVERAGE<sup>a</sup> EDUCATION FOR THE OMAHA CENSUS  
 TRACTS AND THE EDUCATION CLASSES IN THE  
 OMAHA CENSUS TRACTS, 1950

Census Tracts	Average Years School Completed
Omaha Census Tracts	11.4 <sup>b</sup>
Low Education Tracts	8.9
Below Average Education Tracts	10.1
Average Education Tracts	10.6
Above Average Education Tracts	12.1
High Education Tracts	12.7

- a. The term average here is ideally the arithmetic mean; in fact, the "mean" of the median.
- b. This figure represents the median education for all the Omaha census tracts; but it is represented as the average education in this table.

TABLE VI

THE CLASSIFICATION OF EDUCATION LEVELS ACCORDING TO  
WEIGHTED VALUES FOR THE OMAHA CENSUS TRACTS,  
THE NUMBER OF TRACTS IN EACH CLASS, AND THE  
PERCENTAGE EACH WEIGHTED VALUE REPRESENTS OF THE  
TOTAL TRACTS, 1950

Education Levels for Census Tracts	Years of School Completed	Weighted Values	Census Number	Tracts PerCent
Omaha Census Tracts		-----	60	100.0
Low Education	8.4--9.3	1	18	30.0
Below Average Education	9.4-10.3	2	6	10.0
Average Education	10.4-11.3	3	5	8.3
Above Average Education	11.4-12.3	4	19	31.7
High Education	12.4-13.3	5	12	20.0



indicates that about two-fifths of the persons 25 years and older residing in Omaha in 1950 had completed a median of 8.4-10.3 years of school; approximately two-fifths completed 10.4-11.3 years of school; and about one-fifth finished a median of 12.4-13.3 years of school.

Map II portrays the distribution of population by education according to weighted educational values for the Omaha census tracts.

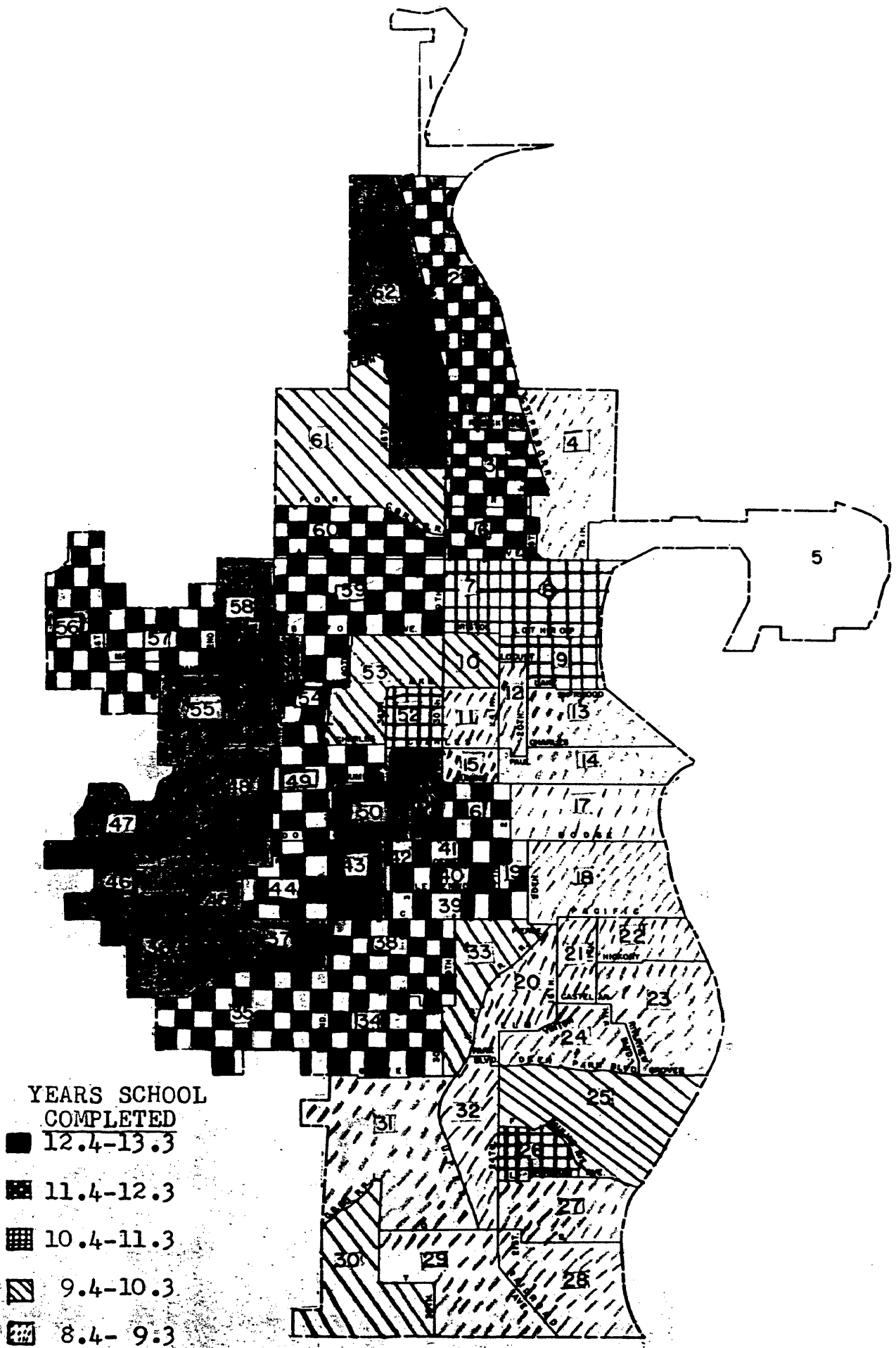
The map shows that there is a distinct grouping among the different education classes. The "low" education groups tend to reside in the downtown area and the areas immediately north and south of the central business district. The "below average" education groups are scattered throughout the city. The "average" education groups are clustered to a certain extent in the northeast section of Omaha. There were nineteen census tracts that recorded a median education of 11.4-12.3 years of school completed. These tracts are mainly located in the area mid-way between the downtown area and the western fringe, although there are a few that border on the west city limits. Twelve census tracts are included in the high education category. These tracts are generally located in the Dundee and Fairacres districts.

