

# YOUR CITY

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Harcourt, Brace and Company

NEW YORK

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## PREFACE

This book is the result of three years' study of the recorded facts concerning 310 American cities. Its conclusions are outcomes of the treatment of nearly a million items by modern quantitative methods. It is written for all intelligent citizens.

The conclusions about the quality of life in these cities, the causes of the differences between one city and another, and the ways and means of making all our cities better places for good people to live in are often startling and opposed to popular doctrines; but they follow inevitably from the facts.

I have to thank the Carnegie Corporation for funds which made the research possible; the staff of the Institute of Educational Research of Teachers College, especially Dr. Ella Woodyard and Miss Lilyan Warshaw, for much help in the collection and treatment of facts; the Federal Office of Education, the Division of Vital Statistics of the Census Bureau, the American Library Association, and officers of Rotary and Kiwanis for supplying facts from their files; the *New York Times* for copies of their exchanges for three weeks; the Mayors of two hundred and fifty-seven cities for answers to certain questions; and three hundred and twenty-nine business men, labor leaders, public health experts, educators, clergymen, and reformers for rating certain cities of their acquaintance.

EDWARD L. THORNDIKE

NEW YORK, OCTOBER, 1938.

## TO THE READER

The findings of this book are based largely upon indices or composite scores and correlation coefficients. The essentials of the method used are described in Chapters II and III. If you have difficulty with any reference to correlations in later chapters, reread the first five pages of Chapter III. If you forget the meaning of any of the technical terms and symbols, read the explanations of them given in Appendix V on page 198.

I venture also to inform readers who are expert in social science and statistics that certain qualifications and reservations have been deliberately omitted, not overlooked. What such readers miss in this book, they may find in a Memoir of the New York Academy of Sciences entitled *American Cities and States*.

## CHAPTER I

### DIFFERENCES BETWEEN CITIES

As a matter of local pride and patriotism, each of us may be ready to say with St. Paul, "I am a citizen of no mean city." But as a matter of fact many of our cities *are* mean in their provisions for health, comfort, education, recreation and other features of a good life. This is partly because of lack of resources, but it is partly because their citizens do not know what a city can be and should be, and what some American cities have made themselves, and do not know their own city in comparison with others. On the other hand, some of our cities are at or near the acme of what this world has attained in public and private provision for the good life. But many of the residents in these cities do not realize their good fortune. And people in general do not know which these cities are or how they have succeeded so well in their community life.

If the reader should try to list the three hundred odd cities of 30,000 or more inhabitants in an order for health, or wealth, or creature comforts, or rates of wages, or general goodness as abodes for good people, or for almost any other feature whatever except size, latitude and longitude, he would probably fail. Even if he had lived a month in each city, he would fail. He would lack the facts or be overinfluenced by superficial and external facts.

If one tries simply to estimate where his own city stands, whether it is in the top five per cent, or near the middle, or near the bottom, or half-way from the top to the middle, or half-way from the middle to the bottom, he will do somewhat better, but he will still make large errors.

Yet the cities of the United States do differ enormously in many, and widely in almost all, of the features or qualities which are important for human living. For example, the chance that a baby will die within a year after it is born is four times as great in some of these cities as it is in others.\* This is partly due to the fact that ignorant and careless parents are more frequent in some cities than others, but it is largely due to the ways of living of the city and its management of its health problems. If a thousand families from Alameda, Glendale, Oak Park and Bellingham had been interchanged with a thousand from Tucson, Charleston (S. C.), Columbia (S. C.) and Charleston (W. Va.) the chances of dying within a year would be enormously increased for babies born to the former and decreased for babies born to the latter. The probability that a girl 10 to 14 years of age would be working for a wage was over fifty times as great in or near 1930 in certain cities as it was in Muncie, Richmond (Ind.), Norwood and Springfield (Ohio). The amount of public funds spent per person for the maintenance of parks and other facilities for recreation was over forty times as great in some cities as in others.

\* It was so in the nine years from 1926 to 1934.

The easiest way to get a realizing sense of the variation among cities in important features of their life is to examine diagrams like Figures 1 and 2, which give a quick general view of the status of all the cities and also the exact status of each and every one of them.

Figure 1 shows us the facts for the percentage of persons 16 or 17 years old who were in school in 310 cities of 30,000 or more population in 1930. Two cities had under 35 per cent of their boys and girls of that age in school; twelve cities had percentages from 35 to 39, twenty-two cities had percentages from 40 to 44, thirty-two had percentages from 45 to 49, thirty-three had percentages from 50 to 54, and so on to the five cities which had percentages from 90 to 94. These five kept one and a half times as many of their 16- and 17-year-olds in school as the ordinary city and three times as many as the two lowest-ranking cities.

Figure 2 presents just the same facts as Figure 1, but more conveniently, and with the addition of certain useful numerical statements. The average percentage is 62. The median percentage is 60, which means that there were as many cities below 60 as above 60. One-sixth of the cities were below  $47\frac{1}{2}$ ; a sixth were above 75.0. A tenth of them were below  $44\frac{1}{2}$ ; a tenth were above  $82\frac{1}{2}$ .

Figures 3, 4, 5, and 6 show the differences among cities in the frequency of four creature comforts—gas, electricity, telephone and radio.



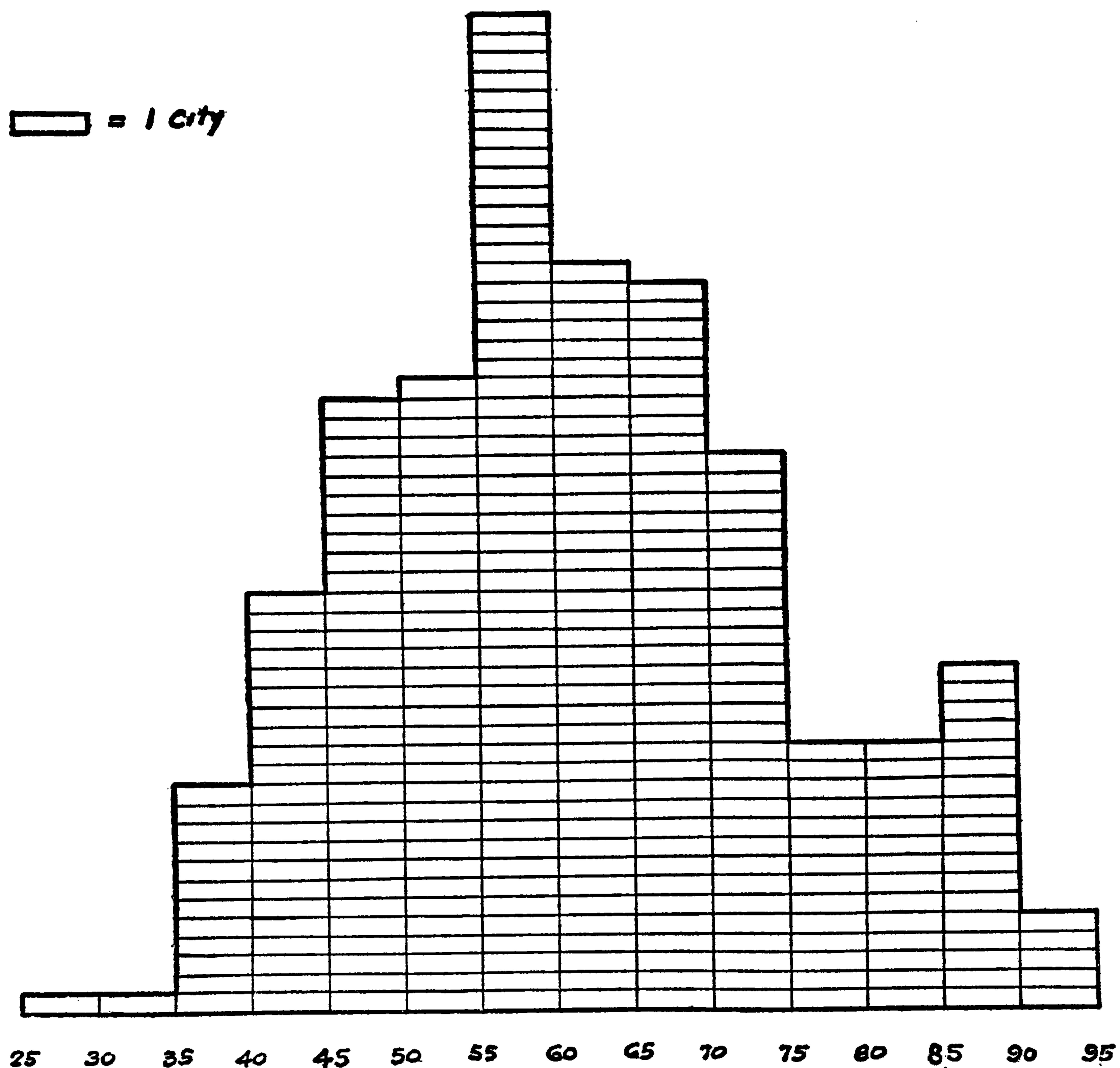


FIG. 1. The variation among cities in retention of boys and girls in school. The scale along the base line is for the percentage of 16- to 17-year olds who are in school. The columns above the base line represent the number of cities, showing one city with 25 to 29 per cent of its 16- and 17-year olds in school, one with 30 to 34 per cent, twelve with 35 to 39 per cent, and so on.

By the records, the homes of some cities were ten times as well supplied with gas as those of some other cities. With generous allowance for errors in the records and differences in the size of family, it is sure that in many cities (for example Berkeley, Pas-

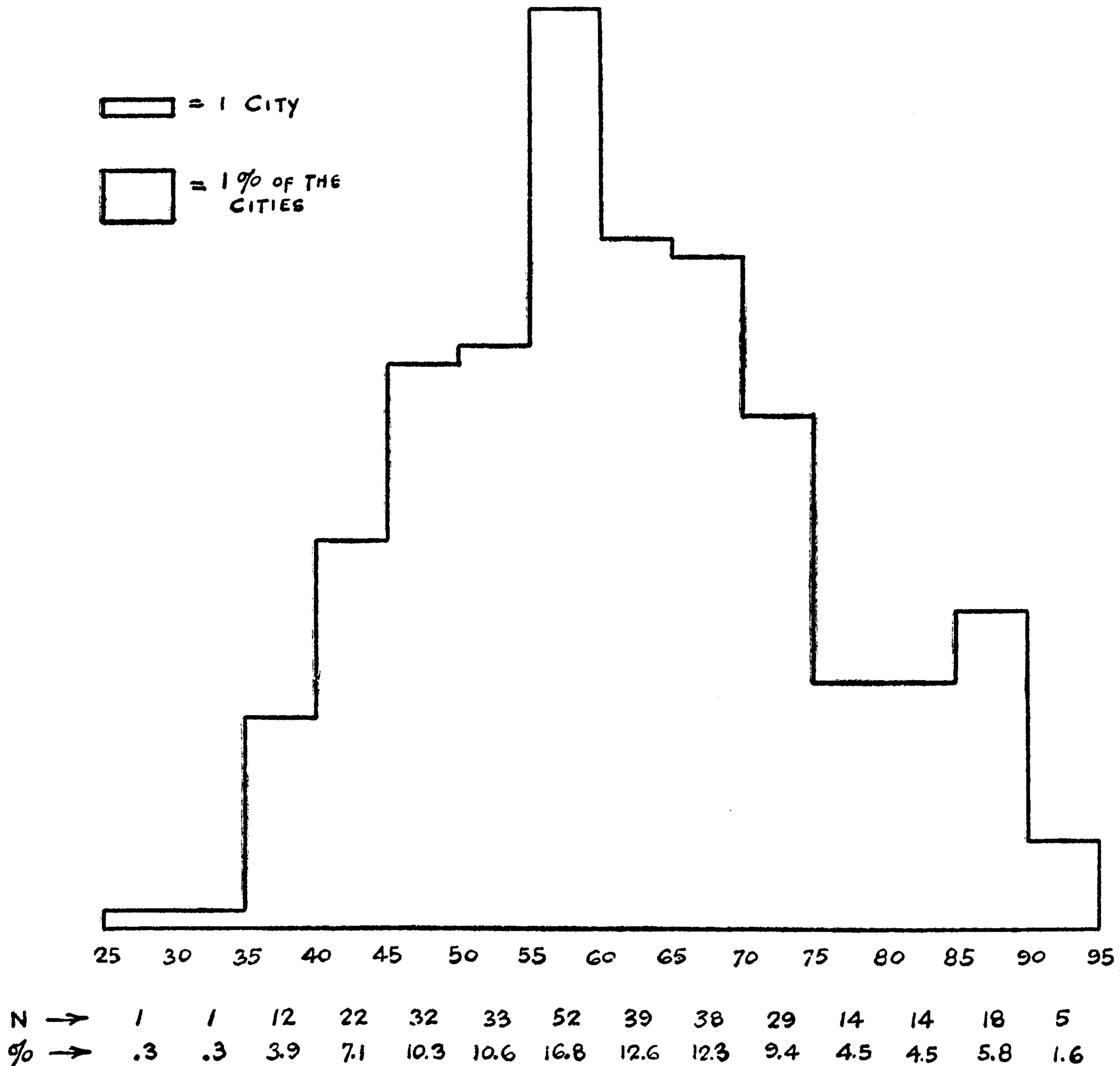


FIG. 2. The same fact as Fig. 1, but omitting the lines between the columns and the separation into units within each column. The number of cities in each column and the percentage which each column is of the total surface of frequency are shown below the surface.

adena, Joliet, Atlantic City, New Haven, Mount Vernon and Montclair) almost every family has gas, and that in others less than a third of the families do.\*

\* Allowance is already made in the diagrams for the unduly high records of certain cities where installations of gas outside the city limits have apparently been credited to the city. For this reason or others, eighteen of the 310 cities were given estimated values.

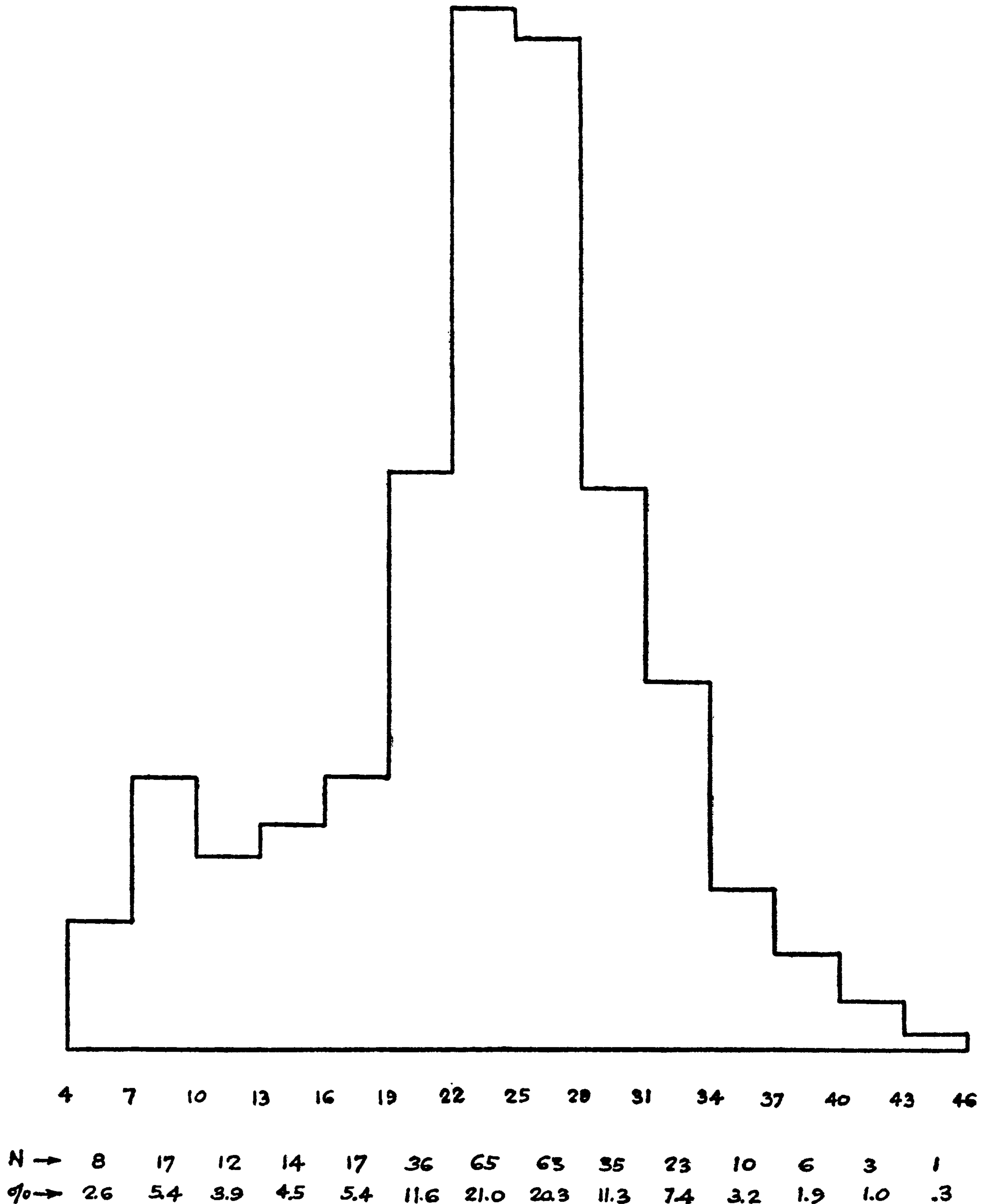


FIG. 3. The scale along the base line is for the number of domestic installations of gas per hundred inhabitants in 1930, and runs from 4 per hundred to 48 per hundred. The heights above the base line show that eight cities had 4, 5 or 6 installations of gas per hundred, seventeen cities had 7, 8 or 9 per hundred, twelve cities had 10, 11 or 12 per hundred, and so on to three cities with 40, 41 or 42 per hundred, and one city with 43 or over. The median is 23 per hundred. One-sixth of the cities have less than 16 installations of gas per hundred; one-sixth have 30 or more per hundred.

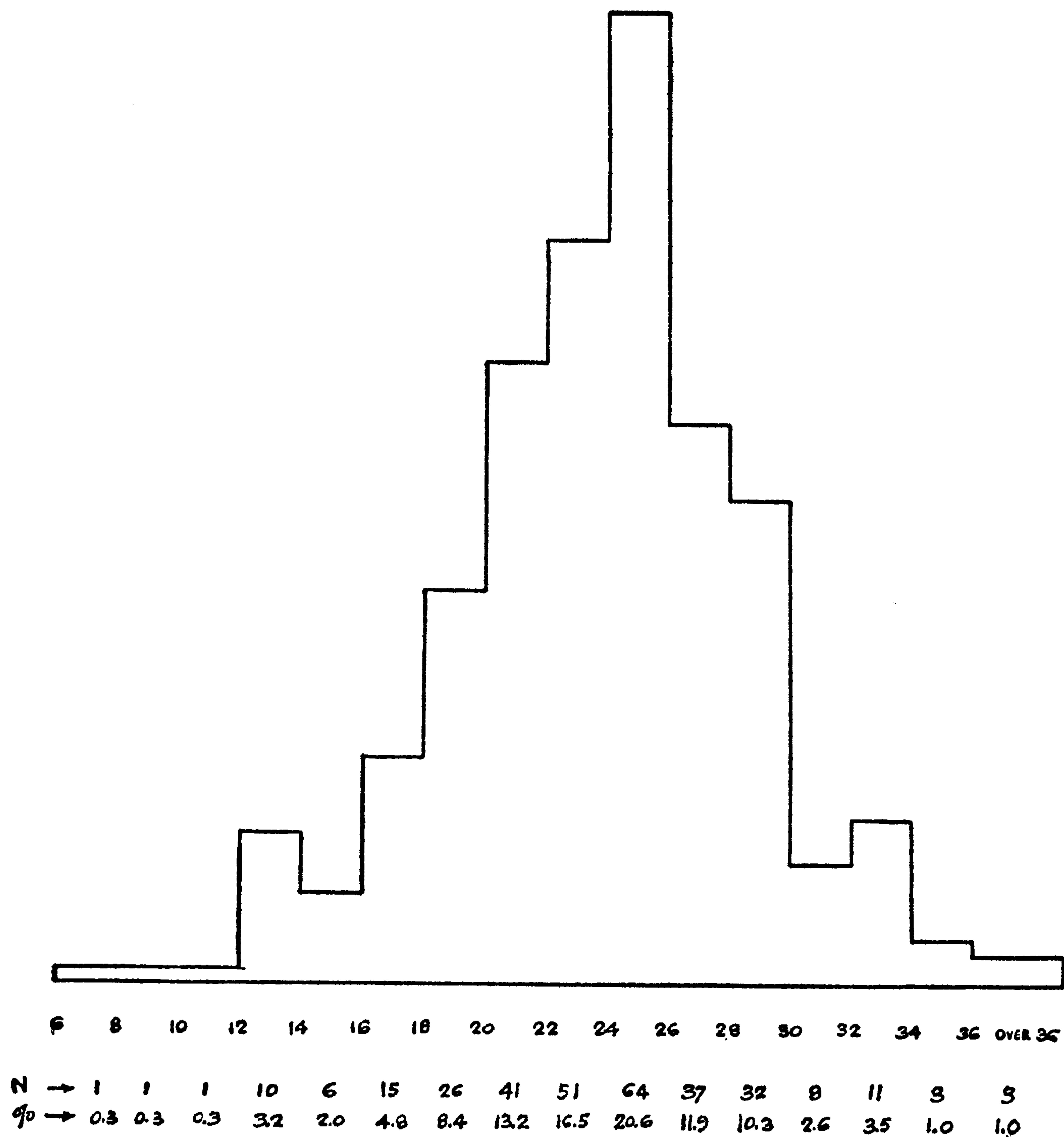


FIG. 4. The scale along the base line is for the number of domestic installations of electricity per hundred inhabitants for 1930. The height above the base line shows the number of cities reporting 8 or 9, 10 or 11, 12 or 13, 14 or 15 and so on, installations per hundred inhabitants. Three cities reporting 37, 38 and 41 are put together as "over 36." The median is 24. One-sixth of the cities have less than 19.4 installations per 100; one-sixth have more than 28.3.

The differences among the cities in the provision of electricity in homes shown in Fig. 4 are nearly as great as in the case of gas. In some cities almost

every family has electricity, but in some less than half of them do.

The variation among cities in the possession of telephones is approximately as shown in Fig. 5. The variation in the number of family telephones (that is, with phones used only for business purposes ex-

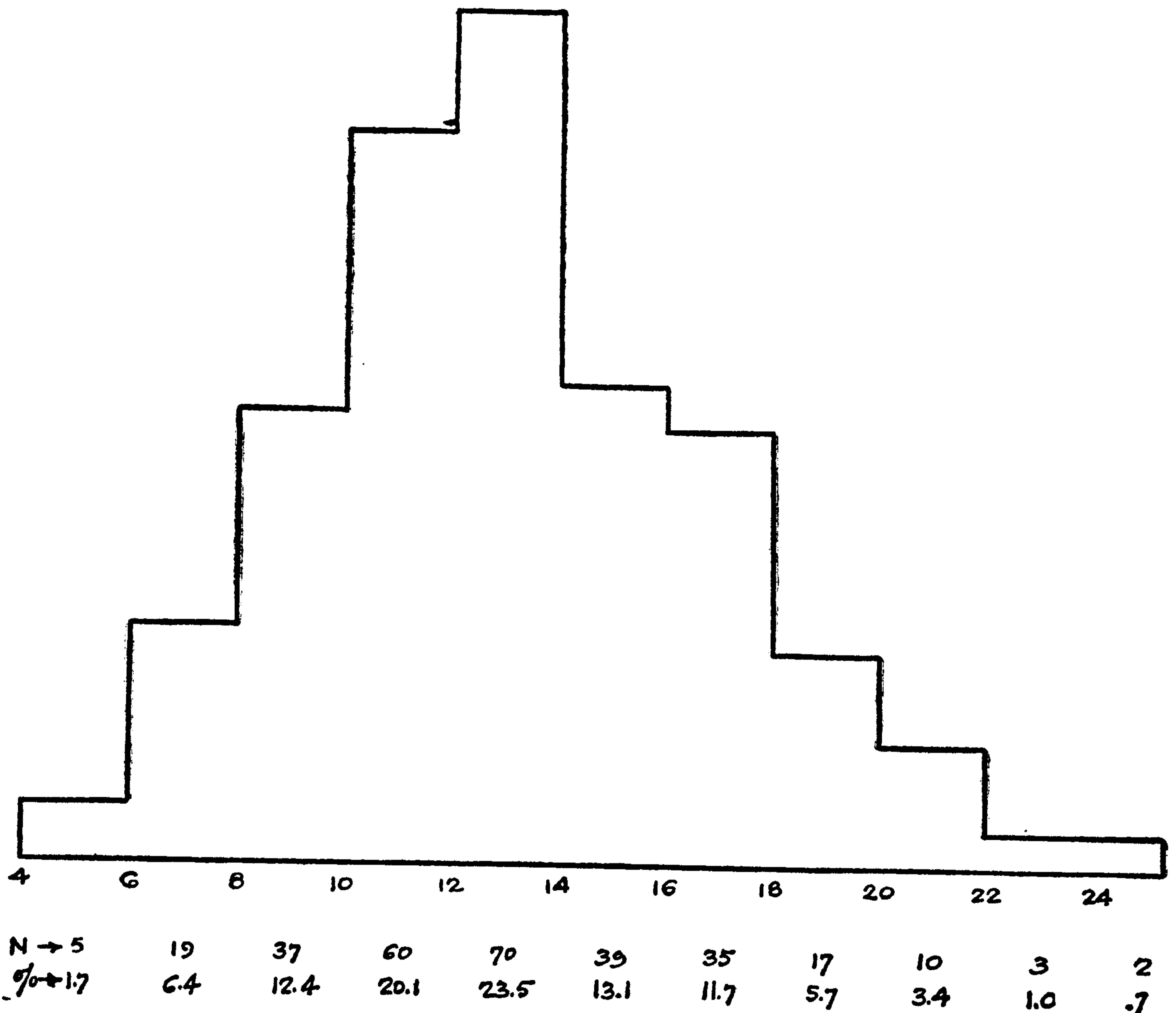


FIG. 5. The scale along the base line is for the number of telephones per hundred inhabitants in 1930, in 297 of the 310 cities. Those omitted are such as had no record of the number of telephones or had numbers reported below four per hundred inhabitants. Some of these may be correct. If so, the variation would be even greater than shown in the diagram. The median city has 12 telephones per hundred inhabitants. One-sixth of the cities have less than  $9\frac{1}{2}$ , and nearly one-sixth have 17 or more per hundred inhabitants.

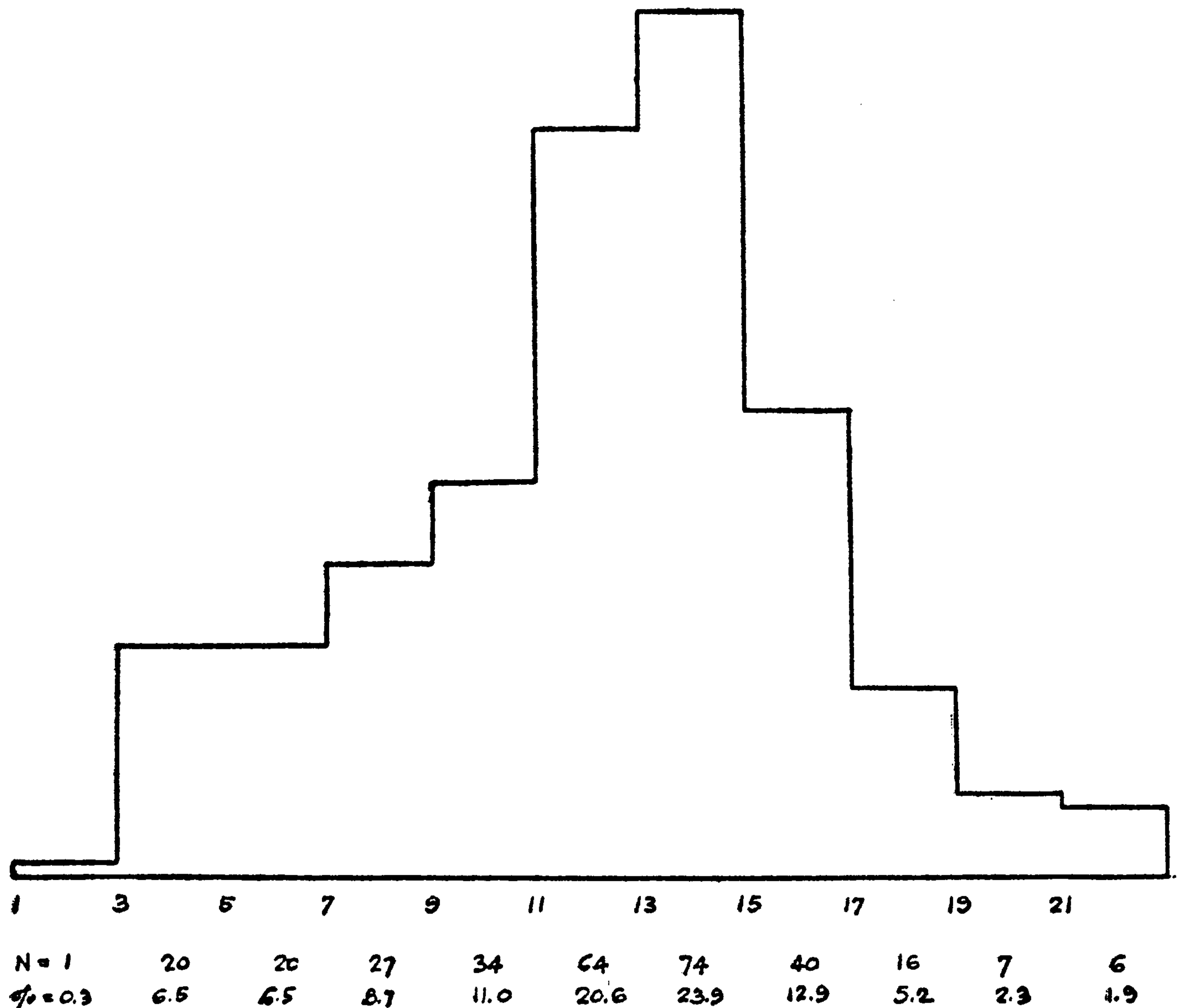
cluded from the records) would be even greater, relatively. Some cities probably have six times as many family telephones as the lowest two or three cities have. It is highly probable that in some cities two families out of three have telephones, and that in some cities not one family in eight has one.

Omitting two extreme cities, one reporting less than two radios per hundred inhabitants, the other reporting over 26, the range in the frequency of ownership of radios is from 3 to 22 per hundred, as shown in Fig. 6.

Figs. 7 and 8 show the variation in deaths during the first year of life and in deaths from typhoid fever. Putting it brutally, some cities murder about one in ten of their babies and an appreciable number of their adults. Their citizens should know that public poisoning by water, milk, etc., has been abolished in many cities little or no richer or more favored by climate than theirs.

Some cities have over a tenth of their population (above age 10) illiterate, whereas some, for example Brookline, Norwood, Sioux Falls, Everett (Wash.), and Oak Park have less than half of one per cent, and forty-one cities have less than one per cent.

Some have nearly a tenth of the young people from 15 to 24 illiterate, whereas Arlington, Brookline, Duluth, Elkhart, Everett (Wash.), Highland Park, Madison, Peoria and Sioux Falls have fewer than a fifth of one per cent.



Also 1 city reported as having 26 radios per 100 inhabitants not shown in the diagram.

FIG. 6. Variation among cities in the number of radios per hundred inhabitants in 1930. The median city had  $12\frac{3}{4}$  radios per hundred inhabitants. One-sixth of the cities had fewer than 7.7, and one-sixth had more than 15.7 per hundred.

