ILLITERACY IN ARIZONA FROM 1870 TO 1930

by

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TABLE OF CONTENTS

TABLES

CHARTS

CHAPTER I

INTRODUCTION

Importance of the Problem: It is generally assumed by laymen, and sometimes by educators, that illiteracy in the United States has ceased to be an important problem. Too much has been taken for granted regarding the effectiveness of the American public school system with regard to this situation. Most Americans would be greatly surprised to learn that the extent of illiteracy in the United States is considerably greater than in the chief countries of Europe. As a matter of fact many European countries have removed the menace of illiteracy from their borders.[1] The European countries with the best illiteracy records are listed below, and are compared with the United States.[2] The data are for the year 1920.

Country	Per cent of illiteracy.
Germany	.2
Denmark	.2
Switzerland	.5
Netherlands	.6
Finland	.9
Norway	1.0
Sweden	1.0
Scotland	1.6
England and Wales	1.8
France	4.9
UNITED STATES	6.0 (4.3 in 1930)

1. Crabtree, J. W. (editor), "Facts On State Educational Needs", N. E. A. Research Bulletin 1: Jan., 1923, p. 46.
2. Norton, John K. (director), "Five Questions For American Education Week", N. E. A. Research Bulletin 1: Sept., 1923, p. 278.

It is obvious that the problem of illiteracy in the United States is still unsolved. It is estimated that at the present rate of decrease it will continue to be a problem for at least a "century".[3]

There were in 1930 over four and one-quarter million illiterates over ten years of age in the United States, and of that number almost three million were native-born Americans.[4] It is clear, then, that the generally accepted idea that illiteracy is a by-product of immigration must be revised. The blame for these conditions must be placed where it belongs, on the doorsteps of the public school system of the United States. "Our three million illiterates exist because of the inadequate school systems of certain communities."[5] And in this discussion it must be kept in mind that illiterates, according to the Census Bureau, are only those persons who have no schooling whatever.[6] On that basis it is obvious that there are many persons classed as literate by the United States Census reports who are actually not literate in the true sense of the word.

The responsibility for meeting the challenge of this illiteracy problem lies with each individual state. The failure of any state or group of states will affect adversely the nation as a whole. The vital importance of

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3. Op. cit; Crabtree, J. W. p. 46
4. U. S. Census Bureau, Fifteenth Report, II, 1930, p. 1219.
5. Op. cit; Norton, John K. p. 279
6. Op. cit; U. S. Census Bureau, p. 1219.

this problem cannot be emphasized too strongly, especially in a country the government of which is predicated upon the existence of a literate and intelligent citizenry.

Purpose of the Study: Arizona, as we shall see, has a relatively large number of illiterates. It is important that the citizens and the schoolmen of the State do whatever is necessary to improve this undesirable condition. Before any intelligent action can be taken a careful investigation of present-day conditions, trends over a number of decades, and of the chief causes of illiteracy must be made. For that general purpose this study is being conducted.

Specifically, the purposes of this study are; first, to present a picture of illiteracy in its various phases in 1930, and second, to show the trends of illiteracy from 1870 to 1930 according to age groups, sex groups, nativity, and in urban and rural areas. This sort of subdivision should make it easier to locate the sources of trouble, and might make it possible to determine some of the weaknesses and shortcomings of our educational system. Finally, it is planned to base upon the facts thus ascertained such remedial suggestions as are deemed advisable.

Method of Procedure: Most of the data with respect to illiteracy are of a statistical nature. Most of them have been taken from the United States Census Reports. In order

to present the essential facts in a clear and concise manner it has been necessary to transmute them into various charts and graphs. In addition a general analysis and summary is given for each aspect of illiteracy considered, and interpretations are made. Recommendations are suggested whenever possible.

In order to obtain a perspective of the actual conditions in Arizona the data on general and specific conditions of illiteracy have been compared with those in the United States, and in a number of other states.

Definition of Terms: According to the Fifteenth Census illiteracy is defined as the inability to read or to write in any language.[7] Prior to 1930 the term illiteracy meant inability to write in any language, the assumption being that anyone who could write could read. Despite the variations in the definitions of illiteracy in several of the Census reports it is generally taken to mean the lack of any schooling whatever.

It must be admitted that the method of obtaining illiteracy statistics is not sound since it is based entirely upon the declarer's statement as to his own ability to read and write. The veracity of his statement or the extent of his ability to read and write cannot be readily tested. It would seem that more accurate and defensible results could be

7. Op. cit; United States Census Bureau, p. 1219.

obtained if a broad definition of illiteracy were used. In India, for example, a literate person is defined as one who "can write a letter to a friend and read the answer to it."[8] It is interesting to note that in 1918 approximately one-fourth of the one and one-half million army recruits tested were classified as illiterate on a basis similar to that used in India.[9] Two years later the Twelfth Census announced that the percentage of illiteracy in the United States was 6.0. These facts would seem to indicate that the actual illiteracy in this country is from three to four times as great as is shown by the census figures.

8. Beal, James F., and Bond, Norman J., "Illiteracy in the Several Countries of the World", Bureau of Education, Bulletin No. 4, 1929, p. 46.
9. Norton, John K., (director), "Five Questions For American Education Week", N. E. A. Research Bulletin 1: Sept., 1923, No. 4, p 280

CHAPTER II

CONDITIONS OF ILLITERACY IN ARIZONA IN 1930

Purpose: The purpose of this chapter is to depict the conditions of illiteracy in Arizona in 1930. Consideration will be given to illiteracy with regard to age, sex, nativity, place of residence(urban and rural) and in the several counties of the State.

Illiteracy in General: A general consideration of the question of illiteracy is necessary before the various aspects are discussed in detail. The data are presented in Chart 1. It is suggested that the reader keep in mind the very limited and unsatisfactory definition of illiteracy used in the United States Census Reports.

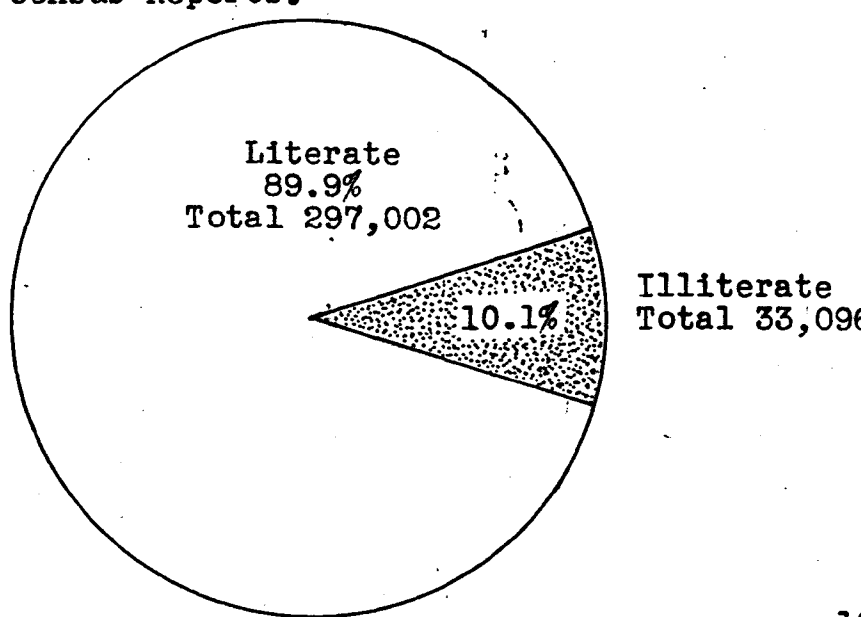

Chart 1. The Percentage of Illiteracy in Arizona in 1930.[10]
(Age Group Ten Years and Over)

10. Based on Table XIX, page 113

In 1930, as indicated in Chart 1, there were in Arizona 33,196 illiterates ten years of age and over. This group comprised 10.1 per cent of thepopulation in the same age classification. However, before an appreciation of the real significance of these figures can be gained it is necessary to compare conditions in Arizona with those in the other forty-seven states. Such comparisons are found in Chart 2, page 8.

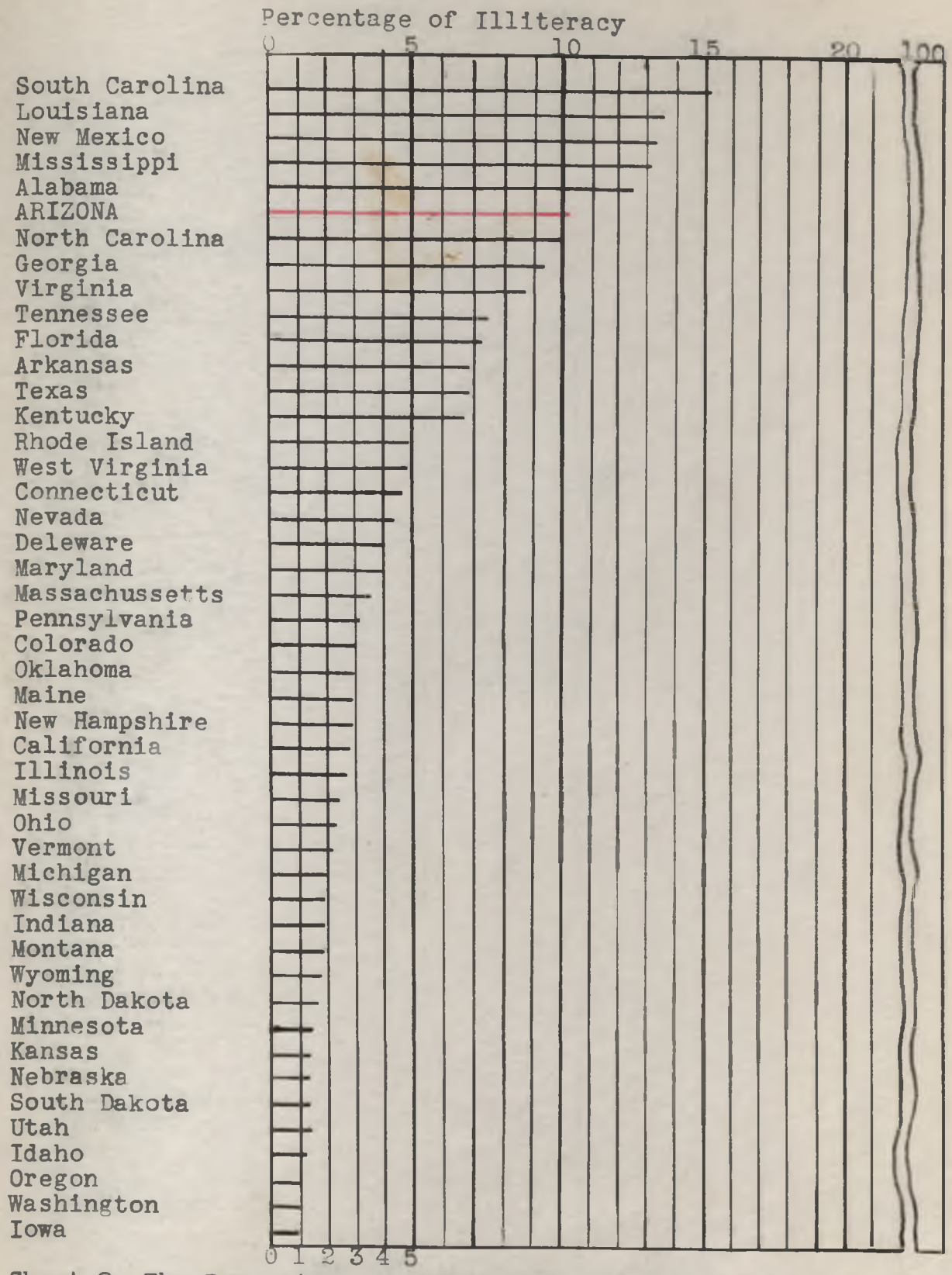

Chart 2. The Percentages of Illiteracy in the Several States in 1930. (Age Group Ten Years and Over)

A clear idea of the extent of illiteracy in Arizona in comparison with that in other states can be gained from Chart 2. On the basis of the data there presented it is evident that Arizona has a record of which it cannot well be proud. Of the forty-eight states Arizona ranks forty-third, being one of the six states in the United States with an illiteracy percentage over ten. It thus finds itself placed in a class with those states that are acknowledged to have comparatively low ratings in most aspects of education. Ostensibly the blame for this situation lies with the schools. The implications are of a great import to both educators and taxpayers.

It is possible to proceed in this investigation with the understanding that , regardless of causes or sources, the illiteracy problem constitutes an undeniable challenge to the educational leaders in Arizona today. Too, as long as Arizona continues to be classed with those states that are conspicuous because of their high percentages of illiteracy, there will exist in the minds of many a considerable doubt as to the effectiveness of the educational system of the State.

Summary: In this and succeeding sections of the study it will be well to emphasize the outstanding ideas by repetition in condensed form. This will be done at the close of

the discussion of each section. The most important and pertinent facts which the investigation of this phase has revealed follow.

1. Arizona has a very high percentage of illiteracy. In 1930 it amounted to 10.1 per cent of the total population ten years of age and over.

2. Arizona ranks among those states having high percentages of illiteracy. In 1930 there were only five states in the United States with higher percentages of illiteracy in their populations. They were: South Carolina, Louisiana, New Mexico, Mississippi, and Alabama.

Illiteracy According to Nativity: The United States Census Bureau has divided the population of Arizona, and that of the other states, into several large racial classifications. The six largest in Arizona together with the number of persons ten years of age and over in each are as follows:

Native Born White Native Parents	164,848
Native Born White Mixed or Foreign Parents	33,009
Foreign Born White	15,410
Mexican	79,748
Indian	30,960
All Others	10,999
Total	335,029

The United States Census Reports, for the first time, classified Mexicans in a group by themselves in 1930. Formerly they were included chiefly in the groups designated as White of Foreign or Mixed Parents, and Foreign Born White. This fact makes it impossible to secure accurate illiteracy data concerning them for any census year before 1930.

This examination of the general racial composition of the State is essential for a proper consideration of the question of illiteracy with regard to nativity. The proportion which each racial group is of the whole population is shown in Chart 3. The data upon which the above tabulation and Chart 3. are based are found in Table XX, page 115, one of the six "Master Tables" from which much of the material of this study has been drawn.

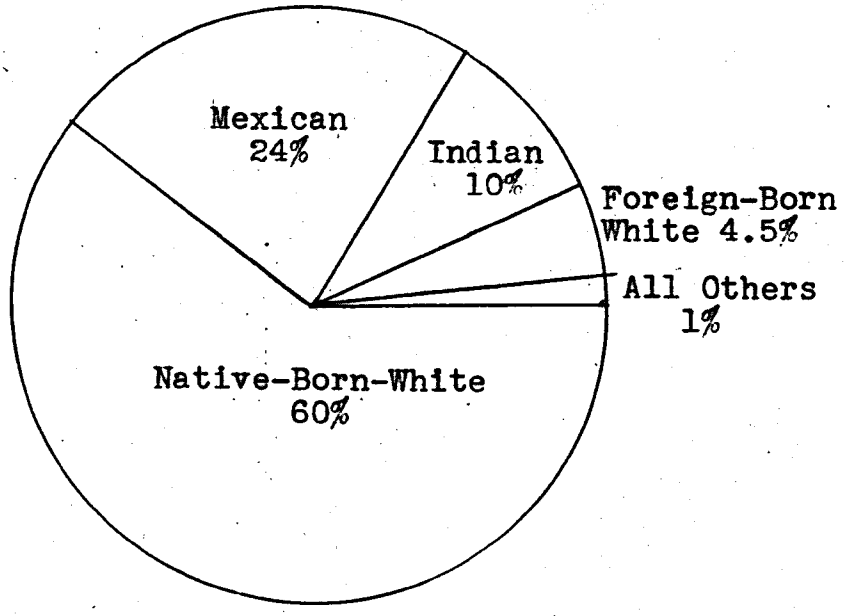

Chart 3. The Population of Arizona Divided into Various Racial Groups on the Basis of Percentages in 1930. (Age Groups Ten Years and Over)

It is evident that there are no large Negro, Asiatic, or European elements in the population of Arizona. The illiteracy problem, then, must be traceable to the four larger racial groups--Native White, Foreign Born White, Indian, and Mexican. And to anyone acquainted with conditions in Arizona it would be reasonable to expect that the two latter races would contribute most of the illiteracy.

As already stated, one of the major tasks of this study is to determine the sources of illiteracy in order that an effective attack leading to the solution of the problem can be made. To do this the data must be subdivided into several classifications in addition to that based upon nativity. However, the two most important subdivisions are nativity and age.

If much of the illiteracy in Arizona is in the age group 10 to 20 years it is probable that the present school facilities may do much to care for the problem. If, however, the major proportion of illiteracy which exists is to be found among adults agencies other than the public schools as constituted at present must act to improve the situation. Too, if the supposition that much of the illiteracy which does exist is found among the Indians and Mexicans proves sound, a different line of approach must be used from that which would be employed if the majority of the illiterates are Native White. If the greater portion of illiteracy is among Indians, the problem, according to our present governmental set-up, is one for the Federal government to deal with.

The data in regard to illiteracy in Arizona in 1930 are presented in Table I, page 13. This table includes material on illiteracy with regard to age and race. The data in regard to age will be treated in a later section.

TABLE I. THE NUMBER AND THE PROPORTION OF THE TOTAL INHABITANTS AND TOTAL ILLITERATES IN THE VARIOUS RACIAL CLASSIFICATION WHICH ARE FOUND IN AGE GROUPS 10 TO 20 AND 21 AND OVER AND THE PERCENTS OF EACH OF THESE TWO AGE GROUPS WHICH ARE ILLITERATE.

POPULATION Number	Native-White Native Parents.	Native-White Foreign or Mixed Parents	Foreign-Born White	Negro	Mexican	Indian	Total
(a) 10 to 20	44,280	6,887	615	1,718	26,566	10,472	90,530
(b) 21 and over.	120,568	26,122	14,795	7,407	53,182	20,488	242,562
(c) Total	164,848	33.009	15,410	9,125	79,748	30,960	
Per cent of population above 10.							
(d) 10 to 20	26.87	20.87	3.93	18.82	33.32	33.82	24.93
(e) 21 and over.	73.13	79.13	96.07	81.18	66.78	66.28	75.07
ILLITERACY Number							
(f) 10 to 20	116	26	10	22	1,255	3,543	4,962
(g) 21 and over.	669	149	541	344	14,123	12,987	28,813
(h) Total	785	175	551	366	15,378	16,530	33,775
Per cent of population group classed as illiterate.							
(i) 10 to 20 (f÷a)	.26	.23	1.61	1.27	4.7	30.8	6.15
(j) 21 and over. (g÷b)	.55	.57	3.66	4.65	26.6	63.4	11.88
Per cent of total illiteracy in population group.							
(k) 10 to 20 (f÷h)	14.78	9.70	1.82	6.01	8.15	21.40	14.66
(l) 21 and over. (g÷h)	85.22	90.30	98.18	93.99	91.85	78.60	85.34

It is apparent in Table I that the major portion of illiteracy is concentrated among the Indian and Mexican population groups. These data might be made still clearer by means of Chart 4. which shows graphically the proportion of the total illiteracy in Arizona for which each of these two racial groups is responsible.