Crow<sup>1</sup> said classes grow inevitably out of conditions, and each individual in following his own inclinations or

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1. Frederick R. Crow, Principles of Sociology with Educational Application, p. 343.

YEARS OF SCHOOL COMPLETED,  
OMAHA CENSUS TRACTS, 1950



trying to make the most of himself, assisted by his education takes a place in the social organization in the city. Omaha is a city that is represented by many different people living in all types of environs and representing many different educational classes.

Chapter V shows the ecological distribution of the occupational classes in the Omaha census tracts, according to arbitrary weighted values, and based on the percentage distribution of "white" and "blue" collar workers in each tract.

## CHAPTER V

### OCCUPATION

In this work, "white" and "blue collar" workers represent the two principal occupation classes. The ecological distribution of these occupation classes is based on the percentage of "white" and "blue collar" workers in each tract.

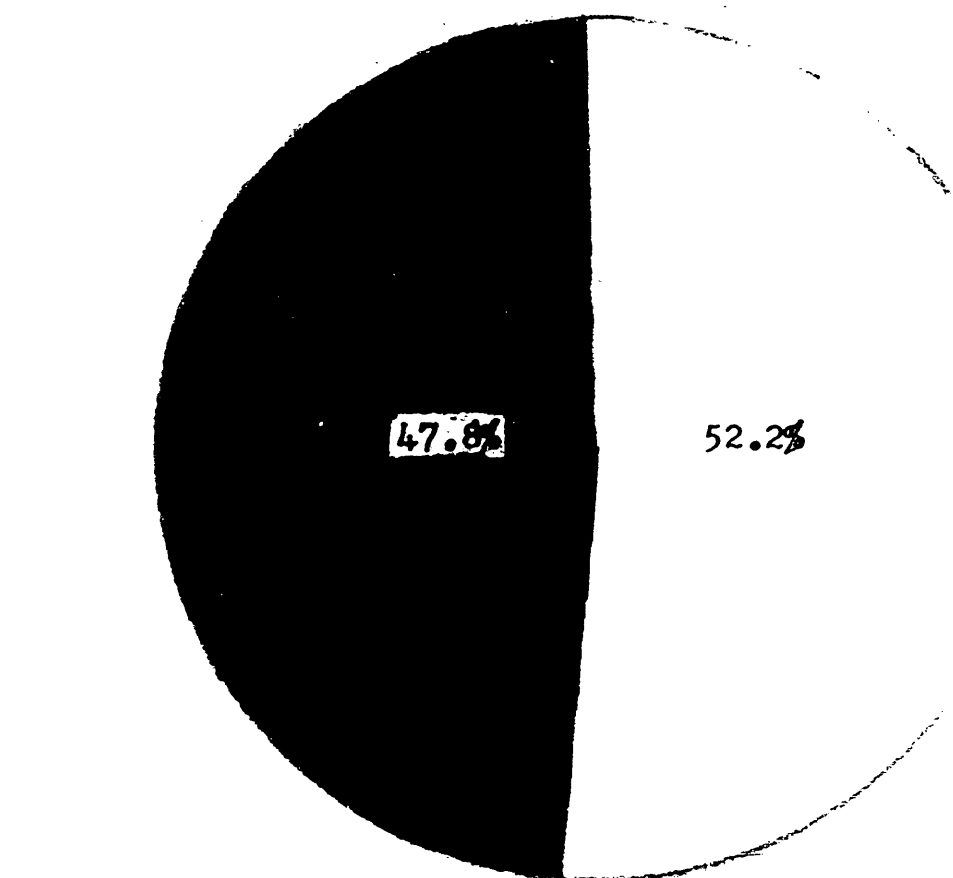
There were 103,593 people, in the Omaha census tracts in 1950, who were included in the definition of "occupation" and 53,059 (52.2%) were "white collar" workers and 50,534 (47.8%) were "blue collar" workers. Chart I portrays the percentage distribution of the two occupation classes in the Omaha census tracts.