Suppose that an accurate and impartial record of all the "good" reading by all the adults of every city was available. How much more would stand to the credit of the men and women of, say, Pasadena, Santa Barbara, and Springfield (Mass.) in comparison with those of, say, Augusta (Ga.), Laredo and Woonsocket? I judge that the former read at least

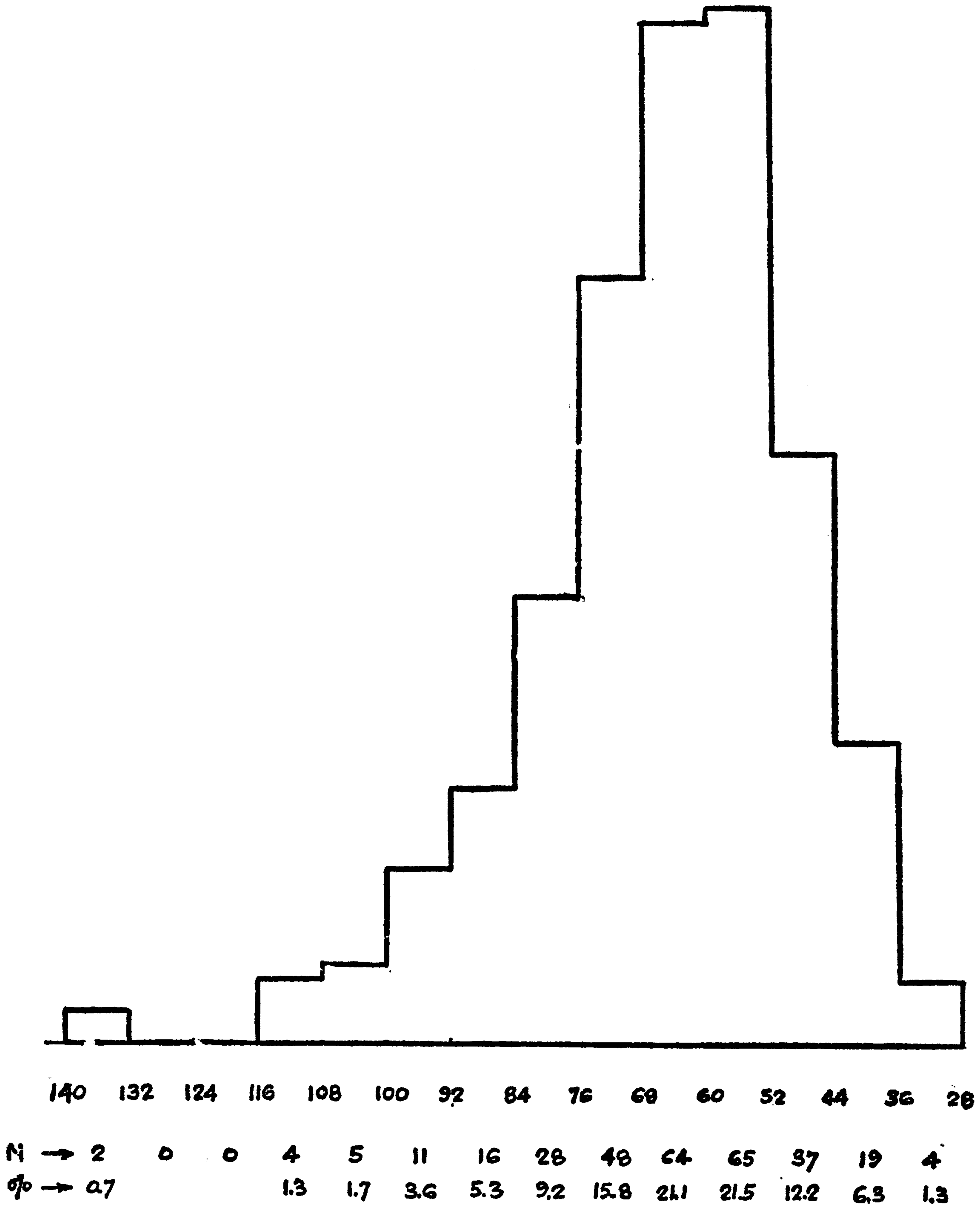
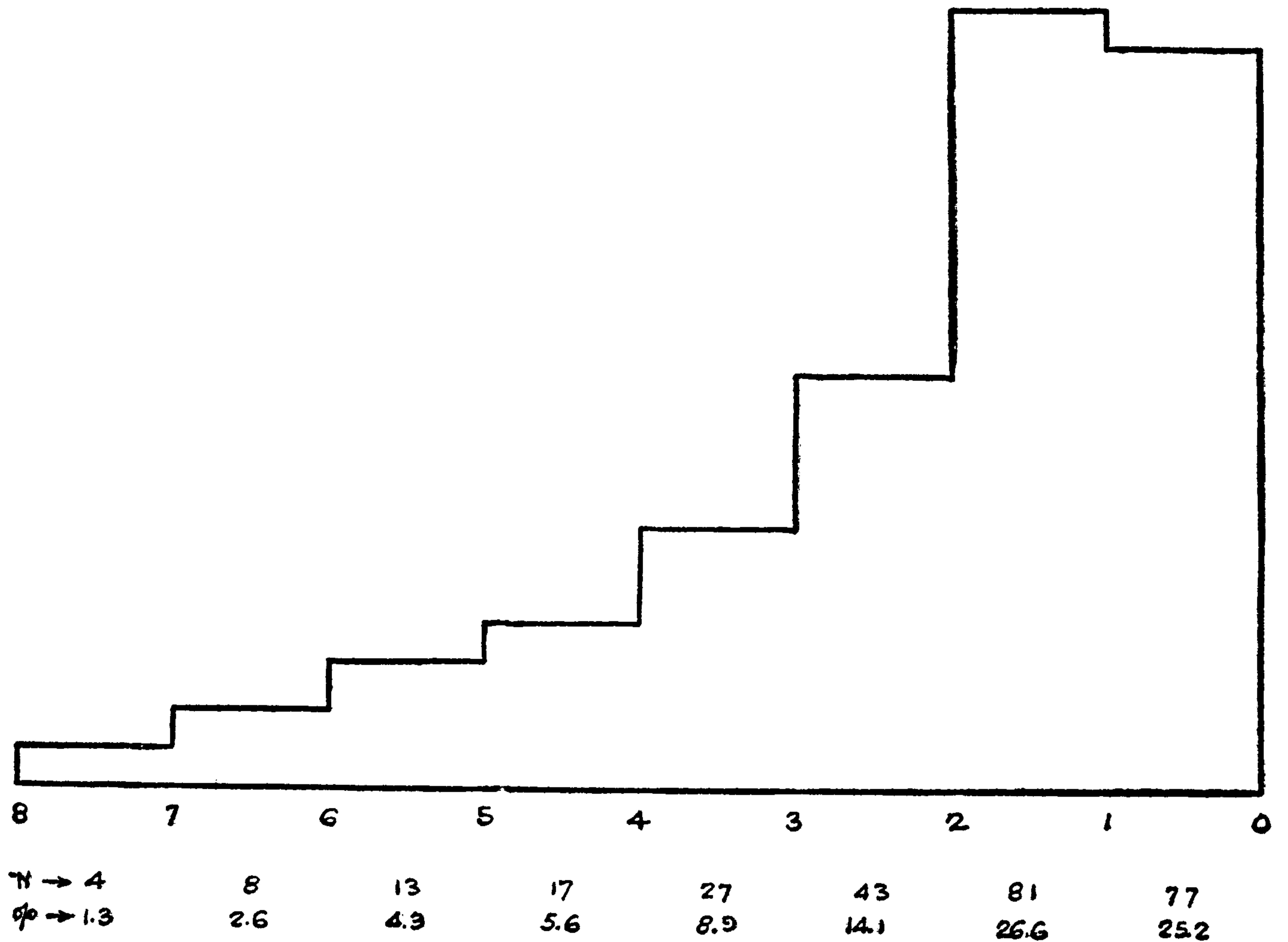


FIG. 7. The variation among 303 cities in the infant death rate for 1926-1934. The scale along the base line is the number of deaths under 1 year of age per thousand births (excluding still-births). The median city has an infant death rate of 63. One-sixth of the cities have rates below 50; one-sixth have rates above 79.





and 9 cities, i.e. 3%  
with rates worse than 15

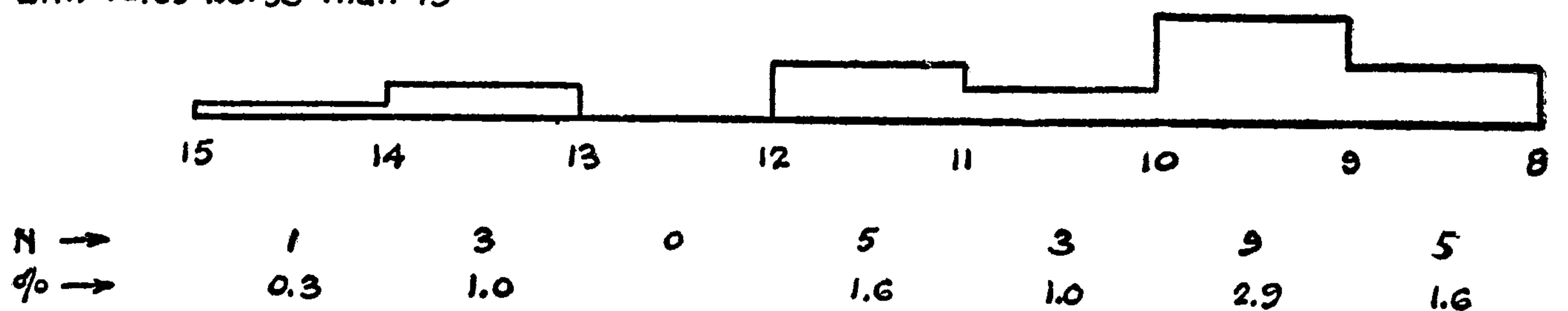


FIG. 8. Variation among 305 cities in the death rate from typhoid fever. The scale is the number of deaths per year per 100,000 of population, computed from records of six years near 1930. The lower half of the diagram belongs as an extension of the upper half to the left. One-sixth of the cities have practically no typhoid at all. One-sixth have epidemics frequent enough to cause an average death-rate from typhoid of over  $5\frac{1}{2}$  per year per 100,000 population.

four times as much. The library circulations were over ten times as large.\* The public money spent for libraries was over ten times as much. The circulation of three reputable monthly magazines was four times as large. The circulation of an excellent weekly was three times as large. The reported sales of retail bookstores were more than ten times as large.

In the rates of salaries and wages there is wide variation among these cities. Even if we omit the fourteen largest cities, where the cost of living, especially of rent, may be higher, the records show some cities paying two and a half times as much as others to a policeman or fireman, some cities paying twice as much as others to the average full-time employee in retail stores (for employees in national chain stores the differences are even greater) and some cities paying over three times as much as others to the average high-school teacher, or elementary-school teacher. The average wage of a worker in a factory is over twice as high in some as in others.

Some cities may be specially generous to their policemen and firemen, some to their teachers, some to their salesmen. So it will be safer to measure differences in the general salary rates on a broader basis than any one of these.

Let us make a composite picture of the wages of a policeman, a fireman, two retail-store full-time employees (one in a chain store), a high-school teacher,

\* This and the following comparisons are on a per capita basis.

and an elementary school teacher for a number of cities of nearly the same size (55,000 to 65,000) and nearly the same cost of living. We add the reported amounts for each city and divide by six with the following results: There are differences of two to one, the average ranging from over \$2500 down to \$1200.

I have studied the differences among cities in hundreds of features of a community's life. No matter what feature one takes, cities differ, often to a surprising degree. The frequency of homicides is over a hundred times as great in some cities as in others. The percentage of persons making federal income-tax returns is over fifteen times as great. The frequency of home ownership is over three times as great. The per capita circulation of public libraries is sixteen times as great. The per capita amount spent on schools is eight times as great. The percentage of illiterates at ages 15 to 24 is over a hundred times as great. Child labor is over fifty times as frequent. The percentage which rentals under \$10 a month are of all rentals (or equivalents in case the home is owned) is a hundred times as great.

In the hundreds of diagrams of which Figs. 1 to 8 are samples, the cities are never grouped into good and bad, or good, bad and indifferent, or normal and exceptional. On the contrary, the variation is continuous over most of the range. The conditions of a city in any respect cannot then be expressed adequately by calling it high, average or low; we must attach a number telling how high or how low it is.

I have collected over three hundred items of fact about these cities, and computed such numbers for each item in each city.\* Consequently I know how each stands in relation to all the rest in each item from the birth-rate to the death-rate, from the sales of jewelry stores to the sales of second-hand stores, from the acreage of public parks to the frequency of child labor, from the tax rate to the net public debt, from the number of residents who are mentioned in Who's Who to the number of deaths from syphilis. When all the cities are compared in respect to these items, one item at a time, the results are important. As we have seen, the provisions for life, health, creature comforts, education, recreation and entertainment vary widely. The personal qualities of the population vary also. By ability, effort or good fortune some cities are far superior to others in this, that, or the other feature of welfare. In so far as they have the ability and will make the effort, most cities can better themselves in safety, health, education or whatever their weaknesses are.

When the record of each city in certain combinations of items of welfare is studied, the results are still more important, as will be seen in the following chapter.

\* The items used are listed in Appendix I.

## CHAPTER II

### DIFFERENCES BETWEEN CITIES IN THE GENERAL GOODNESS OF LIFE FOR GOOD PEOPLE

Among the three hundred items or features or traits there are thirty-seven, all or nearly all of which all reasonable persons will regard as significant for the goodness of life for good people in a city.

We naturally study these with especial care. The first four concern health, being the general death-rate, the infant death-rate, the death-rate from typhoid, and the death-rate from diseases of childbirth. Other things being equal, that city is better where people have a better general chance of living, where they are freer from fear of pestilences, where mothers suffer less from bearing children and where they less often lose their babies within a year after they are born. As a fifth, we may take the death-rate from appendicitis, which is probably more an index of the intelligence of the population and the skill of its physicians and nurses than of the public care of health.

The next eight concern the educational opportunities provided by the public, being the per capita public expenditures for schools as a whole, for teachers' salaries, for text-books and supplies, and for libraries, the average salary paid to public elementary-school teachers, the average salary paid to

public high-school teachers, the percentage of persons 16-17 years old attending school and the percentage of persons 18-20 years old attending school. Other things being equal, that city is better whose citizens are given more dollars' worth of educational opportunity, and more of whose young people can stay in school. The other things are not always equal. Some cities may not get as good value per dollar as others, and some may keep the dull rich on in school at the expense of boys and girls who are more deserving. But in and of themselves high scores in these eight items are surely symptoms of goodness.

The next two items concern public provision for recreation, being the per capita public expense for recreational facilities and the per capita park acreage.

The next eight, which may be called economic and "social" items, are the infrequency of extreme poverty, the infrequency of less extreme poverty, the infrequency of work for wages by boys 10 to 14 and by girls 10 to 14, the average wage for workers in factories, the frequency of home ownership, the amount of support of the local Y.M.C.A.,\* and the excess of physicians, trained nurses, and teachers over male domestic servants in the population. The last item may need a word of explanation. It is not a regular and accepted symptom of good conditions,

\* The Y.M.C.A. is taken as a sample of several similar institutions, including the Y.W.C.A., the comparable Hebrew association, the Knights of Columbus, and the Boy Scouts. Data for the others are hard to obtain.

but most good people would prefer to live in a community that attracted and supported physicians, trained nurses and teachers rather than valets, lackeys and chauffeurs. The services of some of the latter doubtless further the common good by saving the time and energy of masters who are thereby enabled to do more or better work in their professions. But on the average dropping a butler or chauffeur and adding a district nurse or teacher will improve a community.

The next five items concern creature comforts, being the ownership of automobiles and installations of gas, electricity, telephone and radio (per capita in all cases). Wide ownership of automobiles and radio sets is not an unalloyed blessing, and some persons will argue that in cities the former prevents people from getting enough exercise, and that where there are free libraries and free lectures the latter tempts people to lower standards of entertainment. But possession of a car does not forbid anybody to walk; nor does the possession of a radio compel anybody to give up reading and lectures. Probably on the average it raises standards of entertainment from sensual indulgences and silly gossip oftener than it lowers them. In any case we shall later find internal evidence that wide ownership of radio sets is, in and of itself, a good.

We have measures of illiteracy in various age-groups, and have also (a) the combined circulation of the *National Geographic Magazine*, *Better Homes*

*and Gardens and Good Housekeeping*, and (b) the circulation of the *Literary Digest* (per capita in both cases).

The remaining six items taken as evidence of good conditions are the infrequency of deaths from syphilis, homicide, and automobile accidents, the value of the city's property in schools, libraries, museums, parks and other recreational facilities, the percentage which that is to the value of its other property (in police stations, jails, courthouses, and buildings used for general government, etc.), and the value of all the city's public property (except streets and sewers) minus its debt. It is good to live in a city where there are few syphilitics and few killers, where you are not likely to be killed in an automobile accident, where the wisdom and honesty of governments past and present have stored up much public capital in schools, parks, etc., both absolutely and relatively to less beneficial and idealistic forms of property, and have not burdened its future citizens by heavy debts.

There can be, of course, circumstances in which some of these 37 items are misleading. Tucson and Phoenix have high death-rates, not because they are unhealthy places, but because ill people take up residence there in an effort to avoid or delay death. A city with a large college may be given credit by the census for a high percentage of persons 18 to 20 receiving education, when the credit should be spread among the cities whence they come. The same acre-



age on the outskirts of a city is not as significant for recreation as it would be if near the center. The same average wage of factory workers has a different social value if they are mainly women from what it would have if they were men. Small provision for the use of gas may be balanced by generous provision of cheap electricity. These and other qualifications must be kept in mind in an accurate appraisal of any city in any particular. The "other things being equal" clause used above should be put as a mental preface before almost any use of any city's score in any particular item, to avoid possible injustice. But the total score on all 37 items will not be seriously unfair to any city.

This list of items is far from a complete inventory of the features of a city which make it a good place for good people. The intelligence, justice, kindness, and charm of its residents are very imperfectly represented. So are the beauties of its buildings, gardens, and natural surroundings. So are its traditions and enthusiasms. I hope that someone may extend it to include these subtler and more spiritual values. Some cities which rank high in provisions for free education, recreation, care of health, and the like may conceivably be poisoned by bigotry, snobbery, or bad taste. We shall, however, find that, in so far as evidence is obtainable concerning these personal qualities in the population, they correlate positively with the scores by our list of items. Our scores are imperfect in respect of such qualities, but not perverse or misleading.

Certain humanists who abominate all efforts to measure human values, will object to the list of items and to the scores computed from them. "The Florence of Dante and Benvenuto Cellini would be rated far below some humdrum suburb. The Athens of Pericles would not rate as high as Athens, Georgia, by this inventory," they will complain. "It does not include the important things. Radio sets, free schools, swimming-pools and baby-clinics cannot atone for bigotry and bad taste. What use are free libraries when the people read trash? It is better to live in a city that is mean by your standards if it has men and women who are sensitive to what is fine and noble."

The appropriate answer to such criticism is briefly as follows:—The list of items is imperfect in respect of certain personal qualities in the population, as stated above, but is good as far as it goes.

The list is obviously in many respects relevant to the present only, not to comparisons between cities of the present and of the past. The Athens of Pericles would not score as well in many items as the ordinary American city. Nor would the Florence of Dante. But Athens and Florence would have scored extremely high, each among the cities of its time, by our list.

Moreover, if those personal qualities which the humanist rightly admires and finds neglected by our list could be measured, and the three hundred cities were rated according to them, the results would not

be opposed to those found for the thirty-seven more commonplace excellences, but would correlate with them positively. A high rank in a composite of them will be significant of openmindedness and good taste. Just as high rank for the absence of poverty and the presence of creature comforts are signs of high rank for intellectual abilities and interests, so both of these, especially the latter, are signs of high rank in whatever is fine and noble. Any honest humanist will find far more of what he desires in the cities ranking high by our list than in those ranking low.

If we make a list of our cities, writing after each the numbers which tell its reported status in these thirty-seven community virtues or municipal good points, we are at once struck by the fact that some cities rank high in all or nearly all of them and that some cities rank low in all or nearly all of them. Consider the facts of Table 1 for Pasadena, Brookline, Evanston and Montclair on the one hand, and the unnamed cities,  $X_1$ ,  $X_2$ ,  $X_3$  and  $X_4$  on the other. Each entry in Table 1 tells whether the city in question is above (unmarked numbers) or below (numbers preceded by a minus sign) the median city in that item or feature, and how much it is above or below.\*

Table 1 shows that Pasadena has only two minus scores, Brookline only three, Evanston only seven,

\* The scales are often in units such that two-thirds of the cities will score between +10 and -10 approximately. But this could not be done in some cases without labor that could be better spent otherwise.

and Montclair only three. The four unnamed cities have only seven plus scores out of one hundred and forty-eight. Good traits go together in cities.

If we make an index of the general goodness of life for good people by combining all the 37 scores in these desirable features of health, education, comfort, etc., superiority in some is not compensated for by inferiority in others. The cities still differ widely. In the weighted combination of the 37 scores which I have made (which is described in Appendix II) the scores for all cities having over 30,000 inhabitants in 1930 (except Atlantic City, Miami and St. Petersburg) are as listed in Table 2.\*\*

TABLE 1

The scores of certain cities in 37 items. (Each score is a deviation from the score of the median city in the item in question.)

|   | Pasadena | Brookline | Evanston | Montclair | $\bar{X}_1$ | $\bar{X}_2$ | $\bar{X}_3$ | $\bar{X}_4$ |
|---|----------|-----------|----------|-----------|-------------|-------------|-------------|-------------|
| Infant death rate (reversed).....                           | 8        | *         | 8        | 5         | -12         | - 8         | - 7         | -17         |
| General death rate (reversed)...                            | 0        | 4         | 7        | 12        | -24         | -21         | 7           | -29         |
| Per capita deaths from typhoid (reversed) .....             | 6        | 5         | 5        | 4         | -51         | -22         | - 1         | -28         |
| Per capita deaths from appendicitis (reversed) .....        | 6        | 9         | - 1      | 5         | - 2         | - 5         | - 7         | 3           |
| Per capita deaths from puerperal diseases (reversed).....   | 6        | 7         | 0        | 5         | - 8         | - 9         | - 6         | - 9         |
| Per capita public expenditures for schools .....            | 13       | 3         | 7        | 13        | - 6         | -10         | - 4         | - 8         |
| Per capita public expenditures for teachers' salaries ..... | 33       | 5         | - 3      | 23        | - 7         | -10         | - 4         | -10         |

\*\* These resort cities are so exceptional in certain respects that it seems best to omit them. They are, I may say, neither very high nor very low in the General Goodness score.

TABLE 1—(Continued)

|  | Pasadena | Brookline | Evanston | Montclair | $\bar{X}_1$ | $\bar{X}_2$ | $\bar{X}_3$ | $\bar{X}_4$ |
|--|----------|-----------|----------|-----------|-------------|-------------|-------------|-------------|
| Per capita public expenditures for text-books and supplies...                | 51       | 1         | - 5      | 9         | - 7         | - 9         | - 9         | -10         |
| Per capita public expenditures for libraries and museums.....                | 26       | 15        | 13       | 17        | -10         | - 2         | - 7         | - 9         |
| Percentage of persons 16-17 years old in school .....                        | 11       | 9         | 7        | 6         | - 4         | - 1         | - 8         | - 2         |
| Percentage of persons 18-20 years old in school .....                        | 28       | 26        | 25       | 20        | - 2         | - 3         | - 9         | 0           |
| Average salary of high-school teachers .....                                 | 3        | 6         | 1        | 8         | - 3         | - 3         | - 5         | - 3         |
| Average salary of elementary-school teachers .....                           | 4        | 4         | 1        | 6         | - 6         | - 4         | - 5         | - 8         |
| Per capita public expenditures for recreation .....                          | 30       | 46        | 6        | 0         | - 6         | - 1         | - 9         | 2           |
| Per capita public park acreage   | 9        | 3         | - 3      | - 3       | - 2         | 6           | - 4         | 4           |
| Rarity of extreme poverty .....  | 5        | 12        | 21       | 15        | - 8         | - 8         | - 6         | - 8         |
| Rarity of less extreme poverty   | 8        | 18        | 28       | 19        | -12         | -11         | - 8         | -12         |
| Percentage of boys 10-14 years old gainfully employed (reversed) .....       | -22      | 15        | 2        | 17        | -72         | -52         | -51         | -33         |
| Percentage of girls 10-14 years old gainfully employed (reversed) .....      | 4        | 9         | - 2      | 6         | -36         | -23         | -68         | -29         |
| Average wage of workers in manufacturing plants .....                        | 15       | 11        | 17       | 13        | -17         | -11         | -15         | -17         |
| Per capita number of homes owned .....                                       | 4        | - 4       | - 2      | 2         | - 5         | - 6         | - 3         | - 6         |
| Per capita support of the Y. M. C. A. ....                                   | 6        | *         | 17       | 20        | 0           | - 2         | - 3         | - 1         |
| Balance of physicians, nurses and teachers over male domestic servants ..... | 8        | 25        | 7        | 1         | 1           | - 4         | - 3         | 1           |
| Per capita domestic installations of electricity .....                       | 6        | - 3       | 5        | - 1       | -15         | -12         | -14         | -12         |
| Per capita domestic installations of gas .....                               | 12       | 7         | 5        | 27        | -14         | -10         | -19         | -11         |
| Per capita number of automobiles .....                                       | 30       | 6         | 5        | 10        | - 8         | - 7         | 0           | - 6         |
| Per capita number of telephones .....  | 14       | 9         | 9        | 1         | - 5         | - 6         | - 5         | - 6         |

TABLE 1—(Continued)

|   | Pasadena | Brookline | Evanston | Montclair | $\bar{X}_1$ | $\bar{X}_2$ | $\bar{X}_3$ | $\bar{X}_4$ |
|---|----------|-----------|----------|-----------|-------------|-------------|-------------|-------------|
| Per capita number of radio sets .....   | 5        | 5         | 6        | 4         | -10         | -9          | -9          | -10         |
| Percentage of illiterates (reversed) .....  | 8        | 11        | 8        | 1         | -22         | -29         | -12         | -43         |
| Per capita circulation of Better Homes, National Geographic and Good Housekeeping .....   | 28       | 14        | 17       | 23        | -6          | -4          | -4          | -5          |
| Per capita circulation of Literary Digest .....   | 28       | 15        | 17       | 23        | -5          | -5          | -4          | -1          |
| Per capita deaths from syphilis (reversed) .....  | 5        | 6         | 4        | 10        | -40         | -39         | -6          | -63         |
| Per capita deaths from homicide (reversed) .....  | 2        | 6         | 1        | 5         | -39         | -37         | -5          | -31         |
| Per capita deaths from automobile accidents (reversed) .....  | 2        | 9         | -2       | 8         | -4          | -1          | 0           | -1          |
| Value of public property in schools, libraries, parks and hospitals .....   | 9        | 8         | 16       | 14        | -8          | -3          | -5          | -4          |
| Ratio of value of public property in schools, libraries, parks, etc., to value of other public property used for municipal services ..... | -6       | -1        | 32       | 10        | -3          | 0           | -2          | 0           |
| Value of public property minus public debt .....  | 8        | 7         | 9        | -5        | 2           | 1           | -14         | -2          |

\* The exact facts are not available, but Brookline is much superior to the median city in infant death-rate.

As a zero in General Goodness from which to reckon the score of each city, I have taken the score of an imaginary city which was as low in each and every item as the lowest of the 310 cities was in that item; a city which would have an infant death-rate of 136 per 1,000 live births, would spend less than

four dollars per capita for teacher's salaries, would spend almost nothing for public recreation, would have over a third of its families living in homes renting for less than \$10 per month, and so on. This zero is much above an absolute zero of welfare. Cities could be, and have been, worse places to live in than this imaginary zero city. Even in a city much worse than it people would not starve, could have friends, could learn to read, could get some books and magazines to read if they would take trouble enough, and would enjoy much greater health and safety than the residents in some Asiatic and European cities of the past.

It is a practical zero like the Zero Fahrenheit, which represents fairly severe cold, rather than an absolute zero of no welfare whatsoever, like the  $-273$  degrees centigrade where there is no heat or molecular motion at all. It is a practical zero because American cities could conceivably sink to it by vice and folly, and in one or another particular item have not yet universally risen above it. It is an instructive zero because it presents a composite of the worst that exists, and may be contrasted with the general goodness score which a city would have if it did as well in each and every item as the highest half-dozen of the 310 cities did in that item. That would be 1541. This score too is imaginary in the sense that no city in America, and probably none in the world, provides so healthy, decent, comfortable and noble a life for good citizens. On the other hand, it is not an absolute

TABLE 2  
The G scores of cities of 30,000 or over in 1930.\*

| Approximate score |  |
|-------------------|--|
| 62 or 1110        | Pasadena   |
| 58 or 1020        | Montclair, Cleveland Heights   |
| 57 or 990         | Berkeley, Brookline  |
| 56 or 970         | Evanston, Oak Park   |
| 55 or 950         | Glendale, Santa Barbara, White Plains  |
| 54 or 930         | Santa Monica   |
| 53 or 910         | Long Beach, Lakewood   |
| 52 or 890         | Alameda, Newton, New Rochelle, East Cleveland  |
| 51 or 870         | Oakland, San Jose, East Orange   |
| 50 or 850         | Los Angeles, Santa Ana, Colorado Springs, Mount Vernon   |
| 49 or 830         | San Diego, Springfield (Mass.)   |
| 48 or 810         | Grand Rapids, Kalamazoo, Minneapolis, Plainfield   |
| 47 or 795         | Fresno, Bloomfield, Rochester, Seattle, Madison  |
| 46 or 780         | Stockton, Arlington, Medford, Quincy (Mass.), Battle Creek, Highland Park, Duluth  |
| 45 or 765         | Sacramento, San Francisco, Hartford, Berwyn, Waukegan, Cedar Rapids, Des Moines, Lincoln, Schenectady, Mansfield, Portland (Ore.), Spokane, Racine   |
| 44 or 750         | Denver, Rockford, Fort Wayne, Topeka, Boston, Watertown (Mass.), Dearborn, Jackson (Mich.), Muskegon, St. Paul, West New York, Albany, Elmira, Jamestown (N. Y.), Syracuse, Yonkers, Norwood (O.), Sioux Falls, Milwaukee        |
| 43 or 735         | Stamford, Washington, Aurora (Ill.), Joliet, Elkhart, Cambridge, Lynn, Malden, Worcester, Lansing, Omaha, Irvington (N. J.), Newburgh, Niagara Falls, Toledo, Easton, Harrisburg, Salt Lake City, Bellingham, Green Bay, Oshkosh |
| 42 or 720         | New Haven, Richmond (Ind.), Davenport, Waterloo, Everett (Mass.), Detroit, Port Huron, Orange, Buffalo, Watertown (N. Y.), Canton, Cleveland, Youngstown, Erie, Kenosha, West Allis  |
| 41 or 705         | Rock Island, South Bend, Wichita, Pittsfield, Waltham, Kearney, Binghamton, New York, Dayton, Pittsburgh, Williamsport, Tacoma   |
| 40 or 690         | Cicero, Elgin, Haverhill, Flint, Poughkeepsie, Tulsa, New Castle, Everett (Wash.), Sheboygan   |
| 39 or 680         | Bridgeport, New Britain, Waterbury, Bloomington (Ill.), Anderson, Hammond, Terre Haute, Council Bluffs, Portland (Me.), Revere, Somerville, Pontiac, Jersey  |

\* It should be kept in mind that these scores represent conditions for the total population. If conditions for the white population only could be ascertained the Southern cities would score much higher. How much higher it is impossible to determine, because many of the 37 items are not available for white residents separately.



TABLE 2—(Continued)

| Approximate score |     |   |
|-------------------|-----|---|
|                   |     | City, Newark (N. J.), Cincinnati, Newark (O.), Superior   |
| 38 or             | 670 | Meriden, Chicago, Moline, Dubuque, Sioux City, Brockton, Holyoke, Hamtramck, Kansas City (Mo.), Bayonne, Camden, Clifton, Elizabeth, New Brunswick, Paterson, Union City, Lorain, Springfield (O.), Altoona, Lancaster, Reading, Wilkes-Barre |
| 37 or             | 660 | Pueblo, Wilmington (Del.), Peoria, Indianapolis, Saginaw, Butte, Hoboken, Akron, Columbus (O.), Lima, Warren, Bethlehem, Johnstown, York, Wichita Falls, Lacrosse   |
| 36 or             | 650 | San Bernadino, Decatur, Springfield (Ill.), Gary, Muncie, Fitchburg, Bay City, Passaic, Amsterdam, Hamilton, Steubenville, Scranton, Ogden, Wheeling  |
| 35 or             | 640 | Phoenix, Danville, Kokomo, Salem, St. Louis, Troy, Marion, McKeesport, Philadelphia, Providence   |
| 34 or             | 625 | Norwalk, Alton, Lawrence, Joplin, Perth Amboy, Trenton, Utica, Portsmouth (O.), Zanesville, Muskegee, Cranston  |
| 33 or             | 610 | Quincy (Ill.), Evansville, Chelsea, Auburn (N. Y.), Allentown, Norristown, Huntington   |
| 32 or             | 595 | East Chicago, Cumberland, New Bedford, Taunton, Oklahoma City, Pawtucket, Amarillo, Charleston (W. Va.)   |
| 31 or             | 580 | Tampa, Covington, Baltimore, Fall River, Lowell, Springfield (Mo.), Manchester, Nashua, Asheville, Hazelton, Fort Worth, Roanoke  |
| 30 or             | 560 | Fort Smith, East St. Louis, Kansas City (Kan.), Rome, Chester, Dallas, Waco   |
| 29 or             | 540 | Tucson, Louisville, Baton Rouge, Chicopee, St. Joseph, Austin, Houston  |
| 27 or             | 520 | Woonsocket, Beaumont, Port Arthur, Richmond (Va.)   |
| 26 or             | 500 | Jacksonville, Hagerstown, Greensboro, Nashville, El Paso, San Antonio, Lynchburg, Newport News, Norfolk   |
| 25 or             | 480 | Birmingham, Atlanta, Lexington (Ky.), Galveston, Portsmouth (Va.)   |
| 24 or             | 460 | Little Rock, Charlotte, Raleigh, Memphis  |
| 23 or             | 440 | Paducah, Lewiston (Me.), Knoxville  |
| 22 or             | 420 | Mobile, Pensacola, Shreveport, Chattanooga  |
| 21 or             | 400 | New Orleans, Wilmington (N. C.), Winston-Salem  |
| 20 or             | 380 | Montgomery, Macon, Jackson (Miss.), Columbia (S. C.), Laredo  |
| 19 or             | 360 | Savannah, Durham  |
| 17 or             | 330 | Augusta, Columbus (Ga.), Meridian, High Point, Charleston (S. C.)   |
|                   | 0   | A city as low in each of the 37 traits as the lowest city in the trait was.   |

maximum more than which human life cannot possibly hope to attain, but a composite of excellences each of which some cities have attained and which all cities may reasonably try to attain.

As a rough approximation to an absolute zero of welfare for nine-tenths or more of the population, we may take the score of a city in which:—half of the babies born die within a year; no educational or recreational facilities are furnished free; 98% of the population live in mud huts and eat food costing less than 10 cents a day at present prices, and own nothing but a few rags; there are two deaths per thousand per year from homicide; two from typhoid; twice as many from appendicitis and puerperal diseases as in our worst cities; 90% of boys and 85% of girls 10 to 14 are at work; nine out of ten teachers are slaves supported at the caprice of their masters. Scored by our system such a city would rate about -1300, or 1600 lower than our lowest cities. The worst Asiatic cities of the past would receive some such score by our system. Our items and system of weights are not well designed for such a city, and this -1300, though an honest estimate, is rather meaningless. It may, however, serve to call attention to the fact that the differences amongst the 310 cities, though large in significance for the general goodness of life for good people, are small in comparison with the differences between even the worst of these cities and the worst that the world has experienced.

The index of general goodness can be somewhat improved by giving each city a bonus for its excess of plus over minus scores among the 37 items, or a penalty for its excess of minus over plus scores, and by expressing this improved index in less elaborate numbers. When this is done, (as described in Appendix II) we have scores running from 62 for Pasadena to 17 for the lowest cities (or from +24 to -21 if expressed as deviations from the score of the average city. These improved measures of the general goodness of life for good people will be used as G scores in the rest of this book. The relative positions which cities maintain are very closely alike by both scores, but in the improved G score, a city gets less credit for being extremely high or blame for being extremely low in some one item.

A high G score means life for babies, education for children, parks and playgrounds, libraries and museums, the absence of slums and child-labor, wide provision of gas, electricity, telephones and radios, high wage-scales, honesty and wisdom in municipal government present or past or both, and other aids to a good life. The citizens of any city whose G score is high may well be gratified and stimulated to maintain and improve its status. The citizens of any city whose score is low should be stimulated to find its deficiencies and remedy them.

To maintain or raise a city's status in the goodness of life for good people, we need to know its causes. Chapters IV and V will provide this knowledge. In

preparation for them we need to study the relations between the features, especially the good features, of cities, and the relations between the general goodness of life for good people and various aids and impediments to it. This we shall do in Chapter III.

