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## MUNICIPAL HISTORY FROM ANATOMICAL RECORDS

By Dr. W. MONTAGUE COBB

ANATOMICAL LABORATORIES OF WESTERN RESERVE UNIVERSITY AND HOWARD UNIVERSITY

### INTRODUCTION

THE tombs of the ancient dead with their human remains, accessories for future comfort and records vividly portray the culture of the times. It is almost startling to find that in a few institutions to-day unique catacombs of our contemporaries reflect in precisely similar manner the significant events of our own time.

Since 1911, all the cadavera received in the Anatomical Laboratory of Western Reserve University have been carefully documented by Professor T. Wingate Todd and their records and skeletal remains preserved in the Hamann Museum. Late in 1931, this collection included 2,139 individuals, of whom 82 per cent. were males and 18 per cent. females. Two thirds of the males and slightly more than half of the females were White; the remainder were American Negroes, with occasional Chinese, Mexicans and Indians. To determine the character of the population sample thus represented, the data from the death certificates and, in many cases, the clinical histories of these individuals

were analyzed in the light of known historical and sociological facts. It was found that although this laboratory population constitutes but 1 per cent. of the total dead of the city of Cleveland for the twenty-one-year period during which it was assembled, it reflects to a remarkable degree the major concurrent social and industrial developments. This is because most of the cadavera were conscripted as unclaimed dead from the least stable elements of marginal economic groups in the living population, chiefly foreign-born Whites, their immediate descendants and American Negroes, people who with few exceptions were without skilled occupations.

### SOCIO-ECONOMIC STATUS

Although there were twelve times more White than Negro deaths, only twice as many Whites arrived at the laboratory or relatively six times more of the Negro dead. Between 1911 and 1915 a large majority of the entering cadavera were White. Since 1915, there has been a practically uninterrupted in-

crease in the percentage of Negroes, until in 1930 and 1931 their number exceeded that of the Whites.<sup>1</sup> The Negro population of the city grew from 8,448 in 1910 to 34,451 in 1920 and 73,102 in 1930. The year 1915, when the Negro cadavera began to increase in relative number, marked the first major influx of Negro industrial workers from the South. The gradually rising percentage of Negro cadavera during the ensuing ten years may be accounted for simply by the population increase and low economic position of the Negro in the city. In the last five years, however, the proportion of Negro to White cadavera has been much greater than would be expected from the number of city deaths. Green's recent book<sup>2</sup> shows that in the recent depression the Negro has been by far the hardest hit of any Cleveland group.

#### BIRTHPLACE

The birthplaces of 1,177 or 55.6 per cent. of the cadavera are known. Of these 723 are White, 52.6 per cent. of all the White, and 453 are Negro, 61.1 per cent. of that group. There is internal evidence that the picture presented by the sample of known birthplace is true also for the entire lot, with a bias toward more foreign-born Whites. The table gives the origin by country of the foreign-born and by state of the native cadavera. Sixty per cent. of the Whites are of European birth, while only six individuals or 1 per cent. of the Negroes were born in foreign lands.

*Foreign-born Whites:* Twenty-five European countries are represented. The map in Fig. 1 shows more directly than the table the regional concentration of the birthplaces. The population

<sup>1</sup> Cleveland Division of Health, "Statistical Reports, City of Cleveland, Ohio." Annual Municipal Reports, 1916-1929.

<sup>2</sup> H. W. Green, "Population Characteristics by Census Tracts, Cleveland, Ohio," Plain Dealer Publishing Co., Cleveland, 1930.

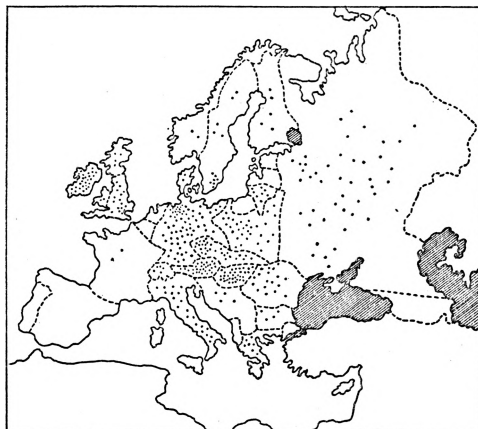


FIG. 1. BIRTHPLACES OF FOREIGN-BORN WHITES IN LABORATORY POPULATION, 1911-1931.

movements known as the "old" and "new" immigrations were both responsible for the presence in this country of these individuals whose common occupational level indicates a fairly homogeneous social stratum.