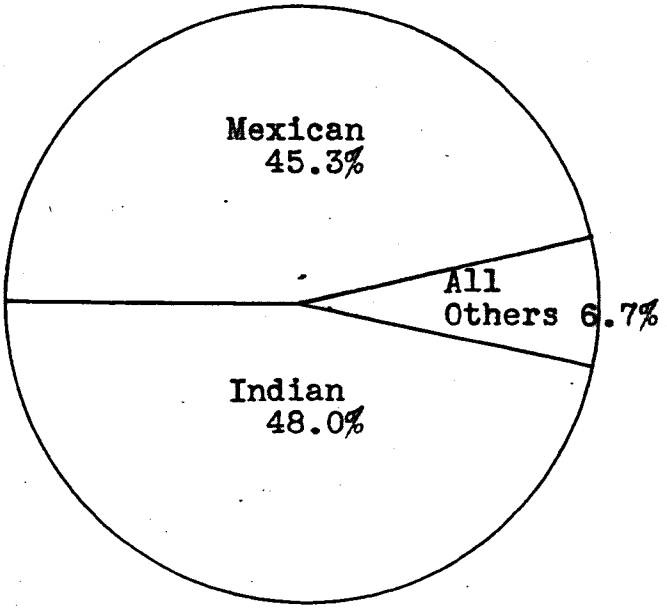

Chart 4. Percentages of Total Illiteracy in Arizona in 1930 Attributable to the Various Racial Groups. (Age Group Ten Years and Over)

From the information contained in Table I and Chart 4 it is possible to locate definitely the sources of the illiteracy problem in Arizona. Out of a total of 33,696 illiterates in 1930, the Mexicans were responsible for 15,378, and the Indians 16,530. All of the other racial groups together contributed the remaining six per cent which amounted to a total of 2,061.

It is evident from these findings that Arizona is

confronted with two problems peculiar to this section of the country. The first is concerned with illiterate Mexicans, many of whom come from a country of great illiteracy.[11] The second problem has to do with the illiterate Indians whose education is in the hands of the Federal Government. These two racial groups will have to be considered carefully if the problem of illiteracy is to be properly understood. Chart 5 has been constructed for the purpose of affording a closer examination of the illiteracy in each group.

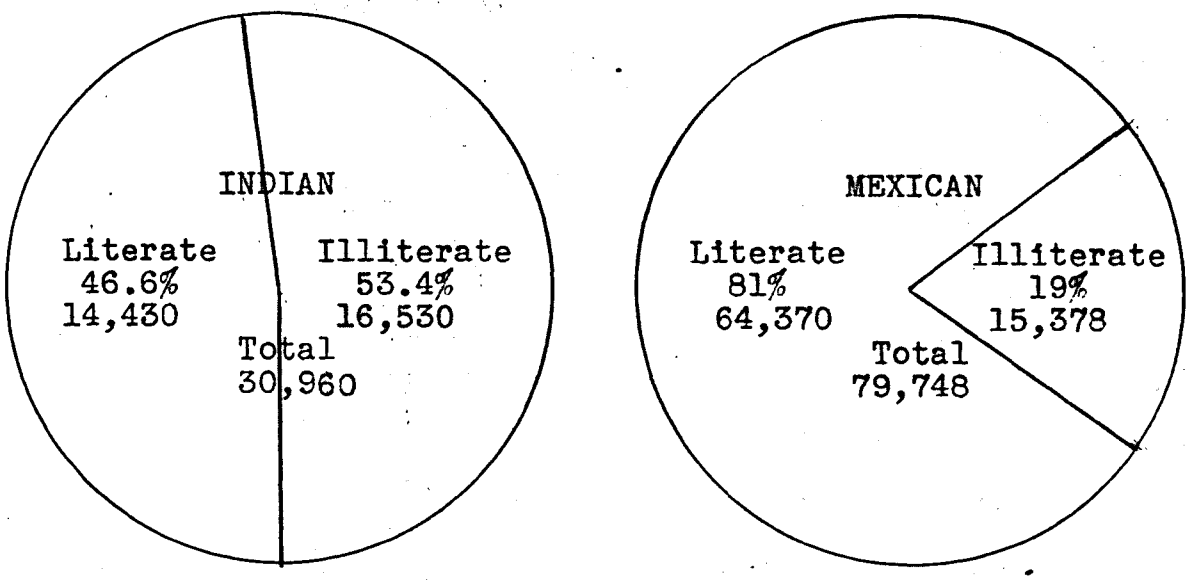

Chart 5. The Proportions of the Total Indian and Mexican Populations Which Were Literate and Illiterate in 1930. (Age Group Ten Years and Over)

The fact, as shown by Chart 5, that over half of the thirty thousand Indians in Arizona ten years of age and over are illiterate casts some reflection upon the efficacy

11. Op. cit; Beal, James F., and Bond, Norman J., p. 36.

of the Federal educational program for Indians. In all probability the weakness lies not so much in the effectiveness of the present-day schools as in the fact that they do not reach the great majority of the Indians. It may mean also that the Indian schools of a decade or more ago were not of a very high standard.

The new policy of Indian day-schools, recently inaugurated by the Federal Government, should, if its objectives are attained, do much to improve the situation. At least, the child will not be taken from his home and parents during the years of his education as was often done under the old system.

Records indicate that illiteracy among Indians has decreased comparatively little during the last thirty years.[12] Unless considerably more progress is made in the future the illiterate Indian will continue for fifty years or more to block Arizona's efforts to bring its illiteracy percentage down to, or below, the median. The percentages of illiteracy among the Indians of Arizona since 1900 are:[13]

1900	83.1 per cent
1910	72.8
1920	67.8
1930	53.0

A more careful consideration of this aspect of the question will be given in Chapter III.

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12. Based on data assembled in Table XXVII, page 128.
13. Ibid;

Considering in detail the Mexican racial group we find that nineteen per cent of a total of 79,748 Mexicans ten years of age and over are illiterate. This percentage is, however, not as high as it first appears when one takes into consideration the origin, living conditions, and mobility of many of these people. A large portion of them are of the peon class. Most of them follow the seasonal agricultural industries of the State or work in the mines. Their homes, in many cases, are temporary, unsanitary, makeshift shacks. Their children are victims of wretched economic conditions, handicapped with linguistic difficulties, and misguided by parental ignorance. Their attendance at school is irregular and transitory. A large portion of them are retarded, and as a result, never reach the eighth grade.[15] As a group they constitute a sociological as well as an educational problem, and it is very doubtful if the curriculum of the grammar school is constructed to meet effectively the particular needs of these people. In 1930 one-third(34.6)of the pupils in Arizona's elementary schools were Mexicans.[16]

In 1930, of the total of 144,173 Mexicans of all ages in Arizona 47,855, or 33 per cent, were immigrants. They have been coming into Arizona at the average rate of 1900 each year since 1920, and twenty-two per cent of them have entered

15. Reynolds, Annie, "The Education of Spanish-Speaking Children in Five Southwestern States", Bureau of Education, Bulletin, No. 11, 1933, pp. 38-47.
16. Larsen, Dr. E.L., "Course of Study for Elementary Schools", Arizona State Department of Education, Bulletin No. 1, 1923, p. 6.

the State since 1915.[17] No information is obtainable regarding the illiteracy which these Mexican immigrants have contributed to the State's total. The fact, however, that Mexico as a nation was rated as being 62 per cent illiterate[18] in 1920 indicates in a general way that there is much illiteracy among those who come into this State. Manifestly a goodly proportion of the illiterate Mexicans in Arizona are foreign born adults who can in one sense be classed with the Indian illiterates in that they are not within the scope of the school system of Arizona as it is at present organized.

While detailed consideration has been given only to the two races having the most illiteracy within their particular groups it will be helpful, for purposes of comparison, to indicate the relative illiteracy in all racial groups. These data are taken from Table I, page 13, and from Table XX, page 115.

Racial Group	Percentage of Illiteracy in Age Groups		
	10 to 20	21 and Over	10 and Over
Native White Native Parents	0.26	0.5	0.5
Native White Mixed or Foreign Parents	0.23	0.5	0.5
Foreign Born White	1.6	3.6	3.6
Negro	1.2	4.6	4.0
Mexican	4.7	26.6	19.3
Indian	30.8	63.4	53.4
Asiatic	@	@	9.5

@ Information not available

17. Op. cit; U. S. Census Bureau, p.512.
18. Op. cit; Beal, James F., and Bond, Norman J., p. 36.

A more precise comparison can be obtained by the use of index numbers.

Racial Group	10 to 20	21 and Over	10 and Over
Native Born White			
Native Parents	1	1	1
Foreign Born or Mixed Parents	1	1	1
Foreign Born White	6.2	7	7
Negro	5.7	9	8
Asiatic	@	@	19
Mexican	18	53	38
Indian	118	115	106

@ No data.

This examination into the racial aspects of the illiteracy problem in Arizona has raised a number of questions, some of which may be suggested here.

The fact that fifty-three per cent of the total illiteracy in Arizona is attributable to an element of the population which is entirely out of the jurisdiction of the public schools of the State (i.e. Indians) would seem to indicate that if we are to get a true idea of the relation of the schools to the illiteracy problem it will be necessary to deduct the Indian element from our computations. By setting aside the illiterate Indian element the percentage of illiteracy in Arizona is reduced from 10.1 to 5.6. (A complete and detailed picture of illiteracy among various racial groups and ages is presented in Table I, page 13.)

Certainly the new percentage (5.6) of illiteracy in Arizona gives a more accurate idea of the problem as far as the schools of the State are concerned.

Since this sort of an idea is one of the objectives of this study it will be necessary to consider all of the various phases of illiteracy with due regard for this new procedure.

The elimination of the 16,530 illiterate Indians from the total of 33,696 leaves a remander of 17,496 illiterates for which the schools apparently can be held accountable. Of this total 15,378 are Mexicans, 91 per cent of whom are adults. These facts should give the reader some idea as to the nature of the problem as far as the school is concerned, and should raise certain questions, some of which are:

1. Is illiteracy in Arizona as marked as it first appears to be?
2. Is the illiteracy that does exist in the State chargeable to the schools, and if so to what extent?
3. Can the schools take any action which will reduce the percentage of illiteracy in Arizona to any great extent?

Before these questions can be fully answered it will be necessary to locate exactly the sources of our illiteracy by a consideration of illiteracy in age groups of the various races.

Summary:

1. The population of Arizona is chiefly native born. According to the 1930 census eighty-eight per cent of the inhabitants ten years of age and over, including Native White, Indian, and fifty-nine per cent of the Mexicans were native born.

2. Illiteracy among Indians was very high in 1930 They were found to be 53 per cent illiterate, and they accounted for 48 per cent of the total illiteracy in Arizona.

3. Illiteracy among Mexicans ranked next high. These people were 19 per cent illiterate and contributed 45.3 per cent of the total illiteracy for the State.

4. Elimination of the Indian element from the consideration of illiteracy changed the total percentage of illiteracy in Arizona from 10.1 to 5.6.

5. Illiteracy among Negroes, Whites, and Asiatics amounted to but six per cent of the total for the State. The percentages of illiteracy in each group were as follows.

Native Born White	.5
Foreign Born White	3.6
Negro	4.0
Asiatic@	9.5

@ Includes Filipinos

6. A large per cent of the Mexican population of Arizona is foreign born. In 1930, of the 114,173 Mexicans in the State of all ages, 47,855 or 33 per cent were immigrants.

Illiteracy According to Age: There is every reason to believe that, if the schools have been increasing in effectiveness in the last thirty years, an examination of the illiteracy data with regard to age will show a greater degree of illiteracy in the upper age groups. For the purpose of such an examination the percentages of illiteracy in each of seven chronological age groups from ten to sixty-five and over are shown in Chart 6. on the next page. Two special age groups designated as Twenty-One and Over, and Ten to Twenty are also included.

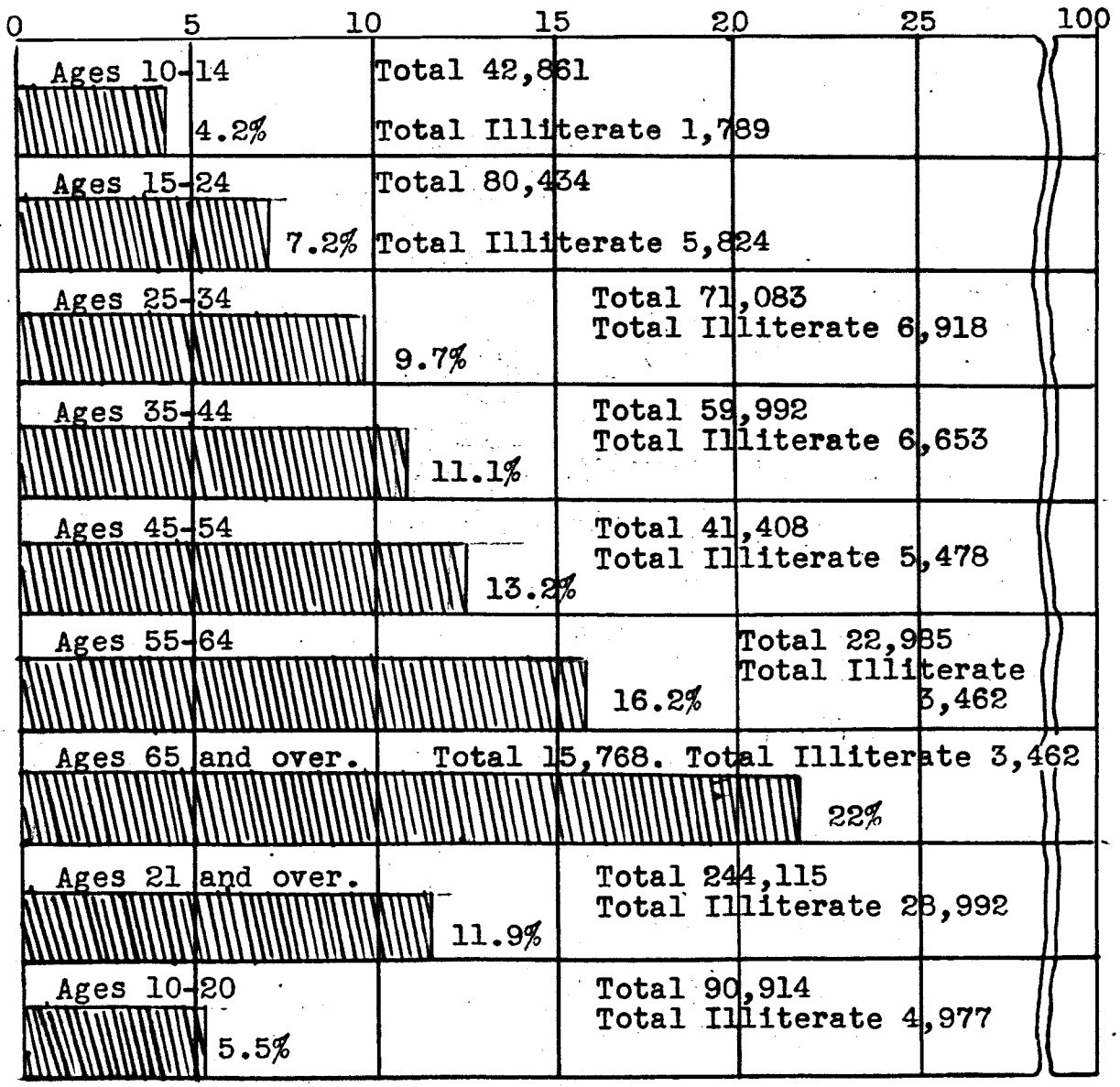


Chart 6. Proportions of Various Age Groups Ranging From Ten to Sixty-Five and Over Which Were Illiterate. (1930)

[19]

According to the data in Chart 6 the two groups which are composed of school children show the least percentage of illiteracy. The age group 10 to 14 is 4.2 per cent illiterate, and the age group 10 to 20 is 5.5 per cent illiterate. The total for the latter group(4,977) is the

19. Op. cit; U. S. Census Bureau, p. 1252

number of minor illiterates in the State in all nativity groups ten years of age and over. The low percentage of these groups would seem to indicate that the work of the present-day schools has been comparatively successful.

Each succeeding age classification in Chart 6. shows a larger per cent of illiteracy than does the previous group. Index numbers give a more accurate comparison.

Age Group	Per cent Illiterate	Index Number
10 to 14	4.2 per cent	1.00
15 to 24	7.2	1.74
25 to 34	9.7	2.30
35 to 44	11.1	2.64
45 to 54	13.2	3.14
55 to 64	16.2	3.86
65 and over.	22.0	5.33

The fact that adults have a higher rate of illiteracy in each succeeding ten years of age can be attributed to three things: the insufficiency of the public schools of the past; the illiterate immigration, chiefly from Mexico; and the ineffective educational program of the Federal Government.

A more detailed insight into the problem can be obtained from the figures which follow. They are the basis for Chart 6., already discussed, and Chart 7. which is to follow.

Age Group	Number	Illiterate		Per cent of
		Number	Per Cent	Total Illiteracy.
10-14	42,861	1,789	4.2	5.2
15-24	80,434	5,824	7.2	17.3
25-34	71,038	6,918	9.7	21.0
35-44	59,992	6,653	11.1	20.0
45-54	41,408	5,478	13.2	16.0
55-64	22,958	3,760	16.2	11.0
65 and over	15,768	3,462	22.0	10.0
21 and over	244,115	28,992	11.9	85.0

The data dealing with the percentage of the total illiteracy in Arizona for which each age group is responsible are presented in graphic form in Chart 7.

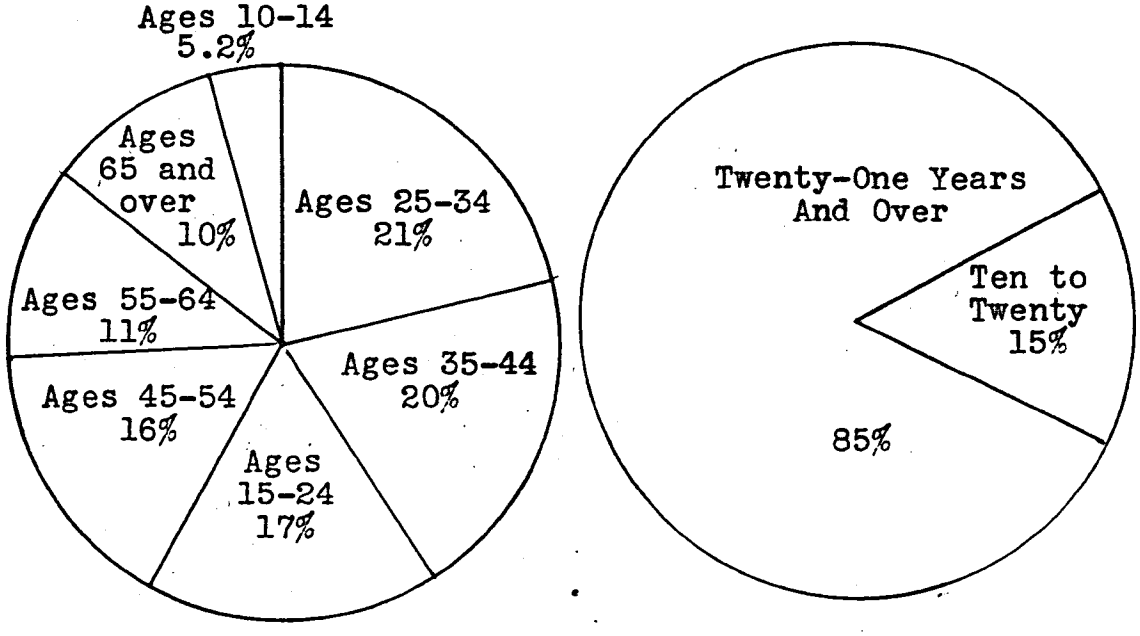


Chart 7. Percentages of Total Illiteracy for Which Each Age Group Was Responsible in 1930.