## CHAPTER III

### THE INTERRELATIONS AMONG VARIOUS FEATURES OF A CITY

The easiest, and also the best, way to realize how two traits are related in our group of cities is by a diagram like Figure 9, in which the position of each little mark with reference to the two scales measures the status of one city in the two traits. Thus in Figure 9 the distance of any mark from the left of the page is the salary of high-school teachers as reported for a certain city and the distance of that mark down from the top of the page is the average salary of elementary-school teachers in that city. The two facts are positively and rather closely related. The marks form a rather narrow ellipse or band with a rather steep slope in the elementary-school teachers' salaries as we go to higher and higher values of the high-school teachers' salaries. A number, the so-called coefficient of correlation, called  $r$ , can be computed which measures the narrowness of the ellipse or band and the steepness of the slope. In this case it is about .80.

In general a correlation of .80 between Item A and Item B in our cities tells us that the two items depend largely upon the same causes, the status of the city in A being predictable with a fair degree of accuracy from its status in B, and vice versa; and that if we should plot the relation it would be like that shown

Average Salary of High-School Teachers →

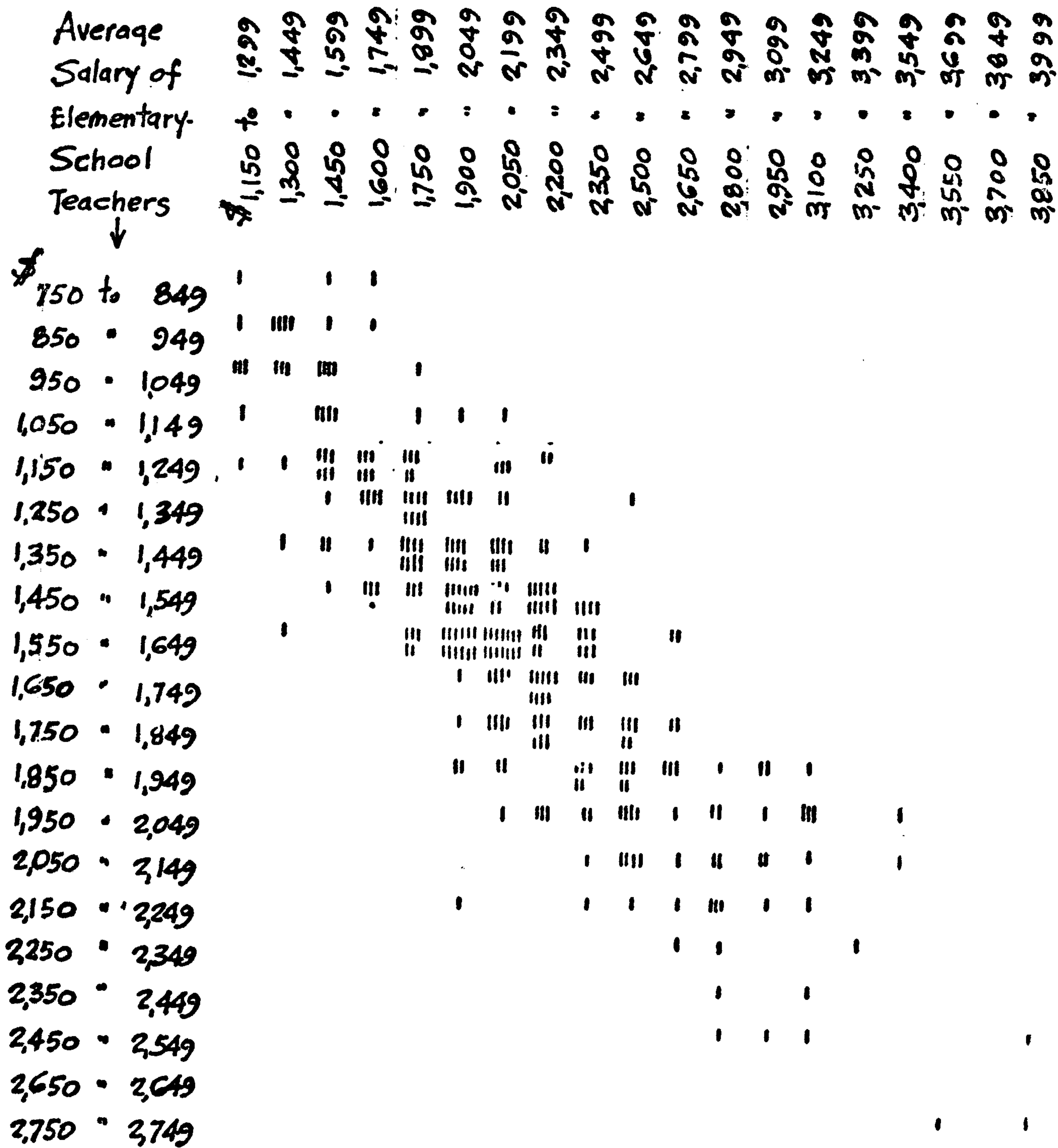


FIG. 9. The correlation between the average salary of high-school teachers and the average salary of elementary-school teachers, in 302 cities. Each little line represents one city; its position shows the status of the city in the two facts in question. Fig. 9 shows a close positive correlation.

in Figure 9. We measure the closeness with which variation up and down in one thing goes with variation up and down in another by a coefficient of cor-

relation which varies from 1.00 to  $-1.00$ . If the correlation between C and D is 1.00, the variations up and down in C and in D are perfectly determined each by the other. For example, the correlation between the average teacher's salary in these cities expressed

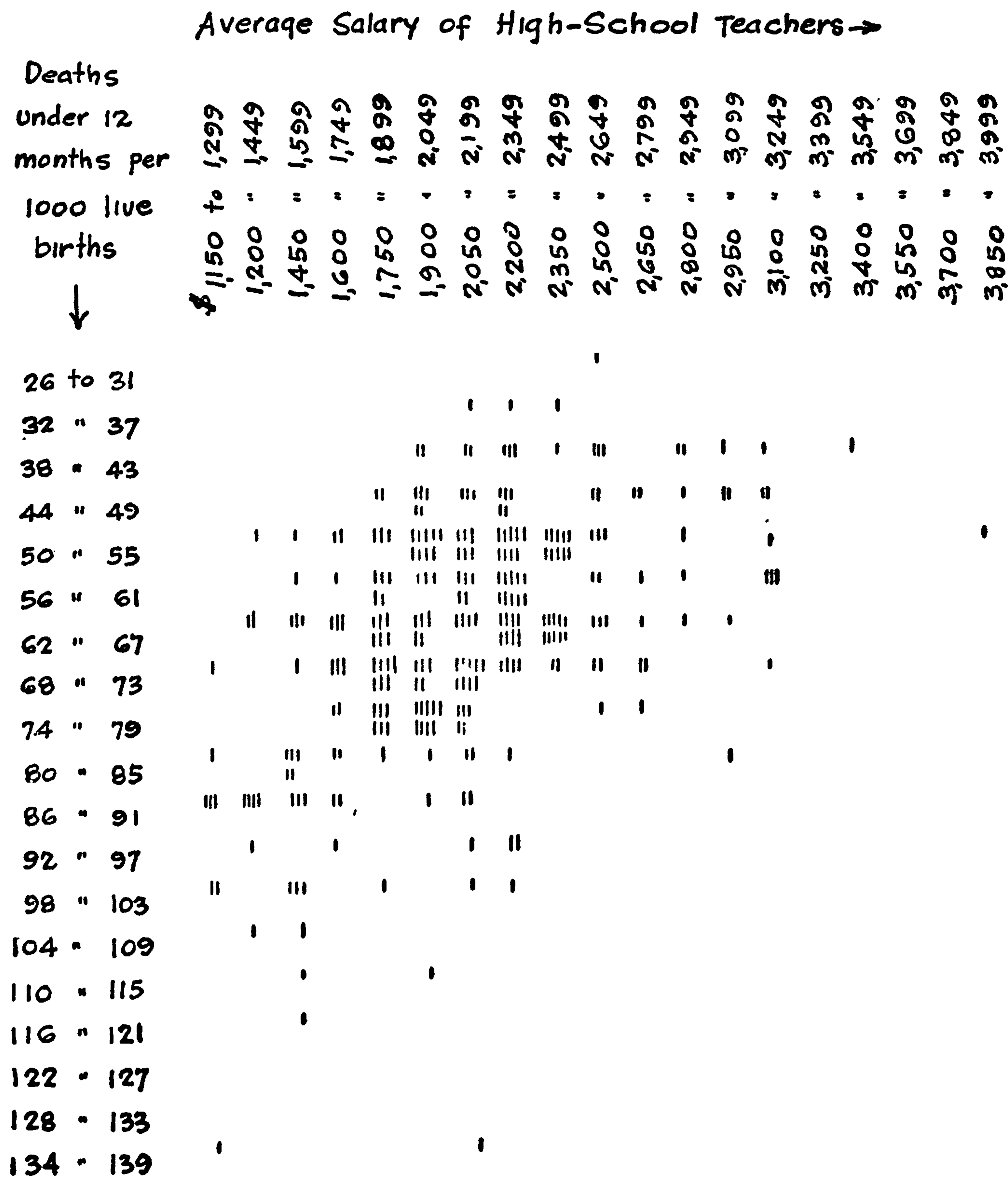


FIG. 10. The correlation between the average salary of high-school teachers and the infant death-rate, in 280 cities. Fig. 10 shows a substantial negative correlation or antagonism.

in dollars and the average teachers' salary expressed in dimes would be 1.00.

If the correlation between two items is 0, the variations of the cities in these items are related neither more nor less than they would be by chance. For example, the correlation between the average teacher's salary and the percentage of the population having names beginning with A, B, C, and D would probably be zero. A negative  $r$  means antagonism between the two items in the sense that when a city is above the average or median city in one of them it will be *below* in the other. For example, the correlation between average salary of high-school teachers and infant death-rate in 280 cities is  $-.69$ , the relation being as shown in Figure 10. Cities which pay high-school teachers *more* than the median city have *fewer* babies die.

The significance of values of coefficients of correlation from high ones down through 0 to negative ones may be illustrated by the correlations between General Goodness (G) and:—

The number of radio sets owned per 100 inhabitants, shown in Figure 11.

The value of public property minus public debt per 100 inhabitants, shown in Figure 12.

The number of factory workers per 100 inhabitants, shown in Figure 13.

It is from the correlations of G that we have to discover its causes. It is not practicable to experiment with cities and observe the results. Nor can we, ex-



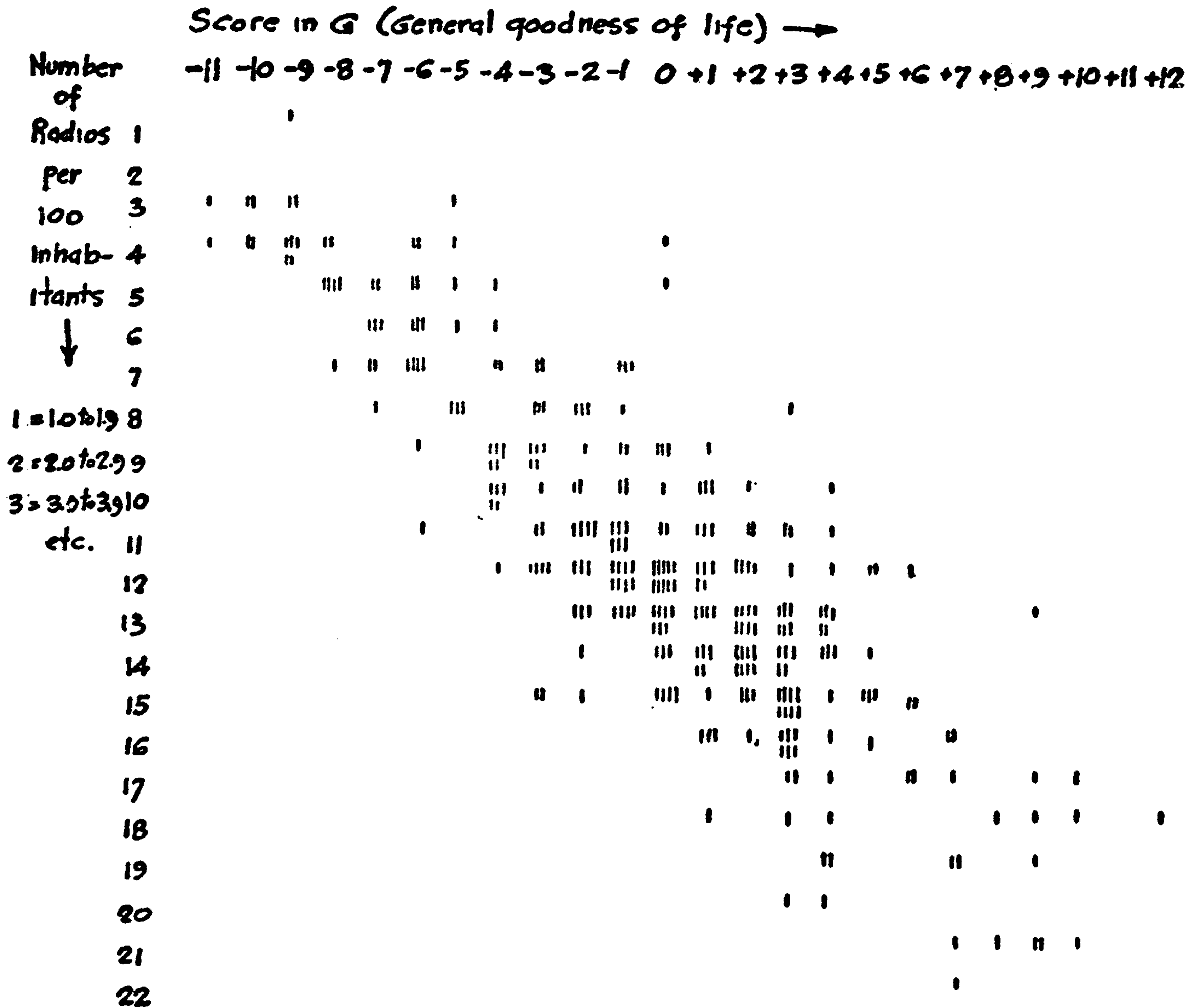


FIG. 11. The correlation between a city's score in G (condensed scale) and its per capita number of radios, in 294 cities. (One city, scoring -1 in G and reported as having over 26 radio sets per 100 inhabitants, is omitted from the diagram since this is almost certainly an error in the census.) Fig. 11 shows a close positive correlation (about .85).

cept rarely, find two groups of cities alike in everything save G and one other feature, and so measure the influence of that feature upon G.\* We have to

\* Understanding what a correlation of 1.00 or .90 or .50 or .10 or 0 or -.50 or -1.00 means is necessary for learning what makes a city a good home for good people, and it is also necessary for intelligent study of many other social problems. The best work on the causation of crime and of poverty is presented in lists of correlations. Correlations are destined to play somewhat the part in the social sciences that equations do in physics, chemistry and engineering.

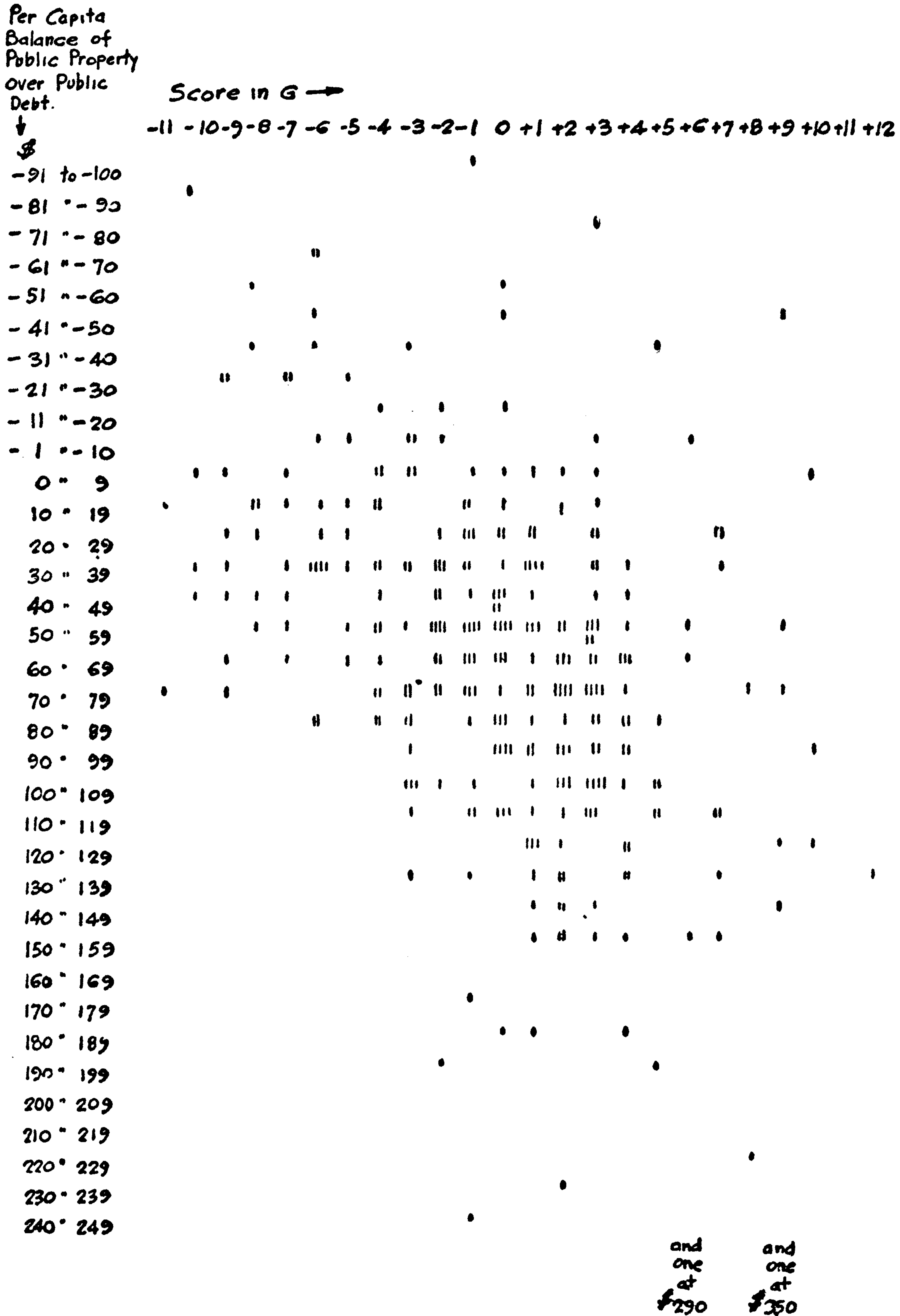


FIG. 12. The correlation between a city's score in G (condensed scale) and the number of dollars per capita by which the value of the city's property (except streets and sewers) exceeds its debt, for the 295 cities. Fig. 12 shows a substantial positive correlation (about .45).

## Factory Workers

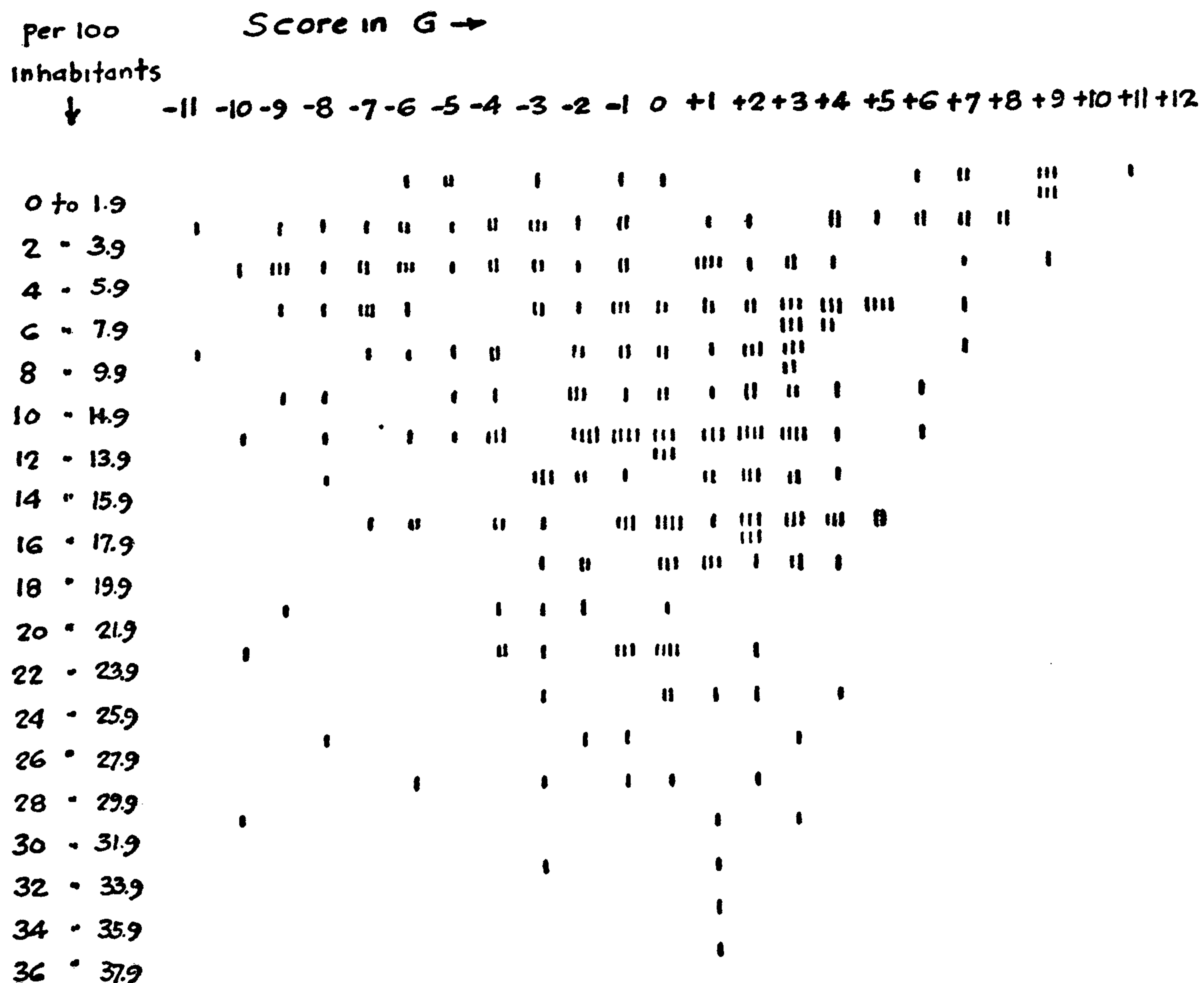


FIG. 13. The correlation between score in G and percentage of the population employed in factories, in 295 cities. The correlation is approximately zero.

select promising probable causes of G, devise adequate measures of each of these, find the correlation between each of them and G, and then proceed in ways which I shall presently describe and illustrate.

There are three specially promising probable causes of G. The first is per capita taxable wealth, which provides funds to maintain public health officers, schools, parks, libraries, etc. The second is per capita private income, which can pay for gas, electricity, telephones, radios, automobiles, books and magazines,

employ doctors, dentists, and nurses, keep children in school, etc. The third is such qualities of intellect and character in the population as cause them to spend public funds for welfare rather than for graft and folly, to spend private incomes for homes and home comforts rather than for ostentation and debauchery, to use their time in reading rather than in committing homicide or acquiring syphilis, to use their energy in earning money rather than in stealing it or wasting it, etc. We shall deal with these in order in the next chapter.

Let us now consider further the nature and significance of the G score which will play the chief role in our studies of welfare.

If we should make a great table showing the 672 correlations of each of the thirty-seven traits (features, characteristics, qualities, or whatever one prefers to name them) which were selected as evidence of the goodness of life for good people with every other of the thirty-seven, all, or nearly all, of them would be positive, and many of them would be high. Good traits go together in communities, as they do in persons. The city well provided with creature comforts tends also to be well provided with schools and libraries; the city that has a small percentage of its families living in homes renting for less than ten dollars a month is also freer than the average from child labor; health, educational opportunities, social welfare, creature comforts, and the rest are positively correlated.

They are not perfectly correlated. If they were, our best cities would be heavens, or at least would surpass anything on earth, and our worst cities would reek with ignorance, misery and vice.

A city which was as high in every trait as the highest city reported for that trait (which is what would occur if all the correlations were perfect) would lose only one baby out of thirty during the first year of life, would have no deaths from typhoid except very rarely in the case of some traveler who brought it with him. It would spend (per capita) over ten times as much public money as the inferior city for teachers' salaries and over twenty times as much for textbooks and supplies, and would have over fifty acres of parks for every thousand of its population, with swimming pools, tennis courts, dancing pavilions and the like kept in first-class condition. It would have no slums; three-quarters of its families would own homes; hardly a child under fifteen would be compelled to work; over nine-tenths of those sixteen and seventeen would be in school, taught by teachers receiving average salaries of over \$2,500 and over \$3,500 in elementary and high-schools respectively. Its public property in the form of schools, libraries, parks and hospitals would be worth over \$200.00 for every man, woman and child. Its public property (not counting streets or sewers) would be worth enough to cover all its public debt and leave a balance of over \$300.00 per person.

A city which was as low in every trait as the lowest city reported for that trait would have one out of eight of its babies die within a year after birth, would lose many persons from typhoid, would spend less than five dollars of public money per capita for teachers' salaries, and almost nothing for text-books and supplies, nothing for a public library, and nothing for parks (of which it would have not an acre). Nearly two-fifths of its families would be living in homes renting for less than ten dollars a month, only one family in eight would own its home, less than a third of the girls and boys 16 or 17 years old would be in school, a tenth of the boys 10 to 14 and a twelfth of the girls 10 to 14 would be working for wages, the average salary of a high-school teacher would be under \$1200, and that of an elementary-school teacher under \$800. The great majority of its homes would be without gas and over half of them would be without electricity; about nine in ten of them would be without a telephone. It would have no Y.M.C.A. or Boy Scouts, or similar organizations; there would be less than one trained nurse, and less than half a dentist, per thousand population; if an artist came there to live he would find no artist to keep him company. Over eighty persons per hundred thousand population would die from syphilis each year, and nearly sixty from homicidal attacks. The city would be nearly or quite bankrupt, all its public property (excluding the streets and sewers) not being worth enough to pay its debts.

Our cities ranking highest and lowest in G do not differ as heaven from hell, but they differ very widely, as shown by Table 3, which states the amount

TABLE 3

The significance of the G scores shown by the facts concerning ten cities at or near the top in G and ten very low in G\*

|  | Average scores of 10 cities high in G | Average scores of 10 cities low in G |
|--|---------------------------------------|--------------------------------------|
| Infant death rate (deaths under 1 year per 1000 live births) .....                                 | 39                                    | 96                                   |
| General death rate (per 1000) .....  | 10.6                                  | 17.6                                 |
| Deaths from typhoid (per 100,000 population) .....   | 0.7½                                  | 10                                   |
| Deaths from appendicitis (per 100,000 population) .....  | 17.5                                  | 33.3                                 |
| Deaths from puerperal diseases (per 100,000 population) .....                                      | 8.4                                   | 31.2                                 |
| Per capita public expenditures for schools.....  | \$ 23.50                              | \$ 8.60                              |
| Per capita public expenditures for teachers' salaries .....  | \$ 15.60                              | \$ 7.10                              |
| Per capita public expenditures for text-books and supplies .....                                   | \$ 1.21                               | \$ .27                               |
| Per capita public expenditures for libraries and museums .....                                     | \$ 1.18                               | \$ .15                               |
| Average salary of high-school teachers .....   | \$2633                                | \$1582                               |
| Average salary of elementary-school teachers .....   | \$1916                                | \$1080                               |
| Percentage of persons 18-20 years old in school .....  | 45                                    | 19                                   |
| Percentage of persons 16-17 years old in school .....  | 85                                    | 49                                   |
| Per capita public expenditures for recreation .....  | \$ 2.16                               | \$ 0.63                              |
| Per capita public park acreage .....   | .006                                  | .005                                 |
| Rarity of extreme poverty (monthly rental less than which is paid by one family in twenty) .....   | \$ 30                                 | \$ 5½                                |
| Rarity of less extreme poverty (monthly rental less than which is paid by one family in ten) ..... | \$ 37                                 | \$ 7                                 |
| Percentage of boys 10-14 years old gainfully employed .....  | 1.5                                   | 8.3                                  |

TABLE 3—(Continued)

|  | Average scores of 10 cities high in G | Average scores of 10 cities low in G |
|--|---------------------------------------|--------------------------------------|
| Percentage of girls 10-14 years old gainfully employed .....   | .7                                    | 5.4                                  |
| Average wage of workers in manufacturing plants .....  | \$1650                                | \$ 850                               |
| Per capita number of homes owned .....   | .13                                   | .07                                  |
| Per capita number of automobiles .....   | .33                                   | .16                                  |
| Per capita domestic installations of electricity .....   | .29                                   | .12                                  |
| Per capita domestic installations of gas .....   | .35                                   | .09                                  |
| Per capita number of telephones .....  | .20                                   | .08                                  |
| Per capita number of radio sets .....  | .19                                   | .04                                  |
| Percentages of illiterates .....   | 1.1                                   | 7.8                                  |
| Weighted index of the per capita circulation of Better Homes, National Geographic and Good Housekeeping during 2 years .....             | 92                                    | 35                                   |
| Weighted index of the per capita circulation of Literary Digest during 2 years .....   | 34                                    | 14                                   |
| Deaths from syphilis (per 100,000 population) .....  | 3.5                                   | 42.3                                 |
| Deaths from homicide (per 100,000 population) .....  | 3.0                                   | 34.7                                 |
| Deaths from automobile accidents (per 100,000 population) .....  | 23.3                                  | 40.7                                 |
| Per capita value of public property in schools, libraries, parks and hospitals .....   | \$ 144                                | \$ 54                                |
| Per capita value of public property minus public debt .....  | \$ 107                                | \$ 21                                |
| Ratio of value of public property in schools, libraries, parks, etc., to value of other public property used for municipal services..... | 8.7                                   | 3.9                                  |

\* The ten high cities were Berkeley, Glendale, Pasadena, Santa Barbara, Evanston, Oak Park, Brookline, Montclair, White Plains, and Cleveland Heights.

of each trait possessed on the average by ten cities at or near the top in G and by ten at or near the bottom.



Comparing the ten at the top with the ten at the bottom, we find such facts as the following:

The infant death-rate is only two-fifths as high; the general death-rate is only three-fifths as high; the deaths from typhoid, appendicitis and diseases of child-birth are as 1 to 13, 1 to 2 and 1 to  $3\frac{3}{4}$ ; the per capita public expenditures for schools are nearly 3 times as great, for teachers' salaries over twice as great, for text-books and supplies four and a half times as great, for libraries and museums eight times as great. The average teachers' salary is nearly twice as great; the percentage of young people 18 to 20 in school is over twice as great, and the percentage of those 16 and 17 in school is nearly twice as great. The per capita public expenditure for recreational facilities is over three times as great. There are no slums in the high ten, 95 per cent of the families living in homes with a rental value of \$30 or more a month, and only a quarter of one per cent in homes renting for less than \$10 a month, whereas in the low ten twenty-four per cent do. Child labor is only one-seventh as frequent; wages of factory employees are nearly twice as high; ownership of homes is nearly twice as frequent. Automobiles are twice as common, gas, electricity and telephones about three times as common, radio sets nearly five times. Illiteracy is one-seventh as common, the circulation of the good magazines two and a half times as common. Death from syphilis and homicide occurs one-twelfth as often. The value of the plant used for educational

and recreational purposes (schools, libraries, museums and parks) is nearly three times as great, the reported value of public property minus public debt is five times as great.

If all the 310 cities could improve themselves to the status which these ten "best" cities had in 1930, the condition of life would be enormously improved for the fifty million people who live in them, and substantially improved for the fifty million more from towns and villages who visit them.

Someone may object that it is unfair to set up as ideals or goals or standards suburban cities like Pasadena, Evanston, Brookline, Montclair and White Plains which do not extract ores, manufacture goods, conduct trade, direct transportation, or do any of the world's dirty work or crowded work, and which are not self-sufficing units but depend upon large industrial or trading cities whose suburbs they are. It can be argued that the dirty work and crowded work of cities may conceivably be separated from the rest of their life so that every city may be, in its family life, school life and recreational life, what the best suburban cities now are. But for the present, admitting the practical truth in the objection, let us see the best that our country has to offer, excluding the fifty-five cities which are neighbors of much larger cities.