*Native-born Whites:* It was stated that the native Whites were principally of foreign parentage. This fact was officially recorded in only 49 instances. Fig. 2 reveals that, although the 292 known native Whites came from 21 states, the majority were born in three—Ohio, New York and Pennsylvania. When the Clevelanders, both White and Negro, who are largely children, are

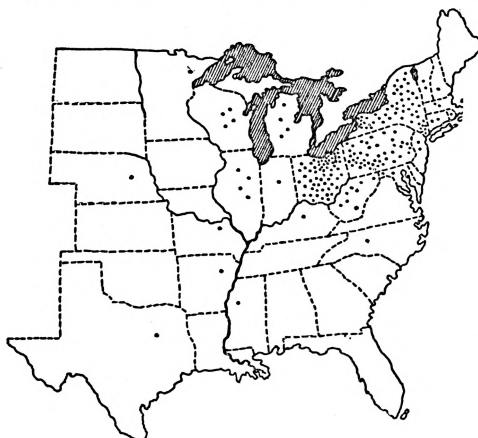


FIG. 2. BIRTHPLACES OF NATIVE-BORN WHITES IN LABORATORY POPULATION, 1911-1931.

## ORIGINS OF SUBJECTS ACCORDING TO RACE

Foreign-born Whites		Native-born Whites		Native-born Negroes	
1. Germany .....	83	1. Ohio <sup>e</sup> .....	131	1. Ohio <sup>f</sup> .....	76
2. Austria .....	59	2. United States .....	70	2. Georgia .....	64
3. Ireland .....	45	3. New York .....	34	3. United States .....	56
4. Hungary .....	41	4. Pennsylvania .....	21	4. Alabama .....	51
5. Czechoslovakia <sup>a</sup> .....	31	5. West Virginia .....	5	5. South Carolina .....	33
6. Russia .....	30	6. Illinois .....	5	6. Tennessee .....	26
7. Poland .....	28	7. Michigan .....	5	7. Virginia .....	24
8. Great Britain <sup>b</sup> .....	22	8. Wisconsin .....	4	8. Kentucky .....	20
9. Italy .....	20	9. Tennessee .....	3	9. Mississippi .....	18
10. Canada <sup>c</sup> .....	12	10. Massachusetts .....	2	10. North Carolina .....	14
11. Rumania .....	9	11. Connecticut .....	1	11. Arkansas .....	12
12. Finland .....	8	12. Rhode Island .....	1	12. Maryland .....	6
13. Greece .....	7	13. Maryland .....	1	13. Missouri .....	5
14. Sweden .....	5	14. North Carolina .....	1	14. Indiana .....	5
15. Jugoslavia <sup>d</sup> .....	5	15. Texas .....	1	15. Pennsylvania .....	5
16. Switzerland .....	4	16. Mississippi .....	1	16. Florida .....	4
17. Lithuania .....	4	17. Kentucky .....	1	17. Texas .....	4
18. Bulgaria .....	4	18. Missouri .....	1	18. New York .....	4
19. Mexico .....	4	19. Indiana .....	1	19. Kansas .....	3
20. France .....	3	20. Nebraska .....	1	20. Michigan .....	3
21. Denmark .....	2	21. Arkansas .....	1	21. Illinois .....	2
22. Norway .....	1	22. Washington .....	1	22. Louisiana .....	2
23. Holland .....	1	Total .....	292	23. West Virginia .....	2
24. Latvia .....	1	Foreign-born Negroes		24. District of Columbia .....	2
25. India .....	1	1. Canada .....	3	25. Massachusetts .....	2
26. Europe .....	1	2. West Indies .....	2	26. Nebraska .....	2
Total .....	431	3. Abyssinia .....	1	27. Minnesota .....	1
		Total .....	6	28. New Jersey .....	1
				Total .....	447
				Additional	
				1. China .....	1

Total White ..... 723 | Total Negro ... 453 | Total Yellow-Brown... 1 | Grand Total... 1,177

<sup>a</sup> Czechoslovakia incl. 23 Bohemians

<sup>d</sup> Jugoslavia incl. 2 Serbs, 1 Croat

<sup>b</sup> Great Britain " 6 Scots, 2 Welsh, 1 Manx

<sup>e</sup> Ohio " 73 Clevelanders

<sup>c</sup> Canada " 1 Newfoundlander

<sup>f</sup> Ohio " 54 Clevelanders

subtracted from Ohio's total, this state still ranks first as a native birthplace. This fact must be attributed in part to the influence of the location of the laboratory. New York and Pennsylvania are precisely the states in which the people of the "new" immigration settled most thickly. Moreover, Carpenter<sup>3</sup> showed that beside the "new" groups, New York and Pennsylvania had in 1920 the highest percentages of Germans and English as well as many Irish who were particularly susceptible to urbanization.