An examination of Chart 7. reveals the fact that the youngest age group(10-14)contributes but five per cent of the total illiteracy in Arizona. The greatest amount in both numbers and percentage is found in the 25 to 34 age group, which was a total of 6,908 illiterates, and contributes 21 per cent of the total in the State. The 35 to 44 age group ranks next high. This classification contributes 20 per cent of the total illiteracy in the State. It is evident, then, that 41 per cent of the total illiteracy is found among people whose ages run from twenty-five to forty-five. This period of years is generally considered to be the most useful and productive of one's life. From this age group

should come the most active and dependable citizenry. The discovery that they are responsible for almost half of the illiteracy in the State, and that as a group they are 20 per cent illiterate(Chart 6.)would be of greater significance were it not known from what racial groups most of these illiterates come.

The fact, however, that these illiterate races do not take a very active part in, nor exert a great amount of influence over community and state activities should not be used as an excuse for ignoring the problem of their illiteracy. As has already been demonstrated, it is one of adult education, a comparatively new field for the schools, and one in which Arizona has done very little up to the present. The recent advent of the Federal Government into this type of education, and the assistance which the Federal Government gives to the states should do much to enable the educators of Arizona to begin effective work in this field of activity.

Further examination of Chart 8. indicates that,as far as age is concerned, 85 per cent of the State's illiterates are qualified voters.

Admitting that the data examined in this section of the study indicate definitely that the illiteracy in Arizona is found chiefly among adults it is also necessary to admit further that the large illiterate Mexican and Indian groups tend to distort the true picture of the situation. Certain questions arise with regard to these groups which must be

answered before the real situation can be satisfactorily understood. For instance: What per cent of the adult illiterates are Mexicans and Indians? What per cent of the illiterates in each racial group are adults? How will the problem of adult illiteracy be changed by the elimination of the Indians?

To assist in answering these questions Table II has been constructed giving a detailed consideration of illiteracy in adult and minor age groups for the various racial groups. The data therein are derived from Table I, page 13.

TABLE II. THE NUMBER AND PERCENTAGES OF ILLITERATES AMONG ADULTS AND MINORS IN THE VARIOUS RACIAL GROUPS
(Age group ten years and over)

Racial Group	Total Illiterate	Illiterate over 21 years of age		Illiterate 10 to 20	
		Number	Per cent	Number	Per cent
Native White					
Native Parents	785	669	85.2	116	14.7
Foreign Parents	175	149	85.1	26	14.8
Foreign Born White	551	541	98.2	10	1.8
Negro	366	344	93.9	22	6.0
Asiatic	184	@	@	@	@
Total	2,061				
Mexicans	15,378	14,123	91.8	1,255	8.1
Total with Mexicans	17,439				
Indians	16,530	12,987	78.6	3,543	21.4
Grand Total	33,969	28,813		4,972	

@ Data regarding Asiatics not segregated according to age.

From Table II we learn that 91.8 per cent of the illiterate Mexicans and 78.6 per cent of the illiterate Indians are adults. In other racial groups, though the totals are quite small, the percentages of illiterates who are adults range even higher. In the Foreign Born White group it amounts to 98.2 per cent.

The total of illiterates without the Indians is 17,249, which represents more accurately the real situation in the State. Of this adjusted total 15,378 are Mexicans, 14,123 of which are adults. Any program of adult education instituted for the purpose of reducing illiteracy obviously must be of such a nature as to appeal to this Mexican adult element. The question arises: Can the schools develop a program that will effectively accomplish this end? If they cannot there is little else that can be done to decrease the illiteracy percentage of Arizona.

As far as the present day schools are concerned there is a total of 1429 non-Indian minors to be considered. This group of illiterate minors is composed chiefly of Mexicans. (88 per cent). Evidently the school attendance laws of the State could be enforced somewhat better as far as this class of people are concerned.

Summary

1. A much greater degree of illiteracy exists among adults than among minors in Arizona. In the State as a whole 85 per cent of the illiteracy in 1930 was attributable to individuals 21 years of age and over. In several racial groups the percentages were higher than in the State as a whole, as is shown by the accompanying data.
   Foreign-Born White
   Negro
   Mexican
   Native-White, Foreign or Mixed Parents.

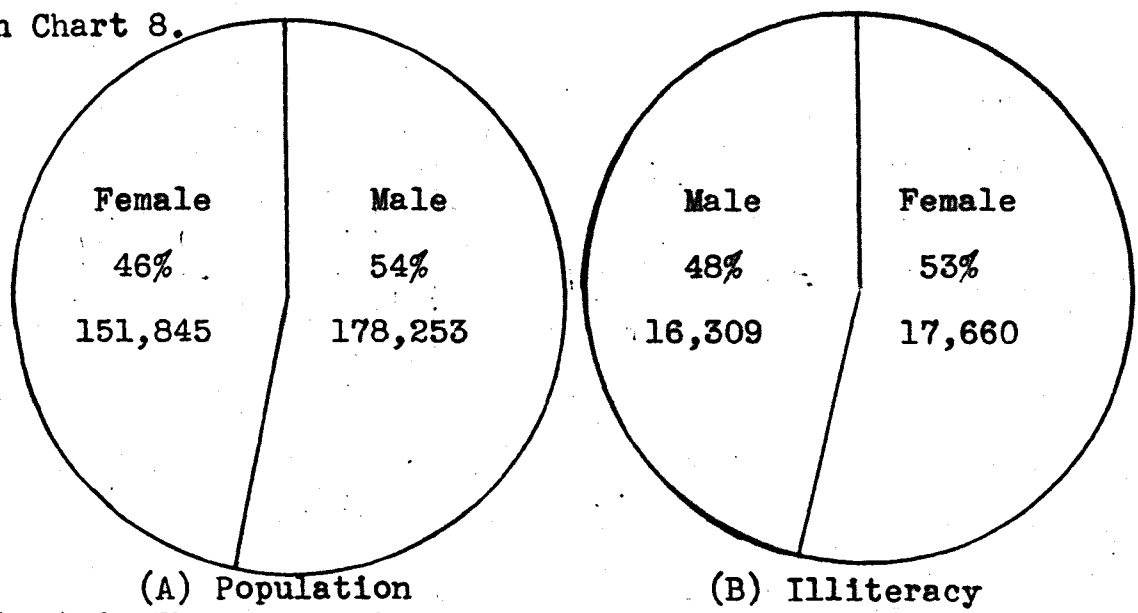
2. The percentage of illiteracy increased with each ten years increase in ages from ten to sixty-five and over. Forty-one per cent of the total illiteracy in the State was found in the age group 25 to 45.

3. The chief illiteracy problem in Arizona has to do with adult Mexicans, since of the 17,249 illiterate non-Indians in Arizona, 14,123 are adult Mexicans.

Illiteracy According to Sex: The ratio of the male population to the female population in any given area is generally accepted as an index of the newness of that particular area. The greater the number of males in relation to the number of females the newer the community. Arizona, judged on that basis shows clearly its relatively recent advent into the family of states. The data since 1900 are presented here.

Year	Ratio of Males to Females
1900	140.4
1910	138.2
1920	121.0
1930	113.2

It would be expected under ordinary circumstances that since there were 113 males to every 100 females in 1930 there would be at the same time more male than female illiterates. The percentage of illiteracy attributable to each sex, and the ratio of the male to female population is shown in Chart 8.



(A) Population (B) Illiteracy

Chart 8. The Proportion of the Total Illiteracy and Total Population over Ten Years of Age Attributable to Each Sex. (1930)

The data regarding illiteracy (B) must be interpreted in the light of the facts regarding the ratio of male to female population (A) if a true picture of the relative illiteracy for which each sex is responsible. The female group constitutes 46 per cent of the population, and at the same time contributes 53 per cent of the total illiteracy.

Another comparison is presented in Chart 9.[20] which shows the percentage of each sex that is illiterate.

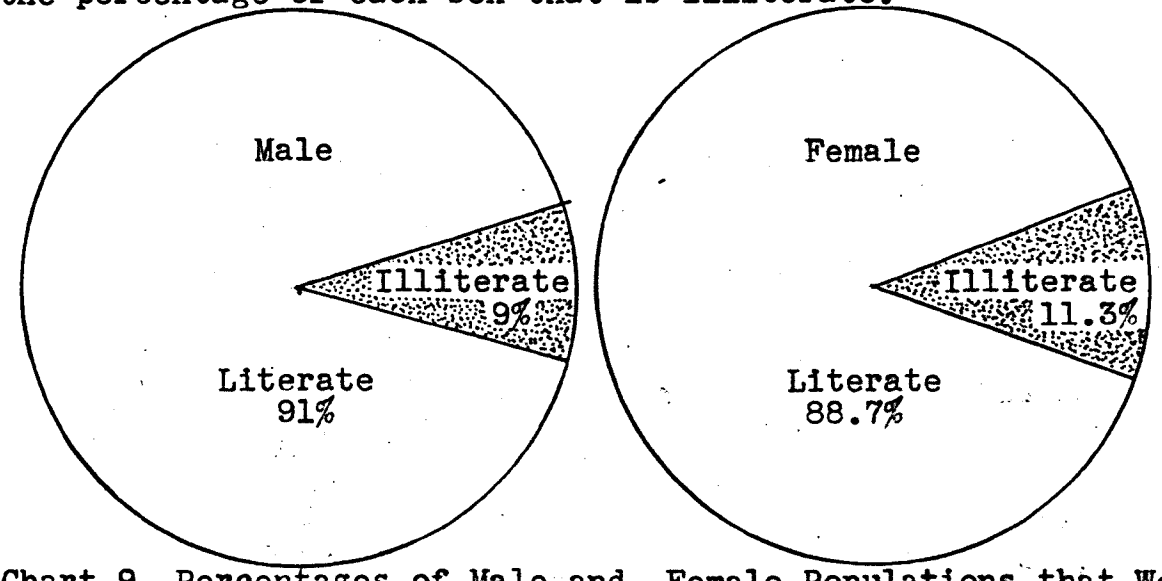


Chart 9. Percentages of Male and Female Populations that Were Illiterate in 1930. (Age Group Ten Years and Over)

According to these data the 16,309 illiterate males constitute nine per cent of the total male population ten years of age and over. In the same age group 11.3 per cent of the females are illiterate. The total population for each group is: male, 180,311; female, 154,663. The ratio of male to female illiterates can be stated as 90 to 113 or 100 to 125.

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20. Based on Table XIX, page 113.

Again the question must be considered from the point-of-view of racial groups if an idea of the exact sources of illiteracy is to be secured. Before examining the data on illiteracy a scrutiny of the proportion of males and females in each racial classification in 1930 will furnish a background for further discussion. This information is presented below.

Number of Males per 100 Females.	White Native Parents	White. Foreign or Mixed Parents	White. Foreign Born	Negro	Indian	Mexican
	114	109.4	151.5	273	105.7	107.3

The above tabulation includes persons of all ages. It is interesting to note that the Mexican and Indian races are most evenly divided between the two sexes. This fact indicates that they are relatively stable and settled types of population, and that the Mexican immigrants bring their families with them .

The Negro element is predominantly male while in the Foreign-Born White classification there are approximately one and one-half males for each female.

In general one would expect the male group in each racial classification to contribute the largest number of illiterates since that group contributes the largest per cent of the population. Whether or not this situation actually exists can be determined in Table III, from data which were taken from page 1252 Vol. II, Fifteenth Census Report. This table is shown on the next page.

TABLE III THE NUMBERS AND PROPORTIONS OF EACH SEX OF EACH RACIAL GROUP WHICH WERE ILLITERATE IN 1930. (Ages Ten Years and Over)

Racial Group	Male	Per Cent	Female	Per cent
White				
Native-Born	88,679		76,157	
Illiterate	473	.53	312	.41
Foreign or Mixed Parents	17,301		15,708	
Illiterate	75	.43	100	.63
Foreign-Born	9,296		6,714	
Illiterate	275	2.96	276	4.1
Negro	5,549		3,576	
Illiterate	191	3.4	175	4.9

No data available for Mexican, Indian or Asiatic groups.

In all racial groups except the Native-Born White the percentage of illiteracy among females is higher than among males. This is also true of numbers in most of the groups. The difference, however, is relatively small, except in the Foreign-Born White and Negro groups. Ih no race is the difference sufficiently great to account for the ratio of 125 illiterate females to 100 illiterate males which exists for the State as a whole. Unfortunately, no data are available to show the extent of illiteracy among the male and female Indians and Mexicans, but it is safe to assume that there is a variation in favor of the males to a greater extent than is found in the other racial groups.

The fact that the female group is more illiterate than the male is due probably to the more limited environment of the former as compared to the latter. This would be especially true of the Indian and Mexican. In both of these groups

the woman is, in most cases, considerably more restricted than the male. The men, being the breadwinners, are forced to be more aggressive and have a much greater chance to profit by outside stimuli and experience.

Summary:

1. The male sex constituted the greater proportion of the population of Arizona in 1930. The ratio was 113 males to each 100 females. In each of the various racial groups a similar situation existed. The ratio of men per 100 women was as follows:

Native-White, Native-Parents	114
Native-White, Foreign or Mixed	109.4
Foreign-Born White	151.5
Negro	273
Indian	105.7
Mexican	107.3

2. Illiteracy in 1930 was greater among females than among males. Data indicate that the relative proportion of illiterate females to males was 125 to 100.

3. Of the total male population of Arizona ten years of age and over, 9 per cent were illiterate in 1930, as compared to 11.2 per cent of the females.

4. Examination of the relative illiteracy of the two sex groups of each racial classification indicated that only in the Negro and Foreign-Born White groups was there any marked difference between the male and female record. No data were available for the Indian Mexican, or Asiatic groups. The percentages were:

Group	Male	Female
Native-White, Native-Parents	.53	.41
Native-White, Foreign or Mixed Parents	.43	.63
Foreign-Born White	2.96	4.1
Negro	3.4	4.9

Illiteracy According to Place of Residence: The term rural as used in this study has the same meaning as is given to it by the United States Census Reports and refers to communities with populations of less than 2500. On that basis the term rural when applied to schools in Arizona means any school with a registration of no more than seven hundred children, since children of school age generally constitute from 25 to 30 per cent of the total population.[21] It will be necessary to keep in mind the fact that there are but 14 communities in Arizona classed as urban, and that most of the schools of the State are rural according to our definition. However, the usual connotation or concept of the words "rural schools" is of such a nature as to bring to mind the "little red school house" with but one or two teachers for all grades. Such an idea is incorrect as far as Arizona is concerned, since in 1930 but 3.5 per cent of the total school attendance was in one teacher schools, and 76.1 per cent of the school children were in schools of ten teachers or more.[22]

It is evident that Arizona is essentially a rural state despite the consistent flow of population to urban communities since 1900. The movement from rural to urban can be traced in the figures presented on the next page.

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21. Calculated from data in Fifteenth Census Report, II, page 667.
22. Larsen, Dr. E. L., "Course of Study for Elementary Schools", Arizona State Department of Education, Bulletin, No. 1., 1923, p. 13.

Census Year	Per cent of Population Classed as Rural
1880	82.7
1890	90.6
1900	84.1
1910	69.0
1920	64.8
1930	65.6

According to the Fifteenth Census Report illiteracy in Arizona was approximately 87 (86.6) per cent rural. To make more clear the difference between the illiteracy in these two classifications Chart 10.[23] has been constructed showing the percentages of both population and illiteracy in rural and in urban areas.

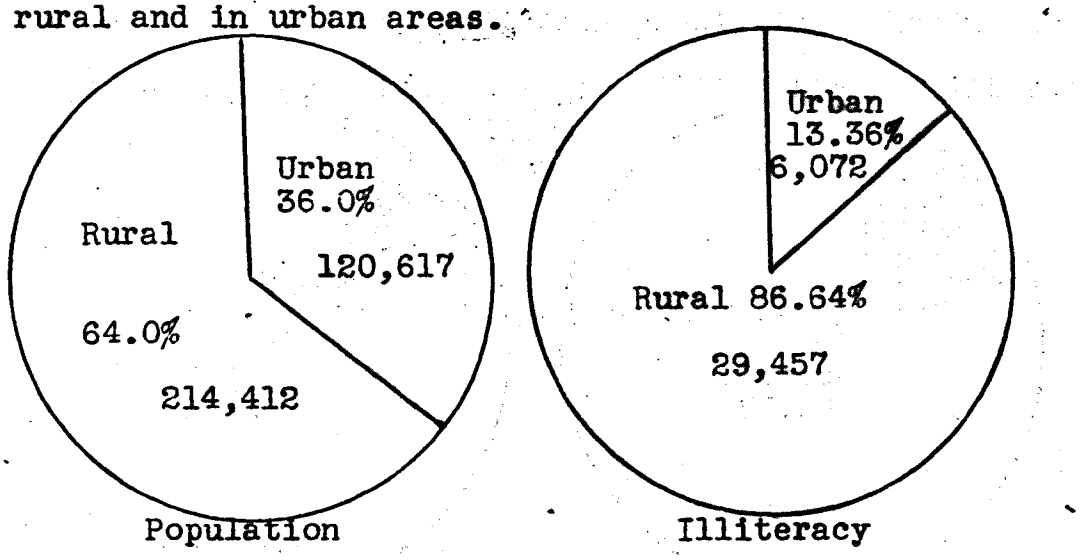

Chart 10. The Proportion of the Total Population and Total Illiteracy in Arizona in 1930 in Urban and Rural Areas. (Age Group Ten Years and Over)

Rural areas in Arizona contain 64 per cent of the total population, but are responsible for 86.6 per cent of the total illiteracy. Conversely 36 per cent of the population (urban) contributes 13.3 per cent of the illiteracy.

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23. Based on Table XXI, page 117.

To understand the reasons for this difference it is necessary to remember that almost all of the illiteracy in Arizona comes from two racial groups whose mode of living and whose occupations are primarily of a rural nature. This is especially true of the Indian population for less than two per cent of the total Indian population of all ages is found in urban communities.[24] The percentages for the Mexican population are: rural 64; urban 36.[25]

To go further into this question there is in Chart 11.[26] a presentation of rural and urban populations showing the percentages in each group that are illiterate and literate.