Table 4 states the facts concerning ten such cities. They are put in comparison with the ten cities lowest in G score, and also with the ten that are lowest after

TABLE 4

The significance of the G scores, shown by the facts concerning the ten highest and ten lowest cities in G, when suburban cities and cities of Virginia, North Carolina, South Carolina, Georgia, Florida, Kentucky, Tennessee, Alabama, Mississippi and Louisiana are omitted. (The ten high cities are then Oakland, San Diego, San Jose, Santa Ana, Santa Barbara, Stockton, Colorado Springs, Springfield (Mass.), Kalamazoo and Madison).

|  | Average scores of Oakland, San Diego, etc. | Average scores of the ten lowest outside of Virginia, North Carolina, etc. | Average scores of the ten lowest of all cities |
|--|--|--|--|
| Infant death rate .....  | 50   | 93   | 96   |
| General death rate .....   | 12.3                                       | 15.4   | 17.6   |
| Deaths from typhoid .....  | 2.2  | 8  | 10   |
| Deaths from appendicitis .....                                   | 22.0                                       | 25.3   | 33.3   |
| Deaths from puerperal diseases .....                             | 11.7                                       | 22.5   | 31.2   |
| Per capita public expenditures for schools .....                 | \$ 21.50                                   | \$ 10.00   | \$ 8.60  |
| Per capita public expenditures for teachers' salaries .....      | \$ 16.30                                   | \$ 8.05  | \$ 7.10  |
| Per capita public expenditures for text-books and supplies ..... | \$ 1.28                                    | \$ .41   | \$ .27   |
| Per capita public expenditures for libraries and museums .....   | \$ .86                                     | \$ .25   | \$ .15   |
| Average salary of high-school teachers .....                     | \$2608                                     | \$1725   | \$1582   |
| Average salary of elementary-school teachers .....               | \$1944                                     | \$1258   | \$1080   |
| Percentage of persons 18-20 years old in school .....            | 35   | 19   | 19   |
| Percentage of persons 16-17 years old in school .....            | 82   | 51   | 49   |
| Per capita public expenditures for recreation .....              | \$ 1.84                                    | \$ .63   | \$ .63   |
| Per capita public park acreage .....                             | .017                                       | .004   | .005   |
| Rarity of extreme poverty (5 percentile rental) .....            | \$ 15                                      | \$ 8½  | \$ 5½  |
| Rarity of less extreme poverty (10 percentile rental) .....      | \$ 19                                      | \$ 10½   | \$ 7   |

TABLE 4—(Continued)

|   | Average scores of Oakland, San Diego, etc. | Average scores of the ten lowest outside of Virginia, North Carolina, etc. | Average scores of the ten lowest of all |
|---|--|--|---|
| Percentage of boys 10–14 years old gainfully employed .....   | 2.6  | 4.4  | 8.3                                     |
| Percentage of girls 10–14 years old gainfully employed .....  | .6   | 2.2  | 5.4                                     |
| Average wage of workers in manufacturing plants .....   | \$1350                                     | \$1030   | \$ 850                                  |
| Per capita number of homes owned .....  | .13½                                       | .09  | .07                                     |
| Per capita number of automobiles .....  | .34  | .19  | .16                                     |
| Per capita domestic installations of electricity .....  | .29  | .17  | .12                                     |
| Per capita domestic installations of gas .....  | .37  | .19  | .09                                     |
| Per capita number of telephones.....  | .18  | .10  | .08                                     |
| Per capita number of radio sets.....  | .15  | .06½   | .04                                     |
| Percentage of illiterates .....   | 1.8  | 6.1  | 7.8                                     |
| Circulation of <i>Better Homes, National Geographic</i> and <i>Good Housekeeping</i> .....  | 72   | 39   | 35                                      |
| Circulation of <i>Literary Digest</i> .....   | 25   | 16   | 14                                      |
| Deaths from syphilis .....  | 8  | 22   | 42                                      |
| Deaths from homicide .....  | 5  | 16   | 35                                      |
| Deaths from automobile accidents..  | 37   | 35   | 41                                      |
| Per capita value of public property in schools, libraries, parks, and hospitals .....   | \$ 116                                     | \$ 57  | \$ 54                                   |
| Per capita value of public property minus public debt .....   | \$ 154                                     | \$ 8*  | \$ 21                                   |
| Ratio of value of public property in schools, libraries, parks, and hospitals to value of other public property used for municipal services ..... | 6.2  | 3.3  | 3.9                                     |

\* The Median is used instead of the average here. The average is negative.

excluding the South Atlantic States.\* Most of these "good" cities are self-sufficient and combine trade and manufacturing in various proportions. They rate lower in the weighted composite of the thirty-seven traits than the best of the suburban cities, but are still far above the median city in most of the traits and, of course, much farther above the "worst" cities. If all cities could improve themselves to the status of these ten, the improvement would be enormous. Such improvement is surely worth considering.

It may be Utopian or at least unscientific to plan to have all cities as good places to live in as suburban residential cities, though this, as was stated above, needs study. But it is certainly not Utopian to plan to have most cities as good places for good people to live in as such manufacturing and trading centers as San Diego, Springfield, Massachusetts, and Kalamazoo. The life of these good cities is as real as the life of the worst; they are not dreams of poets, or ideals of reformers, or theories of men of science.

The first step toward making all cities as good homes for a good life as the best are is to study the causes which have made the best cities as good as they are.

\* The middle column of Table 4 is included for the convenience of any reader who may wish to compare the "best" and "worst" among cities not differing greatly in the percentage of Negroes.

## CHAPTER IV

# WHAT MAKES A CITY GOOD? THE INFLUENCE OF WEALTH, INCOME, AND PERSONNEL

The G score summarizes conveniently in a single number an inventory and appraisal of many significant facts. It is not exciting to look at, but it tells the degree of safety and happiness of mothers, the opportunities for children, the quality of teaching, the infrequency of poverty and slums, and so on through the list of material and spiritual traits of the city. In studying the causes of the variation among cities in the G score, we shall be studying the causes of the facts, real and important, which would thrill us if we experienced them directly or were made to feel them by the skill of a novelist.

It is best to study the causes of G first in the 200 cities which remain after the exclusion of (a) residential suburbs and other cities which adjoin much larger cities, (b) the cities of the Old South and (c) the giant cities. Later we shall find the conclusions drawn from the 200 confirmed in the larger group.

### TAXABLE WEALTH

The first cause of the variation among cities in G to be studied is the value of the private property in the city which is subject to taxation.

Suppose two cities to be alike save that one contains \$2000 per capita of property which it can tax,

while the other contains only \$1000 per capita of such. The former can obviously collect twice as much tax money at the same rate and have twice as much a year to spend on schools, libraries, museums, parks, health officers, and other worthy enterprises. Other things being equal, the per capita value of taxable property in a city will raise its status in certain "good" traits and so raise its score in G. Besides its value as a means of paying for good activities, the existence of much taxable property per person in a community may be a symptom of morality, thrift, energy and intelligence in its residents past and present and so have a significance over and above its financial contribution. The other things need not be equal, however. The excess in tax money may be spent in lodging for criminals and paupers, or stolen by politicians and their friends, or wasted in badly managed municipal enterprises.

The source of the tax money may do more harm in other ways than it does good by contributing the money. Thus property used for prostitution, gambling, speakeasies, saloons of the old type, etc., may be a liability. Certain factories may do more harm by their unhygienic conditions and bad labor policies than their tax money will counterbalance.

Obviously we must not be content with theorizing about possibilities, but must find the facts. The first fact is the correlation between the per capita value of taxable property and the G score. For the 200 cities this is .28. This correlation concerns the con-

tribution of differences in taxable wealth to the causation of differences in  $G$ , both directly and by whatever is associated with them.

The second fact is that per capita taxable wealth is associated with per capita private income, and its correlation of .28 with  $G$  is *entirely accounted for by this association*. The correlation between  $G$  and per capita taxable wealth in cities which are identical in per capita income is zero.

The official estimates of the real value of property subject to taxation collected in "Financial Statistics of Cities" and used in our work, are far from impeccable, absolute uniformity among the boards of assessors of different cities and different states being unattained as yet, and perhaps unattainable. Moreover there is the difference between cities which tax personal property to some extent and those which tax only real estate. I have repeated all the calculations using the per capita value of real estate only. Doing this does not change the conclusion at all. The effect of using omniscient and infallible estimates of taxable wealth would be as likely to lower the correlation below zero as to raise it. So it is safe to conclude that the influence of amount of taxable wealth upon  $G$  is entirely by way of its influence upon amount of income and will be duly reckoned with if we reckon with the influence of income.

Those interested in the welfare of a city should then be cautious in welcoming or even excusing the establishment of factories or the construction of com-



mercial buildings and expensive houses on the ground that the taxes thereon can be used for schools, parks, etc. Part of the taxes will be absorbed in protecting these buildings from fire, theft, etc., and the good done by the remainder may be counterbalanced by deterioration of the population, or reduction of its per capita income, or both.\* A factory may create a slum, an office building may cause wasteful competitive ostentation. A man who pays twenty-five thousand for his house instead of ten thousand thereby makes substantial cuts in his future income and may do more harm than good to his family.

Certain factories, commercial buildings and expensive houses may be good for a city. One test is whether they will increase per capita income, and at no cost to the personal qualities of the population. The mere fact that they will increase per capita taxable wealth does not justify them.

#### THE PRIVATE INCOME OF THE CITY'S RESIDENTS

The next cause of a city's score in  $G$  to be studied is the income of its inhabitants. Suppose that we had for each city an exact record of the income of every resident from salary, wages, the profits of his business or profession, investments, etc., summed these and divided by the population to get per capita income, and correlated the result with  $G$ . Other

\* In the case of certain factories, the resulting increase in population will be so great that the *per capita* taxable wealth will actually decrease.

things being equal, high incomes should mean better medical care, the retention of boys and girls in school longer, less poverty, less child labor, more homes owned, more installations of gas, fewer homes without electricity, wider circulation of magazines, and probably better financial support of the Y.M.C.A. High incomes should at least not reduce, and probably should increase, the amount available per capita from taxes for schools, libraries, recreation and the reduction of public debt.

The other things may be very unequal. High incomes might be associated with healthy inherited constitutions and with qualities of intellect and character which lead the citizen to spend both public funds and private funds for good things. On the other hand, if those with large incomes are foolish, their incomes may be spent in "vicarious consumption" and "conspicuous waste" to excite the envy of others by retinues of personal servants and showy luxuries which give them little real pleasure and weaken the community. If they are vicious, their incomes may be spent to degrade themselves and others.

If those with small incomes are guilty of folly and debauchery, the comforts of home and the education of children may be sacrificed to the desire for alcoholic drinks, to sex indulgence, and the like. In any income class a shift of so little as a fifth of the expenditures from certain sorts of uses to others may alter the community's G score substantially.

On the whole most economists and many social workers will expect, and have in fact assumed in their doctrines and practices, that a high per capita income of residents, especially if rather evenly distributed among them, will be a very large factor in the sort of welfare represented by G.

Nobody, however, has measured directly the income of even a single city in the United States. The best we can do is to estimate the relative incomes of cities by an index composed of items which are correlated with incomes, such as the percentage of the population making income-tax returns, the average wages of workers in schools, stores and factories, the average amount paid for rent, and other items of expenditures which are indicative of income.

I have estimated the relative incomes of cities from the number of income-tax returns, the salaries of teachers, the salaries of employees in retail stores, the wages of employees in manufacturing plants, the purchases from retail food stores and the amount paid for rental of houses (with allowances for owned houses). The details of the procedure are reported in Appendix III. The result is a score, I, which parallels closely the actual per capita private income for each city. The correlation of this I score with G is .56 for the 200 cities. This would presumably be lower if purchases of intoxicants, sex indulgence and certain sorts of entertainment could have been given weight in the estimate. The inclusion of these would make the I scores go up in cities with

relatively low  $G$  scores and go down in cities with relatively high  $G$  scores.

Nobody has measured directly the income of even a single city, but estimates using the numbers of incomes of \$2500 or over reported, the scales of retail stores, the deposits in banks and other facts of record, have been made by commercial concerns especially to inform advertisers concerning the amount of money each community has to spend.

These estimates are probably less accurate than mine because their authors did not, so far as I can learn, make use of salary and wage data or rentals, and did not study the inter-correlations of the items which they did use. Moreover they were concerned with the amount of money to be spent in a city, with relatively little care whether it was from the incomes of residents or non-residents. But they are at least impartial, being unbiased by any prejudices or doctrines concerning the relation of income to the general goodness of life. It will therefore be instructive to see how closely variations in  $I$  as estimated by them correlated with variations in  $G$ .

In the 200 cities:  
 $r$  for  $G$  with the Crowell Company's estimates of "total income" per capita is .28.  $r$  for  $G$  with the Crowell Company's estimates of "marginal income" per capita is .28.  $r$  for  $G$  with the Curtis Company's estimate of income per capita is .46.\*

\* These correlations and the .56 for the Thorndike index of income are for the incomes in dollars. Allowance for local variations in the

If we use the highest correlations (those with the Thorndike estimate of incomes), about a third of the variation of the 200 cities in G can be attributed to their variations in dollar income and whatever is associated therewith.\* We shall shortly see that something which is not income pure and simple but is associated with it, deserves credit for part of the third. The income of its citizens is a true cause but not the total cause or even, as will be shown, the largest cause of a city's welfare as measured by G.

The goodness of life in a city is explainable only in part (about one fourth) by wealth and income. If by a miracle we could turn every house, shop, office and factory in a city into one worth twice as much, and double the wages and other income of every inhabitant of the city, the improvement in G the next year, or the year thereafter or a decade thereafter, would probably be very disappointing. The goodness of life in a city has deeper roots than its present wealth and income.

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purchasing power of the dollar would alter them somewhat, but not greatly. The allowances to be made and their effects will be reported in Chapter VII.

\* The per cent of the variation of B attributable to A and what A involves is the square of the coefficient of correlation between A and B. If the correlation is .90, 81 per cent of B is accounted for by whatever accounts for A; if it is .80, 64 per cent of B is accounted for by whatever accounts for A. Since the correlation between G score and income is .56, 31 per cent of the variation in general goodness is accounted for by whatever accounts for the income score. According to the Crowell or Curtis estimates, income has a much smaller potency in determining G (8 per cent and 21 per cent).

## PERSONAL QUALITIES

Having found that differences in wealth and income are responsible for only one-fourth of the variation of the two hundred cities in goodness of life for good people, we inquire concerning the intelligence, character and other personal qualities of the citizens. Do the cities differ appreciably in any of these? If so, do these mental and moral differences have any share in determining a city's score in G, the composite of desirable traits?

Among the measurements of the cities there are eleven which may fairly be used as indices of personal qualities—mental or moral facts about a city's residents. These are:

The number of persons graduating from public high schools in 1934 (per 1000 inhabitants)

The percentage which expense for public libraries is of total expenditures of public money.

The percentage of literacy in the total population

The percentage of literacy among those aged 15 to 24

The per capita circulation of public library books

The per capita number of homes owned

The per capita number of telephones

The number of dentists divided by the number of lawyers

The excess of the number of physicians, trained nurses and teachers over the number of male domestic servants

The per capita number of deaths from syphilis (reversed)

The per capita number of deaths from homicides (reversed)

I have combined the scores in these eleven traits into a composite personal-qualities score which we may call P.

The cities do differ very widely in each of these traits, and widely in the composite of them all. Some cities have, much more than others, citizens who live decently, care about education, read books, and are able to progress well in school, who spend their private money to buy a home, have a telephone, and care for their children's teeth rather than engage in litigation, and who spend public money for teachers, schools, libraries and parks rather than for politicians, city halls, court-houses, jails, streets and sewers. Some cities attract and support artists, physicians, trained nurses and teachers, and get along with few male domestic servants. All this is summated and represented more or less well in the P score.

Five cities having very high scores in P will compare with five having very low scores as follows:

The frequency of high-school graduation from public high-schools is twice as great.

The frequency of illiteracy is one-fifteenth as great.

The library circulation (per capita) is three times as great.

The percentage of public money spent for libraries and museums is four times as great.

The frequency of death from syphilis is one-twelfth as great.

The frequency of death from homicide is one-ninth as great.

Twice as large a fraction of the population own homes.

Three times as large a fraction of the population have telephones.

Whatever causes these differences in the personal qualities of the residents, as summated in the P score, is a large factor in causing the differences in "General Goodness." The correlation between P and G in the 200 cities is .69, which means that almost half of the variation in G is attributable to P and whatever it implies.

From the correlations of W (per capita taxable wealth), I (per capita private income) and P with G and with one another we can analyze the causation of the variation of the 200 cities in G. The results are:

W acts only by influencing I, contributing nothing by itself alone.

I, apart from its relation to P, accounts for 26½ per cent of the variation in G.

P, apart from its relation to I, accounts for 43 per cent of the variation in G.

IP, something which I and P have in common, accounts for 4½ per cent of the variation in G.

Forces other than W, I and P account for 26 per cent of the variation in G.



The 26 per cent due to other causes than I and P would almost surely be reduced and the 43 per cent due to personal qualities increased, if we had more adequate measures of the intelligence, ability, energy, morality, civic patriotism and other personal qualities of the populations of these 200 cities. I venture to predict that if the eleven symptoms could be extended to include an adequate intelligence test of an adequate sample of the population (say, all the 10 year olds), the May-Hartshorne tests of honesty, cooperativeness, etc., of a similar sample, at least 6 would be added to the 43 for P or IP and subtracted from the 26 for "other." If accurate records of cruelty, theft, fraud, wilful idleness, sex crimes, prostitution and drunkenness could be added, I predict a rise of 3 or more points for P or IP at the expense of the "other." If we could obtain perfect records of all the personal qualities of all the population and of all their incomes, I predict that nearly three-fifths of the difference among cities in the goodness of life for good people would be found to be caused by personal qualities of the population including their customs and ideals, and about one-fourth by I, leaving not much over a tenth to be caused by differences in climate, scenery, harbor, water-power and other physiographic features, size, form of government, the distribution of wealth and income, homogeneity of race, etc., etc.\*

\* More accurate determinations of income may increase the 26½ per cent slightly, but this cannot be guaranteed. The chief inadequacy

Cities are made better than others in this country primarily and chiefly by getting able and good people as residents—people who, for example, are intelligent, read books, do not contract syphilis, or commit murder, or allow others to do so, own their own homes, have telephones, and support doctors, nurses, dentists and teachers rather than lawyers and domestic servants. The second important cause of welfare is income. Good people, rich or poor, earning much or earning little, are a good thing for a city, but the more they have and earn the better. They and their incomes account for at least three-fourths, and probably more, of the differences of American cities in the goodness of life for good people.

In the cities of heaven it may be different. They may differ in glory by creeds, or by faith and hope. In some Utopia it may be different. Its cities may become good by fancy schemes of education, government, production, distribution and consumption of wealth, or what not. In the minds of theorists it may be different. In Russia or Italy it may be different, though I am confident that it is the same. But in these American cities it is the fact. The good ones are good first and chiefly by having good people, and secondarily by having high incomes. The safe

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of I is its tendency to omit income spent for vice, folly and ostentation. The inclusion of income so spent will act to reduce the correlation of I with G, and may counterbalance the general tendency of greater accuracy in I to increase its correlations.

and prudent course for any city to pursue is to improve its population and increase its incomes.

These results for 200 cities may now be checked by using also the 55 cities adjoining the larger cities and the 40 cities of the Old South, making 295 in all. As before, *W* has no influence upon *G* except via *I*. As before, *P* has 1.6 times as much influence as *I*.<sup>\*</sup> As before, *P* and *I* (that is, *P* pure and simple, *I* pure and simple, and *IP*, what *I* and *P* have in common) account for a large part of the variation in *G*. They account for 83½ per cent of it in these 295 cities. But the fraction accounted for by what *P* and *I* have in common is now 23 per cent instead of 4½. The determinations of *G* in the 295 cities run:

0 per cent due to *W*

23 per cent due to *I*

37½ per cent due to *P*

23 per cent due to what *I* and *P* have in common.

16½ per cent due to factors other than *W*, *I* and *P*

Certain forces link *P* and *I* much more closely when the 95 suburban cities and cities of the Old South are included than when they are not, and *P* and *I* account for ten per cent more of the differences in goodness among cities when these 95 cities are included than when they are not. These facts are important in several ways, but for our present purpose their importance is in showing that the wider variety

<sup>\*</sup> This result is obtained when the Thorndike index of income is used. If any of the three commercial indices of income were used the influence of *P* would be an even larger multiple of the influence of *I*.

of cities nowise impairs the conclusions stated above, but rather strengthens them.\*

\* The reader may be disturbed by the fact that six items used for the P score and three items used for the I score are among the thirty-seven used for the G score, with the result that, if the correlation of a G score made up without using any of these nine were zero with P and with I, the correlation of our G would still necessarily be positive. There is no reason to be disturbed. I have computed G scores for all the cities with these nine items omitted, and the correlations of this modified G with I and P. If this new G had been used the correlations would have been lowered only about .01 for I and .06 for P.

But it would be wrong to use this new G and its correlations just to avoid having P or I items in G. Items should be put in G, I, and P if they are elements in, respectively, a good life for good people, the relative private incomes of cities' residents, and the intelligence, morality, and family devotion of residents. It would have been silly not to have used the homicide rate (reversed) in both G and P because including it in both raises the correlation. No item raises the correlation unduly by being put in both, if it belongs in both. The only questionable inclusion is, I think, that of per capita number of telephones in P; and that can be defended.

## CHAPTER V

### WHAT MAKES A CITY GOOD (*Continued*)

Is it better for a community to have its married women stay in the home or work for a wage? To have a large proportion of men teachers or a small? To have a few churches with large membership or many churches each with few members? To have chain stores or independents? To have a city manager or a mayor? To own and manage its lighting plant or to leave this to private enterprise? These are samples of a multitude of questions about which there is disagreement.

Important evidence can be obtained concerning many of them in the shape of correlations of the fact in question with G. Such evidence is not conclusive for two reasons: A thing may be intrinsically bad, but be associated with something good; a thing may be intrinsically good, but be associated with something bad. Caution is therefore necessary in arguing from correlations with G, and pains should be taken to inquire into all relevant affiliations of the fact in question. But on the whole there is a primary presumption that whatever goes with G is itself good for a city and that what goes against G is itself bad for a city. For example, if the per capita number of married women employed is as large in the cities high in G as in those low in G, that should make us skeptical concerning the traditional prejudice.

The correlations furnish some surprises, many corroborations of the opinions of experts formed on other grounds, and a few puzzles.

#### SIZE

The correlation between population and  $G$  is .06 for the 295 cities, and .16 for the 200. For cities alike in the percentage at age 0 to 15 it is even lower (-0.005 and .12). The thirteen giant cities not included in the 295 are near the average in  $G$ . Differences in size may account for a fiftieth of the differences in "goodness." The slight benefit from size is related positively to the fact that per capita dollar incomes are higher in the larger cities, the correlation of size with  $I$  being .25 in the 295 cities and .37 in the 200. It exists in spite of the fact that the personal qualities of their populations are inferior, the correlations of size with  $P$  being -.17 for the 295 cities and -.28 for the 200.

Specialists, however, may need to live in, or at least be near, a large city in order to have stimulus from those of their kind. Artists, musicians, literary men, medical and legal experts, engineers and men of science may thus find a city of under 50,000 lacking in attractions. This may hold good similarly for opportunities for the student specialist. If he lives in a city of fifty thousand or less, a brilliant mathematician cannot have a college, a promising artist cannot have a good art school, a gifted actor or dancer

cannot have a theatre, as they could in a city ten or twenty times as large.

Moreover, when the small city does provide the same opportunities as the large city, its residents may have to go longer distances to reach them. Cities have larger populations by having larger areas, as notably in Los Angeles, or by having greater density, as notably in the boroughs of Manhattan and Bronx. In proportion as the population is denser the average distance from a high school, a playground, a library, and the like tends to be less. Our per capita figures do not take this factor into consideration. Nor do they take into consideration the greater specialization possible in the larger cities. Twenty dollars per capita can provide special schools and classes for the blind, deaf, crippled, cardiac patients, feeble minded, and intellectually gifted in a city of 250,000, but not in a city of 25,000.

In certain respects ten million dollars can do more for 300,000 people living in a space 6 miles square and under one administration than for the same number living in ten such spaces each remote from the other and each with its separate administration uncoordinated with the others.

The G score does not give weight to these advantages of large size, but it also does not give weight to certain advantages of smallness. The smaller city has more playground space per capita in private yards and vacant lots. It is likely to have more sociability and loyalty in its high schools. Community

enterprises are likely to be better understood and more inspiring. The sense of belonging to and possession of the city is likely to be stronger, and the habit of using its facilities stronger. The specialist's passion is less easily gratified but the common cravings for sunshine, flowers, the woods, and the countryside are more easily satisfied. None of these are measured and included in G.

On the whole I conclude that the G score is a little, but only a little, unfair to the larger cities. If all the actual facilities for a good life for young and for old, for ordinary folks and for specialists, were perfectly appraised the larger cities of the 295 and the giant cities would score relatively higher. But the suburban cities would make even greater gains, since they have the special facilities of a large city by proximity, while retaining the advantages of smallness.

Size is desirable in certain food products, mineral deposits, arable lands, insurance companies, net profits and many other things for definite reasons, but size for size's sake is a fetish.

The glorification of size in the case of a city is largely a superstition, a relic from the times when good music, drama, and preaching were obtainable only in large cities, and when their schools, teachers, shops and dressmakers were notably better. In fact it probably harks back even further, to the times when the cities now having 75,000 or more were contrasted sharply with rural communities by having



water, gas, sewers, lighted streets, and shops other than a "general store." It may hark back even further to the days when civilization was limited largely to the great towns and the manor-houses.

#### DENSITY OF POPULATION

The density of population varies greatly, from about one person per acre to over fifty. It has no correlation with the general goodness of cities, but is related positively to I (.48 and .48), and negatively to P (-.35 and -.13). People make more money in densely populated cities but rate a little lower in personal qualities.

#### RAPIDITY OF RECENT GROWTH

Rapid recent growth, say from 1900 to 1930, gives a city the opportunity to profit by the progress of science and invention with less scrapping of existing buildings, institutions, and personnel. But this advantage either does not weigh heavily or is largely counterbalanced by advantages from stability and the achievements of the past. For the correlation of  $\frac{\text{population in 1930}}{\text{population in 1900}}$  with G is near zero (.11 for the 295 cities and .02 for the 200). This is all due to income, the correlations with P being exactly reversed (-.11 and -.02).

It is true that growth above that due to the excess of births over deaths is evidence that a city is attractive to more people, but this is no reason for congratulation unless the people are superior to the average of the population. Quite the contrary.

The practical lesson is clear. A city should make its life better for the good people in it and their offspring. This will automatically attract other good people so far as that is desirable. Growth will not improve quality, but improved quality will cause growth of a desirable sort.

THE CONSTITUTION OF THE POPULATION AS TO  
THE SEX AND AGE

*Sex*

The number of males per 100 females varies widely (from 69 to 126). The per capita income of cities high in  $\frac{M}{F}$  is naturally greater than that for cities low in  $\frac{M}{F}$ , the correlation being .25 for the 200 cities and .23 for the 295. Consequently there is a slight correlation with  $G$  (.14 and .16). This is entirely due to the differences in income. Excess of men makes the city neither better nor worse in the personal-qualities measure, the correlations being  $-.02$  and  $+.04$ . The correlation with  $G$  among cities alike in  $I$  is zero.

*Age*

In the average city a little over a fourth of the population will be under 15, a little over a twelfth 15 to 19, one-third 20 to 39, one-fourth 40 to 64, and about five per cent 65 or over.

If a city has an excess at the non-productive ages, under 15 or over 64, it tends thereby to have a small per capita income. An excess of children increases

the per capita cost for schools if the schooling is equally good. It has many other influences. For example, other things being equal, it decreases the per capita number of automobiles, a hundred adults being likely to be provided with more automobiles than a hundred children. An excess of persons over 64 tends not only to reduce per capita income but also to increase the general death-rate, alter the per capita retail sales of certain things, etc.

Cities do vary in the relative proportions of children and adults much more widely than most people would think. The percentage of the population of age 0 to 14 years, for example, is below 22 in 20 cities of the 295 and above 30 in 20 others. The differences in the age-constitution of the population should be allowed for in measuring the influence of certain factors discussed in this chapter. They will be.

#### NATIVE-BORN WHITES AND FOREIGN-BORN WHITES

The apparently easy question whether foreign-born whites (i. e. white immigrants since about 1870) are better or worse for a city than native-born whites (i. e. the descendants of white immigrants from 1600 to 1870) is really beset with many difficulties. The relevant data are not decisive and the answer should be checked by a study of individuals rather than cities. On the whole, the evidence from our cities suggests that a city can absorb foreign-born whites such as have entered this country since 1870 with no damage. If it attracts the abler and better half of

them, there will be a notable benefit. The difference between the upper and lower halves of the foreign-born is surely many times the difference between the foreign-born and the native-born.

If the foreign-born whites did not contribute quite as much to a city's welfare as the native-born they should probably be forgiven because they have special handicaps in language, imperfect social adjustment, and perhaps in the treatment received from older residents. They are also, for good or ill, bearing and rearing more children. Whether this characteristic deserves praise or blame depends mainly upon the quality of the children, but the parents of only one or two children have obviously more time, energy and money to use in improving themselves as persons and citizens than the parents of three or four.

PERCENTAGE OF NEGROES

A high percentage of Negro families is a bad sign. This is true for all groups of cities. In all groups, the fewer the Negro families, the better the score of the city in G and P.

The correlations for the percentage of Negro families with G and P are as follows:

|              | In the<br>200<br>cities | In the<br>295<br>cities | In the 182 of the<br>200 cities left after<br>omitting those in<br>Arkansas, Oklahoma<br>and Texas | In the 40<br>cities of the<br>Old South |
|--------------|-------------------------|-------------------------|--|---|
| With G ..... | -.46½                   | -.60                    | -.29   | -.59                                    |
| With P ..... | -.44                    | -.60                    | -.25   | -.74½                                   |

These correlations are not changed appreciably by allowance for differences in the age-constitution of cities.

In Northern cities the percentage of Negroes exerts its influence upon G via P rather than via I, large percentages being associated with high incomes. Among the cities of the Old South, those with more Negroes are low in I as well as in P. The correlations of I with the percentage of Negroes are: +.02 for the 200 cities, -.25 for the 295, +.16 for the 182, and -.50 for the 40.

These facts may be interpreted in various ways according to the interpreter's opinions concerning the extent to which certain traits of the Negro population are inherited and the extent to which they are the products of misfortune. I offer no interpretation here, but only certain further facts.

The facts concern the correlations of the percentage of Negro families with various measures. The first number will always be the correlation in the 200 cities; the second, that in the 295 cities.

A composite of measures of literacy, library circulation, frequency of high-school graduation and percentage of public money spent for libraries, -.23 and -.46.

A composite of measures of infrequency of deaths from homicide and from syphilis, the frequency of home ownership and telephones, the excess of physicians, nurses and teachers over male domestic servants, and the ratio of the number of dentists to the number of lawyers, -.45 and -.58.

These correlations show that the effect of a large percentage of Negro families is not limited to a population's intellectual abilities and interests but acts also upon its morals and devotion to the home.

|  |          |
|--|----------|
| Infrequency of child labor (boys 10-15)  | -.29     |
|  | and -.34 |
| Infrequency of child labor (girls 10-15) | -.11     |
|  | and -.28 |
| Infrequency of illiteracy in ages 15-24  | -.40     |
|  | and -.60 |

These correlations measure the extent to which communities with many Negroes tolerate child labor and fail to educate their children.

|                                      |                    |
|--------------------------------------|--------------------|
| Average wage in manufacturing plants | +.11               |
|                                      | and -.12           |
| Per capita number of factory workers | -.20 $\frac{1}{2}$ |
|                                      | and -.24           |

A large percentage of Negroes reduces factory wage rates only slightly, not at all when the cities of the Old South are left out. This is partly because the colored people are relatively few in industrial cities.

|   |               |
|---|---------------|
| Per capita number of male domestic servants   | +.24 and +.44 |
| Per capita number of female domestic servants | +.37 and +.66 |

These correlations reflect the fact that domestic service is remunerative regardless of a person's color, and is popularly considered beneath the native-born white.

|  |                 |
|--|-----------------|
| Per capita taxable wealth  | + .05 and - .00 |
| Per capita taxable wealth (real estate only)                         | + .02 and - .06 |
| Per capita income  | + .02 and - .25 |
| Median amount paid for rent (or its equivalent in case of ownership) | - .26 and - .40 |

These correlations show that the proportion of Negroes makes practically no difference to taxable wealth, and little to income, but does make a substantial difference to a community's expenditures for housing.

Other important correlations are:—

|   |                    |
|---|--------------------|
| Infant death-rate (reversed)                          | - .63 and - .72    |
| Puerperal diseases death-rate (reversed)              | - .41<br>and - .58 |
| Typhoid death-rate (reversed)                         | - .59 and - .69    |
| Per capita value of schools, libraries and museums    | - .26 and - .37    |
| Per capita value of public property minus public debt | - .46½ and - .48   |
| Deaths from automobile accidents                      | - .40 and - .47    |

The recital of these facts is in no sense an attack upon the Negro race. It would be no kindness to hide the truth. The writer has never thought the less of any man because of his color, and welcomes the achievements of Americans of any race. He believes that opportunities should be given to all human beings in accordance with their ability and readiness to use them for the common good. But he is sure that the truth about one's self or one's group is far better than misleading silence or flattery. It

may be that with wiser treatment a high percentage of colored people in cities will be no detriment. I sincerely hope so. The truth is needed to guide us in that treatment.

Citizens who wish to make a city good and keep it so will be very cautious about importing inferior human material, white or black, either to make local business enterprises profitable or to make domestic life comfortable. The economic or personal advantages may be only temporary and in any case may be bought at too high a price in general welfare. We may be suspicious of a business enterprise which can maintain itself only by importing cheap labor. It is better to ameliorate domestic life by the use of electrical and mechanical appliances and the purchase of prepared foods than by an abundance of domestic servants of low mentality.

A city should try to improve the personal qualities of all its residents, native or foreign-born, white or black. In the conditions of city life, it is wasteful and dangerous, as well as cruel, to maintain Ghettos, black belts, Chinatowns, and the like, in space or in thought, as regions of inferiority, hopelessness, and neglect. Social stratification is probably unavoidable, and may be desirable, but it should be related to abilities and interests rather than to the pigment in one's skin or the church to which his parents belonged. It should be such as to encourage a good life within each stratum, and the utilization of the "higher" strata for the welfare of the lower, as well



as conversely. Movement up of the capable and down of the incapable should be expected and facilitated. A stratum, white, yellow or black, so low that it can do little beyond what an animal or a machine can do is an undesirable element in a modern city.

#### SPECIAL GROUPS

Table 5 shows how the number of dentists, designers, artists, etc. per thousand of the population, and also the number per thousand adults, is related to the general goodness of a city. The occupations are listed in an approximate order of merit. Large numbers of dentists, designers, artists, engineers and musicians are significant of high scores in G; large numbers of illiterates, clergymen and domestic servants are significant of low. Good cities also have more than their share of architects, female nurses, female teachers and other professional workers except teachers. They have fewer than their share of lawyers, actors and veterinaries.

The facts are clear and emphatic, but their interpretation requires caution. How far the persons in question make the city good and how far its goodness makes them go there, or makes them become dentists, or nurses, etc., is usually impossible to determine from the facts available. We may fairly assume that competent dentists make a population more efficient and happy, but even the most ardent advocate of dental care would not believe that the amount of superiority of a city in it accounted for a

TABLE 5

The correlations of various features of a city's personnel with G (the score for the goodness of life for good people), using the average of the correlations for the 200 cities and the 295 cities.

|                                       |     | A<br>Computed for the<br>number per 1000<br>population | B<br>Estimated for the<br>number per 1000<br>adults |
|---------------------------------------|-----|--|---|
| Dentists                              | (M) | .55  | .36   |
| Designers                             | (M) | .43  | .24   |
| Designers                             | (F) | .51  | .32   |
| Artists                               | (M) | .44  | .25   |
| Artists                               | (F) | .34  | .15   |
| Engineers (technical)                 | (M) | .41  | .22   |
| Musicians                             | (M) | .38  | .19   |
| Musicians                             | (F) | .36  | .17   |
| All Professional<br>except teachers   | (M) | .37  | .18   |
| All Professional<br>except teachers   | (F) | .24  | .05   |
| Architects                            | (M) | .33  | .14   |
| Trained Nurses                        | (F) | .29  | .10   |
| Actresses                             |     | .29  | .10   |
| Teachers                              | (F) | .31  | .12   |
| Teachers                              | (M) | .16  | -.03  |
| Policemen                             |     | .22  | .03   |
| Men of Science (mem-<br>bers of AAAS) |     | .18  | -.01  |
| Physicians                            | (F) | .23  | .04   |
| Physicians                            | (M) | .05  | -.14  |
| Public-Service<br>Employees           | (M) | .22  | .03   |
| Public-Service<br>Employees           | (F) | .05  | -.14  |
| Lawyers                               | (F) | .13  | -.06  |
| Lawyers                               | (M) | .04  | -.15  |
| Nurses                                | (M) | .05  | -.14  |
| Veterinaries                          | (M) | .03  | -.16  |
| Actors                                |     | -.01   | -.20  |
| Clergy                                | (F) | .03  | -.16  |
| Clergy                                | (M) | -.33   | -.52  |
| Domestic Servants                     | (M) | -.05   | -.24  |
| Domestic Servants                     | (F) | -.16   | -.35  |
| Illiterates                           |     | -.45   | -.64  |

fifth of its G score! The causation between the personal qualities of a population and its per capita number of dentists surely works both ways.