<sup>3</sup> N. Carpenter, "Immigrants and their Children," Census Monograph, VII. U. S. Gov't. Printing Office, Washington, D. C., 1927.

Thus, among the foreign-born of the three states that have supplied most of the native Whites, there have been large contingents of both the "old" and "new" immigrations. The age distribution of the natives (Fig. 4) and the small series known to be of foreign parentage indicate that these native-born came more from the "old" stock than the "new." When the low economic status of these native Whites is considered, the regional concentration of their birthplaces is strong though indirect evidence of their foreign ancestry.

*Negroes:* An entirely different distribution appears for the birthplaces of the

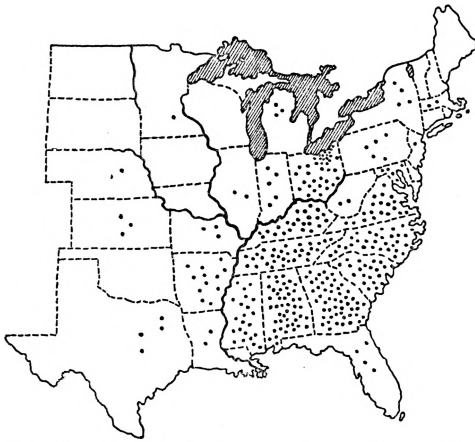


FIG. 3. BIRTHPLACES OF NEGROES IN LABORATORY POPULATION, 1911-1931.

Negro cadavera (Fig. 3). These have come from 27 states and in representative numbers from a much wider territory than the White natives. A heavy majority, however, were born in Georgia, Alabama and South Carolina, the greatest centers of Negro population. Many came also from Tennessee, Virginia, Kentucky, Mississippi, North Carolina and Arkansas.

Most of these Negroes were part of the familiar northward industrial migration already mentioned. Kennedy<sup>4</sup> cites the increase in the Negro population of Ohio between 1910 and 1920 according to nativity from six southern states. As the industrial centers were the goals of the migrants, it is very probable that Cleveland received her share of these people in the same proportions. Certainly it is remarkable how nearly the same relative representation of these states occurs in the small laboratory series.

Still another movement is hinted by a few cadavera. As the "new" immigrant succeeded the "old" and the Negro followed the "new," so after the Negro has come the Mexican, who in the South has filled many jobs left vacant by the

<sup>4</sup> L. V. Kennedy, "The Negro Peasant Turns Cityward," Columbia Univ. Press, N. Y., 1930.

Negro. Though at present the Mexican has reached northern industry only in small numbers, four of his countrymen rest in our catacombs.

#### AGE

The mortality curve of the cadaver population (Fig. 4) exhibits a peak in middle age. The median age of the collection is 45 years. Comparison of the curves of the component groups is illuminating. We note a distinctly old age curve for the "old" immigrants (median age 58 years), a middle age curve for the "new" immigrants (median age 42 years) and a still earlier one for the Negroes (median age 37 years). The native Whites have a less concentrated distribution (median age 45 years).

Immigrants as a class are composed of the active age groups, containing very few children and old people. Hence, our anatomical curves must be interpreted with consideration for three factors—economic level, characteristics of the immigration involved and the date of collection of the material. Hence the skeletal collection presents evidence of three mass movements and of the existing economic depression.

#### MIGRATIONS

Roughly about two hundred years ago a great colonization and national development program attracted settlers of the "old" immigration, who came from

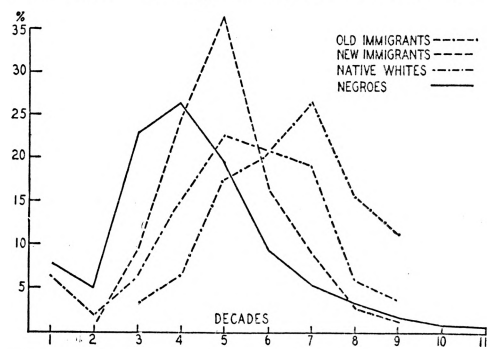


FIG. 4. PERCENTAGE DISTRIBUTION OF STOCKS IN LABORATORY POPULATION BY AGE IN DECADES.

the British Isles, Germany and the Scandinavian countries. Since this immigration reached its peak in about 1880, thirty years before the collection was started, we should expect the cadavera of this stock to be the oldest, as they are.