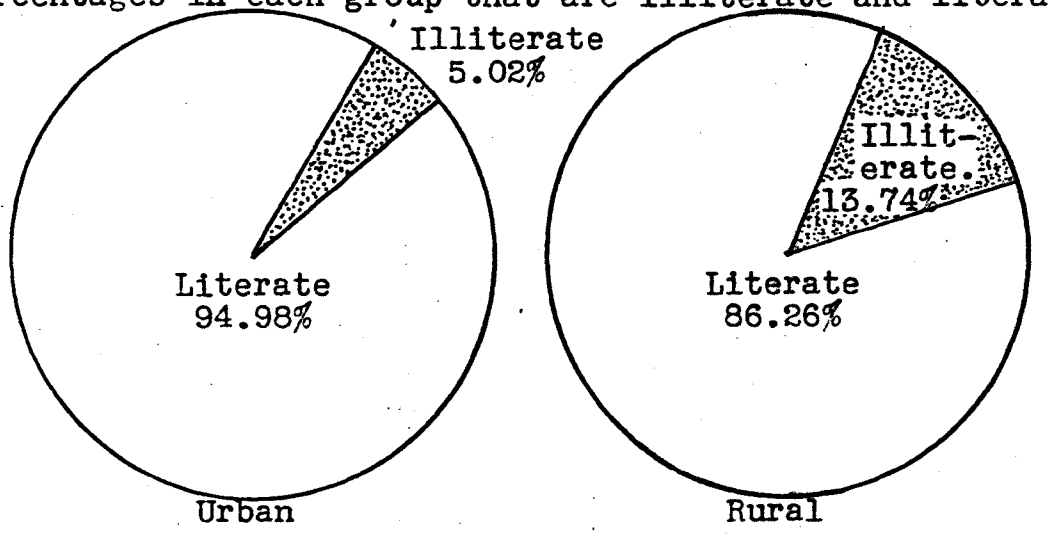

Chart 11. Percentages of Illiteracy in Urban and Rural Areas in 1930. (Age Group Ten Years and Over)

Approximately 14 (13.7) per cent of the 214,412 rural inhabitants of Arizona are illiterate. Of the 120,617 urban inhabitants but 5.02 per cent are illiterate. Rural illiteracy, therefore, is approximately two and one-half times

24. Op. cit; United States Census Bureau, pp. 65-66.
25. Ibid;
26. Based on Table XXI, page 117.

as great as urban illiteracy.

Since over eighty-five per cent of the illiteracy in the State is found in rural areas any action taken by educators to alleviate the situation must be carried out chiefly through the rural schools. However the fact that a major portion of the rural illiteracy is contributed by the Indian element reduces the magnitude of the problem considerably. In order to deduct the Indian element from the percentages of illiteracy in rural areas the following computation is necessary.

(a)	Total rural population	214,412
(b)	Total Indian population	30,960
(c)	Balance (a)-(b)	183,452
(d)	Total rural illiterates	29,457
(e)	Total Indian illiterates	16,530
(f)	Balance (d)-(e)	12,927

Percentage of illiteracy in rural areas with Indians removed (f)÷(c) equals 7.0 per cent.

This percentage gives us a new idea of the situation in rural communities, and of the actual extent of the problem with regard for the public schools of the State. The adjustment gives us a total of 12,927 rural illiterates, which, as has been shown, is composed chiefly of Mexicans. To find the actual number of rural non-Indian and Mexican illiterates in Arizona a procedure similar to the one above must be developed. The results of the computation indicate that there are approximately three thousand[27] rural illiterates

27. Computed from data in Table XXI, page 117, and Fifteenth Census Report, II, p. 1225.

in Arizona other than Mexican and Indian.

Summary

1. The population of Arizona ten years and over is predominantly rural. In 1930, sixty-five per cent of its inhabitants were classed as rural, and thirty-five per cent as urban. The totals were: rural, 214,412; urban, 120,617.

2. Over four-fifths of the illiteracy in Arizona is in rural areas. The percentage in 1930 was 86.3.

3. Arizona's urban population in 1930 was 5.2 per cent illiterate; its rural population was 13.7 per cent.

4. Rural illiteracy is reduced from 13.7 to 8.0 per cent by eliminating the Indian illiterates.

5. Removal of the Mexican element leaves approximately three thousand rural illiterates attributable to the White, Negro, and Asiatic races.

Illiteracy in the Several Counties: So far the problem of illiteracy in 1930 has been dealt with from the point-of-view of Nativity, Age, Sex, and Place of Residence. Before bringing the discussion to a close it would be worthwhile to glance at the conditions in the several counties, if for no other reason than to test further the idea that only where there is a large Indian and Mexican population is there any great amount of illiteracy.

The percentage, amount, and rank of each county in regard to illiteracy are shown in Chart 12. on the next page. The topmost figure in each circle is the population in the age group ten years and over; the second figure is the total number of illiterates, and the graph indicates the percentage of illiteracy.

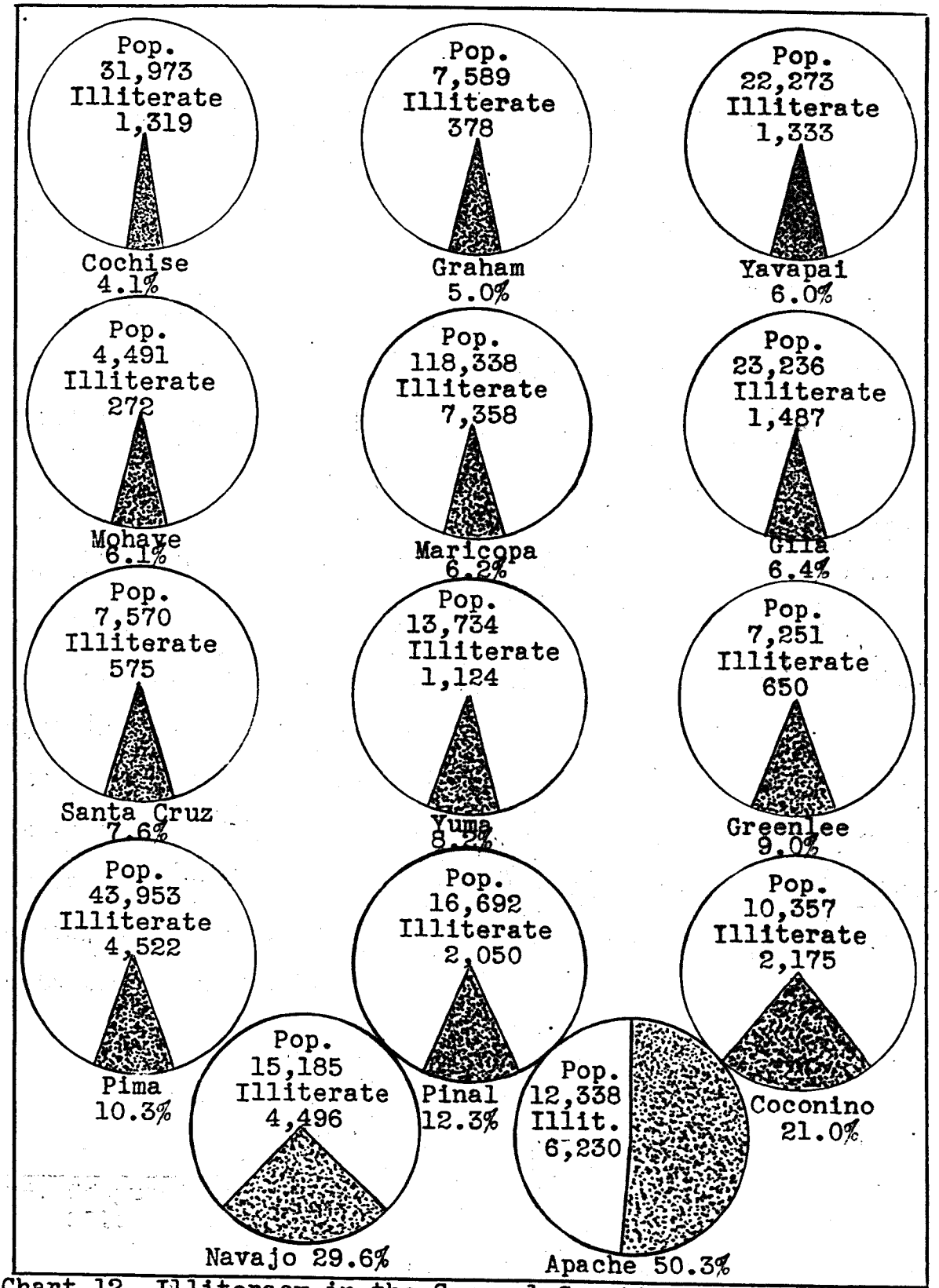

Chart 12. Illiteracy in the Several Counties of Arizona 1930.
(Age Group Ten Years and Over)

It is apparent that Cochise County has a better record than any other county. Apache County, on the other hand, ranks highest in percentage of illiteracy. In the matter of totals Maricopa County leads with 7,358 illiterates. The fewest are found in Mohave County which has a total of 272.

The five counties with illiteracy percentages above ten are: Apache, Navajo, Coconino, Pima, and Pinal. In the first two counties are located two of the largest Indian Reservations in the United States, and 70 per cent of the land in both of the counties belongs to the Federal Government.[28] In Pima and Pinal Counties both Indian and Mexican populations are large.

The natural assumption that the high illiteracy percentages in some of the counties is due to the existence in those counties of large Mexican and Indian populations can be tested in Table IV. The figures in this table, however, represent populations of all ages, while the figures and percentages regarding illiteracy have to do only with inhabitants ten years of age and over.

28. Computed from data in Arizona Year Book, 1931, pp. 173 and 261.

TABLE IV. A COMPARISON OF THE PERCENTAGE AND NUMBER OF THE TOTAL POPULATION IN EACH COUNTY THAT IS MEXICAN AND INDIAN AND THE PERCENTAGE OF ILLITERACY IN EACH COUNTY (1930)

County	Total	Indians	Mexicans	Per cent of Population Indian-Mexican.	Total per cent of illiteracy in each county.
Apache	17,765	11,732	1,908	70	50.3
Navajo	21,202	10,126	2,760	61	29.6
Santa Cruz	9,684	few	5,050	54	7.6
Pinal	22,081	3,425	8,175	51	12.3
Coconino	14,064	4,247	3,026	51	21.0
Greenlee	9,886	few	4,769	48	9.0
Pima	55,672	5,305	16,073	37	10.3
Gila	31,016	few	10,771	34	6.4
Yuma	17,816	1,058	4,668	34	8.2
Cochise	40,996	few	13,044	31	4.1
Yavapai	28,470	few	8,685	30	6.0
Maricopa	150,970	3,845	32,494	20	6.2
Graham	10,373	few	1,981	19	5.0
Mohave	5,572	few	748	13.4	6.1

Except in the counties of Santa Cruz, Greenlee, and Cochise there there is a definite relationship between the percentage of the population which is Mexican and Indian and the percentage of the population that is illiterate. It is clear that the problem of illiteracy centers its self around these two racial groups in the several counties as well as in the State as a whole.

Summary:

1. There is a wide variation in illiteracy conditions in the several counties of Arizona. The percentages range from 4.2 in Cochise County to 53 in Apache County.

2. There is a definite relationship between the amount of illiteracy and the number of Mexicans and Indians in each county except Santa Cruz, Greenlee and Cochise.

CHAPTER III

TRENDS OF ILLITERACY IN ARIZONA FROM 1870 to 1930

Purpose: After having secured both a general and a detailed idea as to conditions of illiteracy in Arizona in 1930, it is important that the question be considered from the point-of-view of trends. This sort of an attack should result in a more complete picture of the situation, and should indicate just how fast the State has been progressing toward the complete elimination of illiteracy. It is for these reasons that this chapter has been written.

Illiteracy Trends in General: In considering illiteracy trends for the last half century or so it will be necessary to repeat occasionally some of the data previously referred to in Chapter II regarding the various phases of illiteracy in 1930. In some instances it was found unnecessary or impossible to trace the particular aspect of illiteracy under consideration over a period of more than thirty years.

On the following pages are two charts which give different views of the question of general illiteracy trends in Arizona. Chart 13.[29] has been devised to show the growth in numbers of the population and the illiterates, both Indian and non-Indian from 1870 to 1930. For more detailed clarification the 1930 figures show both Mexican and Indian population elements.

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29. Based on Table XIX, page 113, and Table XXVII, page 128.

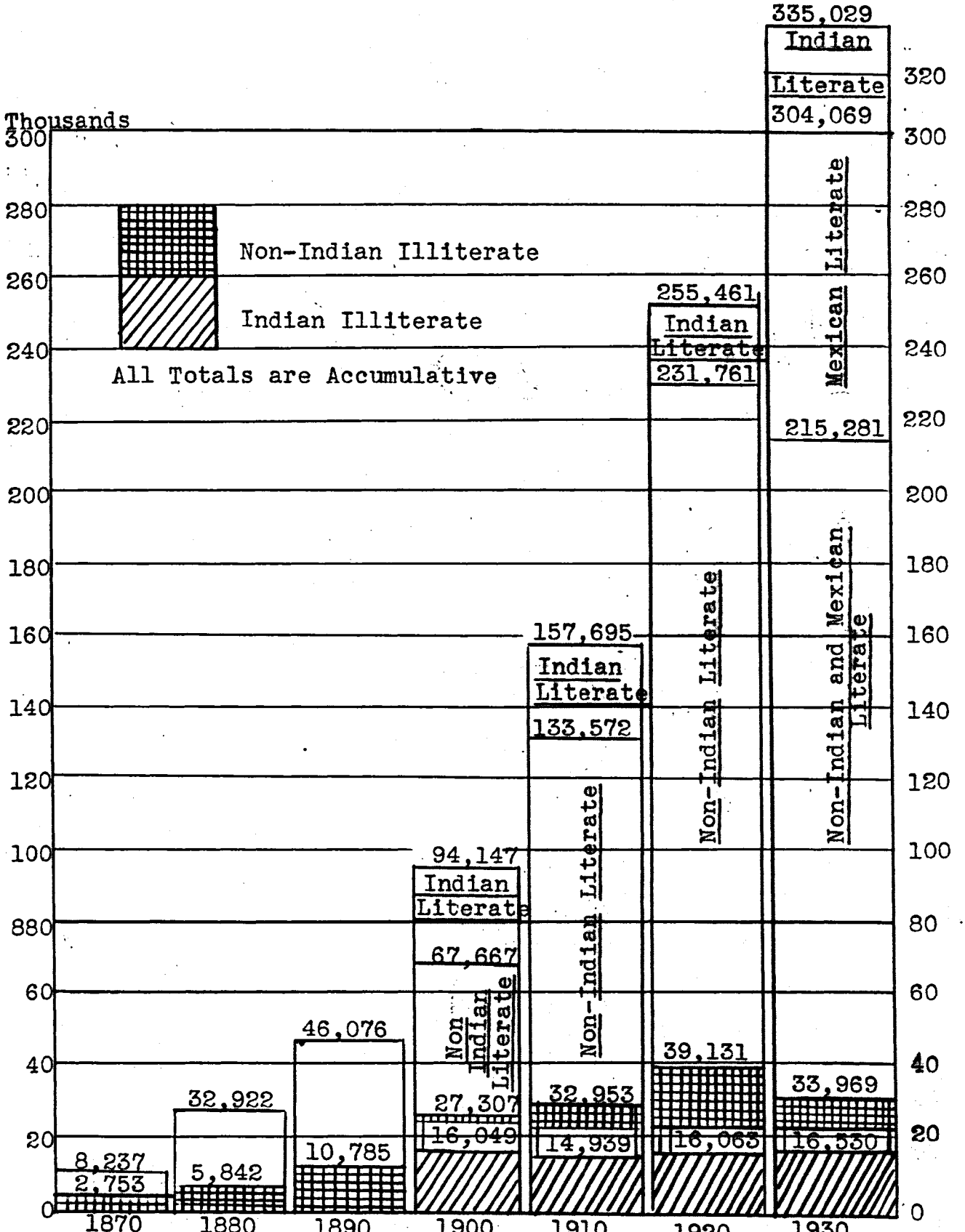

Chart 13. The Total Inhabitants and Illiterates in Arizona From 1870 to 1930 Divided into Indian and Non-Indian Racial Groups. (Age Groups Ten Years and Over)

It is possible to trace in Chart 13. the ever widening gulf between the total number of inhabitants and the total number of illiterates, as well as to get a graphic idea of the fast growing population of Arizona. However, since this chart deals with totals only another chart[30] has been constructed to present the trends in terms of percentages. Taken together the two charts give a very complete insight into the question under consideration.

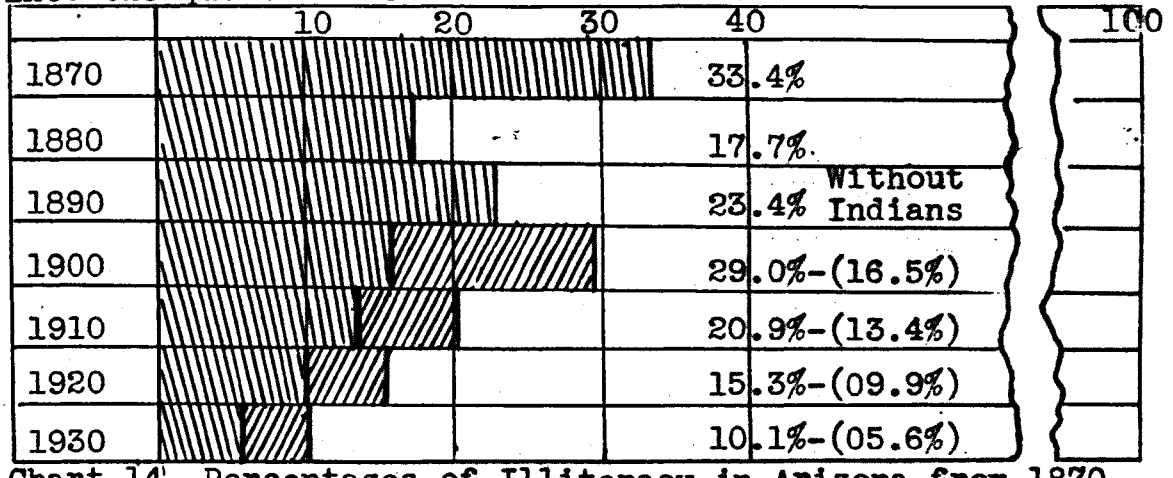

Chart 14. Percentages of Illiteracy in Arizona from 1870 to 1930 Inclusive. (Age Group Ten Years and Over)

Considering these last two charts we find that in 1870 thirty-three per cent of the inhabitants of Arizona ten years of age and over were illiterate. The population of the State in that same age group was 8,237. In 1880 the population increased to 32,922, an increase of 299 per cent. At the same time the number of illiterates increased only 3,089, or 112 per cent. The percentage of illiteracy during that decade was reduced from 33 to 18 per cent. This unusual decrease in percentage of illiteray was probably due to an influx into Arizona of immigrants from progressive eastern

30. Chart 14 based on Table XIX, page 113, and Table XXVII, page 128.

states in consequence of the subjugation of hostile Indian tribes, and the entrance into the State of its first railroad.[31] It is interesting to note that the record for the low percentage of illiteracy made in 1880 was not bettered until 1920.

By 1890 Arizona's population was 46,076, a forty per cent increase over 1880. At the same time the percentage of illiteracy increased to twenty-three.

The year 1900 marked a change in the policies of the United States Census Bureau. Until that time the enumeration included only those Indians not under tribal relations. For example, there were in Arizona in 1870 about 32,000 Indians, but the population figures for the State include only thirty-one (31).

In 1900, however, the enumeration was extended to include all Indians. This change is reflected in the data on illiteracy for that year, the percentage having risen from twenty-three in 1880 to thirty-nine in 1900. At the same time the total population of Arizona almost doubled, increasing from 46,076 to 94,147. These figures, it must be remembered, deal only with the age group ten years and over. It will be noted that in 1900 there were 16,049 illiterate Indians. Were it not for this situation the increase in the number of illiterates over 1890 would have been exceedingly small. (494) The same general situation exists in each of the succeeding decades.