The proportion of "white collar" workers in the Omaha census tracts ranged from a low of 9.8 per cent in tract 11 to a high of 85.8 per cent in tract 48. There were 1,960 persons in tract 11 and only 189 were "white collar" workers. Tract 48 recorded 2,109 employed persons and 1,810 were "white collar" workers. These two areas represent a percentage difference of 76.0 per cent "white collar" residents. Table VII shows the percentage distribution of "white" and "blue collar" workers in the Omaha census tracts.

Tracts 10, 11, 12, 14, and 15 had a "low" percentage distribution of "white collar" workers and a "high" percentage of "blue collar" workers. The "white collar" workers in

## CHART I

DISTRIBUTION OF WHITE AND BLUE COLLAR WORKERS  
IN THE OMAHA CENSUS TRACTS, 1950



□ White Collar  
Workers

■ Blue Collar  
Workers

TABLE VII

PERCENTAGE DISTRIBUTION OF WHITE AND BLUE COLLAR WORKERS IN  
THE OMAHA CENSUS TRACTS, 1950 \*

Tract	Class of Workers		Tract	Class of Workers	
	"White Collar"	"Blue Collar"		"White Collar"	"Blue Collar"
1	--	--	32	35.9	64.1
2	70.6	29.4	33	40.4	59.6
3	63.0	37.0	34	59.4	40.6
4	26.4	73.6	35	53.3	46.7
5	--	--	36	69.5	30.5
6	55.5	44.5	37	76.1	33.9
7	44.1	65.9	38	69.3	30.7
8	51.0	49.0	39	58.2	41.8
9	42.1	57.9	40	55.1	44.9
10	19.6	80.4	41	60.2	39.8
11	9.8	90.2	42	71.2	38.8
12	15.0	85.0	43	75.9	24.1
13	34.3	65.7	44	67.8	32.2
14	19.9	80.1	45	75.2	24.8
15	15.1	84.9	46	84.1	15.9
16	54.1	45.9	47	82.4	17.6
17	32.2	67.8	48	85.8	14.2
18	39.7	60.3	49	69.7	30.3
19	52.5	47.5	50	76.4	23.6
20	39.5	60.5	51	68.5	31.5
21	37.0	63.0	52	44.8	65.2
22	41.0	59.0	53	36.2	63.8
23	37.7	62.3	54	57.6	42.4
24	40.1	59.9	55	78.1	21.9
25	48.2	51.8	56	50.7	49.3
26	47.4	52.6	57	60.2	39.8
27	33.4	66.6	58	72.1	37.9
28	32.6	67.4	59	49.9	50.1
29	35.4	64.6	60	54.1	45.9
30	34.0	64.0	61	37.2	62.8
31	26.7	73.3	62	69.4	30.6