When antiquated and unscientific factories in a city are reformed by the employment of trained engineers and designers, the result will probably be to increase the income of the city and the desirable intellectual and esthetic interests of some of its residents, but such a reform was probably itself caused partly by the intelligence and enterprise of the management. The causation works both ways.

Furthermore, these features of a city's personnel may be significant less by themselves than by what goes with them. The frequency of artists in a population may add only a trifle to a city's income and not much to its intellect, virtue and care for home and family, but it may be a symptom of other features in a city which do notably increase these. Putting a clean collar on a man does not greatly change his economic status or his personal qualities, but clean linen would correlate among individuals high with both.

Each of the correlations in Table 5 needs to be interpreted in the light of the correlations between the feature in question and all other relevant features of the city. For example, the extremely bad showing of the percentage of clergymen among the population is surely due in part to its affiliation with the percentage of Negroes. If the influence of the latter is equalized, the negative correlations with G are re-

duced from  $-.19$  and  $-.47$  to  $-.05$  and  $-.10$ . The bad showing of physicians is due wholly or in part to the fact that "bad" cities whose governments do not provide a good public-health service, will tend to have more illness and need more private doctoring.

The correlations with I and P (the indices of income and desirable personal qualities) are instructive in connection with the correlations with G. Dentists, trained nurses, male teachers, and male musicians are not specially frequent in rich cities; but they are in cities scoring high in P. Male artists, architects, designers, and engineers on the contrary are not specially frequent in cities scoring high in P, but they are in cities scoring high in I.

Cities with high incomes have relatively nearly as many lawyers, domestic servants and illiterates as they have teachers, dentists and trained nurses (female). But lawyers are rare in cities with populations high in personal qualities, domestic servants are still rarer, and illiterates are rarest of all in such cities. The correlation with P minus the correlation with I averages  $.75$  for illiterates,  $.32$  for domestic servants, and  $.34\frac{1}{2}$  for lawyers.

The frequency of policemen correlates positively ( $.13$  and  $.31$ ) with G, but this is a resultant of a strong positive correlation with I ( $.44$  and  $.43$ ) and a strong negative correlation with P ( $-.48$  and  $-.22$ ). Presumably the cities with higher incomes provide more policemen because they can afford to, and the

cities with better people provide fewer policemen because they do not need them.

#### EMINENT MEN

Great writers, artists, statesmen or scientists serve a whole country or even the world and need not be specially good parents, neighbors, or citizens. They are also so small a fraction of the population that even if they were specially good for a community, their direct influence could not be great.

I have computed for each city the percentage of its residents listed in Who's Who, and also the percentage listed as members of the American Association for the Advancement of Science. The correlations of these percentages with G, I and P are very near to zero.

#### WOMEN IN THE PROFESSIONS

Cities differ greatly in the number of women clergy, physicians, dentists, lawyers, etc. per hundred male clergy, physicians, dentists, lawyers, etc. These ratios are probably symptoms, to some extent, of a certain willingness to try new ways. I have computed these for clergy, dentists, lawyers, teachers, actors, artists and teachers of art, public-service employees, and all professional workers except teachers. There is on the whole a positive but slight correlation with G, none with I, and little or none with P. The median of the sixteen correlations with G is  $.08\frac{1}{2}$ ; with I,  $.00$ ; with P,  $02\frac{1}{2}$ .

## EMPLOYMENT

Child-labor, especially of girls, is a very bad sign. The correlations for percentages of boys ten to fourteen gainfully employed with G are  $-.45$  in the 200 cities and  $-.62$  in the 295. For girls, the corresponding figures are  $-.54$  and  $-.63$ . The frequency of labor by married women is a bad, but not a very bad, sign, its average correlation with G being  $-.10$ . Adult female labor in general shows little or no antagonism to the good life.

## MANUFACTURING

Literary men have almost universally berated the factory town as a dull, unhappy and sordid place. But they have probably attached too much weight to its appearance from the outside. The fields and cottages of agricultural laborers are more attractive to look at than the tenements of a factory city, but perhaps not to live in. Fresh air is not comforting to a man who has not enough to eat and the beauties of nature are less entertaining to most people than human action and social intercourse.

Social reformers found an easy mark for attack in the inhuman treatment of children in the early factories of the nineteenth century, and are still extremely antagonistic to factory work for women and children and critical of it for anybody. But they compare the life of a factory city rather with an ideal of life for working people than with the lives the residents would have had if they had stayed on

the farms of this country and Europe whence they came.

Many economists and sociologists tolerate the factory city as one of the factors whereby mankind has now far more of what it wants than it ever had or could have in a regime of agriculture and household crafts, but object to its smoke, noise, monotonous architecture, absentee-landlordism, impersonal management, precariousness from lack of diversification, and other evils and risks.

A popular view among educated people is that factory cities are not so estimable as residential or trading cities, because they do not look so nice, contain more foreigners, have a lower standard of living, and are less well spoken of in general. By this popular view it is better to sell things than to make them, and best of all to live respectably, working at some skilled trade or profession or in business, preferably wholesale, but not being entirely dependent on your work for your living.

Nobody has a good word for the manufacturing cities. This is partly prejudice. We acclaim the irrigation of a desert, but not the building of a factory, yet the benefits are much alike. We are more obviously illogical when we welcome the construction of a dam to furnish power, and grow lyrical over the lessening of housewives' labor by the use of the power in vacuum cleaners and electric refrigerators, but lament the use of the power to make them! We let the evils of the factory blind us to its good.

I must say a good word for the factory city, for, whatever my personal feelings may be, the correlations with G, I and P declare that factory cities are no worse than the general run. The correlations for the number of factory workers per thousand population (which varies, of course, enormously in the 200 or in the 295 cities) are as follows:

For the 200 cities:—with G, .00; with I, .05; with P, - .16

For the 295 cities:—with G, - .01; with I, .02; with P, - .01

By any reasonable allowances for the age-composition of the populations of the cities, these correlations will rise above zero.\*

#### SALES†

The notion that a large wholesale trade is very beneficial to a city is not supported by the facts. It is possibly due to false reasoning by analogy from

\* If we should take cities identical in the percentage of the population under 15, the manufacturing cities would be superior. The correlations with G after equalization for percent under 15 are +.18 and +.15. To this, however, a critic may retort that factory cities with no more children than the average city would not be representative factory cities. To this, in turn, a defender may retort that the connecting links between a large percentage of the population being at work in factories and a large percentage of it being under 15 years old probably are not necessary or essential. At all events it is true that the cities with many factory workers attain as high scores in G as the others and also take care of much more than their share of children.

† The general facts stated in this section about wholesale sales, retail sales, the sales of cigar stores, drug stores, etc., remain true by any reasonable allowance for differences in the sex and age distribution of the populations.



the supposed fact, itself now rather dubious, that individuals engaged in wholesale trade are better persons and much better off than individuals engaged in retail trade. In the 200 cities the per capita amount of wholesale sales correlates .09, .17, and .00 with G, I and P. For the 295 cities, the corresponding figures are  $-.28$ ,  $-.21$  and  $-.28$ . If the 200 cities plus the 40 of the Old South are used, the figures are  $-.18$ ,  $-.09$  and  $-.30$ .

The days are gone when the cities which sold goods wholesale made notably large incomes, had notably able and intelligent citizens, and provided a notably good life. The clerical work of their establishments is now done with the aid of machines, largely by persons of the same sort as do clerical work in retail stores. The department store, though selling at retail, engages abilities as good as those used by many wholesale houses. The hierarchy whereby the kings of trade lived in Boston, New York, Philadelphia and New Orleans, the barons in Springfield, Albany, Harrisburg and Little Rock, with only the commoners in Lynn, Salem, Newburgh, Chester, Fort Smith, etc. has been weakened by the mail-order houses, chain stores, trade-marked goods, and sale from producer to consumer directly by agents of the former. Even apart from the residential suburbs, where wholesale trade is near zero, there are cities with high G, I and P scores which make very little of their income by buying goods and reselling them to the retailers of neighboring cities and towns.

If the retail sales reported for a city were all sales to its residents for their own consumption, and if bookstores sold all the books bought, drug stores all the drugs bought, cigar stores all the tobacco bought, etc., these sales (for example, of book stores, music stores, florists, drug stores, cigar stores, and jewelry stores) would be highly instructive.

Unfortunately for the scientific inquirer, the retail stores in some cities such as Brookline, Cambridge, Oak Park, Cleveland Heights, Berkeley and Pasadena sell almost nothing to outsiders, whereas those in some cities sell much to people from the surrounding towns and villages. Also the drug stores may sell more food, drink and tobacco than drugs; the music stores may sell more radios than means for making music; the residents of the city may buy its books at department stores. Add to these difficulties the fact that the amount of sales is left unstated by the census authorities in many cases in order to protect certain interests, and the need of caution in inferring anything from the statistics of retail sales is obvious.\*

Total retail sales are more indicative of welfare than wholesale sales. If a city does a large retail business, to insiders and outsiders, it has a higher than average score in G and in P and still higher in I. The correlations for the 295 cities, the 240 "complete" cities, and the 200 remaining after the cities of the Old South are omitted are as follows:—

\* Book sales are impossible to use in correlations because the amounts are so often omitted.

## Correlations of Sales of All Retail Stores

In 295 cities: with G, .34 ; with I, .44 ; with P, .40

In 240 cities: with G, .56½; with I, .69½; with P, .38

In 200 cities: with G, .38 ; with I, .56 ; with P, .29

The sales of food stores, cigar stores and drug stores may be taken as the three cases where the sales are mostly to residents and where the purchases by residents are mostly local, at least in the 200 or 240 "complete" cities.

They offer an extraordinary tribute to Lady Nicotine. The cities which spend for tobacco (at least in tobacco stores) are as good as those which spend for food and are very much better than those which spend for drugs. And this superiority is allied not with higher income but with higher score in the items which constitute P and are indicative of intellect, virtue and devotion to family life. The facts are shown below. I include for comparison the sales of music and radio stores though they are more complicated by sales to outsiders.

## In 295 cities

|                              |              |              |             |
|------------------------------|--------------|--------------|-------------|
| Sales of retail food stores: | with G, .44; | with I, .65; | with P, .41 |
| “ cigar stores:              | “ .36        | “ .29        | “ .41       |
| “ drug stores:               | “ -.05       | “ .08        | “ .08       |
| “ music and radio stores:    | “ .02        | “ .04        | “ .25       |

## In 240 cities

|                              |        |        |        |
|------------------------------|--------|--------|--------|
| Sales of retail food stores: | “ .52  | “ .73½ | “ .49  |
| “ cigar stores:              | “ .55  | “ .43  | “ .49  |
| “ drug stores:               | “ -.09 | “ .15  | “ -.08 |
| “ music and radio stores:    | “ .11½ | “ .14  | “ .21  |

In 200 cities

|                              |   |     |   |      |   |     |
|------------------------------|---|-----|---|------|---|-----|
| Sales of retail food stores: | “ | .25 | “ | .52½ | “ | .13 |
| “ cigar stores:              | “ | .40 | “ | .35  | “ | .43 |
| “ drug stores:               | “ | .16 | “ | .31  | “ | .26 |
| “ music and radio stores:    | “ | .00 | “ | -.02 | “ | .06 |

I see no reason why correlations computed from true records of the sales of food, tobacco and drugs should show any smaller differences in favor of tobacco than these imperfect records show. In the case of drugs the differences would probably be larger than those shown here, since the sales of drugs in 1930 were diluted with sales of foods and soft drinks more than by illicit sales of alcoholic liquor.

The contrast between sales of cigar stores and sales of drug stores is accentuated when the measures used are the percentages which they are of the sales of all retail stores. The correlations then are as shown below:

Correlations using in each case the percentage which the sales of the specified retail stores is of the sales of all retail stores.

In the 295 cities:

|                            |         |      |         |      |         |      |
|----------------------------|---------|------|---------|------|---------|------|
| Food stores .....          | with G, | .27  | with I, | .15  | with P, | .07  |
| Cigar stores .....         | “       | .24  | “       | .14  | “       | .30  |
| Drug stores .....          | “       | -.35 | “       | -.32 | “       | -.33 |
| Music and radio stores ... | “       | .01  | “       | .02  | “       | .20  |

In the 200 cities:

|                            |   |      |   |      |   |      |
|----------------------------|---|------|---|------|---|------|
| Food stores .....          | “ | -.03 | “ | -.17 | “ | -.19 |
| Cigar stores .....         | “ | .32  | “ | .22  | “ | .41  |
| Drug stores .....          | “ | -.28 | “ | -.21 | “ | -.14 |
| Music and radio stores ... | “ | .00  | “ | -.05 | “ | .09  |

This tribute to the users of tobacco tempts one to humorous comments, but it deserves serious consid-

eration. Most moralists and reformers urge mankind to reduce its self indulgence even to zero, and to seek happiness in altruism and the impersonal pleasures of truth and beauty. But there is some psychological evidence to the effect that most human beings must be allowed a certain amount of self-indulgence, and that the normal problem is to gratify it in reasonable and relatively innocent ways. Of the proverbial trio, for example, song would then be recommended. The introduction of tobacco into Europe may by this doctrine have made men more temperate with alcohol, brutality, bad temper, and petty tyrannies. Smoking by women may be a moral gain, a beneficent substitute for ostentatious display, malevolent gossip, and larceny of other women's mates. I am not convinced of the truth of this doctrine of a proclivity to undefined self-indulgence which cannot be lessened but only directed. But the facts certainly warn all Puritans to stop at tobacco, as indeed they usually have done.

There is a slight tendency of "good" cities to buy from chain stores rather than "single" stores. The average correlations with G, I, and P of the percentages (of total retail sales) for the former are .06,  $.15\frac{1}{2}$  and  $.01\frac{1}{2}$ ; those for the latter are  $-.05\frac{1}{2}$ ,  $-.18\frac{1}{2}$  and  $-.02$ .

The facts of this section concerning what people in "good" cities buy will satisfy neither the aesthetic idealist who demands that they feed only their "higher" natures, as with books, music and flowers,

nor the ardent and puritanical philanthropist who hopes that they will stint themselves in creature comforts so as to care for the poor and suffering throughout the world. They do spend for higher things, but not to the extent of going without cars or tobacco. They are, as is shown by evidence presented elsewhere, benevolent toward the world at large, but not to the extent of denying themselves and their families comforts and a moderate amount of ostentation. They do not, for example, economize by buying second-hand articles, the correlations averaging near  $-.20$  for G and for P, though at zero for I. Nor do they favor humility in their choice of automobiles. The use of the proverbially democratic Ford is much less closely allied to goodness in cities than the use of other than Ford cars, the correlations being:

|   | With G     |            | With I     |            | With P     |            |
|---|------------|------------|------------|------------|------------|------------|
|   | 295 cities | 200 cities | 295 cities | 200 cities | 295 cities | 200 cities |
| Ford cars per 1000 inhabitants .....            | .10        | .07        | -.16       | -.23       | .37        | .46        |
| Other than Ford cars per 1000 inhabitants ..... | .58        | .47        | .52        | .40        | .59        | .47        |

THE HOME

The frequency of home ownership, and average amount paid per family for rent, and the median amount paid per family for rent, are all highly indicative of welfare, the correlations being as shown below.

|                      | With G     |            | With I     |            | With P     |            |
|----------------------|------------|------------|------------|------------|------------|------------|
|                      | 295 cities | 200 cities | 295 cities | 200 cities | 295 cities | 200 cities |
| Homes owned .....    | .55        | .51        | .16        | .11        | .82        | .86        |
| Average rental ..... | .66        | .44        | .87        | .83        | .25        | .11        |
| Median rental .....  | .73        | .48        | .84        | .70        | .31        | .06        |

Such support of the home and family is much more indicative of welfare than the service, amusement and hotel receipts of a city. These correlate only .15 with G, .26 with I and .04 with P.

#### CHURCH MEMBERSHIP

A census of religious bodies is notoriously beset with difficulties and there doubtless are many inaccuracies of the 1926 U. S. Census in the case of separate cities. We can only hope that these are random errors. Such will do little harm in our inquiry, but if the "good" cities tend to report all their churches fully whereas the "bad" cities tend to omit some, the result will be to raise the correlations of church membership with general goodness unduly. The converse will be true if the better cities report less fully.

The measures which I have used concerning membership are the reported numbers of members, aged 13 or over (1) of all religious bodies; (2) of Jewish congregations; (3) of Roman Catholic churches; and (4) of Unitarian, Universalist and Christian Science Churches. The correlations will astound many. Total membership per capita correlates negatively

with  $G$  ( $-.20\frac{1}{2}$  and  $-.22$  for the 200 and 295 cities). It correlates negatively with  $P$  ( $-.27$  and  $-.22$ ).<sup>\*</sup> Few even of those who thought that they were fully aware of the great decline in influence of the churches compared with other human organizations would have believed this possible. It was admitted that certain highly intellectual groups and certain workers in factories and at skilled trades were lukewarm or antagonistic toward the church, but it was supposed that great numbers of good people upheld the church at least to the extent of membership, and that persons outside it were on the whole less idealistic and less devoted to traditional virtues than those inside.

This may still be true within a city, but as between cities, it was false by 1926. It was true for the frequency of Unitarians, Universalists and Christian Scientists, in the case of whom the correlations of per capita membership with  $G$  and  $P$  were positive (.45 and .43 in the 200 cities; .57 and .61 in the 295). This exception may fairly be said to prove the rule, since these three churches represent desertions, remote or recent, from "regular" churches.

Per capita membership in the Jewish Congregations correlates practically zero with  $G$  ( $-.04$  and  $+.01$ ) and is antagonistic to  $P$  ( $-.53$  and  $-.37$ ). It is correlated positively with income (.44 and .32).<sup>†</sup>

<sup>\*</sup> The most generous allowance possible for differences in the age composition of the cities will not raise these above  $-.08$ .

<sup>†</sup> These correlations will be only slightly raised by any reasonable allowance for the age composition of the cities.



Such membership in a city is perhaps as much evidence of the frequency of the Jews in general as of the frequency of church-affiliated Jews. We cannot, as with the totals, assume that the per capita communicants correspond to the percentages of Jews who are communicants. This separation cannot be made from the records.

The same difficulty hampers us in using the reports of Roman Catholic membership, which may signify Irish, Italian, Portuguese and Polish ancestry rather than, or confused with, support of the Roman Catholic Church. It is also said by some priests of the Roman Catholic Church that they feel no obligation to make accurate census reports of church membership. Using the numbers as reported in the Census of Religious Bodies, the correlations with G are low positives (.05 and .25); with P, low negatives (-.38 and -.03); with I, of about the same magnitude as for the Jews (.28 and .41).\*

The whole matter of church membership in American communities deserves much further study to discover what effect, if any, the errors in the records have upon the correlations, and to trace out all the relations of church membership to the intelligence and morality of the population, their industry and incomes, the provisions made for health, education and social welfare, etc. I have gone so far as to compute some of the significant affiliations of frequency of church membership. They are:

\* These correlations will be raised about .10 by proper allowance for the age composition of cities.

- with percentage of Negroes, .02
- with percentage of native-born whites, - .44
- with percentage of foreign-born whites, .38
- with percentage of factory workers, .24
- with percentage of illiterates, .62
- with percentage of illiterates aged 15 to 24, .36
- with per capita circulation of reputable magazines, - .23
- with infant death rate, .03
- with percentage of persons 16 and 17 years old in school, - .39
- with percentage of persons 18 to 20 years old in school, - .32½
- with per capita circulation of public library books, - .31
- with per capita number of homes owned, - .28
- with percentage of boys 10 to 14 gainfully employed, .00
- with percentage of girls 10 to 14 gainfully employed, .46

The communities with the largest percentage of church members are below average in good reading, home ownership and continuance in school, and have more than their share of illiterates and child labor.

To offset these damaging affiliations, we find that church membership is antagonistic to homicide, deaths from venereal diseases, and illegitimate births. The correlations are  $-.30$ ,  $-.28$  and  $-.12\frac{1}{2}$  respectively. Church membership is thus still affiliated with typical features of traditional morality, if not with the broader aspects of welfare.

On the whole, unless the better communities under-report their church membership or the worse communities over-report theirs, we must suspect that the churches are clubs of estimable people and maintainers of traditional rites and ceremonies rather than powerful forces for human betterment.

Why should noble men and women give their time and money to make the church great and strong if

communities where it is strong are no better than those where it is weak? What are the churches doing with their prestige and power if they are neither helping the health and education and recreation of a community nor improving the personal qualities of its residents? These questions are not asked here by enemies of the church, or by impractical reformers within its circle, or by arm-chair theorizers about its nature and function, but by a set of impersonal facts showing what the church is doing and failing to do in American cities.

#### OTHER INSTITUTIONS FOR MORAL IMPROVEMENT

##### *The Y. M. C. A.*

The support of the Y. M. C. A. as indicated by plant, expenditures, and membership has positive, but very low, correlations with G and P (.16 and .11 with G, and .00 and .19 with P). Its correlations with I are .29 and .29. Its correlations with the per capita church membership are .23 and .29; with membership in the Boy Scouts they are practically zero (-.07 and +.05).

##### *The Boy Scouts*

The per capita membership of the Boy Scouts in 1930 correlates .56 with G, .58 with I and about  $.35\frac{1}{2}$  with P (.58, .59 and .45 in the 295 cities; .54, .57 and .26 in the 200 cities). It is as good a symptom of welfare as many of the thirty-seven which were combined in G, and better than support of the Y. M. C. A.

I regret that the facts are not available for such other organizations as the Y. W. C. A., the Y. M. H. A., the Knights of Columbus, or for private libraries, museums, hospitals, etc. open to the public.

### *Rotary and Kiwanis Clubs*

There are Kiwanis and Rotary Clubs in almost all of the 295 cities. Where the per capita membership in Rotary is large, so also is that in Kiwanis, the correlation between the two being .78. Both show positive correlations with P and to almost the same degree (.33 for Kiwanis and .30 for Rotary). Their correlations with I are  $-.18$  and  $-.30$ . They do not show any appreciable relation with G ( $-.03$  and  $-.07$ ). Large membership in them is thus a symptom of a community of good people with low incomes, and of average total welfare.

### CRIME

Crime is, of course, bad for a city, but probably not so bad as most people think. The correlation of per capita deaths from homicide with G is  $-.41$  in the 200 cities and  $-.63$  in the 295. The correlation with G of a combination of the scores for rape and assault, which are obtainable from 74 of the 295 cities, is  $-.51$ . The correlation with G of a combination of the scores for robbery and burglary in these 74 cities is near zero, only  $-.06\frac{1}{2}$ . The correlation of homicide with G in these 74 cities is  $-.61$ . If a composite score for crime is made, giving weights

of approximately 2 to homicide, 2 to rape, 1 to assault, and 1 to robbery and burglary, the correlation with G in the 74 cities is  $-.55$ .

One reason why the records of cities for crime do not indicate more closely the general goodness of life in them is that the crime records depend directly upon the behavior of only a very small minority of their residents. The personal qualities of the population as a whole are far from perfectly indicated by the frequency of homicide, rape, assault, robbery or burglary. In fact crime itself is specialized in communities. Those cities in which robbing and burglary are very common are not identical with those in which rape and assault or homicides are commonest. Another reason is that the records may confuse the amount of crime with efficiency in detecting it and accuracy in reporting it.

The facts about crime in relation to the goodness of life may point two morals. (1) It is not fair to judge cities by any one feature. (2) It is, as a general rule, better to measure cities by the presence of good features than by the absence of bad ones. The prevalence of good reading will be better evidence than the infrequency of pornography and trash. The value of public buildings used for schools, libraries or museums will be better than the infrequency of brothels. The prevalence of telephones is actually a bit better than the infrequency of slums. Cities become good more by the positive actions of

good men and women than by the repression or extermination of evils.

#### GOVERNMENT

I have very scanty facts about the governments of these cities. It was impossible for me to get even very rough measures of the abilities of the elected or appointed officers, or of their honesty and devotion to their work, or of the extent to which they use approved methods in doing the city's work.

I have measures of the reported extent to which cities used certain presumably progressive practices, namely: having a city manager, and spending money for city planning, vital statistics, civil service examinations, public convenience stations, mothers' aid, and probation systems. The G scores of cities having a manager and of those spending money for mothers' aid are not demonstrably higher than the scores of cities lacking these features. Using the per capita amounts spent for the other features as scores and combining these scores with roughly equal weight, we have a possible indication of certain aspects of good government. It correlates with G .28 in the 200 cities and .24 in the 295. These progressive features are associated with I, and it is possible to argue that they were adopted because the city could afford them and that their adoption has not demonstrably improved welfare.

The reversed death-rates for homicide and typhoid are presumably signs of good government effective

in preventing crime and pestilence. A composite of the two with approximately equal weight correlates with G to the extent of .48 in the 200 cities and .72 in the 295. These reversed death rates are associated with both I and P and it is a delicate question how far the good government improved the city and how far it merely reflected its goodness.

Putting these two reversed death rates and the composite of expenditures together with weights of about 1, 1, and 2 respectively, gives a composite (call it Gov.) which correlates .51 and .69 with G in the 200 and 295 cities.

Among cities identical in income and personnel how much better off would those be which had the more honest and efficient governments? Common sense tells us that they would be better off, but not how much. What percentage of the variation in general goodness of our cities as they stand, is due to the variation in the quality of their governments? The facts of Chapter IV set an upper limit at about 20 per cent, but do not tell us whether it is 1 or 19.

If Gov. (the composite measure of per capita expenditures for city planning, civil service, etc., reversed homicide rate and reversed typhoid rate) were a perfect measure of the relative goodness of the governments of these cities we could compute the answers to these two questions. It surely is far from perfect, but let us assume provisionally that it approximates the truth, see what answers we get, and estimate probable corrections.

Among cities identical in I and P, high scores in Gov. will correlate with G, but their variation in G will not be great and the actual increase in G due to the goodness of government will be small. Only one or two hundredths of the variation of the 295 cities in G is determined by Gov. With more adequate measures of the goodness of government, this might rise somewhat, but it is extremely unlikely that such differences in the quality of government as there are among these cities cause more than six per cent of their differences in the general goodness of life for good people.

So far as the meagre evidence goes, it appears that good government is a real but secondary factor, that a good population will either have a good government or get along fairly well with a bad one, and that it is not wise to expect much from changes in governmental machinery or from waves of reform which do not express the fundamental wants and habits of the citizens. The whole matter needs further study with fuller information.\*

\* The degree of honesty and efficiency of a city government is probably evidenced in scores of objective factors which need only to be recorded to provide such information. It may be evidenced in very small matters. For example, there were 204 of the 295 cities whose mayors fairly promptly and efficiently answered a personal letter from me which required perhaps ten minutes of somebody's time, 53 whose mayors answered it only upon receipt of a second polite request from me. There were 29 whose mayors have not answered the second request. There were 9 whose mayors answered it inefficiently. The median G scores of these groups are as follows:



## MUNICIPAL OWNERSHIP

Cities which own a water supply are two points better in G, one point better in I, and no better in P, than those which do not. Cities which have municipal electric light and power systems are one point better in G, no different in I and five points better in P than cities which do not. Cities which have public cemeteries or cremating apparatus are two and a half points worse in G and in I, and two points worse in P than cities which do not.

The differences in G, I, and P scores between cities which own public utilities in the form of water supply, plants for electric light and power, and cemeteries and the cities which do not are thus small and unreliable, with a balance in favor of the ownership of the first two and against the ownership of the third.

## POLITICAL PARTIES

By the courtesy of the mayors of most of the cities I have estimates of the vote of the Socialist Party,

---

|   |       |
|---|-------|
| Prompt and efficient .....                | + 1.0 |
| Tardy .....                               | - 0.5 |
| Inefficient answers or total neglect..... | - 2.0 |

We may have great sympathy for the mayors and for the underlings to whom my letters were referred. We all know the annoyance of having an unwelcome task pop out of the morning's mail! A mayor could easily excuse his neglect of it. But the fact remains that the governments in good cities did usually take two or three minutes to grant the request of a reputable scientific man, and that the correlation between civility to me in this matter and G score is positive. So also is the correlation between it and the score in Gov. The 38 cities whose officers made no reply or an incomplete or erroneous reply had a median score in Gov. of  $-10\frac{1}{2}$ .

Labor Party, or some roughly equivalent political party, in answer to the question:

*Was there a Socialist or Labor Party in any of the last three municipal elections? . . . If so, about how many votes did it poll? . . .*

The data are not sufficiently complete or precise to justify our regular treatment by correlations with G, I, P and other relevant measures. Moreover, a large vote for one of the parties may have very different significance in different cities so that it may be inappropriate to correlate it with anything. But the matter is of general interest, and much more good than harm will be done by presenting such facts as we do have.

I have examined the G scores of 38 cities which had a substantial Socialist or Labor vote in a recent municipal election, and 19 cities which were reported as having such a party, but with no statement of the vote cast, or with a statement that it was very small. Other cities may have had such, but not reported it.

The median G score for these 57 cities is +2, i. e. two points higher than that for the cities in general; their median I is a little over +1; their median P score is at 0, or just the same as for the cities in general.

So far as the evidence goes, the relation of the activity of a Socialist or Labor party in municipal politics to G, I and P is mostly accidental. It certainly has no close relation to poverty. If judged

from its associations with cities, it need not be viewed with alarm as the offspring of folly, nor with reverence as the standard to which all good men and true are flocking.

#### EQUALITY IN INCOMES

It is a common opinion that great disparities in wealth and income are very pernicious and that one important goal of social effort is to reduce them, but evidence pro or con has been very scanty. So it is interesting, not to say exciting, to compare the cities scoring high with those scoring low in general goodness of life for good people in respect of the disparity or variability of their families in income. Is equality in income approached by the best cities? Are extreme wealth and extreme poverty much more frequent in cities low in G?

There are two measures or symptoms of the disparity or variability of incomes within a city which can be computed from our data. The first is the percentage of families so rich as to make an income tax return or so poor as to have no electricity in the home.

The second measure is the disparity in the amounts paid for rent (or equivalent in case the home is owned). For example the six cities in Table 6 all show median amounts paid for rent of \$40, \$41, or \$42, but the disparity or variability is very much greater in New Haven, Cincinnati and Charleston (W. Va.) than in Revere, Hamtramck and Lorain.

TABLE 6  
 The variability in amounts paid for rent in six cities closely alike in the median amount paid for rent.  
 Percentages of families paying specified amounts for rent

|                         | Less than \$10 | \$10-14 | \$15-19 | \$20-29 | \$30-39 | \$50-74 | \$75-99 | \$100-199 | \$150-199 | \$200 or more | 5 per-centile rent | Median rent | 95 per-centile rent |
|-------------------------|----------------|---------|---------|---------|---------|---------|---------|-----------|-----------|---------------|--------------------|-------------|---------------------|
| New Haven .....         | 0.5            | 3.4     | 7.9     | 22.4    | 26.9    | 16.6    | 7.0     | 7.6       | 4.1       | 3.6           | \$15.72            | \$41.82     | \$183.13            |
| Cincinnati .....        | 2.5            | 8.5     | 10.9    | 17.2    | 20.8    | 17.0    | 9.6     | 7.9       | 2.8       | 2.7           | 11.45              | 40.42       | 159.68              |
| Charleston, W. Va. .... | 1.7            | 5.1     | 8.0     | 20.1    | 25.4    | 18.3    | 7.3     | 6.7       | 3.0       | 4.4           | 13.28              | 41.87       | 189.23              |
| Revere .....            | 0.3            | 1.5     | 3.8     | 18.0    | 46.6    | 18.3    | 6.2     | 4.0       | 0.8       | 0.5           | 19.33              | 41.39       | 105.16              |
| Hamtramck .....         | 0.2            | 1.3     | 7.3     | 23.6    | 31.3    | 24.7    | 7.1     | 3.3       | 0.7       | 0.5           | 17.40              | 41.25       | 98.04               |
| Lorain .....            | 0.8            | 3.0     | 6.1     | 17.0    | 38.8    | 23.4    | 5.8     | 3.7       | 0.8       | 0.6           | 15.95              | 41.92       | 102.12              |

The last three have only about two per cent of families paying less than \$15 a month and only about one per cent paying more than \$150 a month. The first three have from four to eleven per cent paying less than \$15 and from five and-a-half to seven and-a-half per cent paying more than \$150.

The amount of disparity in the rent payments of families is not a perfect measure of the amount of disparity in their incomes. A millionaire may live in a hovel. But it is in close enough correspondence for our purpose, and in some respects is even better than the disparity in their incomes. The alleged harmful effects of variation in incomes are due to the ways in which the incomes are spent rather than to their mere existence. If all families lived alike, ate the same food, wore the same clothes, drove the same sort of cars, and lived in homes costing the same, the rich would be depriving the poor of nothing in the sense that they would be consuming nothing which the poor would otherwise consume. Most of the evils with which disparities in income are credited by sociologists, moralists, and reformers concern disparities in consumption rather than in possession.

This measure has the accuracy of a census measurement of an easily determined fact and is subject to no errors correlated with the general goodness of cities, and is extremely sensitive. We can find the number of families so rich as to rent or own homes costing \$200 a month or \$150 a month or \$100 a

month, and so poor as to have homes costing less than \$10 a month, or less than \$15 a month, or less than \$20 a month. It is therefore the measure which I use.

What it reveals in the 295 cities is as follows: It is good for a city to have few very poor families. The correlation between  $G$  and the fewness of rentals below \$10 and owned homes valued at less than \$1000, or between  $G$  and the amount paid for rent (or equivalent in case the home is owned) by the 5-percentile-rental family is .73\*. The correlation between  $G$  and the 10-percentile-rental is .74.