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31. U. S. Census Bureau, Ninth Report, I, p. xx.

Since 1900 there has been a consistent decrease in the percentages of illiteracy notwithstanding the fact that the population has taken trememdous strides. Theoretically, at the present rate of decrease, there will be but five per cent of illiteracy in Arizona in 1940 and probably none in 1950. Actually, however, the rate of decrease will slow up unless given some extra assistance by the schools. If an effective program can be developed it should not take twenty years to accomplish these ends.

The trends of illiteracy and population thus far discussed have been summarized in Table V,[32] where they are presented in terms of index numbers in order that a precise idea can be secured as to their tendencies. For all index numbers the totals for the year 1900 have been used as a base. The last column (7) takes into consideration the diminishing ratio of the increasing population and the decreasing illiteracy from 1900 to 1930.

TABLE V. TRENDS OF INDIAN AND NON-INDIAN POPULATIONS AND ILLITERACY TRANSLATED INTO INDEX NUMBERS ON A BASIS OF 1900 TOTALS.

	Population			Illiteracy			
	1	2	3	4	5	6	7
Census Year	Indian	Non-Indian	Total	Indian	Non-Indian	Total	(6)÷(3)
1900	26,480	63,667	94,147	16,049	11,254	27,307	
1910	24,087	133,572	157,659	14,949	18,014	32,953	
1920	23,700	231,761	255,461	16,068	23,063	39,131	
1930	30,960	304,069	335,029	16,530	17,439	33,969	
	Index Numbers			Index Numbers			
1900	100	100	100	100	100	100	100
1910	91	198	167	90	167	121	72
1920	90	344	271	100	205	143	53
1930	113	453	357	100	155	121	34

32. Based on Table XIX, page 113, and Table XXVII, page 128.

Summary:

1. After a sudden drop in 1880 illiteracy percentages in Arizona increased consistently up to and including the census year of 1900. The percentages were.

1870	33 per cent
1880	18
1890	23
1900	29

2. In 1900, for the first time, the Federal Census included all Indians in the population enumeration. This change of policy accounts largely for the high percentage of illiteracy recorded for 1900.

3. Illiteracy percentages have decreased regularly each decade since 1900. They were:

1910	20.9
1920	15.3
1930	10.1

4. Theoretically, illiteracy should practically disappear from Arizona in twenty years if the present rate of decrease is maintained.

5. Adjustment of data on illiteracy to show the effect of the Indian element on totals indicate that from one-third to one-half of the illiteracy in Arizona since 1900 can be attributed to the Indians.

6. The use of index numbers to show the trends of illiteracy since 1900 indicates that for every 100 illiterates in that year there were but 34 in 1930.

7. Figures for 1930 show that out of the 33,969 illiterates in Arizona but 2061 were neither Indian nor Mexican.

Illiteracy Trends in Arizona from 1900 to 1930 on a Basis of Nativity:

An attempt to trace the illiteracy of various racial groups in the years prior to 1930 was made but abandoned due to the variations in the method of classifying the population in those years. In 1870 and 1880 the White racial group was not subdivided into classes on a basis of parental nativity as has been done since that time, and Negroes were not given separate classification. No Indian group was included in the population before 1900. Since 1900 was the first census year to have all of the above-mentioned racial groups under separate headings it was chosen as the starting point for this examination.

Any comparison of racial groups before 1930 is made confusing by the fact that the Mexican group was included in classifications designated as Foreign-Born White, and White with Foreign or Mixed Parents. This situation makes an accurate comparison almost impossible for those two groups.

Since a consideration of these trends involved considerable computations for each racial group for each year no attempt was made to transfer those data from page 143, Volume III, United States Census Reports for 1930. Chart 15. was constructed to show the trends in the percentages of each unit in graphic form.

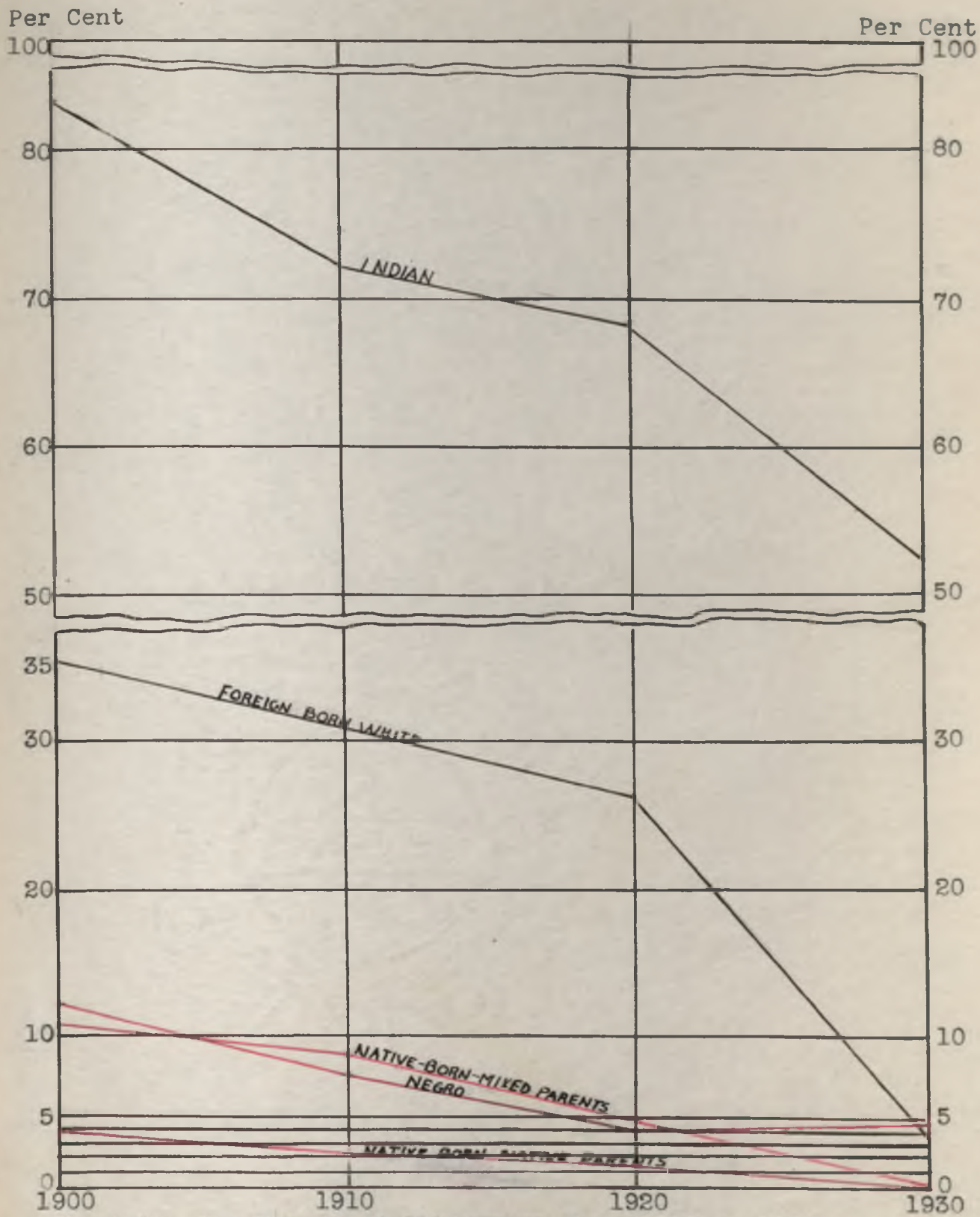

Chart 15. The Trends of Illiteracy From 1900 to 1930 in Each of Several Racial Groups in Arizona. (Age Group Ten Years and Over)

The most noticeable aspects of this comparison are the extremely high percentages of illiteracy in the Indian group, and the sudden drop in the percentage of the Foreign-Born element. The reasons for the latter have already been mentioned. Were not the Mexicans deducted from that group in 1930 the percentage would have been approximately 20 instead of 3.6. This assumption is based upon the fact that the Mexican racial group was 19 per cent illiterate in 1930, and it constituted the greater proportion of the Foreign-Born group prior to that year. Somewhat the same situation existed in the White of Mixed or Foreign Parents classification.

The low percentage of illiteracy attributed to the Negro race in Arizona is unusual since a high degree of illiteracy is generally possessed by those people. The Negroes in Arizona had the doubtful distinction of being the only group that made no improvement in the period from 1920 to 1930.

The percentage of illiteracy among the Native-White, Native Parents element has been below 5 since 1900 and has diminished until it amounted to but 0.5 in 1930. This is true also of the Native-White group with mixed or foreign parents

Summary:

1. A comparison of racial group is made difficult by the fact that the Mexicans were included in the groups known as Foreign-Born White, and Native-White, Foreign or Mixed Parents in the reports prior to 1930.

2. The range of percentages varied greatly with the different groups as is indicated below.

Group	1900	1930
Native-White, Native Parents	4	1
Native-White, Foreign or Mixed Parents.	11	0.5
Foreign-Born White	35	4
Negro	11	5
Indian	85	53

Trends of Illiteracy on a Basis of Age from 1870 to 1930

Having already learned that there is a greater percentage of illiteracy in the more advanced age groups, and that children of school age, in 1930, had the lowest degree of illiteracy, it will be interesting and informative to discover if, in the period from 1870 to 1930, the same situation always existed. For that purpose Chart 16. has been constructed. The trends of illiteracy in age groups Ten Years and Over, Twenty-One Years and Over, Ten to Twenty, and Ten to Fourteen, are traced for the sixty year period. The data which are used are taken from Table XIX, page 113.

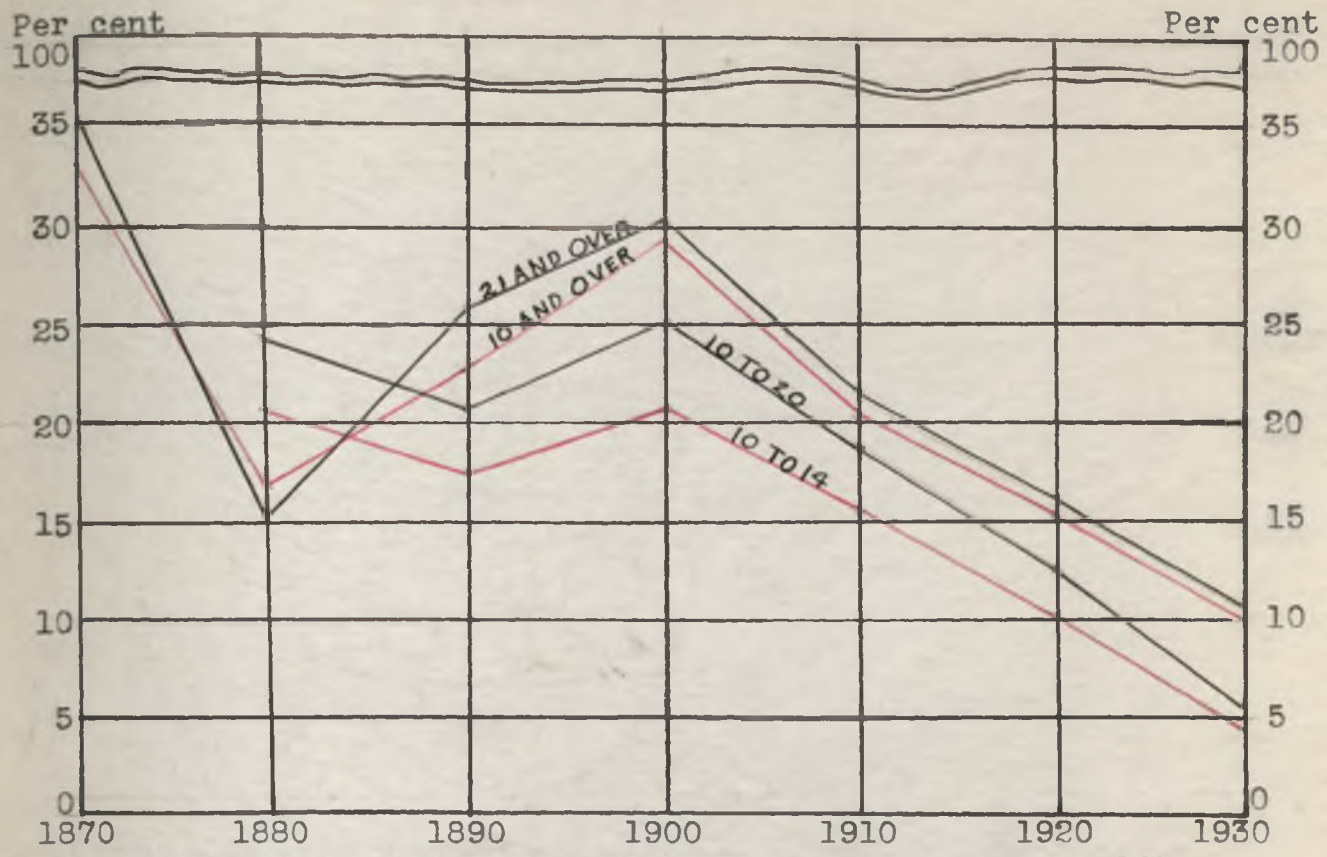

Chart 16. Illiteracy Trends in Arizona from 1870 to 1930 in Several Age Groups

No data were obtainable for age groups Ten to Twenty and Ten to Fourteen for the census year 1870. From 1890 to 1930 the trends of the four age groups were similar, and the ratio between them was maintained in general throughout the entire period, indicating that the decline in illiteracy in Arizona has not been concentrated in any special age classification.

Before 1890 some unusual variations in trends existed. According to the data, which had to be computed from various tables in the census reports of 1870 and 1880, the two older groups possessed less illiteracy than did the groups containing only minors. And the age group Twenty-One and Over had, in 1880, the least illiteracy of any of the four. These

data were checked a number of times without changing the results.

Why such conditions existed at that particular time is difficult to understand, except, as has been stated, the population of Arizona during that period, was augmented by a large number of immigrants from the more settled eastern states. It would seem, also, that a large proportion of these new inhabitants were adults, probably of the male sex, for that situation generally exists in frontier communities.

Since 1900, the year in which the Indian population was included in the census enumeration, the decline in the percentages of all age groups has been rapid. In that year all four groups had illiteracy percentages ranging from 20 to 30 per cent. Thirty years later they ranged from 4 to 11 per cent.

Summary:

1. Examination of the illiteracy trends in age groups Ten Years and Over, Twenty-One Years and Over, Ten to Fourteen, and Ten to Twenty indicates that since 1900 the rate of decline has been approximately the same for all four.

2. Since 1900 the two younger groups have had a lower percentage of illiteracy than the older groups. The opposite was true, however, in 1880. No data were obtainable for the lesser age groups prior to 1880.

3. Illiteracy in the higher age groups decreased from around 30 per cent in 1900 to approximately 10 per cent in 1930. The percentages for the lesser age groups in the same period dropped from an average of 23 to 5.

Trends of Illiteracy from 1880 to 1930 On a Basis of Sex:

It has already been shown in Chapter II that in 1930 the ratio of male illiterates to female illiterates was 100 to 125. In this discussion an attempt will be made to look back and see to what extent the record for each sex in 1930 was an improvement over the previous decades. To do this the data have been gathered together in Table VI. showing the totals and percentages of illiteracy for each sex from 1880 to 1930, as well as the ratio between the two for each decade.

TABLE VI. A COMPARISON OF THE TOTAL NUMBER OF INHABITANTS, THE TOTAL NUMBER OF ILLITERATES, THE PERCENTAGES OF ILLITERACY, AND THE RATIO BETWEEN THE NUMBER OF ILLITERATES IN EACH SEX GROUP FROM 1880 to 1930. (Age Group Ten Years and Over)

Year	Total Population and total Illiterates. Male	Female	Percentage of Illiteracy Male	Female	Number of illiterate Females per 100 Males
1880 Total.	24,267	8,655	14.3	26.9	190
Illiterate	3,511	2,331			
1890 Total.	29,736	16,340			
Illiterate	6,027	9,758	20.3	29.1	143
1900 Total.	57,027	37,120			
Illiterate	14,404	12,903	25.3	34.8	137
1910 Total	94,812	62,847			
Illiterate	18,183	14,770	19.2	23.5	122
1920 Total.	143,651	111,810			
Illiterate	19,984	19,147	13.9	17.1	125
1930 Total.	180,366	154,663			
Illiterate	16,307	17,660	9.0	11.4	125

Before discussing the facts revealed in Table VI the general trends are presented in Chart 17. showing clearly that the female group is gradually closing the gap between

the illiteracy percentages of the two sexes. The data are taken from Table XIX, page 113.

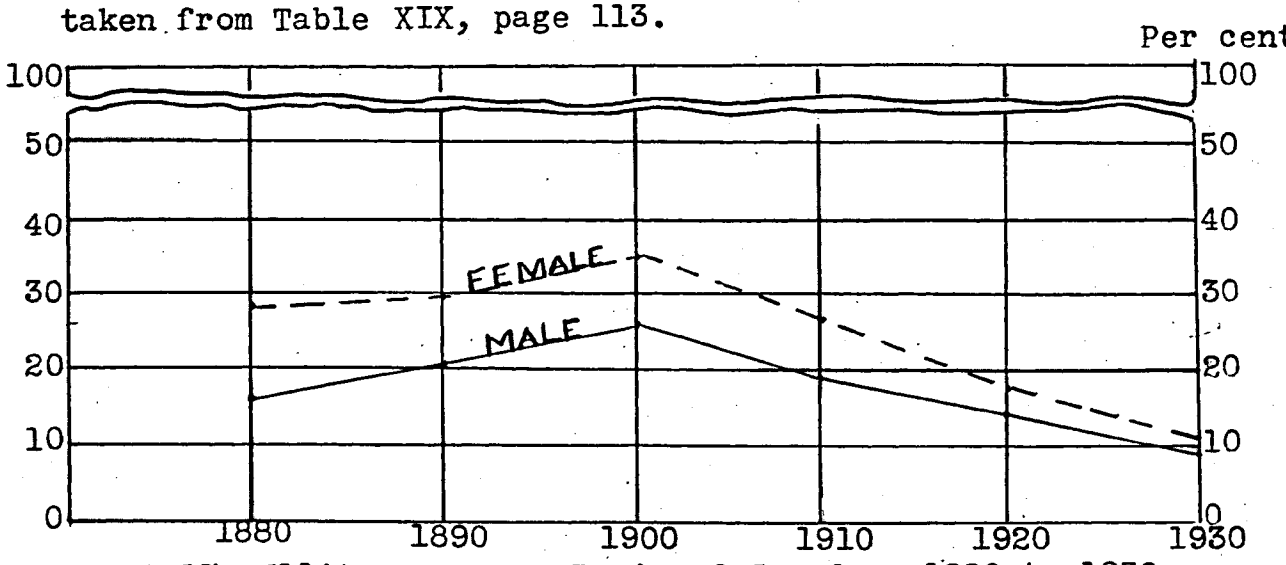

Chart 17. Illiteracy on a Basis of Sex from 1880 to 1930 (Age Group Ten Years and Over)

In 1880 the percentage of illiteracy among the female group was 27 per cent as compared to 14.3 for the male group. The difference has decreased steadily since that year due to the rapid decline in illiteracy among females. The greatest decrease took place from 1900 to 1910 in which period the percentage for the females dropped from 34 to 24 per cent.