\* Source: 1950 Census

these tracts was 15.9 per cent, representing 36.3 per cent less than the median for the city, and 68.2 per cent below the census tracts having a "high" percentage of "white collar" workers.

There were 15 census tracts that had a "below average" distribution of "white collar" workers. The percentage of "white collar" workers in these tracts was 34 per cent and represents 17.5 per cent less "white collar" workers than for all the tracts and 49.4 per cent below the "mean"<sup>a</sup> distribution of "white collar" workers in tracts 48, 47, and 48.

Twenty census tracts had an "average" occupational distribution of "white collar" workers. The "mean" distribution of "white collar" workers in these tracts was 49.8 per cent; this figure reveals that these tracts had 2.5 per cent less "white collar" workers than the median for the city and 34.3 per cent less than the tracts classified as having a "high" occupational classification.

There were seventeen tracts that had an "above average" distribution of "white collar" workers. The "mean" percentage distribution of "white collar" residents in these tracts was 70.5 per cent. This figure is 18.3 per cent higher than the median for the city and 13.6 per cent less than the tracts classified as "high."

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a. "Mean," as used here, refers to the arithmetic average of the median. "Mean" was used rather than the word average because one of the classifications in this study is termed "average."

Tracts 46, 47, and 48 had a representation of 84.1 per cent "white collar" workers. This percentage distribution is 31.9 per cent higher than the occupational distribution for all the census tracts. Table VIII presents the percentage distribution of "white collar" workers in the Omaha census tracts and the classified occupational levels in the Omaha census tracts.

Table IX shows the occupational classifications of "white collar" workers in the sixty Omaha census tracts, the percentage range of "white collar" workers represented in each class, the weighted values for the five classes, the number of tracts in each class, and the percentage each weighted value represents of the total tracts.

The "low" and "below average" distribution of "white collar" workers include 33.3 per cent of the total census tracts and indicate that about one-third of the "white collar" workers in Omaha reside in these tracts. Approximately one-third reside in the tracts classified as "average," and about one-third of the "white collar" workers in Omaha lived in the tracts classified as "above average" and "high." Map III portrays the percentage distribution of "white collar" workers in the Omaha census tracts.

There is a large clustering of "white collar" workers in certain sections of Omaha and low in other parts of the city. Tracts 10, 11, 12, 14, and 15 had a "low" representation of "white collar" workers; these tracts



TABLE VIII

DISTRIBUTION OF WHITE COLLAR WORKERS IN THE OMAHA  
CENSUS TRACTS AND THE CLASSIFIED OCCUPTION  
LEVELS IN THE OMAHA CENSUS TRACTS, 1950