It is also good for a city to have many rich families. A lessening of disparity by a diminishing of the percentage of the rich is the reverse of beneficial. The correlations between  $G$  and the amounts paid for rent by the 75-percentile-family, the 90-percentile-family and the 95-percentile-family are respectively .63, .51, and .42.

Disparity in incomes as shown by disparity in expenditures for rent is slightly bad for a city, but only because it is associated with inferiority in the personal qualities of the population, that is, with a low score in  $P$ . Among cities equally good (or bad) in  $P$ , a disparity in income does no harm whatsoever.

\* The 5 percentile rental family is a family paying more rent than the lowest  $4\frac{1}{2}$  per cent and less than the highest  $94\frac{1}{2}$  per cent. The 10 percentile rental family is a family paying more rent than the lowest  $9\frac{1}{2}$  per cent and less than the highest  $89\frac{1}{2}$  per cent. The 95 percentile family is a family paying more rent than the lowest  $94\frac{1}{2}$  per cent and less rent than the highest  $4\frac{1}{2}$  per cent.

Whatever merits parity or equality has for the welfare of these cities, it has because it causes, or is caused by, high scores in P. If a city takes care of the personal qualities of its population, it may safely leave the distribution of wealth and income to take care of itself. Unless a redistribution toward greater equality improves the P score of a population it cannot be expected to do any good whatsoever.

In so far as the causes which make some cities better than others can be trusted as guides to ways and means of making all cities better than they now are, parity for parity's sake is a false god. There may be a magic potency in economic equality per se, which would show itself in certain sorts of civilization, and in our cities if life were fundamentally different from what it is. It does not show itself in the facts for our cities. In them equality is worthless except as a cause or sign of quality.

If guided by these facts, a benevolent and wise trustee for the welfare of a city who wished to increase the goodness of its life for good people would support measures which would improve the quality of a city's population and increase their incomes, especially the lower incomes, but would pay no further attention to equalization. The citizens of a city should do the same. The government of a city should do the same. Is there any reason why the government of a state or nation should do otherwise?

BENEFICIAL ACTION *via* P AND I OR INDEPENDENT OF THEM

A certain feature may make a city good directly, or indirectly by making its population better or increasing their income. It may act in part directly and in part indirectly. Goodness of government, as we noted in an earlier section, is related to goodness of the life of a city largely via P and I, with which it probably interacts causally, but seems to have some potency independent of these. Equality of incomes, on the contrary, was proved to have no power over G save by its affiliation with P. Almost all of the beneficent features discussed in this chapter are so by reason of their action upon P and I, or the action of P and I upon them.

It is important to find any features of a city's life which influence G independently of I and P. If we can find such, we may use them to improve welfare. Every single per cent of the variation of cities is caused by something. Cities are not made different by miracles. Success in accounting for four-fifths of the variation should stimulate us to try to account for the rest. Consequently I have investigated every feature which seemed at all promising.

It should be noted that "independent of P" means just what it says and does not mean "independent of a perfect measure of the personal qualities of the population." In the case of records of deaths from gonococcus infections and illegitimate births we have two features which, together, account for a considerable fraction, (about 5 per cent), of the variation



among the 200 cities independently of the regular P and I scores. They do so precisely by tapping new lines of evidence concerning the personal qualities of the population. We may call the composite of these two items  $P_1$ .

Doubtless the past populations of a city have a large share in determining its present welfare. Most of this share is probably by way of the present population, its customs and traditions, and its income. But some of it may not be.

If we could obtain measures of the I and P of each city in 1900 or earlier, we could treat this matter instructively, measuring the influence of the I and P of a generation ago upon the goodness of life in 1930, both per se, and through their influence upon the I and P of 1930. We could then warn certain cities if they were living too much on their past. Such measures are unobtainable, and there is nothing to take their place satisfactorily. The only possibility is to take item 12, the per capita value of public property in the form of schools, libraries, museums, parks and hospitals, and 11, the per capita value of all public property (not counting streets and sewers) minus public debt. These are the items presumably most dependent upon the past generation. If a city has a fine library but does not read the books in it, and fine school buildings but much illiteracy, there is a reasonable suspicion that it is living on its past. In general, if items 11 and 12 account for a substantial fraction of the variation in G beyond what I and P and  $P_1$

account for, the past is potent not only by its share in causing the I and P and  $P_1$  of the present, but in other ways.

The fact is that a composite of 11 and 12 with respective weights of approximately 5 and 6 has only a small and uncertain influence independently of  $P + I + P_1$ .

We may expect that a complete and accurate measure of the honesty and efficiency of a city's government will show it responsible for from two to five per cent of the variation among cities in the goodness of life for good people. The inadequate measure by the Gov. composite described on page 104 shows a measurable influence beyond that caused by I and P and  $P_1$ .

The physical health of the population seems to have a favorable influence upon G independently of I, P and  $P_1$ . Whatever causes low general death-rate or low infant death-rate can be proved to have such an influence. But what causes these may include other factors than I, P,  $P_1$  and Health. In particular, low infant death-rates may be due in part to personal qualities not measured by the regular P. Moreover, for a health index one needs rates of illness rather than of death, and these are not available for our cities.

It is reasonable to suppose that among cities equal in income and P score the cities whose populations were harmonious and cooperating would provide a better life than the cities containing discordant and

antagonistic groups. For example, if Christians and Jews were antagonistic, as they have been in some places and at some times, a city all Christian or all Jewish would, other things being equal, probably provide a better life than one with a mixed population.

The best material on this issue in our cities concerns the percentage of Negroes. We may hope that the harmony and mutual respect of whites and Negroes is great and increasing, but it certainly is not perfect, and economic cooperation is obviously very imperfect when the percentage of Negroes is high. So we ask, "Does the fewness of N (i. e. per cent N reversed) account for some of the variation of cities in G apart from its powerful influence upon P, and from whatever influence it has upon I?" Apparently it does, but only to the extent of about one per cent.

There is some reason to think that the percentage of men eminent in art, science, and affairs is beneficial otherwise than by making the population better and increasing its income. Such influence of any one of these is, however, so small as to be incapable of demonstration alone. Consequently, I have combined them all with approximately equal weight in a composite measure. Their combined influence independently of I and P is still zero or very near zero.

The age constitution of a city contributes nothing or almost nothing in addition to what I and P do. Nor do the natural advantages of harbors, water-power, and rich soil in the surrounding country.

P, P<sub>1</sub> and I together account for over 85 per cent of the variation of the 295 cities in G. Our measures or symptoms of homogeneity of population, goodness of government, past population, and physical health, etc., all together account for only about six per cent of the variation in G, independently of P, P<sub>1</sub> and I.\*

I estimate that if perfect measures of every fact about these cities and their inhabitants were available, the differences among the 295 cities in the goodness of life for good people would be attributable:—

|   |    |   |   |   |   |  |
|---|----|---|---|---|---|--|
|   |    |   |   |   |   | about 60 per cent to differences in the mental and moral qualities of the populations                |
| “ | 3  | “ | “ | “ | “ | “ their physical health and energy   |
| “ | 25 | “ | “ | “ | “ | “ “ incomes  |
| “ | 2  | “ | “ | “ | “ | “ the works of previous generations (other than giving birth and training to the present generation) |
| “ | 5  | “ | “ | “ | “ | “ the work of the government   |
| “ | 1  | “ | “ | “ | “ | “ homogeneity of race and culture  |
| “ | 4  | “ | “ | “ | “ | causes at present unknown.   |

The surest and most important fact is the relative unimportance of everything except the quality of the citizens and their incomes.

Do these same forces account largely for the differences in the goodness of life for good people in smaller cities, towns and villages? There are adequate reasons to think that they do. Are they potent also as between nations, or do differences in soil,

\* The causation of the variation in the 200 cities is much the same, but at a little lower level, with 78 per cent due to I, P and P<sub>1</sub>, and about 8 per cent due to the other forces.

climate, water power, coal, mineral resources and the form of government swamp them? There is good reason to believe that they still count heavily in the case of nations; only careful appraisal can determine how much.

## CHAPTER VI

### BIRTH RATE AND SIZE OF FAMILY

This chapter will be short, but bitter.

The better cities have lower birth rates and smaller families. This parallels, and is presumably a consequence of, the tendency of the better individuals to have fewer children and smaller families. Not so much harm is done as one might think, for the reason that the better cities and the better persons keep more of their children alive. American men of science, who are on the average persons of fine character and exemplary habits, as well as of superior intelligence and energy, have only about one and a half children each; but the death rate among these is extremely low. Much the same is true of our best cities. However, the net result is bad, and the better persons and the better communities probably do not contribute their quota to the next generation.

No sensible person will claim that this is inevitable—that goodness of life in one generation must be at the expense of the quality of later generations. But we should face the stubborn fact that in communities, as in individuals, this is occurring and will occur unless some contrary forces are brought into action.

The number of births per year per thousand women aged 20 to 44 in the city varies from below 3 to over 15.\* It is negatively correlated with  $G$  ( $-.30$  in the

\* This is after making generous allowance for low rates due to confinements in hospitals outside the city and high rates due to confinements of non-residents in hospitals inside the city. The rates actually reported vary as shown in Table 7.

295 cities, except those of South Dakota and Texas, which lacked proper registration of births in 1930, and  $-.27$  in the 200 cities, with the same exception). The corresponding correlations with income are  $-.13$  and  $-.08$ . Those with P are  $-.10$  and  $-.09$ . It is positively related to the percentage of foreign-born whites (average,  $.15$ ), and to the frequency of illegitimate children (average,  $.10$ ). It is somewhat antagonistic to the frequency of native-born whites (average,

TABLE 7

The variation among 281 cities in the birth-rate, the reports being taken at their face-value.

| Reported number of live<br>births per 1000 women<br>aged 20-44<br>Average of 3 years | Number of<br>cities | Percentage of<br>cities |
|--|---------------------|-------------------------|
| 0 to 0.9 .....   | 2                   | .7                      |
| 1 to 1.9 .....   | 1                   | .4 $\frac{1}{2}$        |
| 2 to 2.9 .....   | 3                   | 1.1                     |
| 3 to 3.9 .....   | 5                   | 1.8                     |
| 4 to 4.9 .....   | 5                   | 1.8                     |
| 5 to 5.9 .....   | 6                   | 2.1                     |
| 6 to 6.9 .....   | 19                  | 6.7                     |
| 7 to 7.9 .....   | 32                  | 11.3                    |
| 8 to 8.9 .....   | 61                  | 21.6                    |
| 9 to 9.9 .....   | 53                  | 18.8                    |
| 10 to 10.9 .....   | 46                  | 16.3                    |
| 11 to 11.9 .....   | 23                  | 8.2                     |
| 12 to 12.9 .....   | 8                   | 2.8                     |
| 13 to 13.9 .....   | 10                  | 3.5                     |
| 14 to 14.9 .....   | 0                   | .....                   |
| 15 to 15.9 .....   | 4                   | 1.4                     |
| 16 to 16.9 .....   | 2                   | .7                      |

-.11). Its correlation with the percentage of Negroes is almost negligible, averaging  $.03\frac{1}{2}$ .

The only encouraging thing about these facts is that they are not so bad as they might be: a small amount of prevention of procreation by persons who are demonstrably feeble-minded or of mean and brutal character, and encouragement of it among those of ability and good will, could turn the scales.

Sterilization, voluntary for some persons and compulsory for others, by methods which nowise decrease the satisfaction of sex needs is still an unpopular project politically and among certain religious groups. There are admittedly difficulties in administering it, but not, one would think, greater than the difficulties in administering crop-control, poor relief, and laws against vice. Public and private administration of charity and justice all have had their weaknesses and scandals. The beneficence of preventing the birth of children of parents who will give them neither a decent hereditary constitution nor a decent training is so great that it should be given most serious attention by departments of public health and welfare and by all good citizens.

The encouragement of child-bearing by persons of good ability and character is even more important. Free nursery schools of high quality, opportunities for boys and girls in their 'teens to earn money while going to school, and scholarships for maintenance of the most promising young people, as well as for tuition, may be useful. The churches



which oppose birth restriction might reasonably concentrate their efforts upon their most intelligent and virtuous members. Exhortations of the customary sort are fruitless, but the leaders of a community could do something by their example and by skilful publicity for the superiority of the family of three or four children over that of one or two.

The best gift of good people to the world is children who continue their natures and profit by their training. Any city which can discover and operate ways and means of increasing this gift will thereby benefit itself and the world.

## CHAPTER VII

### THE COST OF LIVING

It is important to know how cities differ in the cost of food, clothing, shelter, carfares, gasoline, entertainment, and whatever goods and services its people, especially its good people, buy. Other things being equal, the cheaper the good things of life are, the better.

Moreover, some of the thirty-seven items in the G score itself are dollar items; for example, per capita public expenditures for text books and supplies, per capita public expenditures for recreation, average salary of a high-school teacher, the rarity of extreme poverty, per capita value of asylums, schools, libraries, museums and parks owned by the public. The same score in dollars in two cities may mean different things if the cities vary in the purchasing power of the dollar. If cities vary greatly in the purchasing power of a dollar, we may need to revise the G scores, and still more the I scores.

For the sake of many readers, I will say at once that inquiry shows that the variations in the purchasing power of the dollar in cities from 30,000 to 500,000 are small, and that if every dollar used in any score had been replaced by its actual purchasing power in the city in question, the relative scores reported would vary only slightly from those given, and no general conclusions would be changed. Conse-

quently, unless the reader has special interest in differences in the cost of living, he may well omit the rest of this chapter, which is necessarily a rather dry recital of facts about prices.

Nobody has ever before measured the variations in the price of even a single commodity in all of these cities, much less found the prices of enough of them to give an accurate index for each city. There are two reasons for this. The work is extremely laborious; the interest in the cost of living has been chiefly in its changes with time and events rather than in its differences with locality and sort of community.

I collected the data published by the Bureau of Labor Statistics, which concern chiefly fifty-one cities, those made available for scientific uses by the National Industrial Conference, extending in some cases to seventy-one cities, those published by the Department of Commerce, chiefly for fifty-seven cities, and such other facts as could be found in print. I obtained the daily newspapers from 265 of the cities for the week of September 13 to 18, 1937, and recorded the advertised prices in each city of those commodities and services which were advertised in most of them, and which would be most sensitive to differences in the size, locality, and character of the city. I took the prices of milk, butter, eggs, chickens, beans, potatoes and cabbage, but not the prices of canned goods, trade-marked goods, books, drugs, and other things which would vary much less with size, locality, and the character of the city. I took rents and sales

prices of houses and apartments, admissions to movies, lowest, median and highest prices for a permanent wave, and anything else which was likely to be fairly uniform in quality in different cities and sensitive to size and locality.

We begin the calculations by expressing the price of each commodity in each city as a percentage of some base price, usually the median price for that commodity in cities of 55,000 to 64,999 population. Certain cities' prices of butter, eggs, chickens, fowl and potatoes so expressed are shown in Table 8.

TABLE 8

Advertised Prices, September 1937, in the six largest and six smallest cities, expressed in dollars and also in percentages of the median price in cities of 55,000 to 64,999.

|                       | Butter |     | Eggs  |       | Chicken |       | Fowl  |       | Potatoes |       |
|-----------------------|--------|-----|-------|-------|---------|-------|-------|-------|----------|-------|
| Milwaukee .....       | .36    | 100 | ..... | ..... | .30     | 91    | .25   | 100   | .016     | 114   |
| Minneapolis .....     | .36    | 100 | ..... | ..... | .28     | 85    | .22½  | 90    | .012     | 86    |
| New Orleans .....     | .36    | 100 | .27   | 96    | .26     | 79    | .22   | 88    | .018     | 128   |
| Cincinnati .....      | .36    | 100 | .29   | 104   | .....   | ..... | ..... | ..... | .015     | 107   |
| Newark (N. J.) .....  | .35    | 97  | .30   | 107   | .....   | ..... | ..... | ..... | .....    | ..... |
| Kansas City (Mo.)...  | .34½   | 96  | .25   | 89    | .28½    | 86    | .24½  | 98    | .015     | 107   |
| Bloomington (Ill.)... | .36    | 100 | ..... | ..... | .....   | ..... | ..... | ..... | .013     | 92    |
| Hagerstown .....      | .36    | 100 | .25   | 89    | .....   | ..... | ..... | ..... | .012     | 86    |
| Everett (Wash.) ..... | .37    | 103 | .20½  | 73    | .26     | 79    | .22   | 88    | .007     | 50    |
| Newark (O.) .....     | .35    | 97  | ..... | ..... | .38     | 115   | ..... | ..... | .017     | 121   |
| Santa Ana .....       | .38½   | 107 | .31   | 111   | .....   | ..... | ..... | ..... | .016     | 114   |
| Alton .....           | .38½   | 107 | ..... | ..... | .....   | ..... | ..... | ..... | .015     | 107   |

Such records for a single city are not reliable measures of its costs, because the shops advertising

may not represent all shops in the city, and the apartments and houses of a given size offered for rent or purchase may not represent the general run of that size, and for other reasons. They are, however, useful for comparing fifty large cities with fifty small ones, or fifty northern cities with fifty southern cities, or fifty California cities with fifty cities in Ohio and Indiana, when there is reason to believe that the representation for one fifty has an average quality equal to that of the other fifty.

By combining the percentages for certain items, and combining the cities into groups, we can set out in a table the relation between prices and population size (Table 9 does this) or between prices and latitude (Table 10 does this).

According to Table 9 there is about thirteen per cent difference in prices of houses and apartments between cities of 30,000 to 100,000 and cities of 300,000 to 500,000, and practically no difference in the other prices.

TABLE 9

Advertised prices in relation to population size.

|                          | Apartment<br>rents, house<br>rents, and<br>house sales | Butter, eggs,<br>chicken,<br>fowl, and<br>vegetables | Movies<br>and<br>permanent<br>waves |
|--------------------------|--|--|-------------------------------------|
| 300,000 to 499,999 ..... | 103  | 97.3   | 103                                 |
| 200,000 to 299,999 ..... | 99½  | 99.3   | 96                                  |
| 100,000 to 199,999 ..... | 96   | 100.6  | 98                                  |
| 30,000 to 99,999 .....   | 91   | 100.0  | 99½                                 |

Data published for fifty-one cities by the Federal Bureau of Labor Statistics confirm this finding for a total index of retail food prices, and show that electricity is actually cheaper in the larger cities. Data published for fifty-six cities by the Federal Bureau of Standards show that prices for building materials delivered on the job (brick, sand, crushed stone, cement, lime, common boards, 2×4's, gypsum plaster-board, wire nails, tar-paper, window-glass, linseed oil, and white lead) are also cheaper in the larger cities. Carfares are almost the same in large cities as in small.\* Drugs, cosmetics, radios and most luxury articles probably cost no more in large cities.

My colleague, Mr. J. W. Boldyreff, has studied, in the case of 66 of the cities, the advertised prices of thirteen commodities (flour, sugar, salt, and certain trade-marked shortenings, cereals, evaporated milk, cocoa, soap flakes, laundry soaps, toilet soaps, aspirin, tooth pastes and shaving creams) which are identical or nearly so in quality in all cities. These prices are actually lower in large cities than in small, in northern cities than in southern, in cities high in G than in cities low in G.

We lack information about the cost, city by city, of doctors' and lawyers' fees, household servants and laundry, automobiles and gasoline. But it is safe to say that, using the total of goods and services which people do buy, their dollars buy ninety-five per cent

\* Beney, Cost of Living in the United States.

as much in cities of 300,000 to 500,000 as in cities of 30,000 to 50,000. Probably ninety-eight per cent is nearer the truth. If people spend less in small cities than in larger, they get less as a rule. The standard of living in the sense of the habits of expenditure may vary widely with population size, but the actual cost of commodities does not.

According to Table 10 a dollar buys about as much north as south. This is confirmed also by the data of the Bureau of Labor Statistics and of the Department of Commerce.

TABLE 10

Advertised prices in relation to latitude.

|                                | Apartment<br>rents, house<br>rents, and<br>house sales | Butter, eggs,<br>chicken,<br>fowl, and<br>vegetables | Movies<br>and<br>permanent<br>waves |
|--------------------------------|--|--|-------------------------------------|
| North of 44° (44° to 49°)..... | 82   | 94½  | 100                                 |
| 43° .....                      | 84   | 95   | 101                                 |
| 42° .....                      | 90   | 101  | 99                                  |
| 41° .....                      | 91   | 100  | 107                                 |
| 40° .....                      | 101½   | 102½   | 104                                 |
| 39° .....                      | 88   | 101½   | 102½                                |
| 38° .....                      | 89   | 97   | 100                                 |
| 36° and 37° .....              | 92   | 104  | 108                                 |
| 33°, 34° and 35° .....         | 90   | 103  | 82½                                 |
| South of 33° .....             | 86   | 100  | 85                                  |

There is evidence, too complicated to present here, that the quality of the butter, eggs, chickens, apartments, houses, permanent waves, etc., the prices of which I used, and of the meats and other foods used

by the Bureau of Labor Statistics, is better in the larger cities, the northern cities, and the cities scoring high in G.

If the differences between large cities and small, and northern cities and southern, in the purchasing power of the dollar for rent and food are so small, the differences among all our cities in the general purchasing power of the dollar must be very small. We can get some notion of how small by observing the facts for those cities where the costs for *all* foods have been computed at eight dates spread over four years, and where the costs for building supplies have been computed at six dates spread over two years, and where data on electricity, movies and permanent waves are also available.

There are seventeen cities for which we have all the information. They differ very little, twelve of them having indices between 96 and 104. If the prices of the thirteen identical-quality commodities are also used, they differ still less. I estimate that if the inhabitants in each of the cities between 30,000 and 500,000 had as good food, shelter, clothing, entertainment, etc., as the inhabitants of any other of the cities, the cost would differ from city to city by less than  $4\frac{1}{2}$  per cent, that over 99 per cent of the cities would have indices between 90 and 110 and that over 80 per cent of them would have indices between 95 and 105.

The "good" cities have a higher standard of living than the others, but little or no higher costs for the



same commodities. The notion that cities differ greatly in the cost of living and the notion that costs are much higher in cities of 300,000 than in cities of 30,000 probably are survivals from the time when the residents of the smaller cities bought much food from local farmers, when their clothing shops stocked fewer varieties and less up-to-date models, and when they had no apartment houses. Even then, the differences in costs for the same life were probably much less than the differences in the kind of life. If the fruit eaten in the winter was only apples bought by the barrel, instead of the variety offered by the shops of the large city, the cost would naturally be less. If the vegetables eaten in the summer were what the farmer happened to bring in his wagon, the cost would naturally be less than when the shops furnish almost all sorts at all times.

Things have changed greatly. The vegetables grown within 10 miles of a city may be shipped 200 miles to a trade center and then back again to the local stores. The styles travel from Birmingham to Mobile as fast as an automobile can carry a woman, and custom demands that the women in Alton dress as well as the women of equal incomes in Chicago. Moreover the same fashion magazines reach them all on the same day. The same movie in an equally luxurious building costs almost or quite as much to produce in one city as in another. Volume of sales may balance the higher cost of rent. A horse can still be boarded more cheaply in a small city, I pre-

sume, but gasoline is no cheaper. Nationally distributed trade-marked goods come from canneries, factories, bakeries, etc. which are located to be near their sources of supplies on the one hand and the large markets on the other.

The retailers, in small cities as in large, buy almost nothing direct from any local producer. Almost everything is routed through to Messrs. Armour, Borden, Campbell, Heinz, Kraft, and the captains of eggs, chickens, and butter, etc., whose names I know not, and comes to large and small cities alike in cans, crates, and cartons. Lewiston, Maine, gets lettuce from California, and strawberries from Florida.

Our ideas have not kept up with those changes. Certain cities which pay their workingmen and teachers lower than average salaries, delude themselves by the excuse that their cost of living is low. Nine times out of ten this is not the true explanation or a valid excuse. The real fact ordinarily is that the scale of living is low, that the people live in less comfortable homes, eat cheaper qualities of foods, wear cheaper clothes, and have less or cheaper entertainment. This lower scale of living may be commendable. Some of these cities may have a better life than cities with higher wage scales, but it is not the same life at a lower cost, and should not be so represented.

# CHAPTER VIII

## SPECIAL GROUPS OF CITIES

### GIANT CITIES

What is said here about the fourteen cities having over 475,000 population in 1930 should be taken as merely an introduction to a book which somebody should write about them. There are difficulties and dangers in comparing them with our 295 cities, half of which have fewer than 70,000 inhabitants. But the facts concerning their G scores will do more good than harm if used sensibly.

G scores of the giant cities expressed as divergences from the median of the 295 cities, the scores of which range from + 24 to - 21.

---

|                    |     |                     |     |
|--------------------|-----|---------------------|-----|
| New York .....     | 3   | Baltimore .....     | - 7 |
| Chicago .....      | 0   | Boston .....        | 6   |
| Philadelphia ..... | - 3 | Pittsburgh .....    | 3   |
| Detroit .....      | 4   | San Francisco ..... | 7   |
| Los Angeles .....  | 12  | Milwaukee .....     | 7   |
| Cleveland .....    | 4   | Buffalo .....       | 4   |
| St. Louis .....    | - 3 | Washington .....    | 5   |

---

Los Angeles leads by a wide margin. San Francisco, Milwaukee, Boston, Washington, Buffalo, Cleveland, Detroit, New York and Pittsburgh are somewhat above the median of the 295 cities. They do not differ greatly. Chicago is at the median. Baltimore, Philadelphia and St. Louis are somewhat below it. The highest, Los Angeles, is considerably be-

low the dozen best suburban cities and is near the level of the best of the "complete" cities such as San Jose, Springfield (Mass.), Kalamazoo, Minneapolis, Seattle and Madison.

All such comparisons are off the mark, because one of these giant cities may deserve credit for its residential suburbs, and, on the other hand, may deserve a penalty for an adjoining industrial city which does its dirty work. The valid comparisons would be rather between large metropolitan areas.

#### METROPOLITAN AREAS

New York and all the cities and towns within an hour's distance from the lower third of Manhattan Island, Boston and all the cities and towns within an hour's distance from the State House, Chicago and all the cities and towns within an hour of the loop—these and similar areas around Philadelphia, Detroit, Cleveland and other great cities are more truly units in many ways than the territories which are legally called New York, Boston, etc. They deserve study, analysis, inter-comparison, and comparison with the 240 "complete" cities of this book.

Such study will on the whole raise the scores of the metropolitan area as a whole above the score for its central city, since on the whole, residential suburbs with higher scores than its own are commoner adjuncts to a giant city than industrial suburbs with lower scores than its own. But the giant cities' adjoining cities will raise their scores unevenly, and will perhaps lower one or two of them.

Such study will almost certainly give the Los Angeles, Glendale, Long Beach, Pasadena, Santa Monica area the highest G score, and the Boston and San Francisco areas will probably rank next. The New York, Cleveland, Washington, Milwaukee areas will probably be above those of Detroit and Pittsburgh, and almost certainly above Chicago, Philadelphia, St. Louis and Baltimore. The other cities may however with some justice retort that Southern California was made an elysium by their money, or even that people really live and work in Pittsburgh and Detroit and go to the Los Angeles district to loaf and die!

The order of merit is not a matter of great importance except as a means of discovering causes and improving life in all these great areas. The causes will probably turn out to be much the same as for the "complete" cities outside these areas. The recommendations for the great metropolitan areas are probably the same as we have found for the smaller complete cities, namely: to improve their population and traditions, make themselves attractive to good people, and give good people opportunities to earn and save.

Whoever studies these great areas should, if possible, keep account of the component parts of each area. This has been done for the component parts (census tracts) of St. Louis by Fletcher, Hornbach and Queen using thirty-two items of fact,\* including

\* Social Statistics of St. Louis by Census Tracts, 1935.

five of the thirty-seven symptoms of G. It has been done for the component parts (wards) of New Haven by Dreis and others of the Institute of Human Relations of Yale University.\*

There should be studies of *all* important units, "complete" cities, cities plus their surroundings, and parts within cities.

#### SUBURBAN CITIES

Cities of over 30,000 which adjoin larger cities include three types. There are residential suburbs like Berkeley, Oak Park, Evanston, Brookline, Malden, Montclair, Mount Vernon, East Cleveland and Lakewood, industrial units like Dearborn, Kearney and West Allis, and secondary cities like Kansas City (Kansas), Jersey City, Newark, Chicopee, and Pawtucket. There are also cities which are mixed types, like Cambridge, Highland Park, and Yonkers.

#### *Residential Suburbs*

The residential suburbs rank very high in all the features of G and in other desirables, in care for health, education, and recreation, the presence of creature comforts, and the absence of poverty, vice, and vulgarity. They are not only far above the average of all the cities; they also score higher than the larger cities which they adjoin.

This does not mean that they should be taken as models which all cities, or even all cities of their size,

\* A Handbook of Social Statistics of New Haven, Conn., 1936.

should emulate in all respects. That would not work. They are peculiar, and are to be compared with certain residential sections of more ordinary cities rather than with entire cities. They are in some ways parasitic upon the larger cities which they adjoin for the incomes of many of their residents, for entertainment of certain sorts, and for higher education, hospitals, and special services. They can keep their own territory free from purveyors of vice, and still have convenient opportunities to indulge in unconventional, heterodox, vulgar, or vicious propensities. Residential suburbs are asylums or retreats for good people to live good lives in, so long as the big city is there too, rather than centers of urban life. On the other hand, they are in some ways the supporters and benefactors of the central city. They supply it with much of the professional and managerial talent which enables it to earn its living. They patronize its theatrical, musical and literary ventures.

It is consequently more instructive to make comparisons among residential suburbs than between them and other cities, or between them and industrial suburbs. But to do this it is almost imperative to obtain facts from a much larger number of cities by including suburbs with populations down to 15,000 or less. The cost of collecting such facts was prohibitive. We must content ourselves with certain further facts and recommendations for residential suburbs and industrial suburbs.

The citizens of a residential suburban city should not excuse themselves from providing public recreational facilities because they have private yards and gardens and country clubs. They should not stint the public library because they can afford the money to buy books and magazines. They should pay teachers and other public employees salaries higher than those of ordinary cities of their size, as they can easily afford to do. They should be cautious in opposing the establishment of factories which employ skilled labor. They should favor families which have incomes of \$2000 to \$3000 and desirable personal qualities rather than families which have higher incomes but less ability, morality, and enterprise. All this is in their own interest in the long run.

In the interest of the general welfare they should also cooperate with the big cities and its other suburbs in making the entire urban and suburban unit a good place for good people. Boston plus its affiliated area, New York plus its affiliated area, and Philadelphia plus its affiliated area, are units comparable to Worcester, Albany, Harrisburg, Richmond, and New Orleans. The welfare problems should not be split into those of the present governmental units in the former any more than into those of the business sections, manufacturing sections, rich sections, and slums in the latter.

Drawing a somewhat arbitrary line, we may take twenty-four of the 295 cities as emphatically resi-



dential suburbs.\* These are very much above the average in G, I and P, the scale of rentals, the salaries of employees of retail stores, the circulation of public-library books, and in the frequency of artists, musicians, professional people, Unitarians, Universalists, and Christian Scientists. They are much above the average in the excess paid to high-school teachers over retail-store employees, the per capita value of taxable property, the percentage of foreign-born whites, and the percentage of the population aged 40 to 64. They are somewhat above the average in the number of domestic servants, the density of population, the frequency of home ownership, the infrequency of Negroes, and the smallness of families. They are about the same as the average in percentage of native-born whites, percentage of the population 65 or over, church membership, and salaries of chain-store employees. They are far below the average in the birth-rate and in the percentage of the population under 15.

Two common notions about the typical residential suburb as (1) a place to which families with children move so that the children will have room to play (2) ranking very high in home ownership, respectability, creature comforts and domestic service, but rather low in intellectual and artistic interests, are not very

\* Alameda, Berkeley, Glendale, Pasadena, Santa Monica, Evanston, Oak Park, Arlington (Mass.), Brookline, Malden, Medford, Newton, Quincy (Mass.), East Orange, Montclair, Orange, Plainfield, West New York, Mt. Vernon, New Rochelle, White Plains, Cleveland Heights, East Cleveland, and Lakewood.

applicable to these large residential suburbs, and perhaps are not very applicable to smaller ones.

### *Industrial Suburbs*

Industrial suburbs are mainly places for factory workers to earn a living in, with the big city nearby with its shops for clothes and furniture, its opportunities for entertainment and culture, its newspapers, and other special services. Like the residential suburbs they are in part parasitic upon the large cities which they adjoin, and in part its supporters. They should be compared with certain industrial sections of cities rather than with entire cities.

They vary rather widely in G, some being above the average city and some much below it, but none of them is in the lowest seventh of the 295 cities. They vary widely in other respects also. They are so few in number and so variable among themselves that it is unsafe to make a general characterization of them. Moreover, manufacturing suburbs like Hamtramck or Kearney are not separated in nature by a wide gap from residential suburbs, but connected by semi-industrial cities like Berwyn, Cambridge, Everett (Mass.), Highland Park, and Kansas City (Kansas), so that it is not easy to decide which to include.

I report the essential facts for East Chicago, Chicopee, Dearborn, Hamtramck, Bloomfield, Camden, Kearney, Norwood, Pawtucket and West Allis, which

are at the other extreme from Brookline, Montclair, Oak Park and the like. Of these ten cities, four are above the median of the 295 cities in G, three at or near the median, and three below it. Three are above the median in I, three at or near it, and four below. Three are somewhat above the median in P, one close to it, and six below.

They have few old people, few professional workers other than teachers, few musicians, and few domestic servants. They have many foreign-born whites and few native-born whites. They have large families and more than their share of children, but not high birth rates.\* They have somewhat less than their share of church members. They are nearly up to the average in home ownership. Poverty is rare and the median family rental is high. There is somewhat more crowding than in cities in general and somewhat less provision for recreation. Dearborn, Hamtramck, Bloomfield, Kearney, Norwood and West Allis would probably be scorned by esthetes, literary men and certain reformers, but they provide a better life for good people than half of our cities, and a better life probably than is provided by the industrial districts of three-quarters of them.

There is some reason to think that the planned industrial suburb may become a very valuable feature in American life.

\* This apparent paradox is probably explainable by the attraction of families with young children to these cities and perhaps by the inclusion of boarders as members of families by the census.

## EAST AND WEST; NORTH AND SOUTH

The reader who has examined Table 2 of Chapter II will have noted certain sectional differences, and may expect some further account of these. Their causation is, however, uncertain, and any attempt on my part to explain why, for example, the cities of California, Oregon and Washington rank so high would add little instructive to the general facts and principles of earlier chapters. The task belongs to someone who can study intimately the history and sociology and economics of the areas concerned.