It is evident that at the present rate of decrease the difference between the two groups will probably disappear by 1940 unless perhaps the record of the females decreases below that of the male group.

The number of female illiterates for each 100 male illiterates has remained about the same since 1910, after having decreased from 190 to 137 in the thirty year period beginning with 1880. As long as the male population exceeds the

female population any comparison that does not take into account the difference in numbers will not be adequate. It is quite possible for each sex group to have the same percentage of illiteracy without having the same numbers of illiterates.

Having examined the general trends of illiteracy among the sexes it will be helpful to subdivide the total percentages into the proportions contributed by each of the chief racial groups. This is done in Table VII for the years from 1900 to 1930.

TABLE VII. THE EXTENT TO WHICH EACH OF THE TWO SEXES OF THE CHIEF RACIAL GROUPS WAS ILLITERATE FROM 1900 TO 1930. (Age Group Ten Years and Over)

Year	Native-Born White, Native Parents.	Native-Born White, Foreign or Mixed Parents.	Foreign Born White	Negro	Indian
(Sex)	M----F	M-------F	M--------F	M-------F	M-------F
1900	3.3--4.6	9.8---12.5	31.5--42.0	10.2-20.4	80.6-85.7
1910	1.9--2.9	7.6---9.4	29.6--35.1	7.6- 6.8	68.4-77.8
1920	1.2--1.4	4.0--- 5.3	24.5--31.7	4.6- 4.5	65.0-70.9
1930	0.5--0.4	0.4--- 0.6	3.0-- 4.5	3.4- 4.9	@

@ No data available. No data available for Mexicans.

It must be remembered that the Mexicans were included in Native-Born White, Foreign or Mixed Parents, and Foreign-Born White groups before 1930 which accounts for the high percentages of illiteracy in those groups from 1900 to 1920.

In all groups except the first in 1930 and the fourth in 1910 and 1920 the male sex had the better record. In 1930 the chief sources of female illiteracy, as far as percentages were concerned, were in the third and fourth groups, exclusive of the

Mexican and Indian illiterates.

Summary:

1. Illiteracy among females has been greater than among males in all census years since 1880.

2. The difference between the illiteracy in each sex decreased regularly until in 1930 it had almost disappeared. The decrease is shown here.

Year	Male	Female
1880	14.3	26.9
1930	9.0	11.4

3. The number of illiterate females for each 100 illiterate males has decreased from 190 in 1880 to 125 in 1930.

4. In each of the various racial classifications the female group made the greater progress from 1900 to 1930, but in no group except the Native-White, Native Parents did the record for the females drop below that of the males.

Illiteracy Trends From 1910 to 1930 According to Place of Residence.

As has been stated before Arizona is, and always has been, predominantly a rural State. A recapitulation of the percentages of the population found in rural and urban areas in each census year since 1900 are offered here as a background for the discussion of trends of illiteracy in these areas.

Year	Population Per cent Urban	Per cent Rural
1900	15.9	84.1
1910	31.0	69.0
1920	35.2	64.8
1930	34.4	65.6

During the period from 1900 to 1910 a concerted movement from rural to urban communities took place. Since that year the trend has been gradual, and some indication of the "back to the land" movement which has taken from the cities some of their previous gains may be found in the increase of

the rural percentage from 1920 to 1930.

Turning to the question of trends in illiteracy for rural and urban areas there is in Table VIII a comparison of the actual numbers of both rural and urban populations and illiterates for the years 1910 to 1930 inclusive. The rural totals and percentages have been divided into Indians and non-Indians. The census year 1900 was omitted because the Census Reports of that year did not provide the data needed for this Table.

TABLE VIII. THE TOTALS AND PERCENTAGES OF ILLITERACY IN URBAN AND RURAL AREAS FROM 1910 to 1930 ADJUSTED TO EXCLUDE INDIANS (Age Group Ten Years and Over)

	Number of Illiterates			Percent of Illiterates		
Year	Urban	Rural	Rural without Indians	Urban	Rural	Rural without Indians
1910	5,036	27,917	12,978	9.9	26.1	14.0
1920	4,512	33,059	16,991	6.5	20.4	11.5
1930	6,072	29,457	12,927	5.2	13.7	7.0

The total of rural Indian illiterates in Table VIII are the same as the totals of all Indian illiterates since it has already been shown that few if any Indians are found in urban areas in Arizona. The information derived from this Table is presented in Chart 18 on the next page.

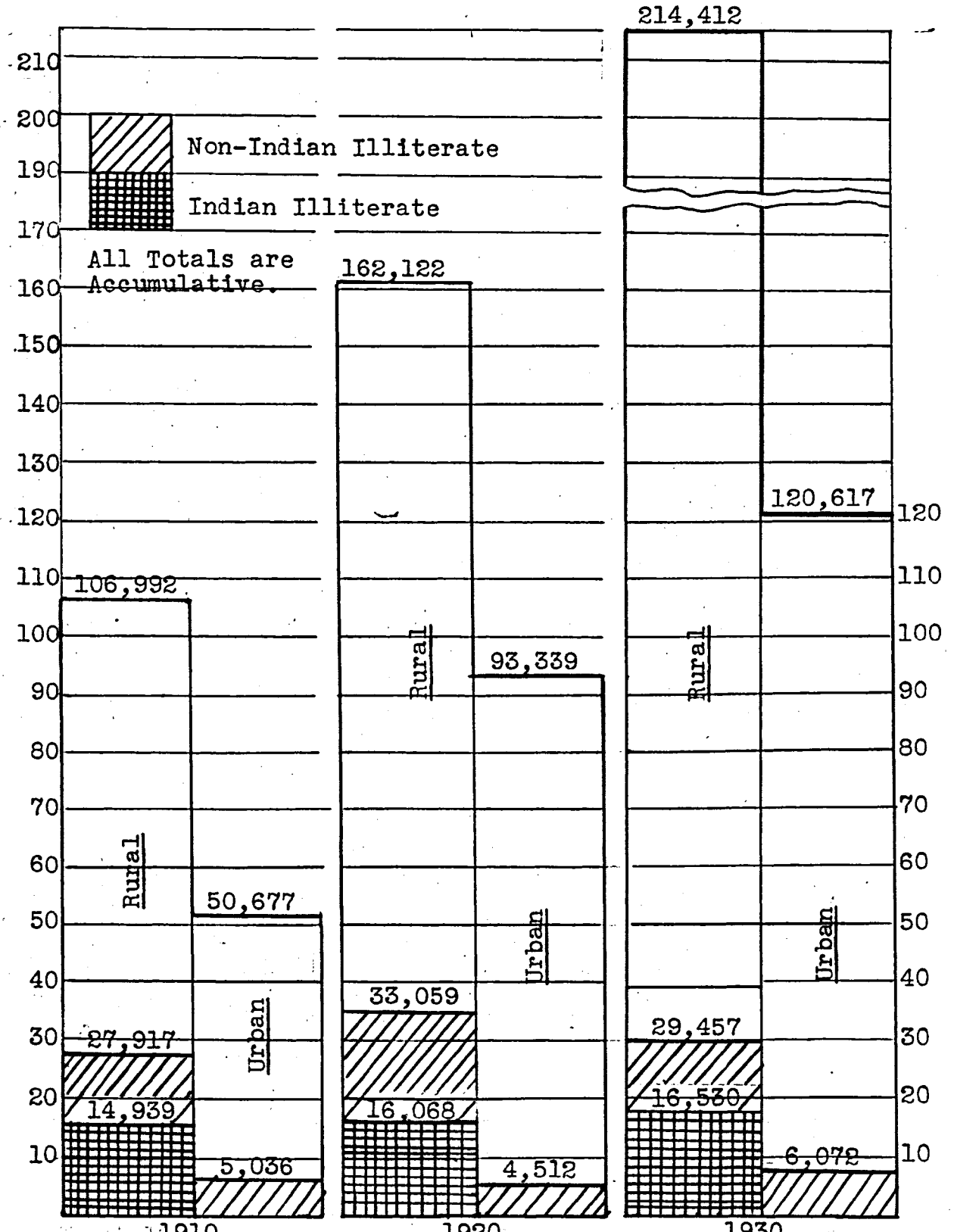

Chart 18. The Numbers of Inhabitants and Illiterates in Urban and Rural Areas of Arizona 1910 to 1930. (Age Group Ten Years and Over)

It is apparent that in the period from 1920 to 1930 the record of illiteracy in rural areas was considerably better than that in urban areas. In that period the rural population increased 52,290. whereas the total number of illiterates actually decreased 3,602. In the same period the urban population increased 27,278, but the total of illiterates increased 1,560.

It is easy to get from Chart 18. an appreciation of the ever increasing gap between the number of illiterates and the number of inhabitants, especially in rural areas. It is noticeable that in spite of the fast growing population the number of illiterate Indians remained relatively constant for the thirty years under consideration. It is clear that the elimination of this group of illiterates would make a marked difference in the illiteracy of rural regions.

In addition to examining the general trends a consideration should be given to the trends of illiteracy in the various age groups in urban and rural sections. This is made possible by Chart 19., the data in which are taken from Table XXI, page 117.

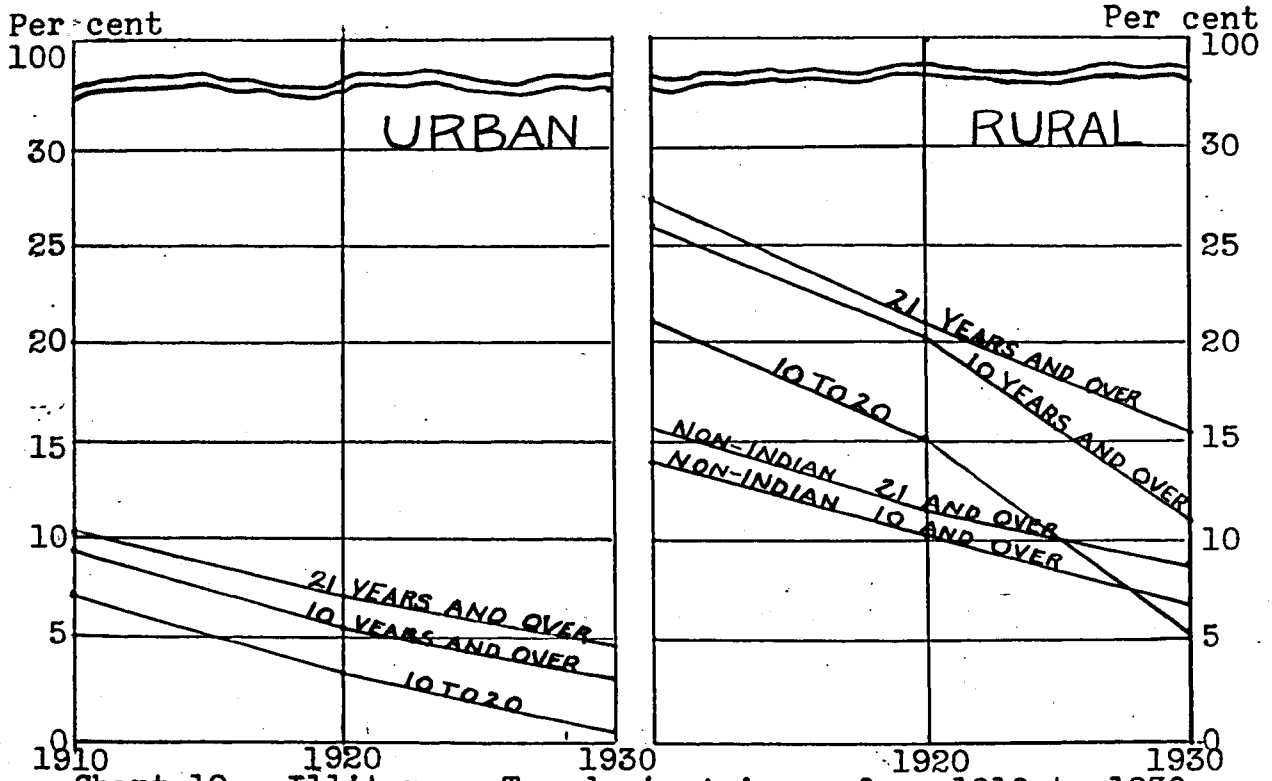

Chart 19. Illiteracy Trends in Arizona from 1910 to 1930 With Regard for Ages and Place of Residence.

In all age groups the rate of decline in the official percentages of illiteracy has been greater in rural than in urban areas from 1910 to 1930. This is especially true of the period from 1920 to 1930 in which all rural groups except the oldest (21 and over) made noticeable progress. In urban areas during the same decade the decline in illiteracy was gradually slowing up.

As would be expected the age group 21 years and over has the highest percentages of illiteracy in both urban and rural communities for the entire thirty years. Conversely the youngest age group (10 to 20) showed the greatest progress dropping in percentage from 16.8 to 7.7 in

rural areas indicating encouraging progress in rural districts with regard to illiteracy among children of school age. By referring back to the consideration of Age Groups in 1930, page 26, we find that in 1930 of the 4,954 illiterates in age group 10 to 20 the Indian race group contributed 3,531, or about 70 per cent. There is no reason to believe that a similar condition did not exist in the previous decades. The relative improvement in this age group since 1910 must indicate, then, that progress is being made toward the elimination of illiteracy among Indian children.

In computing the percentages of illiteracy in rural areas for non-Indians, as shown in Chart 19., the entire Indian population was classed as rural. No data were to be had for the Indian age group 10 to 20. The procedure used was the same as that demonstrated on page 36.

The results of these computations, though not official, can be taken as indices of the rural illiteracy conditions, especially those which are potentially improvable by the schools of the State. The percentage of illiteracy in both age groups is reduced from one-fifth to one-half in each of the census years considered.

Summary:

1. In all age groups the variation between illiteracy in rural and urban areas has consistently diminished. This is especially true of age group 10 to 20 as is shown here.

	1910	1920
Urban	7.6	0.7
Rural	22.3	7.7

2. Illiteracy in urban areas has, in general, been below ten per cent and by 1930 all urban age groups were below five per cent. The data are presented herewith.

Urban Illiteracy	1910	1930
21 years and over	10.6	4.7
10 to 20 years	7.6	0.7
10 years and over	9.9	5.2

3. Adjustment of rural illiteracy percentages for age groups ten and twenty-one years and over to include only non-Indian population groups results in greatly reducing the extent of illiteracy in both. The new percentages range from 16 to 9, whereas the percentages which include Indian illiterates range from 27 to 12.

Trends of Illiteracy in the Several Counties From 1910 to 1930.

Illiteracy in the several counties in 1930 was found to be closely correlated with the number of Mexicans and Indians in the counties. In addition, however, to knowing the causes of illiteracy in the counties it is necessary to determine to what extent the 1930 record of each county is an improvement over the illiteracy conditions reported in previous years. These facts can be found in Chart 20. The data upon which this chart is based are found in Table XXII, page 118.

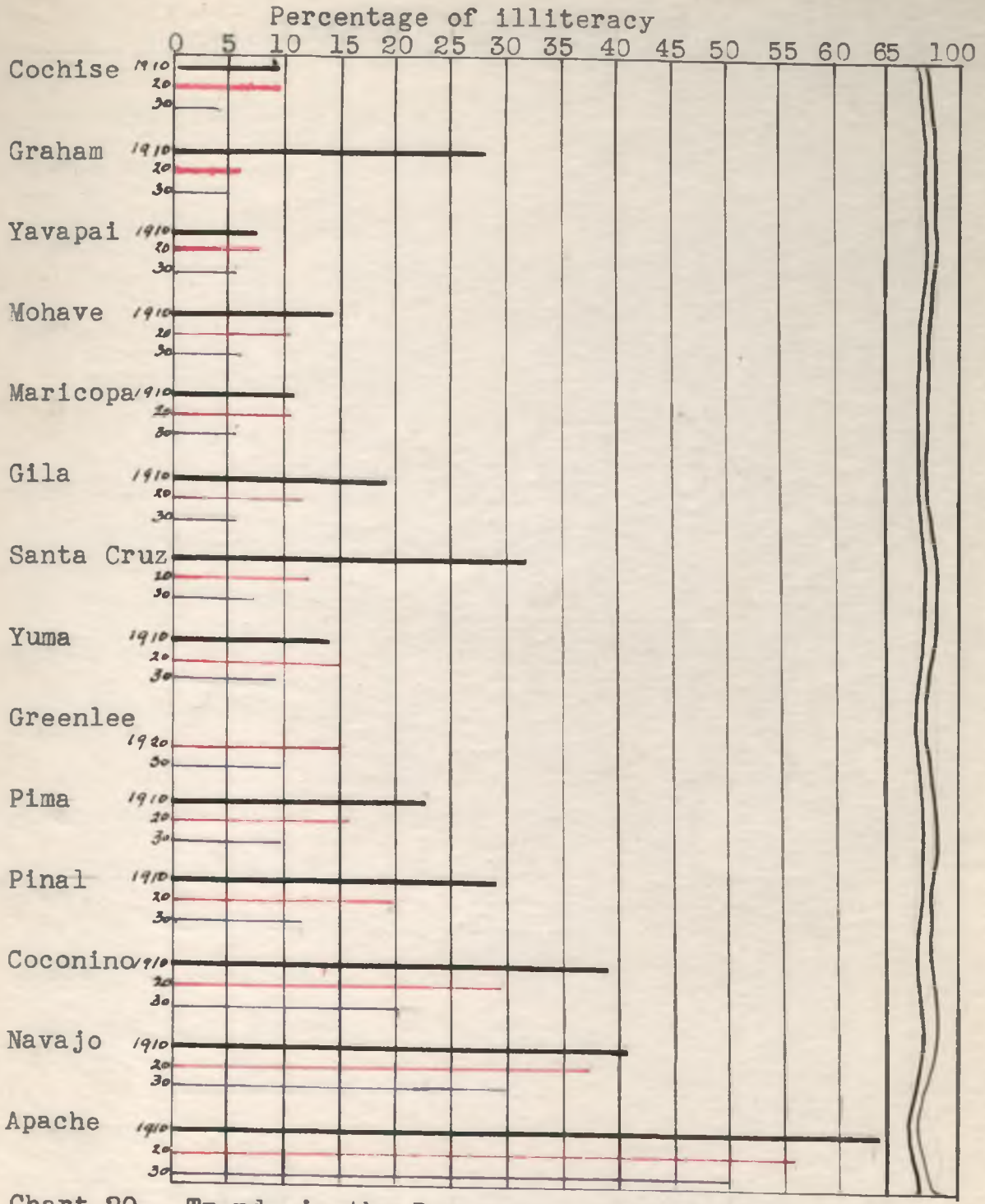

Chart 20. Trends in the Percentage of Illiteracy in the Several Counties of Arizona From 1910 to 1930. (Age Group Ten Years and Over)

It is apparent in Chart 20. that considerable progress has been made in almost all counties since 1910. On a basis of averages for the thirty year period Cochise and Yavapai Counties rank first both having a mean percentage of 7.5. In 1930, Cochise County ranked first with 4.1 per cent and Yavapai County ranked third with 6.0 per cent.

The average for Graham County since 1920 was 5.8 per cent. Before that time Graham and Greenlee Counties were not separated. Were it not for that fact the thirty year record for Graham County would probably have been the best in the State. The comparatively large percentage of illiteracy in Greenlee County is due, as we have seen, to the Mexican element of its population.