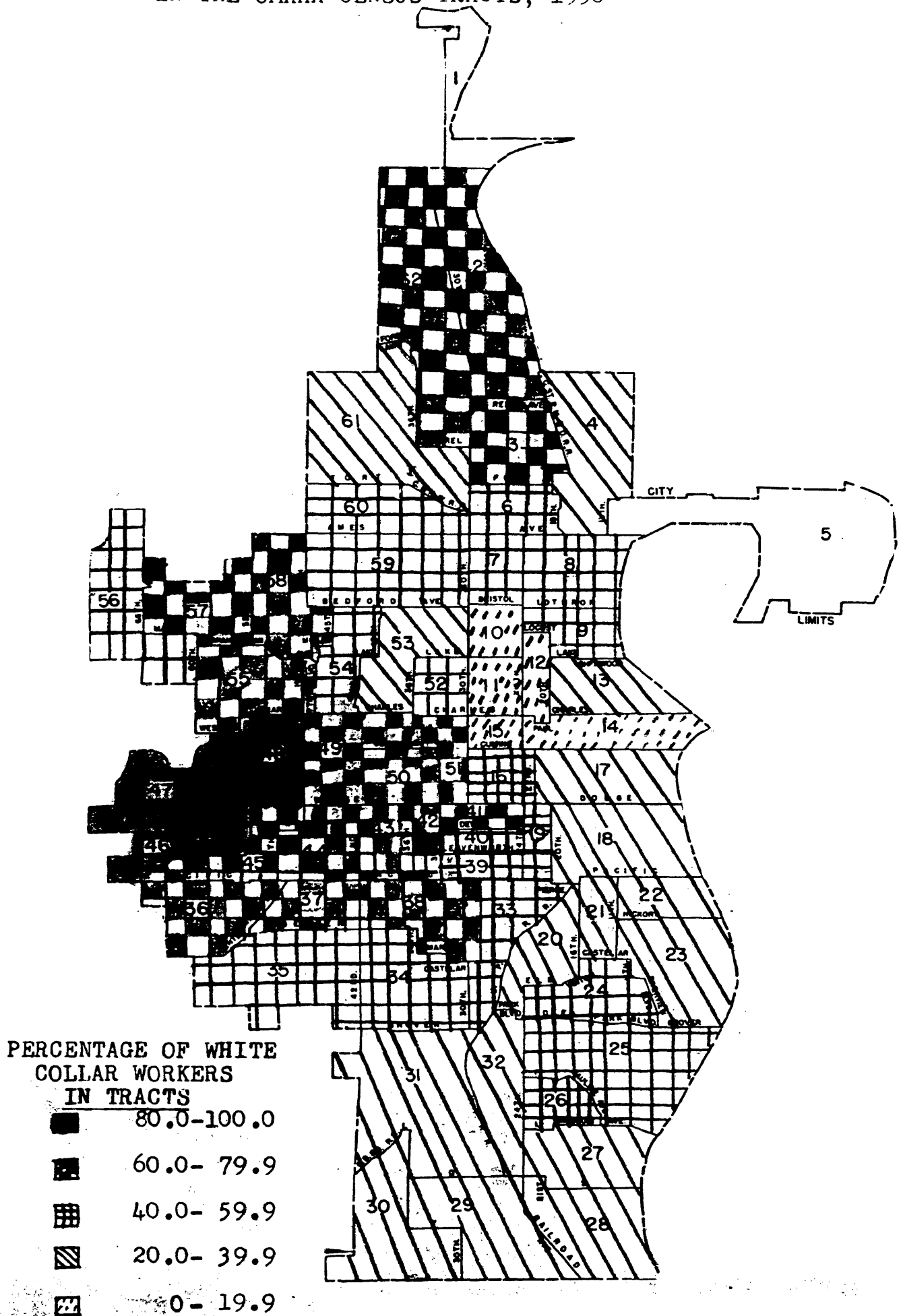
Census Tracts	Percentage White Collar Workers
Omaha Census Tracts	52.2
Low	15.9
Below Average	34.7
Average	49.8
Above Average	70.5
High	84.1

TABLE IX

PERCENTAGE DISTRIBUTION OF WHITE COLLAR WORKERS  
 ACCORDING TO CLASSES IN THE OMAHA CENSUS TRACTS, 1950

Occupation Levels for Census Tracts	Percentage of White Collar Workers	Weighted Values	Census Number	Tracts PerCent
All tracts	-----	---	60	100.0
Low	0-19.9	1	5	8.3
Below Average	20-39.9	2	15	25.0
Average	40-59.9	3	20	33.3
Above Average	60-79.9	4	17	28.4
High	Over 80	5	3	5.0

DISTRIBUTION OF WHITE COLLAR WORKERS  
IN THE OMAHA CENSUS TRACTS, 1950



are generally located in the area immediately east of Thirtieth between Cuming and Bristol Street. Tract 18 and the tracts immediately north and south had between 20.0 and 39.9 per cent representation of "white collar" workers. There were twenty tracts that had an "average" distribution of white collar workers. These tracts are dispersed throughout the city; however, there was a clustering in the northcentral part of Omaha. Seventeen tracts had a 60.0-79.9 per cent distribution of "white collar" residents. These tracts are mainly located adjacent to Dodge Street between twenty-fourth and Forty-eighth. The high representation of "white collar" workers resided in tracts 46, 47, and 48.