The status of cities in the South is complicated by the combination in the statistical records of the health, education, creature comforts, etc., of races which are socially segregated. The goodness of the life provided for good white people is doubtless different from that reported by the figures which I have used. The task of measuring the welfare of separate groups within a city, in the South or elsewhere, belongs to someone who has enormous financial resources at his disposal.

I will hazard only one minor comment on sectional differences. Eastern cities are often accused of being effete, or, more temperately, of living on their past; and there is some evidence of something of the sort. But, in my opinion, the general run of the facts proves that a city can live on its past for only a very short time—less than one generation. The cities of New England which have high scores in G should thank their present populations as much as, if not more than, their founders.

## CHAPTER IX

### ERRORS IN OPINIONS ABOUT CITIES

Thoughtful people realize that popular opinions about cities, derived from brief visits and from what is heard and read about cities, are likely to err. In a brief visit a person comes to know his hotel, the chief streets and buildings, the parks and scenic features, and a few people of his own class. These experiences are informative as far as they go, but they do not go very far or very deep. He sees how clean the streets are, but not how clean the backyards and kitchens are. He may form a fair estimate of the school buildings, but not of how much the children learn, or what ideals they cherish. He gets some notion of the ability, character, and ways of life of people of his own sort from the friends and acquaintances he makes in the city, but not of the great majority.

Most of what one reads about cities is: first, the stock information of schoolbooks in history and geography and, second, what is thought by writers past and present to be interesting to their public. This is always partial and often misleading. Much of the news from Cambridge is news about Harvard University, the doings of its East Cambridge section being rarely broadcast. Richmond, Virginia, was the capital of the Confederacy, the goal of the Union Army, the dignified center of a state which was the

Mother of Presidents. Pittsburgh is where hunkies make steel and steel barons got rich and the air is smoky. In Troy they make collars. Oshkosh and Kalamazoo are reputed to be typical "hick" towns, bourgeois in the invidious sense. Joliet is where the convicts live.

The reputation of a city is of as great importance to its citizens, as the reputation of a family is to its members. False gossip and vulgar popular error are bad in either case. Worse still are errors in the minds of leaders of the people, such as editors, secretaries of chambers of commerce, and men prominent in schools, churches, labor unions, and welfare organizations. This article will demonstrate that these leaders are afflicted by errors like those of the populace, and to a dangerous extent.

I have computed for each of 117 cities a factual index, which is a composite of 23 items of fact each of which would be regarded by all competent persons as indicative of the goodness of life for good people.\* I have obtained from a large number of leaders in various fields ratings of these same cities in accordance with the following request:

Think of the quality of the government, schools, morals, culture, public spirit, and humanity of each of the cities that you know about in the following list. If the city is a very good one, write 1 before it.

\* The G index from 37 items included these 23 and 14 others. The two are much alike, and the results stated here would not be altered appreciably if the regular G score were used in place of the index from 23 items, which I shall call  $G_{23}$ .

If it is good, write 3. If it is about average, write 5. If it is below average, write 7. If it is much below average, write 9. If you are in doubt whether to rate it 1 or 3, call it 2. If you are in doubt whether to rate it 3 or 5, call it 4; similarly for the use of 6 and 8, when in doubt between 5 and 7, or between 7 and 9.

We must free these ratings from the difficulties and dangers caused by the fact that each judge rated only a fraction of the cities, and that ratings of 1, 2, 3, etc. by one person may not be equal to the same ratings given by another. I avoid these errors and possibilities of error by basing all computations upon comparable facts of this form: "City 1 is rated better than City 2 by X per cent, equal to City 2 by Y per cent, worse than City 2 by Z per cent of individuals, A, B, C . . . N, all of whom rated both City 1 and City 2."

By suitable treatment of these ratings we derive six sets of opinions about the general goodness of these 117 cities, one from 97 educators, one from 72 clergymen and social workers, one from 99 businessmen, one from 17 public health experts, one from 31 "progressives" or "reformers" and one from the educators-clergymen-businessmen-social workers combined.\*

This last set of opinions includes those of 268 persons and would be altered only slightly if the number

\* In spite of much time and effort spent to obtain ratings from labor leaders and working men the number is too small (only 13) to represent this group at all accurately.

should be increased tenfold or more. It represents rather accurately the opinions of the country's leaders in education, religion, philanthropy and business.

These opinions suffer from grave inadequacies and errors. They give far too little weight to the facts of health, education, the infrequency of poverty, and creature comforts. This is not because the individuals do not think that these are important—they would all agree to that—but because they are ignorant or neglectful of these facts. The composite score of their opinions correlates very much lower than the factual index does with infant death rate reversed; general death rate reversed; per capita expenditures for teachers' salaries, text-books and supplies, libraries and museums; number of persons graduating from high school; rentals over \$10 a month; per capita number of domestic installations of gas, electricity, telephones, and radios.

Their opinions are too much influenced by externals, showing more correspondence than the factual index does with park acreage, per capita value of taxable property, and size. Their opinions are too much influenced by the life the cities provide for people of social and financial status like their own and too little by the life of the entire population, including Negroes, foreign-born, and those of relatively little ability to win pecuniary success. Life in Southern cities for the richer quarter of the native-born white population, may be, or at least seems to these educators, clergymen, and businessmen to be,



well up to the average for American cities. But these cities were notable for syphilis, homicides, infant mortality, illiteracy, extreme poverty, child labor, low wages, lack of libraries, and lack of creature comforts for large sections of the population.

The 268 opinions are far too much influenced by the number of eminent persons residing in the city. A large number of able artists, scientific men, politicians, and the like is good for a city, but their work benefits chiefly the world at large and its local value may easily be exaggerated. The correlation between per capita number of residents listed in *Who's Who* and factual index is near zero for these 117 cities, but its correlation with the opinion of the 268 people questioned in this survey is high (.60).

To these general inadequacies and errors there are added special prejudices of the educators, reformers, clergymen and social workers, and businessmen. All are too much influenced by size and rapidity of recent growth, the businessmen most and the educators next. The businessmen are the most influenced by per capita wealth. All save the reformers favor the Southern cities, the clergymen and businessmen doing so more than the educators. The clergymen and businessmen take least account of the health of the cities; the reformers take most account of it. The clergymen take least account of poverty. The reformers are the only ones who give reasonable weight to the items indicative of the intellectual ability and interests of the residents of the city, their benevolence,

and home ownership. The clergymen and educators pay almost no heed to these factors and the businessmen actually vote against them.

The opinions of people in general will surely be no better than these and probably will be much worse. We, the people of the United States, are not much more competent judges of the cities we live in than of the stars we see. We think stars are big if they are bright and that cities are good to live in if they are big. We do not distinguish the planets from the stars, and we do not distinguish cities which are good only for the native white families with social standing and incomes above \$2,000, from cities which are good for all good people. We may know that a star is white or yellow or red and know almost nothing about its density or chemical composition. Similarly, we may know that a city is manufacturing or trading or residential but know almost nothing about its death-rates, library facilities, supply of automobiles, radios and electric appliances, or wage scales. Only astronomy, with measurements of parallaxes and spectra, enables us to know the stars, and only the impartial study of many significant facts about cities enables us to know them.

These facts and many others of interest and importance are shown in two tables.\* Table 11 pre-

\* The greater the correspondence between opinion and fact, the higher the correlation figure. A negative correlation shows inverse relationship, and the higher the negative figure the greater the discrepancy.

sents the correlations of the various opinion-scores for the cities with the actual index. The opinions of educators and "reformers" are, then, closer to the facts than the opinions of clergymen and businessmen.

TABLE 11

The amount of error in the opinions of educators, clergymen and social workers, businessmen, and reformers, as shown by the drop from 1.00 in the correlations with  $G_{13}$ .

| Group   | Correlation<br>with $G$ |
|---|-------------------------|
| 97 Educators .....  | .59                     |
| 72 Clergymen and social workers .....                         | .36                     |
| 99 Businessmen .....  | .27                     |
| 268 Educators, businessmen, clergymen and social workers..... | .42                     |
| 31 "Reformers" .....  | .51                     |

The opinions from public health experts were not included in this table because they were too few in number (14). Their disagreements with fact were even greater than those of the other groups, and support the statements of this article even more strongly. One of them, a man of great wisdom, as well as knowledge in that field, wrote me: "We do not have to give opinions; we know!" They do not know; he does not know; nobody knows until he has in his possession a vast number of measured items of fact.

Table 12 presents the correlations of certain features of a city's life with the four opinion scores for

TABLE 12

The nature of the errors in the opinions of educators, clergymen and social workers, businessmen and "reformers," as shown by their over-valuation and undervaluation of certain items.

|  | Correlation with Facts, 117 Cities | Correlations with Composites of Opinions |                              |             |           | Differences |           |             |           |
|--|------------------------------------|--|------------------------------|-------------|-----------|-------------|-----------|-------------|-----------|
|  |                                    | Educators                                | Clergymen and social workers | Businessmen | Reformers | Educators   | Clergymen | Businessmen | Reformers |
| Population .....   | .05                                | .44                                      | .34                          | .60         | .23       | .39         | .29       | .55         | .18       |
| Recent growth ...  | .15                                | .51                                      | .26                          | .68         | .28       | .36         | .11       | .53         | .13       |
| Latitude .....   | .62                                | .03                                      | -.21                         | -.25        | .55       | -.59        | -.83      | -.87        | -.07      |
| Infrequency of Negroes .....                               | .58                                | .05½                                     | -.24                         | -.34        | .43       | -.52½       | -.82      | -.92        | -.15      |
| Infant death rate (reversed)                               | .82                                | .27                                      | .04                          | .03         | .51       | -.55        | -.78      | -.79        | -.31      |
| General death rate (reversed)                              | .54                                | .27                                      | -.06                         | -.04        | .38       | -.27        | -.60      | -.62        | -.16      |
| Infrequency of extreme poverty .....                       | .69                                | .13                                      | -.18                         | .11         | -.03      | -.56        | -.87      | -.58        | -.72      |
| Infrequency of less extreme poverty .....                  | .70                                | .20                                      | -.12                         | .07         | .01       | -.50        | -.82      | -.63        | -.69      |
| Value of public property used for education and recreation | .76                                | .37                                      | .19                          | .25         | .28       | -.39        | -.57      | -.51        | -.48      |
| Taxable wealth   | .35                                | .28                                      | .08                          | .41         | .19       | -.07        | -.27      | .06         | -.16      |
| Income .....   | .63                                | .27                                      | .13                          | .19         | .22       | -.36        | -.50      | -.44        | -.41      |
| Personal qualities .....                                   | .74                                | .29                                      | .32                          | -.24        | .56       | -.45        | -.42      | -.98        | -.18      |

educators, businessmen, clergymen and social workers and "reformers," and four sets of differences showing the nature of the errors of each of the four sorts of opinion. The moral of Tables 11 and 12, and of this chapter as a whole is: Do not take anybody's opinion about your city: get the facts.

## CHAPTER X

### MEASURE YOUR CITY

Industry and business have found it profitable to use measurement as a major factor in control and improvement. Enterprising manufacturers are no longer content to take a look through the factory to see how things are going. They have careful measurements of what each department is accomplishing, and even of the time required for detailed operations. Enterprising business men measure the status of each factor in their purchasing, production, advertising, and selling. Citizens may well do the same. The business of maintaining and increasing human welfare should not be run by guess-work. Citizens should know what is being accomplished for health, knowledge, character, comfort, security, good feeling, and entertainment, so far as measurement can tell them. This does not mean that they will not continue to use their own direct observations of conditions. But impersonal measurement can correct any prejudices of individual observation and add far wider and deeper knowledge.

If a fire destroys a building, we can see the event and result, or at least read about it in our newspaper. But an epidemic of typhoid which really does more harm is much less visible and is not interesting to read about. If a church, business block, or row of houses is built, we see them; but if the circulation of

the public library, or the sale of reputable magazines, or the number of home owners rises, not one citizen in a hundred may be aware of it. Yet even so small a rise as 2 per cent in these is probably more significant than a large gain in material equipment.

From the previous chapters one may learn what measurements of a city can be made conveniently and with sufficient accuracy to be dependable, and which of them are most significant. But some of them are not published at all; others are not published for cities of less than 30,000 population; and many of them are published only for the census years 1930, 1940, etc.

So I report here ten which anybody can obtain for almost any city in a few hours, and which will tell fairly well how the city stands in General Goodness.

An approximate estimate of the population of your city for the year of your inquiry will be needed to compute the scores for all items except the first. The local government, the chamber of commerce, the local telephone company, the local gas and electric companies and the local newspapers may have such estimates or be willing to make them. Inquire of them, and take the average of the estimates they give. If they are unable to do this, get them to appeal for help to the Federal Census Bureau. The information is important to all of them and the Census Bureau may properly spend time in cooperating with them. But make sure that the Census Bureau is not pestered by a number of requests for the same facts.

## TEN-ITEM CITY YARD-STICK

Item 1. Get from the health officer of your city the infant death-rate, that is, number of deaths per year of infants 1 to 365 days old per 1,000 live births. Subtract this number from 120, and multiply the result by 2.

Item 2. Get from the city-treasurer the year's expenditures for the operation and maintenance of parks, playgrounds and other means of recreation, that is, the figure he would report to the census authorities as "Government-cost payments for operation and maintenance of the department of recreation." Divide this amount by the estimated population of the city, and take ten times the quotient expressed as dollars. For example, if the amount is \$46,350.00 and the population is 60,000, the quotient is \$0.7721, and ten times it is 7.7 (or 8 to the nearest whole number).

Item 3. Get from the city-treasurer the estimated value of all the city's property in the form of schools, libraries, museums, parks and other recreational facilities. Divide this amount by the estimated population of the city; then multiply the result expressed in dollars by 1.25.

Item 4. Get from the city-treasurer the total value of all public property (exclusive of streets and sewers), both that (such as schools, fire engines, and jails) used for municipal services, and that (such as water-works, docks and power plants) used for public-service enterprises. Get also the *net* public debt,



subtract the latter from the former, then divide by the population. Enter a credit of 1 for every \$3 per capita excess of property over debt. In case your city owes more than its public property is worth enter the appropriate negative number.

Item 5. Get from the city-treasurer or from the superintendent of schools the expenditures for the operation and maintenance of schools. This does not include capital outlays or payment of interest on school debts. Divide this amount by the population. Multiply the number of dollars in the quotient by 2. That is, enter a credit of 1 for every 50 cents per capita spent for teachers' salaries, books and supplies, heat, light and care of the schools, etc.

Item 6. Get from the superintendent of schools the number of persons who graduated from senior high school during the year, and divide this number by the city's population. Multiply the quotient by 14141. This is equivalent to giving a credit of 10 for every 7 graduates per 10,000 population.

Item 7. Get from the person in charge of the public library the circulation of books as he would report it to the American Library Association. Divide this number by the city's population. Multiply the result by 5.

Item 8. Get from the superintendent of schools the number of pupils in school who were aged 16 years 0 months to 17 years 11 months at the date when the school enrollment was taken. Find what per cent this number is of the estimated number of persons 16 years 0 months to 17 years 11 months

living in the city at that date and give a credit of 1 for each per cent.\*

Item 9. Get from the superintendent of the telephone company the number of subscribers, or estimate the number by counting the names on 30 pages taken at random from the phone book. Multiply the number of phones by  $\frac{3000}{3}$ , and divide the product  $\frac{1}{333}$  by the city's population. That is, give a credit of 1 for every three phones per thousand population.

Item 10. Get from the electric light company the number of *homes* that are supplied with electricity. Multiply by 200 and divide by the city's population. That is, give a credit of two for each *domestic* installation of electricity per hundred population.

Sum the ten entries to obtain your city's total score, as shown in Table 13.

The ten-item yardstick scores in 1930 for the cities

\* Estimating the total number of persons 16 and 17 years old accurately is a matter of some difficulty, but a very easy procedure will give sufficiently accurate results for the present purpose, if you can be sure that all the 11 and 12 year-olds except a few diseased or feeble-minded are enrolled in school. If that is the case, estimate that the number of all 16 and 17 year-olds in school and out will be .99 times the number of 10 and 11-year olds in school, obtaining the latter figure from the superintendent of schools, who should, of course, include children in parochial or other private schools.

A somewhat less accurate, but even easier, method available for cities over 25,000 is to find in the last census the percentage which the number of 15 to 19 year-olds inclusive was of the total population in your city. In the 1930 census this will be found in the Census of Population, Volume 2, Tables 38 and 39. Find .395 times that percentage. Multiply the estimated total population for the year you are studying by this number. Still better, use .39 or .38 instead of .395, since the percentages which the young are of the total populations are declining at the present time in most cities.

TABLE 13  
Sample Scores in the 10-item City Yard-Stick.

|  | Cities |     |     |     |     |     |     |
|--|--------|-----|-----|-----|-----|-----|-----|
|  | A      | B   | C   | D   | E   | F   | G   |
| 1. Infant death-rate reversed .....                      | 20     | 52  | 88  | 138 | 156 | 150 | 164 |
| 2. Expenditures for recreation .....                     | 11     | 5   | 8   | 11  | 14  | 24  | 40  |
| 3. Value of schools, parks, etc. ....                    | 72     | 93  | 84  | 110 | 111 | 160 | 161 |
| 4. Property less debt .....                              | 10     | 18  | 17  | 36  | 39  | 38  | 46  |
| 5. Expenditures for schools .....                        | 23     | 33  | 24  | 29  | 32  | 46  | 56  |
| 6. High school graduates .....                           | 69     | 101 | 96  | 99  | 139 | 177 | 191 |
| 7. Library circulation .....                             | 11     | 12  | 38  | 37  | 40  | 46  | 84  |
| 8. Percentage of 16- and 17-year<br>olds in school ..... | 55     | 52  | 54  | 57  | 87  | 92  | 91  |
| 9. Telephones .....                                      | 25     | 33  | 60  | 62  | 60  | 73  | 93  |
| 10. Homes wired for electricity .....                    | 30     | 32  | 58  | 49  | 58  | 54  | 64  |
| TOTAL .....  | 326    | 431 | 527 | 628 | 736 | 860 | 990 |

over 30,000 run from about 300 to about 1,000. The average was about 575; about ten per cent were below 400 and about 10 per cent were above 750.

Some study of cities from 10,000 to 29,000 in population indicates that the following adjectives are appropriate for their scores in the 10-item city yardstick.

200–350. Far below the American standard

351–500. Inferior

501–650. Ordinary

651–800. Superior

801–950. In the class of Evanston, Glendale, Newton, Oakland, Springfield, Mass., Grand Rapids and the like

951 or more. Among the world's highest one per cent

## CHAPTER XI

### IMPROVE YOUR CITY

Any city can improve itself. Not by trying to be bigger; energy spent in attaining size is largely misspent. Not by building factories, shops or offices except in so far as these increase the income of its residents. They should be built where they are needed. If a citizen of city A has a hundred thousand dollars to invest in a plant for production or trade, he may do more good to city A by building it in city X than in city A. Not by trying to become something which it is not fitted to be. Industrial cities like High Point or Birmingham should not seek the excellencies of a residential suburb or wholesale trading-center but they may profitably seek to equal Grand Rapids and Schenectady.

Cities which produce, cities which sell, cities which do investment and insurance work, cities which are refuges for those who have earned rest—all can provide a good life, though in somewhat different ways. Not, save in small measure, by any fancy schemes of government and administration so far invented. A city should be alert and open minded to learn what experts in municipal administration have discovered. It will then get as good government as it deserves; nothing more than this should be expected.

At least four-fifths of the differences of cities in goodness is caused by the personal qualities of the

citizens and the amount of their incomes. These then are the main things to improve. Citizens need not hunt far and wide for novel or subtle reforms nor consult witch-doctors at home or abroad. They have the straightforward tasks of facing the facts, making themselves better, attracting good people to their city, and earning more money.

I am strongly tempted to let the last sentence close this chapter and book, leaving the reader to use his own judgment in applying them. But it seems in order for me to add certain suggestions.

It is fitting that the citizens of a city should be loyal to it, as they are to their families, churches, and clubs. Even the least efficient American city protects their persons and property, educates their children and guards their health better than the best city in the world only a short time ago. Most of them depend upon it largely for their livelihood and enjoyment. Few of them give it as much as they get from it. We tend to take streets, sewers, water, light, schools and parks for granted, like sunshine and rain, as a part of the order of nature, forgetting that they are the community's gift to us established and maintained by it.

We should be loyal to our city; we belong to it and it belongs to us. But we should also be realistic and honest. We should be our most searching critics and hide no weaknesses from ourselves. If we say "My city, right or wrong," we must work to minimize the number of matters in which it is wrong. There is a

vicious tendency in matters political and social to think and do what makes us comfortable temporarily rather than what makes us better off permanently. We foolishly distort facts to fit our wishes, hopes and fears when we should adjust our behavior to the facts. We stone the prophets of evil and neglect the experts who lack ingratiating manners. Boasting, boosting, mutual admiration, and pride have their place, but they will not make water or milk purer, or debts smaller, or men and women more competent. A city needs to see itself as it really is, as well as to see a glorious vision of it with the eye of faith.

Existing institutions and organizations should be used until there is a demonstrated need for new ones to improve a city. There rarely will be.

The schools and libraries of a city may profitably consider three jobs, training for doing rather than talking, providing opportunities rather than exerting pressure, and improving the distribution of education. Words are important; language, our great social tool, is probably more important than farm tools, or builders tools, or even those elaborate tools which we call machinery. But schools have relatively too much of this good thing. We have seen that the good city has many engineers, architects, doctors, dentists, nurses, artists and men of science and few lawyers and preachers. Modern civilization progresses more by observation and experiment than by argument and rhetoric. Psychology and history, I think, both teach that a community becomes great

and good by giving opportunities to those who crave and deserve them rather than by coercing the recalcitrant into learning.\* It is better to use a thousand dollars to make it possible for a dozen persons who have genuine ability and interest in, say, mathematics or music, to get what they want than to use it to entice a hundred into undertaking a course which most of them will drop unless they are entertained by seductive pedagogical skill.

The churches may profitably consider four developments of activities in which they already engage. The first is increased support of welfare work done by experts in any field—public health, education, recreation, the prevention of poverty, or any other. It is a proper part of a minister's work to find out whether the work is in the hands of a qualified expert, and if it is, to encourage the members of his church to support it. Cooperation among the good forces in a city should improve it, and the churches may properly set an example of such cooperation.

The second is a reasonable allotment of church funds to their own building, minister, music, etc., to good causes within the city, and to good causes outside it. A church whose members are poor may reasonably spend nearly all of their contributions upon their own preacher; a church many of whose members are rich may reasonably be expected to

\* In this and in later statements of this chapter I no longer restrict myself to conclusions which follow inevitably from the measurements, but use also my personal judgment, and perhaps my prejudices.

spend a large fraction of their contributions for the welfare of others than themselves. If they spend \$2000 on their organist and choir, they should perhaps spend an equal or larger amount to aid a community orchestra in their city. If they have the use of a building worth \$100,000 on which they pay no taxes, they should perhaps contribute \$2000 or more annually to the community chest or to assisting some church which is doing fine service where it is needed. Some sort of sliding scale might be agreed upon for churches whose annual funds plus a reasonable rental value for the church building are less than \$10 per member, \$10 to \$14, \$15 to \$19, \$20 to \$24, \$25 to \$29, \$30 to \$39, \$40 to \$49, \$50 to \$59, etc., allocating increasing percentages to activities outside their own worship and social life.

The third is the consolidation of churches. The need for this in villages and towns has long been realized and many small communities have benefited by replacing two or more competing churches by a union church of some sort. The same need exists in some cities.

The fourth is increased wisdom in caring for the spiritual life of men which all churches recognize as their prime concern. The quality of the spiritual life of a city is much more important than the acreage of its parks, or the use of electricity in its homes, or the number of cars it owns. If it could be measured in our 295 cities it would beyond question show a positive correlation with the score for desirable



personal qualities. If it could have been measured, I should have included it as a most important criterion of the goodness of life for good people. A church which becomes so absorbed in discussing the problems of the day, or increasing the social welfare of its members, or developing the esthetic side of worship, or fighting to preserve certain rituals to which it is devoted, that it neglects the spiritual life and health of mankind is neglecting its chief duty. It may be doing worthy service, but it is too much like Hamlet with Hamlet left out. A church which fulfills this duty by knowledge of the truth and faith in the good cannot but improve the community.

I make only two suggestions about political action and make these timidly because the matter has been treated by able and experienced men, and because facts about the political situation in each of these cities have not been available for study.

Political parties should all support what impartial experts recommend in public health, education, recreation, the prevention of crime and the prevention of poverty, and the like—that is, they should keep all these out of politics. If there must be a certain amount of spoils distributed, let it be in connection with streets and sewers, where it will do least harm in giving favors to one man rather than another, and where the other can have his turn later! In these cases, the public suffers a loss only in money and could protect itself by taking the trouble to attend primaries and study local politics. If experts are

given authority so that the water supply is kept pure, the new-born prevented from blindness, cases of scarlet fever isolated, teachers hired who are the best obtainable, and text-books chosen on merit, a city can endure a certain amount of graft or inefficiency.

Reformers teach us what they think we ought to want, and how to get it. When their thoughts are the products of knowledge and wisdom as well as benevolence, they are performing useful service. A city needs honest scientific reformers in the pulpit, press, and classroom, and can afford to pay them to improve its wants as it pays the butcher and baker for satisfying its wants. It should welcome truthful criticism and castigation. But we should not lean too heavily on reformers; they are not divine or omniscient.

A public defender of the poor against the injustices of landlords, employers, racketeers, officials and others is a desirable adjunct of the courts, if for no other reason than to give the poor as good a chance for justice as the rich.

Business men and manufacturers can do much to improve their city. They are largely responsible for its income and they are partly responsible for its score in P by the employees whom they attract to the city and the way they treat them. It is fashionable among certain writers to treat business men as devotees of profit blind to all else. This is a foolish libel. It is true that some business men are robbers, who will cheat when they can. So are some reform-

ers who do not pay their bills. It is true that some business men are too insensitive to other things than profit, just as some writers are too insensitive to other things than making a hit. But in general business men make a living by giving people what they want, and receive very moderate pay for doing so. A grocer, for example, receives about a dime for maintaining a store and stock to supply us and for his time and trouble and civility in providing us with a loaf of bread, a package of sugar, a pound of butter, and a bottle of milk.

If a business man can give a million people something that they want a dollar cheaper than others can and still have a dollar for himself he is paid a million dollars. But it is equally true to say that he has given us a million dollars. Any business man who gives the residents of a city the same service as they would otherwise get at a lower price or better service than they would otherwise get at the same price is a benefactor, and the plain fact is that business men who are not benefactors usually fail very quickly.

Business men can be benefactors to a community not only by supplying its wants but by improving them. Many of them are doing so. Many a banker tries to dissuade his clients from foolish investments. Many a druggist tells customers the truth about patent medicines and cosmetics. Many a department store favors lines which are salable and good over lines which are more salable but not so good. By getting together and agreeing upon a policy that

their city shall be offered only honest products worth their price and by establishing black lists the dealers of a city could make it a better city and themselves better citizens who could go to sleep with better consciences. This is, of course, a delicate matter, especially in the case of drugs, cosmetics and gadgets the demand for which is created by deceptive advertisements. How far the business men of a city should go in preventing their clients from paying for lies, flattery and false hopes I do not know. To some extent buyers should protect themselves. But the business men of a community should also to some extent act as its trustees, and more now than in the past.

An employer who hires a worker is at the same time attracting or retaining that person as a resident of his city. If the conditions of work with him are attractive to good men and if he selects wisely, the city gains good citizens. We go to, and stay in, a given town or city largely because we can earn a living and enjoy life there. If the citizens and government permit racketeers, thieves and panderers to make a living in a city and provide the sort of life they enjoy, that city will shortly fill up with such.

If employers pay low wages and treat men like brutes, it will be a hard handicap for the schools and churches and clubs to counteract. For the welfare of the community employers should try to get the bulk of unskilled labor done by machines. Too much unskilled labor is bad for a city. If a man can do no

more in the world than exert muscular force he had better not be born.

Employers can benefit the city and also themselves by taking thought about vocational adjustments. It is sound personnel practice not to pay for qualities which the job does not require, not to use high-grade abilities for low-grade work, not to let a generally desirable employee go merely because at his first job he is dissatisfied or fails to give satisfaction, but to try him at another, to make reasonable sacrifice to hold employees on through dull times, to consider the total lives of employees as well as their particular work for wages, treating them as persons rather than commodities, but not officiously or with undue paternalism. All this is good for the community and for the business.

I have a hope that the business men of a community may profitably accept more responsibility for the conduct of its business. They have the advantage of intimate knowledge, and should be better able than outsiders to give local business needed purges without ruining the patient's digestion, and to add needed idealism and adaptations to a changing social order without making the patient insane.

When I was in school teachers and pupils were constantly at war. We annoyed the teachers as much as we dared, and they found it their duty or pleasure to oppress and restrict us. At least they thought they did. In many schools that has now entirely disappeared. Teachers and pupils work together

and enjoy it. This change was not wrought by systems of self-government by pupils. Such systems may accompany it, but it is found with autocracy of the teacher as well. In no case did it come by rebellion. It came because teachers learned to understand human nature better and learned that a military regime was a bad one to use. The teachers led in making it. I believe that the employer-employee relation may reduce its conflicts greatly, as the teacher-pupil relation has. I believe that the employers should lead in making the changes, as the teachers did. I believe that intelligent labor-leaders, who are really business men selling labor, will cooperate in making the changes. Perhaps they will lead. If they do, the employers should cooperate.

The improvement of a city begins at home with the neighborhood and the individual family. Plant trees along your street, clean up the cans on its vacant lots. If you want the convenience of a good food store in your neighborhood, support it. Earn your living and as much more as you can, without losing your joy in life. The chances are over ninety-five in a hundred that the world pays you as much as you are worth to it, so live on what it pays you. There is nothing shameful in not being rich, or not being beautiful, or not being somebody's boss, but it is shameful not to do honest work, not to live within your income, not to take decent care of your family. Only extraordinary misfortune justifies a loafer, or dead-beat, a family deserter. No city will ever be made great by

such—not if all the philanthropic agencies known to man took charge of it. Be ambitious but not conceited; take an impartial view of yourself; recognize your limitations as well as your possibilities. Live and let live. Obey the Golden Rule. Keep on learning as long as you live. Take the advice of experts. Don't pay too much for kind words, flattery and promises. If you wish a real share in government attend the primaries. Enjoy the happiness of others. Cooperate with all the good in all men, when you can. Such homely precepts for individuals are the keys to goodness for their city.

Biologists will say that this set of specifications for the improvement of a city omits the most important one of all, the inherited potentialities for good and for evil and for competence and incompetence of those who are being born and who will be its future citizens. What sort of persons are being born is the most important question for the world or any part of it, they say. And they are right. If by some miracle the germ cells producing the next generation could all be chosen from the half having the best potentialities, the load of crime, destitution and folly would probably be greatly reduced and the general level of decency, comfort and wisdom substantially raised. If by some calamity these germ cells were all from the lowest tenth the best parts of civilization might dwindle and vanish. There might not be enough persons fit to carry them on.

In proportion as the men and women who carry high hereditary potentialities can be enabled and induced to have more children and those who carry hereditary tendencies toward weakness in mind and morals can be induced to have fewer, the community will profit. But how to discover what hereditary potentialities different individuals carry and how to control the birth rate in the interest of humanity are questions too complicated to be treated in this book.

Whether by birth or by training, we can make men and women better and can improve their economic status. Except for man-made disasters of war and pestilence we can thus improve cities enormously generation by generation.

Your grandchildren, perhaps your children, can live in a city where typhoid, diphtheria and tuberculosis are practically unknown, where any new plagues are conquered as fast as they arise, where every child can get all the education he needs, where every man is fit to practice a profession or skilled trade, where idiots and congenital criminals are as rare as giants and dwarfs, where there are no slums, where the incomes of citizens are large enough and are used wisely enough so that the community can, if need be, rest through a depression every ten years as comfortably as it now rests through a Sunday every seven days, where every family has better creature comforts than any king had two hundred years ago, where art and science and letters are honored. Such a life is no Utopia of fancy. We have seen that some



American cities are well along on the road to it. We have only to learn from them, apply the facts of science, make able and decent people, and enable them to produce goods and services enough to return them adequate incomes. This may seem a formidable 'only,' but the way is sure and it need not be slow. I know of no other.

I hope that others will be discovered that are not known now. If some genius could rid the world of wars and their causes, all communities could devote to the business of making themselves better the time and money now spent for defense against neighboring states and internal disputes. If the science and art of breeding men advances as far and as fast in the next two generations as the sciences of animal and plant breeding have in the last two, all communities may spend upon the fine arts most of the care they now give to disease, delinquency and defect. If the sciences of sociology, economics, business and government improve methods of managing private and public affairs as much as the physical sciences have improved methods of obtaining power, transporting objects, and communicating sounds, all communities may get almost the best service which each citizen can provide and give him almost the best life that he can enjoy, reducing frustration and waste nearly to zero. By such ways and means, people no better than we are and with no larger incomes may have healthier, happier and nobler lives. We may hope that these and other blessings may come to man-

kind from the advancement of science and the spread of wisdom. Much could be said about what we today can do to make such discoveries possible and probable, but this is not the place to say it. In the meantime, let us show our wisdom by applying what science there is, making able and decent people and enabling them to produce goods and services enough to return them larger incomes.

## APPENDIX I

### DATA AND SOURCES

The facts used and the sources from which they were obtained are listed below. Some of the items are unknown in the case of some of the cities. In such cases an estimated score for the city in question was inferred from the scores of cities which it resembled, or from its own score in items resembling the item in question. Such estimated scores were very few (less than 3 per 1000) and were given impartially, so that no statement in this book would be altered appreciably if observed facts replaced the estimates. The use of such estimated scores is practically imperative in a correlation study with so many items.

Some of the items are doubtless inaccurate for some of the cities. Perfect knowledge of the number of deaths by suicide, the value of school buildings, and the average wage of factory workers, for example, would not tally perfectly with the reported facts. But we can arrange to get the truth in spite of such errors, provided they are "accidental" or "random" and small. Even if the errors are "systematic" or "constant" as in a tendency to over-report the value of a city's schools or to under-report its suicides, they can be kept from doing harm to our inquiries if they are uncorrelated with the facts (such as size, latitude, wealth, intelligence of the popula-

tion, percentage of Negroes, or suburbanism) about which we are arguing and concluding.

A few of the reported facts seem surely erroneous. As a rule, it is better to tolerate such than to mix one's personal judgment with the records, and I have usually done so. But in a very few cases (less than one in four thousand) I have replaced an extreme measure, the accuracy of which was dubious, by a measure which did not alter the city's relative position among the 310 cities in that trait, but reduced its divergence from the group.