Examination of the data with regard to Apache and Navajo Counties seems to indicate that the Federal Government has not been making a great amount of progress toward the eradication of illiteracy among the Indians. There were in 1930 approximately 22,000 Indians ten years of age and over in these two counties. (See Table IV, page 38)

The most rapid decline in the percentage of illiteracy since 1910 took place in Santa Cruz County. The decrease was from 32.1 per cent in 1910 to 7.6 per cent in 1930. This is a remarkable accomplishment when compared with the records of the other counties, and particularly when one considers the fact that Santa Cruz County had, in 1930, a

population of which 54 per cent were Mexicans and Indians. In all probabilities similar percentages existed in previous decades.

Summary:

1. Creditable progress has been made toward the elimination of illiteracy in all counties except in those having large Indian populations.

2. The most noticeable decline in illiteracy took place in Santa Cruz County. In the thirty year period from 1910 to 1930 the percentage dropped from 32.1 to 7.5.

3. The lowest mean for the thirty year period was found in Cochise and Yavapai Counties. Each averaged 7.5 per cent.

4. Graham County since 1910 has an average of 5.8 per cent of illiteracy. Prior to 1910 what is now Greenlee County was part of Graham County.

CHAPTER IV

COMPARISONS OF CONDITIONS OF ILLITERACY IN ARIZONA IN 1930, AND OF TRENDS OF ILLITERACY, WITH THOSE IN THE UNITED STATES IN GENERAL AND SIX SELECTED STATES

Purpose: Having established the facts regarding illiteracy in Arizona in 1930, and its trends up to that time, it would add to the picture to get a general perspective of the situation by means of comparisons. Hence, in this chapter, the findings with regard to illiteracy in Arizona and its trends are compared with those in the United States as a whole, and with those in certain states chosen because they possess illiteracy and racial conditions that are so similar or dissimilar to those in Arizona that to compare and contrast them will help to bring about a clearer understanding of the situation in this State.

In these comparisons certain facts ascertained in the foregoing chapter of this study must be kept in mind. Certainly, all comparisons must be made with due regard for the racial characteristics of the population of each state, and with especial regard for the fact that no sound comparisons can be made unless the illiterate Indian element is considered separately in all reckonings.

When making comparisons on a basis of Place of Residence we must be mindful of the fact that Arizona is a State the population of which is over three-fifths rural, and that the State's rural illiterate element is composed chiefly of Mexicans and Indians. Thus any comparisons made with

other rural areas must be interpreted in the light of these facts.

When comparing illiteracy in age groups, especially with such states as Iowa and South Carolina, it is desirable that account be taken of the fact that minors constitute a larger proportion of the population of Arizona than of the population of the United States as a whole or of the more settled states. A relative youthfulness of population is one of the characteristics of the newer states.

Comparisons on a Basis of Nativity and Age Groups with the United States as a Whole and with the States which Represented the Highest, Lowest, and Median Percentages of Illiteracy in 1930.

In 1930 the state with the highest percentage (14.9) of illiteracy was South Carolina. Iowa, in the same year, was credited with having the least illiteracy. (0.8 per cent). Colorado, with 2.0 per cent represented the median state. These three states, possessing the two extremes and the median percentages of illiteracy constitute an excellent background against which the situation in Arizona may be judged.

By breaking up the illiteracy percentages of each state into the proportion contributed by each of the chief racial groups a more detailed and analytical comparison can be made. Tables and charts are used to show statistically and graphically the differences in each of the racial groups most

common to the four states involved. Since neither Iowa nor South Carolina has Indian population groups of any consequence that race is not included in the comparisons.

To show more precisely the similarities and differences of the illiteracy conditions in each racial group two age classifications are included in the data. They are designated as Ten Years and Over, and Twenty-One Years and Over. Data with regard to other age classifications were not available for all racial groups so were omitted.

The first racial classification to be examined, the largest in each of the states, is designated as Native-Born White, Native Parents. This group is composed of Americans two times or more removed from their European or Asiatic progenitors. These people should, in theory at least, reflect in their percentages of illiteracy the beneficial effects of the American educational system. The available data have been collected in Table IX.

TABLE IX. THE PERCENTAGE OF ILLITERACY IN RACIAL GROUP NATIVE-BORN WHITE NATIVE PARENTS IN EACH OF FOUR STATES AND THE UNITED STATES FOR AGE GROUPS TEN YEARS AND TWENTY-ONE YEARS AND OVER. (1930)

	Ten Years and Over			Twenty-One Years and Over		
	Total Population.	Total Illiterates.	Per cent.	Total Population.	Total Illiterates.	Per Cent.
United States	98,732,834	4,283,753	4.3	38,116,766	885,318	2.2
Iowa	1,287,834	5,805	0.5	879,407	5,014	0.6
Colorado	520,699	5,095	1.0	373,373	4,617	1.2
South Carolina	694,683	36,143	5.2	461,513	30,458	6.6
Arizona	164,848	785	0.5	120,568	669	0.6

The data in Table IX. were taken from Table 26 in the Appendix and are made easier for interpretation and comparison by presentation in chart form. Lack of space necessitated the use of the broken bar graph and made the inclusion of data for the United States impractical. This is also true in succeeding charts.

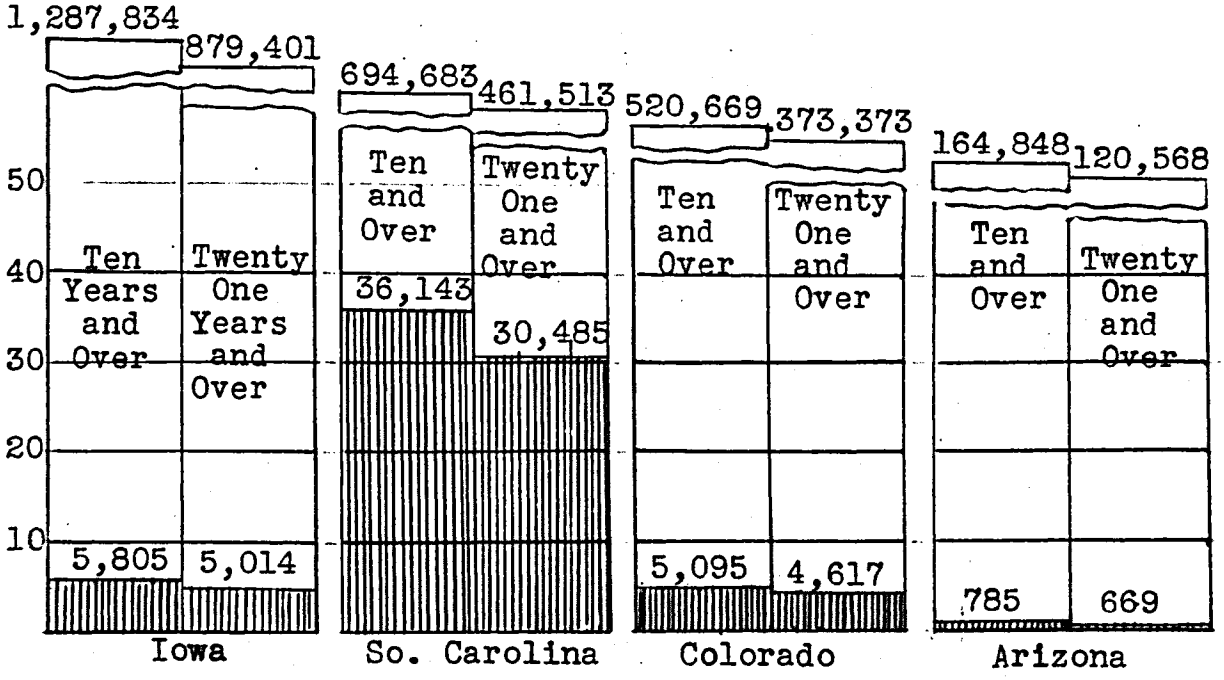

Chart 21. The Total Number of Inhabitants and Illiterates in Racial Group Native-Born, Native Parents in Arizona and other Selected Areas in 1930.
(Age Groups Ten and Twenty-One Years and Over)

In this racial group the percentages of illiteracy in the two age groups in Arizona are identical with those of Iowa, and lower than those of either South Carolina or Colorado. In all of the states the oldest age classification shows a somewhat higher percentage of illiteracy than the younger, indicating that a greater degree of illiteracy is found in the more advanced age brackets in all of the

States and in the United States.

The unusually high percentages of illiteracy found in South Carolina can be attributed to that class of rural people sometimes referred to as "Poor Whites" who have, in a large measure, been denied the educational opportunities available to their more fortunate fellow inhabitants.

Native-White, Foreign Born or Mixed Parents.

The second racial classification chosen for comparison includes only first generation White inhabitants. These people are the offsprings of immigrants and constitute a class of people generally anxious and willing to acquire all things American. Their record with regard to illiteracy should be better than the average.

TABLE X. THE PERCENTAGE OF ILLITERACY IN RACIAL GROUP NATIVE-BORN WHITE FOREIGN-BORN OR MIXED PARENTS IN EACH OF FOUR STATES AND THE UNITED STATES. (Age groups Ten and Twenty-One and Over)

	Ten Years and Over			Twenty-One Years and Over		
	Total Population.	Total Illiterates.	Per cent.	Total Population.	Total Illiterates.	Per cent.
United States	20,887,328	116,665	0.6	14,645,625	99,650	0.7
Iowa	536,941	2,372	0.4	451,209	2,206	0.5
Colorado	177.009	712	0.4	130,916	601	0.5
South Carolina	11,188	103	0.9	8,582	93	1.1
Arizona	33,009	175	0.5	26,122	149	0.6

The most noticeable aspect of these data is the extremely low percentage of illiteracy in each of the states and in the United States as a whole. It is evident that the first generation Americans have a much better record than do those with native-born parents. Again, the data are put

into chart form to facilitate comparisons.

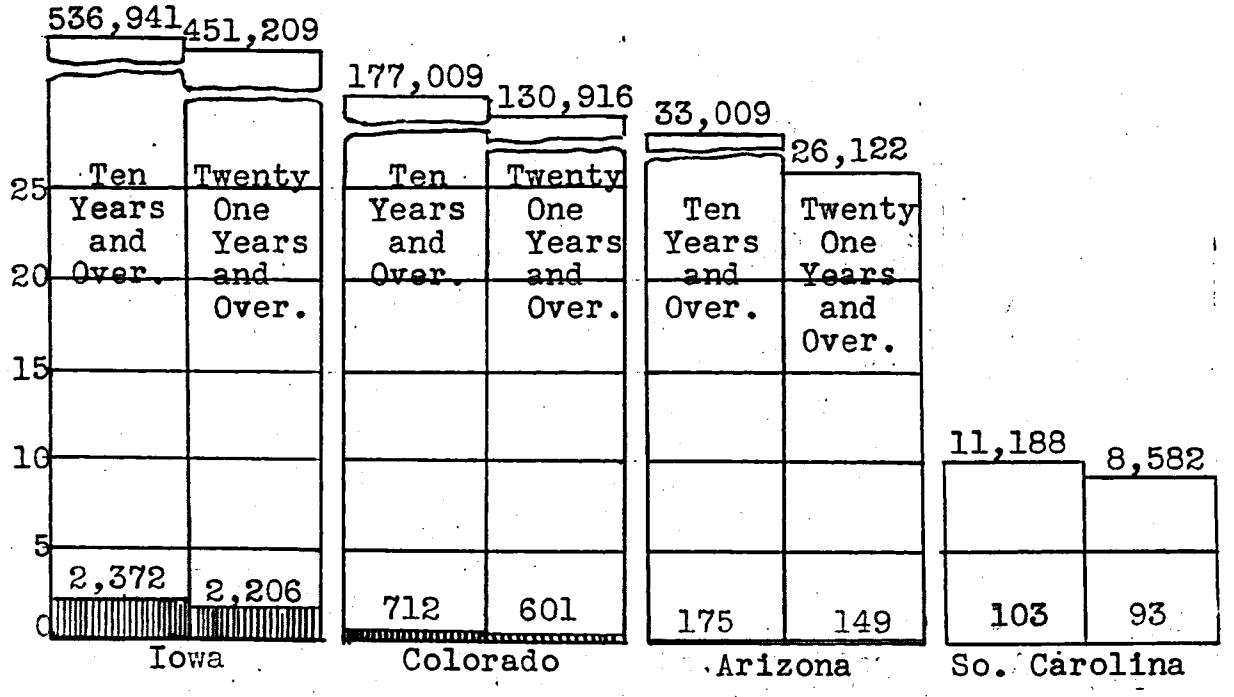

Chart 22. The Total Number of Inhabitants and Illiterates in Racial Group Native-Born White Foreign-Born or Mixed Parents in Arizona and Other Selected Areas in 1930. (Age Groups Ten and Twenty-One and Over)

While the degree of illiteracy is not very pronounced in this racial group in any of the states the percentage for Arizona is lower than that of South Carolina or United States. The record for Iowa and for Colorado in this instance is identical for both age groups and is slightly lower than is Arizona's record. South Carolina stand out in this comparison because its numbers are fewest and its percentages highest.

Foreign-Born White.

The third racial group to be used as a basis of comparison are immigrants, many of whom come from countries with

high percentages of illiteracy. This is particularily true of the people from southern and eastern Europe. As was shown at the beginning of this study the countries of northern Europe have better records in the matter of illiteracy than does the United States. Table XI. furnishes the data involved.

TABLE XI. THE PERCENTAGE OF ILLITERACY IN RACIAL GROUP FOREIGN-BORN WHITE IN EACH OF FOUR STATES AND THE UNITED STATES IN 1930.
(Age Groups Ten and Twenty-One and Over)

	Total Population.	Total Illiteracy.	Per cent.	Total Population.	Total Illiteracy.	Per Cent
United States	13,216,928	1,304,084	9.9	12,637,643	1,296,502	10.3
Colorado	85,029	7,331	8.6	82,760	7,310	8.8
Iowa	165,045	5,932	3.6	161,712	5,886	3.6
South Carolina	5,239	297	5.7	5,022	295	5.9
Arizona	15,410	551	3.6	14,795	541	3.7

One of the most noticeable facts shown by the data in Table XI. is the unusually few foreign-born inhabitants in South Carolina. Unquestionably that state is not confronted with vexatious immigration problems despite the fact that it is located on the Atlantic coast.

The comparisons are shown in chart form on the following page.

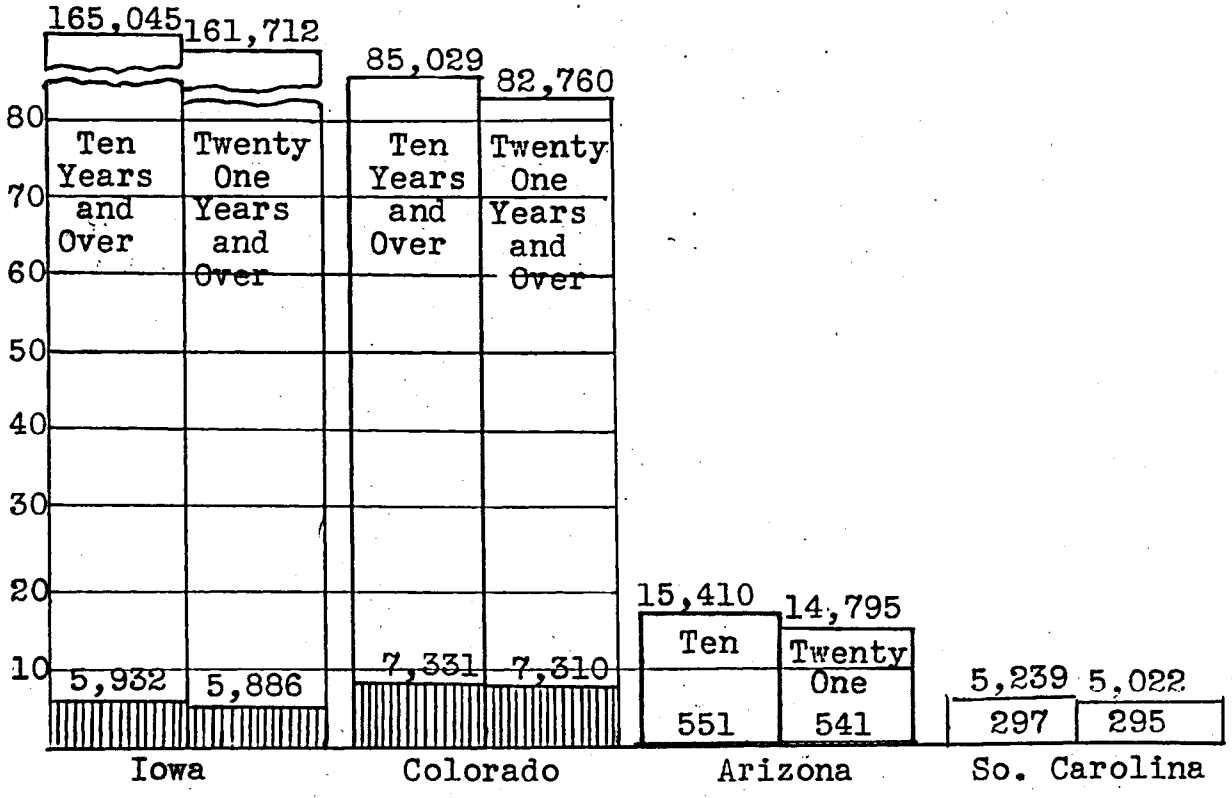

Chart 23. The Total Number of Inhabitants and Illiterates in Racial Group Foreign-Born White in Arizona and in Other Selected Areas for 1930. (Age Group Ten and Twenty-One Years and Over)

Both Iowa and Arizona have the same percentage of illiteracy in both age groups of this racial classification. And contrary to usual conditions, the degree of illiteracy is the same in both age groups in each of the two areas.

None of the states in this comparison has as great a degree of illiteracy in this racial group as has the United States as a whole. This fact would seem to signify that these regions have been relatively untouched by the immigration of the past fifty years or so.

Negroes: While comparatively few negroes reside in Iowa, Colorado, or Arizona, they constitute South Carolina's

largest illiteracy group. And whether few or many they generally possess a relatively high percentage of illiteracy. Table XII. contains the data with regard to this group in 1930.

TABLE XII. THE PERCENTAGE OF ILLITERACY AMONG NEGROES IN EACH OF FOUR STATES AND THE UNITED STATES IN 1930. (Age Groups Ten and Twenty-One and Over)

	Ten Years and Over			Twenty-One Years and Over		
	Total Population.	Total Illiteracy.	Per cent.	Total Population.	Total Illiteracy.	Per Cent
United States	9,292,556	1,513,892	16.3	6,531,939	1,306,650	20.0
Iowa	14,426	777	5.4	11,330	757	6.7
South Carolina	618,928	181,422	29.3	343,788	121,270	35.3
Colorado	10,280	403	3.9	8,570	393	4.6
Arizona	9,125	366	4.0	7,407	344	4.6

It is obvious that except for South Carolina no state in this group is troubled greatly by the Negro problem. Arizona, with a total of 710 illiterate negroes, has the fewest of any of the states. Compared with Iowa the percentages of illiteracy in Arizona are the better of the two states in both age groups. In all regions the Negro group has a relatively high percentage of illiteracy.