Warner<sup>1</sup> found in a study of Yankee City that the higher occupational class of people cluster, residentially, especially the professional and proprietary classes. The "white collar" classification includes the professional and proprietary classes; in Omaha the "high" percentage of "white collar" workers reside mainly in Dundee and Fairacres.

Chapter VI presents a brief recapitulation and interpretation of the most important findings in this study.

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1. W. L. Warner, Social Life of a Modern Community, p. 423.

## CHAPTER VI

### SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

#### Summary

This study was planned for the purpose of determining the spatial distribution of income, education, and occupation in Omaha, Nebraska. This involved the use of a scaling technique in order to classify the Omaha census tracts by the three variables. Former studies had made us aware of the possibility that there are in the metropolitan district various classes of society and that each class tends to group itself in certain general areas of the city. From this study, therefore, the following conclusions were reached:

1. A majority of the "low" income, "low" education, and "low" percentage distribution of "white collar" workers in Omaha reside in the downtown district, especially in tracts 11, 12, 14, 15, 17, and 18.

2. The "below average" income class, "below average" education class, and "below average" ratio of "white collar" workers are scattered to a certain extent. Tracts 4, 10, 13, 53, and 61 are the tracts north of Dodge Street in which a large number of the "below average" classes reside. The tracts immediately south of the central business district

and those tracts in and around the South Omaha packing house area had a "below average" distribution of income, education, and occupation.

3. The tracts mid-way between the downtown area and the western city limits are mainly representative of the "average" income, education, and "white collar" classes. These tracts are immediately west of the central business district. There are a few scattered tracts in South Omaha and in the northcentral part of the city in which the residents are mainly of the "average" income, education, and "white collar" class.

4. The "above average" income, education, and occupation classes live chiefly in the western fringe of the city. There are a few tracts in the extreme northern part of Omaha that were represented by an "above average" distribution of income, education, and occupation.

5. The tracts having a "high" classification of income, education, and occupation are located along Dodge Street between Fifty-second and the western city limits.

### Conclusions

Census tract data are being used now more extensively in ecological studies and in the recording of various phenomena or events, because census tracts provide a basis for presenting the distribution of various types of indices in a larger area. The following conclusions are based on interpretations of the most important findings from this study of the ecological distribution of income, education, and occupation in Omaha, Nebraska.

1. This study has shown that there is a differential distribution of income, education, and occupation in Omaha, Nebraska, but the distribution of these indices does not conform to a concentric pattern as shown in studies of other cities.

2. It is very likely that any community, especially where census tract data have been gathered, can be measured and thus placed into an ecological setting by measuring one or more indices such as income, education, and occupation.

3. Income, education, and occupation appear to be three factors that influence the residential locations of various classes of people in Omaha, Nebraska.

### Recommendations

The United States Bureau of the Census in 1950 collected statistics on the population and housing characteristics for sixty-eight cities in the United States, and, in some cases, the adjacent tracted areas outside the city limits. It is suggested that more of this census tract data be used in ecological studies because:

1. Census tracts provide a common base for various local statistics. For example, income, education, and occupation may be related on a tract basis and can therefore be analyzed and interpreted more easily.

2. Census tracts make it possible to isolate areas of change within a community which are obscured in the city totals.

3. Census tracts can be used in analytical spot maps to show the coincidence of different sets of data. Coincidence, for example, of income, education, and occupation may be taken as a tentative indication for the existence of cause and effect relationships.

4. Finally, census tracts and census tract data can be used in future studies to ascertain changes in the ecological distribution of income, education, occupation, and other phenomena in Omaha, Nebraska, and other census tract areas.



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