1. Population in 1930. 1930 Statistics of Population.
2. Population in 1900. 1900 Statistics of Population.
3. Recent Growth: Item 1 divided by Item 2.
4. Latitude.
5. Longitude.
6. Estimated per capita value of private property computed as the assessed valuation divided by the rate customary in the city in question. Financial Statistics for Cities for 1930, Table 23.
7. The same as Item 6 except that real estate only is used.
8. Reported total paid for interest divided by reported total public indebtedness. Financial Statistics of Cities for 1930, pp. 500 f. and 430 f.
9. Density of population: persons per acre. Computed from data in Financial Statistics of Cities for 1930, Table 1.
10. Natural advantages; average of two competent estimates.
11. Per capita value of all public property (excluding streets, pavements and sewers), minus public indebtedness. Computed from data in Financial Statistics of Cities for 1930.
12. Per capita value of hospitals, schools, libraries, museums, parks, hospitals, and asylums owned by the public.

Computed from data in Financial Statistics of Cities for 1930.

13. Gross debt incurred for general departments and municipal service enterprises. Financial Statistics of Cities for 1930, Table 20, Section II.

14. Gross debt incurred for public service enterprises and investments. Same source as for item 13.

15. Net debt. Same source as for item 13.

16. The quotient of the value of public property in schools, libraries, museums, and parks divided by the value of public property used for other municipal purposes (general, government, police, fire, health, sanitation, and care of highways). Computed from data in Financial Statistics of Cities for 1930.

17. Per capita acreage of parks. Bulletin 565, U. S. Bureau of Labor Statistics.

*Items 18 to 20 are lacking. This same reason explains the absence of certain later numbers.*

21. Percentage of persons 16 or 17 years old attending school. 1930 Census Statistics of Population, vol. 2, pp. 1151 f. and 1171 f.

22. Percentage of persons 18, 19 and 20 years old attending school. 1930 Census Statistics of Population, vol. 2, pp. 1151 f. and 1161 f.

23. Average salary of high-school teachers. Computed from data in the Biennial Survey of Education, 1928-30, U. S. Department of the Interior, Office of Education, vol. II, pp. 142 f. and 251 f.

24. Average salary of elementary-school teachers. Same source as for Item 18.

25. Per capita circulation of *Better Homes and Gardens*, *Good Housekeeping* and *The National Geographic Magazine*. The circulations are for Dec. 27, March 29 and June 28, respectively as reported in "Circulation of fifteen leading magazines" by the Marketing Division of the International Magazine Co. The 1930 populations are used as divisors. The 1934 "Circulation Count" of *Better Homes and Gardens* (Meredith Publishing Co.) the 1934 "Good House-

keeping Circulation” and the 1935 “Net Paid Distribution” of the National Geographic Magazine were also used.

26. Per capita circulation of the Literary Digest, average of two years (1926 as reported by the Marketing Division of the International Magazine Co., divided by the geometric mean of the 1920 and 1930 populations; 1930 as reported in “The Lord of the Manor”).

27. Per capita circulation of fifteen important magazines (not available for all cities). Same source as for item 25.

28. Per capita circulation (approximate) of *Modern Screen*, *Radio Stars*, and *Modern Romances*. Data from “Modern Magazines” for 1935 divided by 1930 population. This is a booklet with no author or publisher stated. It is probably obtainable from the advertising department of any one of the three magazines.

29. Approximate per capita circulation of all MacFadden magazines. 1936 circulation of Liberty, True Story, MacFadden Women’s Group. Division of Marketing and Research, MacFadden Publications.

30. Per capita number of pupils graduating from public high schools in 1935. The gross numbers graduating were supplied by the courtesy of the Office of Education in the Department of the Interior. The 1930 populations were used as divisors.

31. Per capita number of illiterates (all)

32. Per capita number of illiterates aged 10–14.

33. Per capita number of illiterates aged 15–24.

34. Per capita number of illiterates aged 25–34.

35. Per capita number of illiterates aged 35–44.

36. Per capita number of illiterates aged 45–54.

37. Per capita number of illiterates aged 55–64.

38. Per capita number of illiterates aged 65 and over.

Items 31–38 are taken from the 1930 Census, Statistics of Population, Vol. 2, pp. 1275 f. and 1303 f.

39. Per capita number of volumes owned by the library.

40. Per capita number of borrowers from the library.

41. Per capita library circulation.

The data for items 39, 40 and 41 in certain cities are available in the Bulletin of the American Library Association, Vol. 31, No. 4, April, 1937. Those for the other cities were supplied by the courtesy of the American Library Association.

43, 44. Per capita expenditures for highways and light.

45. Per capita expenditures for sanitation.

46. Per capita expenditures for general government.

47. Per capita expenditures for police.

48. Per capita expenditures for fire.

49. Per capita expenditures for health.

50. Per capita expenditures for public safety.

51. Sum of items 43 to 51.

Items 43 to 51 are from Financial Statistics of Cities, 1930.

53. Per capita expenditures for schools. Financial Statistics of Cities, 1930.

54. Per capita expenditure for teachers' salaries. Computed from data in the Biennial Survey of Education for 1928-1930, Bulletin 20, Office of Education, U. S. Department of Interior.

55. Per capita expenditures for text-books and classroom supplies. Same source as for Item 54.

56. Per capita expenditures for libraries and museums. Computed from data in Financial Statistics of Cities for 1930.

57. Per capita expenditures for recreation. Same source as for Item 56.

59. Approximate per capita wholesale sales for 1933. Consumer Market Data Handbook, Market Research Series No. 15, U. S. Department of Commerce, 1936.

60. Approximate per capita sales of all retail stores for 1933. Same source as for item 59.

61. Per capita sales of all retail stores for 1930.

62. Per capita sales of all retail food stores.

63. Per capita sales of all retail stores except food stores.

64. Per capita sales of all retail cigar stores.

65. Per capita sales of all retail drug stores.

67. Per capita sales of all retail auto stores.
68. Per capita sales of all retail radio and music stores.
69. Per capita sales of all retail book stores.
70. Per capita sales of all retail florists.
71. Per capita sales of all jewelry stores.
72. Per capita sales of all music (without radio) stores.
73. Per capita sales of all newsdealers.
74. Per capita sales of all second-hand stores.

Items 61 to 74 are computed from data in the 1930 Census of Distribution, Vol. 1, parts II and III.

75. Approximate per capita service, amusements, and hotel receipts for 1933. Consumer Market Data Handbook. Market Research Series No. 15. U. S. Department of Commerce, 1936.

76. Approximate per capita postal receipts for 1933. Same source as for item 75.

77. Percentage which sales of food stores are of total retail sales.

78. Percentage which sales of auto stores are of total retail sales.

79. Percentage which sales of radio and music stores are of total retail sales.

80. Percentage which sales of book stores are of total retail sales.

81. Percentage which sales of cigar stores are of total retail sales.

82. Percentage which sales of drug stores are of total retail sales.

83. Percentage which sales of florists are of total retail sales.

84. Percentage which sales of jewelry stores are of total retail sales.

85. Percentage which sales of music (no radio) stores are of total retail stores.

86. Percentage which sales of news dealers are of total retail sales.

87. Percentage which sales of second-hand stores are of total retail sales.



88. Percentage which sales of "single" stores are of total retail sales.

89. Percentage which sales of "chain" stores (local, sectional, or national) are of total retail sales.

90. Per capita number of book stores.

91. Per capita number of cigar stores.

92. Per capita number of drug stores.

93. Per capita number of jewelry stores.

Items 77 to 93 are quoted or computed from the 1930 Census of Distribution, Vol. 1, parts II and III.

97. Approximate per capita number of homes wired for electricity in 1933. Consumer Market Data Handbook. Market Research Series No. 15. U. S. Department of Commerce, 1936.

98. Per capita domestic installations of electricity. The number reported in Markets and Quotas, Curtis Publishing Co., 1932, divided by the 1930 population. The original authorities are the National Electric Light Association and the U. S. Department of Commerce.

99. Per capita domestic installations of gas. Same as for Item 98. The original authority is the American Gas Association.

100. Per capita number of Ford automobiles. Computed from data in Markets and Quotas, Curtis Publishing Company, 1932.

101. Per capita number of automobiles other than Fords. Same source as Item 100.

102. Per capita number of automobiles: the sum of items 100 and 101.

103. Per capita number of telephone subscribers. "The Lord of the Manor," published by the Literary Digest.

104. Per capita number of radio sets. 1930 Census, Population, Vol. VI, Tables 76 and 79.

106. Per capita number of homes owned. 1930 Census, Population, Vol. VI, Table 4 for each state.

107. Rarity of extreme poverty, measured by the rent paid (or equivalent if the home is owned) by the 5 percentile family (i.e., the rental less than which is paid by

5% and more than which is paid by 95% of the community's families).

107a. Rarity of extreme poverty, measured by the percentage of families living in houses renting for less than \$10 a month.

108. Rarity of less extreme poverty, measured by the rent paid (or equivalent) by the 10 percentile family.

109. Median family rental (or equivalent if the home is owned).

110. The rent paid by the 75 percentile family.

111. The rent paid by the 90 percentile family.

112. The rent paid by the 95 percentile family.

113. Approximate average family rental.

Items 107 to 113 are computed from data in the 1930 Census, Statistics of Population, Vol. VI, Table 67 and Table 71 for each state.

114 to 118. Variability in income as indicated by variability in amounts paid for rental (or equivalent if the home is owned).

114. Item 112 minus item 107.

115. Item 112 divided by item 107.

116. Item 111 minus item 108.

117. Item 111 divided by item 108.

118. Per capita number of homes over \$100 a month plus per capita number of homes under \$10 a month. Same source as Items 107 to 113.

119. Variability in income as indicated by the sum of the approximate percentage of families reporting income tax and the approximate percentage of families *not* supplied with electricity. Computed from items 233, 97, and 98.

120. 90 percentile rental minus 50 percentile rental.

120a. 95 percentile rental minus 50 percentile rental.

120b. 50 percentile rental minus 5 percentile rental.

120c. 50 percentile rental minus 10 percentile rental.

122. Approximate per capita value of church property.

123. Approximate per capita annual expenditures of religious bodies.

124. Approximate percentage of the population who are church members aged 13 or over.

125. Approximate percentage of the population who are members, aged 13 or over, of Roman Catholic churches.

126. Approximate percentage of the population who are members, aged 13 or over, of Jewish congregations.

127. Approximate percentage of the population who are members, aged 13 or over, of Unitarian, Universalist, or Christian Science Churches.

Items 122 to 127 are computed from the data in the 1926 Census of Religious Bodies, using the estimated 1925 population as a divisor.

129. Number of births per 1000 population.

130. Number of births per 1000 females age 20 to 44. Computed from item 129 and item 150.

131. Infant death-rate, average of 1926 to 1934, reversed so that low rates are scored + and high rates -. Statistical Report of Infant Mortality for 1934. American Child Health Association.

132. General death-rate (average of 1930, 1933, 1934) reversed as in Item 2.

133. Per capita deaths from syphilis, average of four years.

134. Per capita deaths from typhoid, average of six years.

135. Per capita deaths from diabetes, average of six years.

136. Per capita deaths from appendicitis, average of six years.

137. Per capita deaths from puerperal diseases, average of six years.

Items 132 to 137 were computed from data in Mortality Statistics, vols. for 1928-1933, Bureau of the Census.

138. Per capita deaths from gonococcus infections, etc., average of three years. Computed from data furnished by the division of Vital Statistics of the U. S. Census Bureau.

140. Median size of family in 1930. 1930 Census of Population, Vol. VI, Table 66 and Table 21 for each state.

141. Average size of family in 1900, 1910, and 1920. 1920 Census of Population, Vol. II, Table 4.

142. Change in size of family. Average size in 1920 minus average size in 1900.

143. Percentage which native white families are of all families.

144. Percentage which foreign born white families are of all families.

145. Percentage which Negro families are of all families.

Items 143 to 145 are from the 1930 Census of Population, Vol. VI, Table 63 and Table 21 for each state.

146. Percentage of the population under 15.

147. Percentage of the population under 10.

147a. The same for males.

147b. The same for females.

148. Percentage of the population 65 and over.

149. Percentage of males 20 to 39.

149a. Percentage of males 40 to 64.

150. Percentage of females 20 to 44.

150a. Percentage of females 40 to 64.

150b. Percentage of the population 10 to 14.

150c. Percentage of the population 15 to 19.

Items 146 to 150 are computed from the 1930 Census, Population, Vol. II, Tables 33, 38 and 39.

151. Percentage of males 10 yrs. and over gainfully employed. 1930 Census, Statistics of Population, Vol. IV, Tables 24 and 57.

152. Percentage of females 10 yrs. and over gainfully employed. Same source as for item 151.

153. Percentage of males 10 to 15 years old *not* gainfully employed.

154. Percentage of females 10 to 15 years *not* gainfully employed.

155. Per capita number of married women gainfully employed. 1930 Census of Population, Vol. IV, Table 10 and Table 5 for each state.

156. Per capita number of wage earners in factories. Computed from data in Markets and Quotas, Curtis Publishing Company, 1932.

157. Unemployment in 1930. Persons per capita out of a job and looking for a job. U. S. Census, 1930; Unemployment, Vol. 1, Table 14, pp. 24-41, and Table 10 for individual states.

158. Unemployment in 1930. Persons per capita having jobs but laid off though able and willing to work. Same source as for Item 157.

162. Per capita number of male clergy.

163. Per capita number of female clergy.

164. Per capita number of male physicians.

165. Per capita number of female physicians.

166. Per capita number of male nurses.

167. Per capita number of female nurses.

168. Per capita number of male domestic servants.

169. Per capita number of female domestic servants.

171. Per capita number of male teachers.

172. Per capita number of female teachers.

173. Per capita number of male musicians.

174. Per capita number of female musicians.

177. Per capita number of male dentists.

178. Per capita number of female dentists.

179. Per capita number of male lawyers.

180. Per capita number of female lawyers.

181. Per capita number of male actors.

182. Per capita number of female actors.

183. Per capita number of male sculptors, artists and teachers of art.

184. Per capita number of female sculptors, artists and teachers of art.

185. Per capita number of male public employees.

186. Per capita number of female public employees.

187. Per capita number of male professional workers (exclusive of teachers).

188. Per capita number of female professional workers (exclusive of teachers).

189. Per capita number of male police.

190. Per capita number of male architects.

191. Per capita number of male designers.

192. Per capita number of male osteopaths.

193. Per capita number of male technical engineers.
  194. Per capita number of male veterinary doctors.
  195. Per capita number of female police.
  196. Per capita number of female architects.
  197. Per capita number of female designers.
  198. Per capita number of female osteopaths.
  199. Per capita number of female technical engineers.
  200. Per capita number of female veterinary doctors.
  201. A weighted composite of the per capita numbers of physicians, nurses and teachers minus a score for the per capita number of male domestic servants. The first three have approximately equal weight, and the fourth approximately as much weight as the first three combined.
  202. Number of female clergy divided by the number of male clergy.
  203. Sum of Items 195, 196, 197 and 200.
  204. Ratio of female to male dentists.
  205. Ratio of female to male lawyers.
  206. Ratio of female to male teachers.
  207. Ratio of female to male actors.
  - 207a. Ratio of female to male sculptors, artists and teachers of art.
  - 207b. Ratio of female to male public employees.
  - 207c. Ratio of female to male professional workers (exclusive of teachers).
  - 207d. Ratio of male dentists to male lawyers.
- Items 162 to 207d are computed from data given in the 1930 Census, Statistics of Population, Vol. IV, Table 5 for each state, and Table 4 for some states.
208. Percentage of the population listed in Who's Who for 1930. Computed from data in the geographical index in Who's Who, 1930.
  209. Percentage of the population listed in Who's Who for 1910. Computed from data in the geographical index in Who's Who, 1910.
  210. Percentile increase in the percentage in Who's Who, 1910 to 1930 (Item 208 divided by Item 209).
  211. Percentage of the population enrolled as members of the American Association for the Advancement of Sci-

ence. Data from Proceedings of the A. A. A. S., vols. 82 to 87.

220. Average salary of full-time workers in all retail stores. 1930 Census, Distribution, Vol. I, parts II and IV.

221. Average salary of full-time workers in national chain stores. Same source as item 220.

222. Average of items 220 and 221.

223. Average wage in manufacturing plants. (The two years 1929 and 1931 were used.) Biennial census of manufactures.

224. Salary of a policeman (after 5 years of service).

225. Salary of a fireman (after 5 years of service).

The data for items 224 and 225 were furnished for 258 cities by the courtesy of their mayors.

229 to 232. Per capita income of citizens, by various commercial estimates of the total income of the city.

229. By the estimate in Markets and Quotas, The Curtis Publishing Co., 1932.

230. By the estimate of "Total Income," in National Markets and National Advertising. Advertising Department of the Crowell Publishing Co., 1927.

231. By the "Marginal Income" of the same publication.

232. By the "Per Capita Effective Income" of the same publication.

233. Approximate per capita number of income tax returns: average number for 1930 and 1931, divided by the 1930 population. Statistics of Income for 1930, U. S. Treasury Department, 1932, and the same for 1931.

234. Approximate per capita number of income tax returns for 1933. U. S. Treasury Publication, No. 2108.

235. Approximate per capita number of income tax returns of incomes exceeding \$5000. Estimated from the data for counties reported in Markets and Quotas, Curtis Publishing Co., 1926.

237. Per capita value added to product by manufacture. Same source as item 238.

238. Per capita bank deposits. Markets and Quotas. The Curtis Publishing Co., 1932.

241. Per capita deaths from homicide: Average of six years.

242. Per capita deaths from suicide: Average of six years.

243. Per capita deaths from automobile accidents: Average of six years.

Items 241 to 243 are computed from data in Mortality Statistics, vols. for 1928–1933, Bureau of the Census.

244. Per capita illegitimate births: Average of three years. Computed from data furnished by the Division of Vital Statistics of the U. S. Census Bureau.

248. A weighted composite of per capita membership, current expenses and value of property of the Y. M. C. A. The Y. M. C. A. Year Book and Official Roster for 1930.

249. Per capita membership of the Boy Scouts. Twenty-first Annual Report of the Boy Scouts of America, 1930. House document No. 794 of the 71st Congress, 3rd session.

250. Church expenditures for outside benevolences divided by their expenditures for their own minister, music, maintenance of plant, etc., using facts for the Baptist, Congregationalist, Christian, Methodist, and Presbyterian denominations, but excluding churches with Negro or chiefly foreign memberships. Computed from data in the Year Book of the Congregational Church, The Presbyterian Church in the U. S. A., General Assembly, 1930, Part I, various Annuals of the Baptist Church, usually for separate states, the Minutes of various Annual Conferences of the Methodist Episcopal Church, Yearbook of the Christian Church, and documents made available to us in the offices of the Methodist Episcopal Church South, and of the Southern Baptist Church.

251. Per capita membership in Kiwanis clubs. Computed from data furnished by the department of records of Kiwanis International.

252. Per capita membership in Rotary clubs. Computed from data in the *Official Directory of Rotary International*, 1929, 1930, and 1931.

255 to 262. Percentages of the total expenditures for maintenance and operation:



255. Percentage of total expenditures devoted to general government.

256. Percentage of total expenditures devoted to police.

257. Percentage of total expenditures devoted to health.

258. Percentage of total expenditures devoted to sanitation.

259. Percentage of total expenditures devoted to charities, hospitals and corrections.

260. Percentage of total expenditures devoted to schools.

261. Percentage of total expenditures devoted to libraries.

262. Percentage of total expenditures devoted to recreation.

Items 255 to 262 are taken from Financial Statistics of Cities for 1930, Table 14.

263. Employment of a city manager.

264. Provision for civil service examinations.

265. Provision for city planning.

266. Provision for obtaining and recording vital statistics.

267. Provision for public convenience stations.

268. Provision for a probation system.

269. Special financial aid to mothers.

The facts for items 263–269 were as found in Table 12 of Financial Statistics of Cities.

270. A composite score summing credits given for items 263 to 270 with consideration of the size of the city.

271. Sum of credits for per capita amounts spent on civil service, city planning, vital statistics and public convenience stations.

274 to 296. Median prices as per the advertisements in the local newspapers during the week September 13 to September 18, 1937.

274. Rental, 3 room apartment.

275. Rental, 4 room apartment.

276. Rental, 5 room apartment.

277. Rental, 4 room house.

278. Rental, 5 room house.

279. Rental, 6 room house.

280. Rental, 7 room house.

281. Rental, 8 room house.
282. Sale, 4 room house.
283. Sale, 5 room house.
284. Sale, 6 room house.
285. Sale, 7 room house.
286. Sale, 8 room house.
287. Movies (Early hours).
288. Movies (Evening).
289. Butter.
290. Eggs.
291. Chicken.
292. Beans.
293. Potatoes.
294. Cabbage.
295. Permanent wave (lowest price stated by any advertiser).
296. Permanent wave (median).
297. Permanent wave (highest price stated by any advertiser).

## APPENDIX II

### THE INDICES OF THE GENERAL GOODNESS OF LIFE FOR GOOD PEOPLE

Various indices of "goodness" were constructed from the scores in the thirty-seven features of a city listed below. The index G1 was computed for any city by subtracting the number of features in which it was below the median from the number of features in which it was above the median (Items 131 and 106 being counted twice).

The indices G2 and G3 are weighted sums of the scores, differing only in the weight attached to Item 16, which was  $2\frac{1}{2}$  in G2 and 10 in G3. The weights used are shown below.

G4 is an index obtained by combining G1 and G3 with relative weights of 1 and 2. G4 is thus much less influenced by extreme deviations than G2 or G3. G4 correlates very closely with G1, G2, and G3. It is the G score used in all correlations reported in this book. It is presented in Column 1 of Table 2 on pages 33 and 34.

## CONSTITUENTS OF THE G SCORE OR INDEX

| Item   | Approximate Weight |
|--|--------------------|
| <i>Items of Health</i>   |                    |
| 131. Infant death-rate reversed .....                                  | 12                 |
| 132. General death-rate reversed .....                                 | 9½                 |
| 134. Typhoid death-rate reversed .....                                 | 5                  |
| 136. Appendicitis death-rate reversed .....                            | 4                  |
| 137. Puerperal diseases death-rate reversed .....                      | 4                  |
| <i>Items of Education</i>  |                    |
| 53. Per capita public expenditures for schools ...                     | 8                  |
| 54. Per capita public expenditures for teachers' salaries .....        | 6                  |
| 55. Per capita public expenditures for textbooks and supplies .....    | 7                  |
| 56. Per capita public expenditures for libraries and museums .....     | 6½                 |
| 21. Percentage of persons sixteen to seventeen attending schools ..... | 4½                 |
| 22. Percentage of persons eighteen to twenty attending schools .....   | 7                  |
| 23. Average salary high school teacher .....                           | 4½                 |
| 24. Average salary elementary school teacher ...                       | 3½                 |
| <i>Items of Recreation</i>   |                    |
| 57. Per capita public expenditures for recreation                      | 7                  |
| 17. Per capita acreage of public parks .....                           | 2½                 |
| <i>Economic and "Social" Items</i>                                     |                    |
| 107. Rarity of extreme poverty .....                                   | 6                  |
| 108. Rarity of less extreme poverty .....                              | 6                  |
| 153. Infrequency of gainful employment for boys 10-14 .....            | 5                  |
| 154. Infrequency of gainful employment for girls 10-14 .....           | 5½                 |

| Item   | Approximate Weight |
|--|--------------------|
| 223. Average wage of workers in factories .....  | 4                  |
| 106. Frequency of home ownership (per capita number of homes owned) .....  | 6                  |
| 248. Per capita support of the Y. M. C. A. ....  | 6                  |
| 201. Excess of physicians, nurses, and teachers over male domestic servants .....                                    | 6                  |
| <i>Creature Comforts</i>   |                    |
| 98. Per capita domestic installations of electricity .....   | 5                  |
| 99. Per capita domestic installations of gas .....   | 7                  |
| 102. Per capita number of automobiles .....  | 4                  |
| 103. Per capita domestic installations of telephones .....   | 11                 |
| 104. Per capita domestic installations of radios ...   | 6½                 |
| <i>Other Items</i>   |                    |
| 31. (rev.) Percent of literacy in the total population .....   | 3½                 |
| 25. Per capita circulation of Better Homes and Gardens, Good Housekeeping and the National Geographic Magazine ..... | 6                  |
| 26. Per capita circulation of the Literary Digest .....  | 6                  |
| 133. Death rate from syphilis (reversed) .....   | 4                  |
| 241. Death rate from homicide (reversed) .....   | 3½                 |
| 243. Death rate from automobile accidents (reversed) .....   | 4½                 |
| 12. Per capita value of asylums, schools, libraries, museums, and parks owned by the public .....                    | 6                  |
| 16. Ratio of value of schools, etc., to value of jails, etc. ....  | 10*                |
| 11. Per capita public property minus public debt   | 5                  |

\* The weight given item 16 is much too high, but the harm done is inappreciable.

## APPENDIX III

### THE INDEX, I, OF PER CAPITA PRIVATE INCOME

We cannot get accurate direct measures of the per capita incomes of the 295 cities such as one would have if each resident reported his income honestly and if all were added together and divided by the number of persons. Nor do we require them for our purposes. What we require are any scores or indices which would correlate fairly closely with such direct measures, as the height of the mercury in a tube correlates with the temperature, or more modestly, as the temperature of a person correlates with the amount of fever he has, or as a certain combination of car-loadings, bank clearings, steel ingots, etc., correlates with "business activity."

In order to obtain as good an index of income as possible, I first studied the interrelations of a score of items which are more or less indicative of income, including indices of income devised by certain commercial concerns. The results of this study (reported in the *Journal of the American Statistical Association*, Sept. 1937, vol. 32, pp. 471-479) and some further work led me to use only the items listed below (on page 192).

The first five are directly related to income and represent levels of it from high to low. The last four are measures of expenditures, and so, indirectly,

|   | Approximate<br>Weight |
|---|-----------------------|
| Per capita number of income-tax returns of \$2,500 or more (average of 1930 and 1931) .....                       | 15                    |
| Per capita number of income-tax returns of incomes exceeding \$5,000 (estimated from the data for counties) ..... | 7                     |
| Average salary of high-school teachers plus average salary of elementary-school teachers .....                    | 3                     |
| Average salary of full-time employees in all retail stores .....  | 5                     |
| Average wage in manufacturing plants .....  | 6                     |
| Average rental (or equivalent in case of homes owned) .....   | 3                     |
| Per capita sales of retail food stores .....  | 4                     |
| Per capita sales of cigar stores .....  | 1                     |
| Per capita sales of drug stores .....   | 1                     |

of income. They were chosen to represent the expenditures of residents rather than non-residents, and of a fair sampling of all income levels. The list has one notable weakness, in that the expenditures are such as respectable people make for respectable purposes. The expenditures for prostitutes, gambling, forbidden drugs, intoxicants, and more or less disreputable entertainment in these cities could not be estimated. My index will then give too low values for cities whose residents spend much for vice and folly, and too high values relatively for cities of the opposite sort.

It is also the fact that very high incomes (say of \$25,000 or more) do not have full weight in this list.

They count little more than incomes of \$10,000 except in the case of rentals. In certain inferences about the differences of cities in income it is well to remember that the incomes of the very rich, as well as of the vicious and foolish, are inadequately represented in our index I. There are, however, very few of them and errors from this cause are probably of little consequence.



## APPENDIX IV

### THE INDEX, P, OF CERTAIN DESIRABLE PERSONAL QUALITIES OF A POPULATION

The personal qualities index, P, is a weighted composite of the deviations from the median in the items listed below, the weights being approximately as stated.

| Item  | Approximate<br>Weight |
|---|-----------------------|
| 30. Per capita number of graduates from public high schools in 1934 .....   | $1\frac{1}{2}$        |
| 261. Percentage which public expenditures for the maintenance of libraries was of the total public expenditures ..... | $\frac{3}{4}$         |
| 31. Percentage of illiteracy (reversed) .....   | $\frac{7}{8}$         |
| 33. Percentage of illiteracy among those aged 15-24 (reversed) .....  | 1                     |
| 41. Per capita circulation of public libraries .....  | $1\frac{2}{3}$        |
| 106. Per capita number of homes owned .....   | $1\frac{1}{2}$        |
| 201. Per capita number of physicians, nurses and teachers minus male domestic servants .....                          | $1\frac{1}{4}$        |
| 103. Per capita number of telephones .....  | 1                     |
| 207d. Number of male dentists divided by number of male lawyers .....   | $\frac{2}{3}$         |
| 133. Per capita number of deaths from syphilis (reversed) .....   | 1                     |
| 241. Per capita number of deaths from homicide (reversed) .....   | 1                     |

TABLE 14  
The intercorrelations of the constituents of P in the 295 cities. Decimal points are omitted.

| Item  | 30    | 41    | 31    | 33    | 261   | 133   | 166   | 106   | 103   | 201   | 207d  |
|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 30. High-school graduates per capita .....  | ..... | 41    | 37    | 38    | 37    | 21    | 31    | 50    | 49    | 36    | 36    |
| 41. Library circulation per capita .....  | 41    | ..... | 49    | 48    | 64    | 09    | 40    | 47    | 61    | 43    | 19    |
| 31. Literacy, persons aged 10 or over .....   | 37    | 49    | ..... | 83    | 52    | 17    | 13    | 77    | 75    | 37    | 32    |
| 33. Literacy, persons aged 15 to 24 .....   | 38    | 48    | 83    | ..... | 51    | 48    | 44    | 68    | 62    | 24    | 47    |
| 261. Percentage of expenditures spent for<br>libraries and museums .....              | 37    | 64    | 52    | 51    | ..... | 25    | 21    | 36    | 38    | 32    | 27    |
| 133. Infrequency of deaths from syphilis.....   | 21    | 09    | 17    | 48    | 25    | ..... | 62    | 31    | 20    | 03    | 51    |
| 166. Infrequency of deaths from homicide  | 31    | 40    | 13    | 44    | 21    | 62    | ..... | 22    | 32    | 29    | 60    |
| 106. Homes owned per capita .....   | 50    | 47    | 77    | 68    | 36    | 31    | 22    | ..... | 64    | 24    | 64    |
| 103. Telephones per capita .....  | 49    | 61    | 75    | 62    | 38    | 20    | 32    | 64    | ..... | 60    | 26    |
| 201. Excess of physicians, nurses and teach-<br>ers over male domestic servants ..... | 36    | 43    | 37    | 24    | 32    | 03    | 29    | 24    | 60    | ..... | 03½   |
| 207d. Ratio of dentists to lawyers .....  | 36    | 19    | 32    | 47    | 27    | 51    | 60    | 64    | 26    | 03½   | ..... |
| Median .....  | 37    | 45    | 43    | 48    | 36½   | 23    | 31½   | 48½   | 55    | 30½   | 34    |

Any reasonable system of weights will give an index which will correlate closely with P and lead to the same general conclusions to which my use of P has led. For the inter-correlations among the eleven constituents of the index are all positive and fairly high. They are presented in Table 14.

No reasonable person will doubt that the P score is indicative of intelligence, interest in the intellectual life, certain aspects of morality, and devotion to home and family. There is also objective evidence of this in its correlations. It certainly measures something very different from income, with which it correlates only .07 in the 200 cities and only .40 in the 295. It has nothing to do with the amount of taxable property, with which it correlates  $-.13$  in the 200 cities and .02 in the 295. It correlates .86 and .82 with per capita number of homes owned and only .02 and .06 with the per capita service, amusement, and hotel receipts. It correlates positively with the percentages of public expenditures devoted to schools and recreation (.35, .47, .31 and .24) and negatively with the percentages devoted to police ( $-.46\frac{1}{2}$  and  $-.56$ ).

Just what features of intellect and morals it measures and in just what proportions, cannot be told until some one checks the P score of a hundred or so cities against adequate measurements of the intelligence and morality of their residents. P is probably an inadequate measure, but good as far as it goes. It is especially weak in respect of moral qualities.

The weakness I have tried in vain to remedy, the crime records for most of the 295 cities being unavailable, and usable evidence of idleness, cruelty, selfishness, sensuality, and fraud being non-existent.  $P_1$ , a composite of items 138 and 244, helps somewhat. They were obtained too late to be used in P.

The inadequacy of P makes the conclusions in which it is involved all the safer since they depend upon the magnitude of positive correlations with P. A P score which measured all the desirable personal qualities of a population perfectly and with perfect weights would show higher correlations, for example with G, than the present inadequate P.

## APPENDIX V

### EXPLANATIONS OF TECHNICAL TERMS AND SYMBOLS

*Coefficient of correlation.* A measure of the correspondence or parallelism between a city's status in one feature and its status in some other feature. If the coefficient of correlation is 1.00, the city which is highest in one will be highest in the other, the city which is next to highest in the one will be next to highest in the other, and so on down the line, the city which is lowest in one being lowest in the other. If the coefficient of correlation is 0, the city which is highest in one will be as likely to be lowest as highest in the other; the ranks will correspond no more closely than they would by chance. If the correlation is -1.00, the city which is highest in one feature will be lowest in the other, the city which is next to the highest in one will be the next to the lowest in the other, and so on.

G. A score or index based upon 37 features characteristic of a good community for good people to live in, such as infrequency of child labor, infrequency of homicide, frequency of home ownership, and per capita value of schools and parks. See Appendix II for details.

I. A score or index of the per capita income of the residents of a city. See Appendix III for details.

*Median.* Middle or midmost measure: measure which divides the group equally, as many cities being above it as below it.

P. A score or index of certain qualities of intelligence, morality, and devotion to the home in the residents of a city. See Appendix IV for details.

P<sub>1</sub>. A score for the infrequency of illegitimate births and of deaths from certain venereal diseases other than syphilis.

*r.* The symbol for a correlation coefficient.

*Percentile.* A measure or point on a scale below which the stated percentage of the group is found. Five percent of a group are below the 5 percentile, Ten percent of a

group are below the 10 percentile. Ninety percent are below the 90 percentile.

*Variation.* The spread or scatter of the cities above and below their average or median. See Fig. 1 on p. 10.

*W.* A score for per capita taxable wealth.

*295 cities.* Cities having over 30,000 inhabitants in 1930, excluding Buffalo, Washington, San Francisco and ten still larger cities, and also the three resort cities, Atlantic City, Miami and St. Petersburg.

*200 cities.* The 295 cities excluding those which adjoin larger cities and those in Virginia, N. Carolina, S. Carolina, Georgia, Florida, Kentucky, Tennessee, Alabama, Mississippi, and Louisiana.

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