With the beginning of a new era of accelerated industrial progress toward the close of the last century, hordes of "new" immigrants from eastern, central and southern Europe were called to this country to supply the unskilled divisions of labor. This movement was abruptly stopped by the war and later permanently restricted by law, thousands of the new-comers returning to their European homes. The "new" immigration reached its peak and sudden termination soon after our collection was begun, but as many of these people had come over in the two preceding decades, most of our "new" immigrants among the cadavera approximate middle age.

To fill the demands for crude labor created by the war and the reduced European supply, the Negro swarmed northward. The Negro migration occurred in the midst of the years of collection so that the truest picture of all would be anticipated in this group. Our records of duration of residence in Cleveland show that many of the first arriving of these Negroes are in our catacombs. The unusually early age peak of the Negro curve shows economic slaughter at its height.<sup>5</sup> Since there are few aged among the migrants and the survivors have not yet had time to grow old, there is no old age component in the Negro curve.

#### CAUSES OF DEATH

Fig. 5, showing the highest seven causes of death in the cadavera, reveals that the diseases of poverty and exposure—tuberculosis, pneumonia and ex-

<sup>5</sup> T. W. Todd, "Skeletal Records of Mortality," *SCIENTIFIC MONTHLY*, 24: 481-496, 1927.

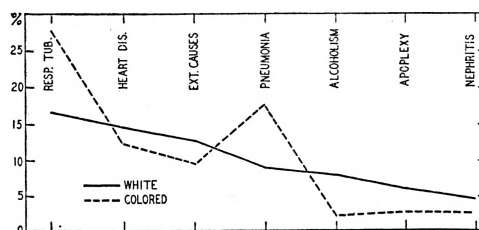


FIG. 5. SEVEN HIGHEST CAUSES OF DEATH IN CADAVERA, PERCENTAGES OF WHITE AND NEGRO.

ternal causes—have produced more casualties in this group than in the general population. Particularly is this true for the Negro cadavera among whom the respiratory diseases take the same precedence as in general Negro mortality.<sup>6</sup>

According to Rosenau, "The prevention of tuberculosis has become a sociological problem." The high incidence of tuberculosis among our cadavera of both races is evidence of the economic stratum in which these persons lived, confirming deductions from occupational data and from the fact that they were unclaimed.

There is a close similarity between this cadaver population and Pearl's population of persons necropsied at Johns Hopkins,<sup>7,8</sup> in respect to the age distribution by race and sex in their general populations. This similarity naturally follows the common social origin of the material.

#### FORECAST OF THE FUTURE

The population of Cleveland may now be said to be of an established and fairly stable character and, unless unforeseen social movements of great magnitude occur, the cadavera of the future will be

<sup>6</sup> M. Gover and E. Sydenstricker, "Mortality among Negroes in the United States," *Public Health Bulletin*, No. 174, 1928.

<sup>7</sup> R. Pearl and A. Bacon, "Statistical Characteristics of a Population Composed of Necropsied Persons," *Arch. Path. and Lab. Med.*, 1: 329-347, 1926.

<sup>8</sup> R. Pearl, "The Racial Origin of Almshouse Paupers in the United States," *Science*, 60: 394-397, 1924.

conscripted in the main from the elements that are in and about Cleveland to-day. Green's volume<sup>9</sup> affords an authentic source of information on the economic status of these several groups. His data suggest that the laboratory may expect to receive in the next ten years or so a minority of White cadavera of about 40 per cent. or less. The foreign-born should continue to constitute a large proportion of these but should be more of "new" than "old" immigrant stock for the unabsorbed remnants of the latter are fast disappearing. With the passage of time even the "new" foreign-born will come in progressively older age groups, just as our "old" immigrants have done, and then diminish in number as our "old" immigrants are now doing. The replacements in the younger age groups will be largely from natives of foreign or mixed parentage. The bulk of the Negro majority will probably continue to be of southern nativity and will tend to present a more normal age distribution. More females and young people may be expected. It is unlikely that the list of

<sup>9</sup> *Loc. cit.*

principal causes of death will undergo significant change.

#### SUMMARY

The characteristics of the cadaver population, comprising 2,139 persons in the Laboratory of Anatomy of Western Reserve University, namely, its conscription from the unclaimed dead of the city, its age at death, occupational level, mortality record, and racial composition, demonstrate that as a whole it is from a low economic stratum of society subjected to more than the usual hazards of modern life.

Though this cadaver population constitutes but 1 per cent. of the total dead of the city for the years during which it has been assembled, it reflects surprisingly closely the significant economic developments in the history of Cleveland during that period and it affords an enlightening insight into the social structure of modern American civilization.

Analysis of the factors determining the character of the present laboratory population permits certain general predictions concerning its future composition.