No chart has been constructed because the numbers of this racial group are so few in all of the states except one that a graphic representation of the data would be largely impractical.

Mexican: The Mexican element is classed as one of the Minor Races by the Census Bureau and constitutes a small fraction of the total population of United States, and of all except a few of the states. Where they do exist, however, they

add greatly to the illiteracy problem since, as a group, they generally possess a relatively high degree of illiteracy.

TABLE XIII. THE PERCENTAGE OF ILLITERACY AMONG MEXICANS IN EACH OF FOUR STATES AND THE UNITED STATES IN 1930. (Age Groups Ten and Twenty-One Years and Over)

	Ten Years and Over			Twenty-One Years and Over		
	Total Population.	Total Illiteracy.	Per cent	Total Population.	Total Illiteracy.	Per cent.
United States	1,002,241	275,470	27.3	@	@	@
Iowa	2,760	887	31.8	1,976	816	41.3
Colorado	38,734	8,949	23.1	25,334	8,074	31.9
Arizona	79,748	15,378	19.3	53,187	14,123	26.6
South Carolina	None			None		

@ Data not available.

Arizona and Colorado are the only two states in this group that have Mexican populations of any size. South Carolina is entirely without Mexican inhabitants. These data are reproduced in Chart 24.

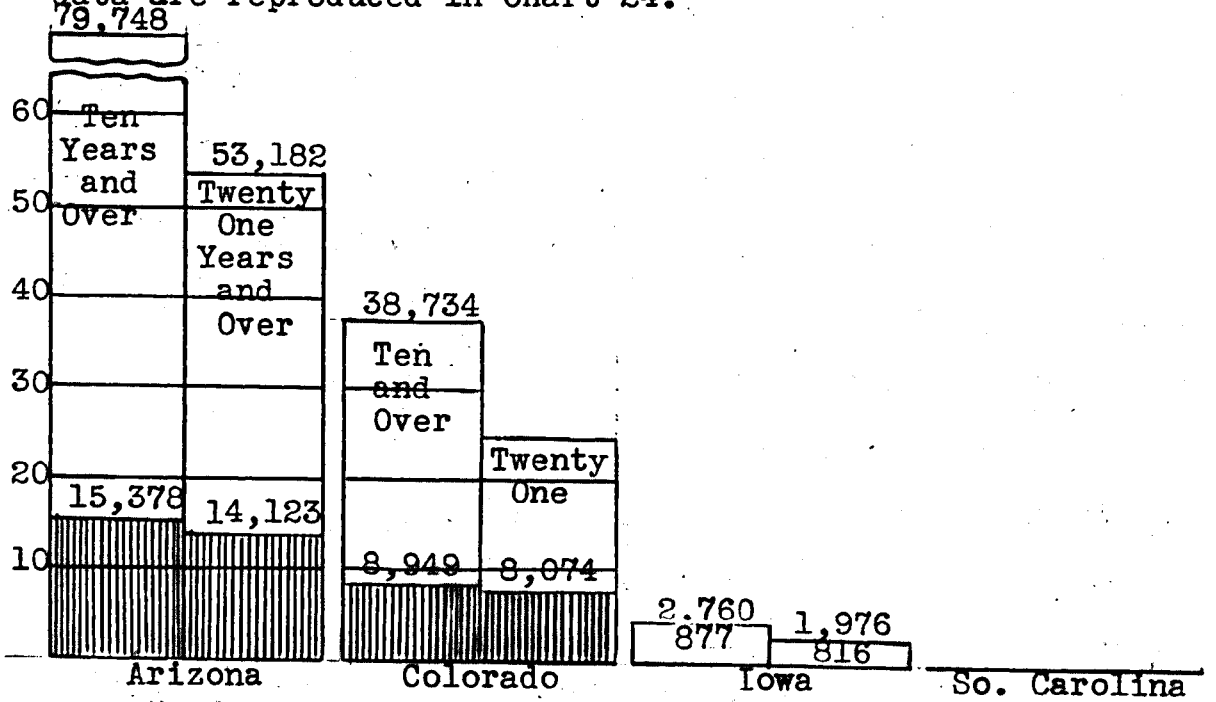

Chart 24. The Total Number of Inhabitants and Illiterates in The Mexican Racial Group in Arizona and Other Areas. (Age Groups Ten and Twenty-One Years and Over)

Again it is interesting to note that the illiteracy percentages for this racial group are lower in Arizona than in Iowa despite the fact that the latter state has a very small number of Mexicans in its population. The Mexican population of Arizona is likewise more literate than is that of Colorado. However, in neither of these two states (Iowa and Colorado) does the Mexican element represent a very large proportion of the total population. The opposite, of course, is true of Arizona.

For the purpose of summary the comparisons that have been made between Iowa and Arizona are brought together here. All racial groups are included.

	Arizona		Iowa	
	Ten Years and over.	Twenty-One and over.	Ten Years and over	Twenty-One and over.
Native-Born White Native Parents	0.5	0.5	0.5	0.6
Native-Born White Foreign or Mixed Parents	0.5	0.5	0.4	0.5
Foreign-Born White	3.6	3.7	3.6	3.6
Negro	4.0	4.6	5.4	6.7
Mexican	19.3	26.6	31.8	41.3
Indian	53.3	63.4	19.6	27.9

As far as each separate racial group is concerned, except Indians, Arizona has as good and sometimes a better record than has Iowa. In both states the Indian and Mexican elements are the two most illiterate groups, but while they constitute 35 per cent of Arizona's population they are but an insignificant proportion of Iowa's population. Herein lies the only great difference between illiteracy conditions in the two states. Were it not for

these two highly illiterate racial elements Arizona's record would be such as to place the State in the same category as is Iowa as far as illiteracy percentages are concerned.

Summary:

1. In general, Arizona in 1930 had a better illiteracy record than did Iowa, Colorado, or South Carolina in all age groups and all racial groups except Indians.

2. Arizona's illiteracy record for each racial group except Indians was better than that of the United States in 1930.

3. In all racial groups in all regions compared the percentage of illiteracy was less for age group Ten Years and Over than for age group Twenty-One Years and Over.

Comparison of Illiteracy on a Basis of Nativity with States Having Similar Populations.

The three border states with which Arizona is compared in this section have in common large Mexican or Indian elements in their populations, and in some cases both. It is chiefly for a consideration of these races that this comparison was made. Before the data are discussed certain aspects of the situation should be brought to the attention of the reader.

Unlike the other three states Texas has a large group of illiterate Negroes. (90,225). This group constitutes 29.3 per cent of the total illiteracy of that State. In New Mexico a large per cent of the Spanish-speaking people are classed as White rather than as Mexicans. This differentiation is made because they are direct descendants of

the Spanish rather than the mestizo.

Since it is the effect of the Indian and Mexican populations in which we are chiefly interested a detailed consideration of all racial groups will not be attempted here. However, in Table XIV. a comparison is made of the percentages of illiteracy in each racial group in each of the states in 1930. These percentages are given for two age groups, Ten Years and Over, and Twenty-One Years and Over.

TABLE XIV. A COMPARISON OF THE PERCENTAGES OF ILLITERACY IN EACH RACIAL GROUP OF SEVERAL STATES FOR AGE GROUPS TEN AND TWENTY-ONE AND OVER. (1930)

	Arizona	New Mexico	California	Texas
Ages	10-----21	10-----21	10-----21	10-----21
Native-White				
Native-Parents	0.5--0.6	8.2-10.9	0.3--0.3	1.4--1.7
Foreign-Born or Mixed Parents.	0.5--0.6	1.5--1.8	0.3--0.3	2.1--2.3
Foreign-Born White	3.6--3.7	6.8--7.0	5.7--5.9	7.3--7.5
Negro	4.0--4.6	6.0--7.0	3.1--3.7	13.4-17.4
Indian	53.4-63.4	57.5-69.5	21.0-28.2	18.3-22.5
Mexican	19.3-26.6	26.1-35.5	19.3-25.9	33.8-39.0

It will be noted that Arizona has a better record in each racial group than does either New Mexico or Texas@ but only in the Foreign-Born White group does the State surpass the record of California. @(Except in the Indian group)

The large percentages of illiteracy in the Native-White Native-Parents classification of New Mexico can be explained by the inclusion in that group of those descendants of Spanish colonists instead of classing them in the Mexican group.

While age group Twenty-One and Over is the more illiterate of the two age groups the difference is slight in all racial classifications except the Negro, Mexican, and Indian.

A number of explanations might be offered for this situation. There is no doubt, however, that the Negro, Mexican, and Indian of the age of twenty years or more has very few educational opportunities.

Since an examination of the effect of the Mexican and Indian illiterates on the total illiteracy in each state is the chief object of this particular discussion Table XV. has been devised to show what per cent of the total illiteracy in each state is found among these racial groups.

TABLE XV. THE NUMBER OF AND PROPORTION OF ILLITERATES IN EACH OF SEVERAL STATES WHICH ARE MEXICANS AND INDIANS. (1930)

State	Total illiterate Population.	Total illiterate Mexicans-Indians		Per cent of total Illiteracy due to Mexicans-Indians	
California	124,810	49,728	3,108	39.9	2.5
Texas	308,121	163,622	144	53.1	
New Mexico	41,845	10,674	11,744	25.5	28.1
Arizona	33,969	15,378	16,530	45.3	48.7

While these two racial groups make up a large proportion of the per cent of illiteracy in each of the states it is clear that they constitute a problem of greater magnitude to Arizona than to any of the other states. Combining the percentages contributed by these two races in each state we have;

Arizona	94.0 per cent of total illiteracy
New Mexico	53.6
Texas	53.1
California	43.4

It is noticeable that in California and Texas the Indian group contributes very little to the total illiteracy.

From the facts disclosed in the above tabulations it is

quite apparent that Arizona's illiteracy record is far more vitally affected by the Mexican and Indian illiterates than is the case in any of the other states. It is also evident that if some program for the education of these two races could be devised and successfully applied the illiteracy in all of the border states would change tremendously for the better. In conjunction with any such plans steps would have to be taken to keep out all illiterate Mexican immigrants.

This goal may be partially realized by the procedure instituted in this study of computing the illiteracy percentages for the border states with the illiterate Indian eliminated. It has been frequently pointed out that, since these people are not under the jurisdiction of the state schools, their high percentage of illiteracy should not be permitted to discredit the efforts of the various states and their schools to reduce illiteracy. Some idea of the change that would be brought about by this policy can be secured from the tabulation below.

	Total Illiterates		Percentage of Illiteracy	
	Including Indians	Excluding Indians	Including Indians	Excluding Indians
California	124,810	121,692	2.6	2.5
Arizona	33,969	17,437	10.1	5.2
New Mexico	41,845	30,101	13.3	9.5
Texas	308,121	307,077	6.8	6.7

The calculations in the preceding tabulation were based upon the assumption that all of the Indians in each of the States are under control of the Federal Government. While this assumption is not entirely sound its use may be justified for general comparisons.

The removal of the illiterate Indians places Ariz ona next in rank to California in total illiteracy percentages. New Mexico's record was reduced from 13.3 to 9.5 per cent. Very little difference was made in the percentages of Texas, or California.

If this same procedure were to be carried further and made to include Mexicans Arizona would have a lower percentage of illiteracy than even California, since, as shown in Table XV. the Mexicans contribute 45.3 per cent of the illiteracy in Arizona as compared with 39.9 per cent in California The percentage of illiteracy in the two states with both Indians and Mexicans subtracted figures out to be; California 1.6; Arizona 0.6.

Summary:

1. Arizona's illiteracy record in 1930 in all racial groups was better than that of New Mexico, and that of Texas except in the Indian group. Only in the Foreign-Born White classification did Arizona surpass California.

2. The Mexican and Indian groups, either or both, were responsible for the greatest proportion of illiteracy in all of the states. The data are presented below.

Arizona	94.0 per cent	
New Mexico	53.6 per cent	
Texas	53.1 per cent	(chiefly
California	43.4 per cent	Mexicans)

Comparisons with the United States in General and with Several States on a Basis of Sex.

It has already been determined that the male sex in Arizona has less illiteracy than does the female. For the purpose of ascertaining whether this condition is exceptional or common to most sections and to the United States as a whole Table XVI. has been constructed. In it can be found the number of males and females, the number of illiterates and the percentages of illiteracy in each of the political areas being compared.

TABLE XVI. A COMPARISON OF THE TOTAL NUMBER OF INHABITANTS, THE TOTAL NUMBER OF ILLITERATES, AND THE PERCENTAGE OF ILLITERACY IN THE MALE AND FEMALE GROUPS OF THE UNITED STATES AND EACH OF SEVERAL STATES IN 1930. (Age Group Ten Years and Over)

	Male		Female	
	Total population and illiterates.	Per cent	Total population and illiterates.	Per cent
United States	49,949,798		48,773,249	
illiterate	2,198,293	4.4	2,085,460	4.3
Border States				
Arizona	180,366		154,663	
illiterates	16,308	9.0	17,660	11.4
California	2,500,499		2,306,041	
illiterates	64,059	2.6	60,751	2.6
New Mexico	164,369		150,001	
illiterates	18,329	11.2	23,516	15.7
Texas	2,319,163		2,228,824	
illiterate	156,815	6.8	151,306	6.8
Highest, Median and Lowest States				
South Carolina	629,187		663,752	
illiterate	99,532	15.8	93,355	14.1
Iowa	1,019,454		988,245	
illiterate	8,624	0.8	7,255	0.7
Colorado	429,498		405,843	
illiterate	10,716	2.5	12,425	3.1

Very little difference seems to exist between the illiteracy in the male and female groups in any state except Arizona and New Mexico. Since these two states are the only states with large Indian and Mexican populations it might be logical to assume that it is the females of those two races that are responsible for the comparatively high percentage of illiteracy in the female populations of both States.

Illiteracy among females is less than among males in the United States as a whole, and in Iowa and South Carolina. In two of the states (California and Texas) the percentages are the same for both of the sexes. In Arizona, New Mexico, and Colorado the male group has the lower percentage. In general it seems that in the older more stable states the tendency is for the female group to have the better record. Conversely in the newer states the males have a lower percentage of illiteracy indicating perhaps that in these states they have more opportunity for self-development than do the females.

Summary:

1. Illiteracy among females in 1930 was higher than among males in Arizona, New Mexico, and Colorado. The opposite is true in Iowa, South Carolina, and the United States as a whole in 1930.

2. The percentages of illiteracy was the same for both sexes in California and Texas in 1930.

3. The findings in this section indicated that illiteracy was less among females than among males in older and more stable areas.

Comparison with United States and with Several States on a Basis of Illiteracy in Urban and Rural Areas.

It has already been demonstrated that Arizona is predominantly rural in population. Likewise it has been shown that most of the illiteracy in Arizona is rural and that this illiteracy is found almost entirely among the Mexicans and Indians. For purposes of comparing illiteracy conditions in urban and rural areas of Arizona with conditions in other areas Table XVII. has been prepared.

TABLE XVII. A COMPARISON OF THE TOTAL POPULATIONS, TOTAL ILLITERATES, AND PERCENTAGES OF ILLITERACY IN URBAN AND RURAL AREAS OF THE UNITED STATES AND SEVERAL STATES IN 1930. (Age group ten years and over)

	Urban		Rural	
	Total Population and Illiterates.	Per cent.	Total Population and Illiterates.	Per cent
United States	57,117,322		41,605,725	
Illiterate	1,748,830	4.0	384,149	6.0
Border States				
Arizona	120,617		214,412	
Illiterate	6,072	3.7	29,457	13.7
California	3,568,172		1,238,818	
Illiterate	69,567	1.9	55,243	4.4
New Mexico	83,838		230,532	
Illiterate	4,653	5.5	45,355	22.4
Texas	1,942,454		2,605,533	
Illiterate	92,192	4.7	215,929	8.3
Highest, median and lowest States				
South Carolina	259,505		997,434	
Illiterate	26,835	9.1	166,043	16.6
Iowa	816,228		1,191,471	
Illiterate	7,276	0.9	8,603	0.7
Colorado	436,132		339,209	
Illiterate	8,387	1.9	14,754	3.7

In all states except Iowa the percentage of illiteracy in rural areas is greater than in urban areas. This is also

true of the United States as a whole. Again Arizona and New Mexico are noticeable because they show the greatest variation between the two groups of illiterates, and the highest percentages of illiteracy in rural areas. Removal of the Indian illiterates from the totals and percentages of these two States results in figures that are more truly indicative of the actual situation. The percentage of illiteracy is reduced from 22.3 to 15.9 in New Mexico bringing it below the percentage of South Carolina. In Arizona the percentage is reduced from 13.7 to 8.3. Even so, Arizona's illiteracy in rural areas is still higher than that of California, Colorado, and Iowa, and about the same as that of Texas. As has already been shown this situation is due to the large number of rural Mexican illiterates.

Summary:

1. All states examined and the United States as a whole had, in 1930, a greater number of illiterates and a greater percentage of illiteracy in their rural areas than in urban areas. The one exception was Iowa, with 0.7 per cent in rural, and 0.9 per cent in urban areas.

2. Of all the states compared Arizona and New Mexico had the highest percentage of illiteracy in rural regions, due largely to the Mexican and Indian population groups.

3. Removal of the illiterate Indian element from the percentages of illiteracy in rural areas reduced that per centage in Arizona from 13.7 to 8.0, and in New Mexico from 22.3 to 15.9.

A Comparison of Trends in Illiteracy with Those of the United States on a Basis of Nativity.

Examination of the data regarding illiteracy prior to 1900 indicates that the classifications are somewhat different than those of more recent census reports. Because of these variations it was necessary to choose 1900 as the starting point in this comparison.

The object of this section is to determine whether the trends of illiteracy in the various racial groups in Arizona have been more or less consistent than those of the United States. The data in Table XVIII. do not include the Oriental or Mexican racial groups. The former constitute so small a proportion of the whole population of Arizona that it was not thought necessary to include them. In the case of the Mexicans, no illiteracy data are available prior to 1930.

TABLE XVIII. A COMPARISON OF THE EXTENT TO WHICH EACH OF THE MAJOR RACIAL GROUPS WAS ILLITERATE FROM 1900 to 1930 IN ARIZONA AND IN THE UNITED STATES AS A WHOLE. (AGE GROUP TEN AND OVER)

	Native-White									
	Native-Parents.		Foreign or Mixed Parents.		Foreign-Born White		Negro		Indian	
	U.S.	Ariz.	U.S.	Ariz.	U.S.	Ariz.	U.S.	Ariz.	U.S.	Ariz.
1900	5.7	3.8	1.6	10.9	12.9	35.3	44.5	12.7	56.2	83.1
1910	3.7	2.3	1.1	8.4	12.7	31.5	30.4	7.2	45.3	72.9
1920	2.5	1.3	0.8	4.6	13.1	27.5	22.9	4.0	34.9	67.8
1930	1.8	0.5	0.6	0.5	9.9	3.6	16.3	4.6	25.7	53.4

Any comparison of percentages must be made and interpreted with proper regard for the totals involved. It should

be remembered when examining Table XVIII. and Chart 25 that while the percentages in some instances may be similar for both Arizona and the United States, the totals involved are anything but alike. For example the figures for the Negro populations, ten years of age and over, for the two sections were in 1930: United States, 9,292,566; Arizona, 9,125. The data made available on the preceding page are shown in chart form on page 87. Further details with regard to totals are obtainable in Tables XX, page 115, and XXVI, page 128.

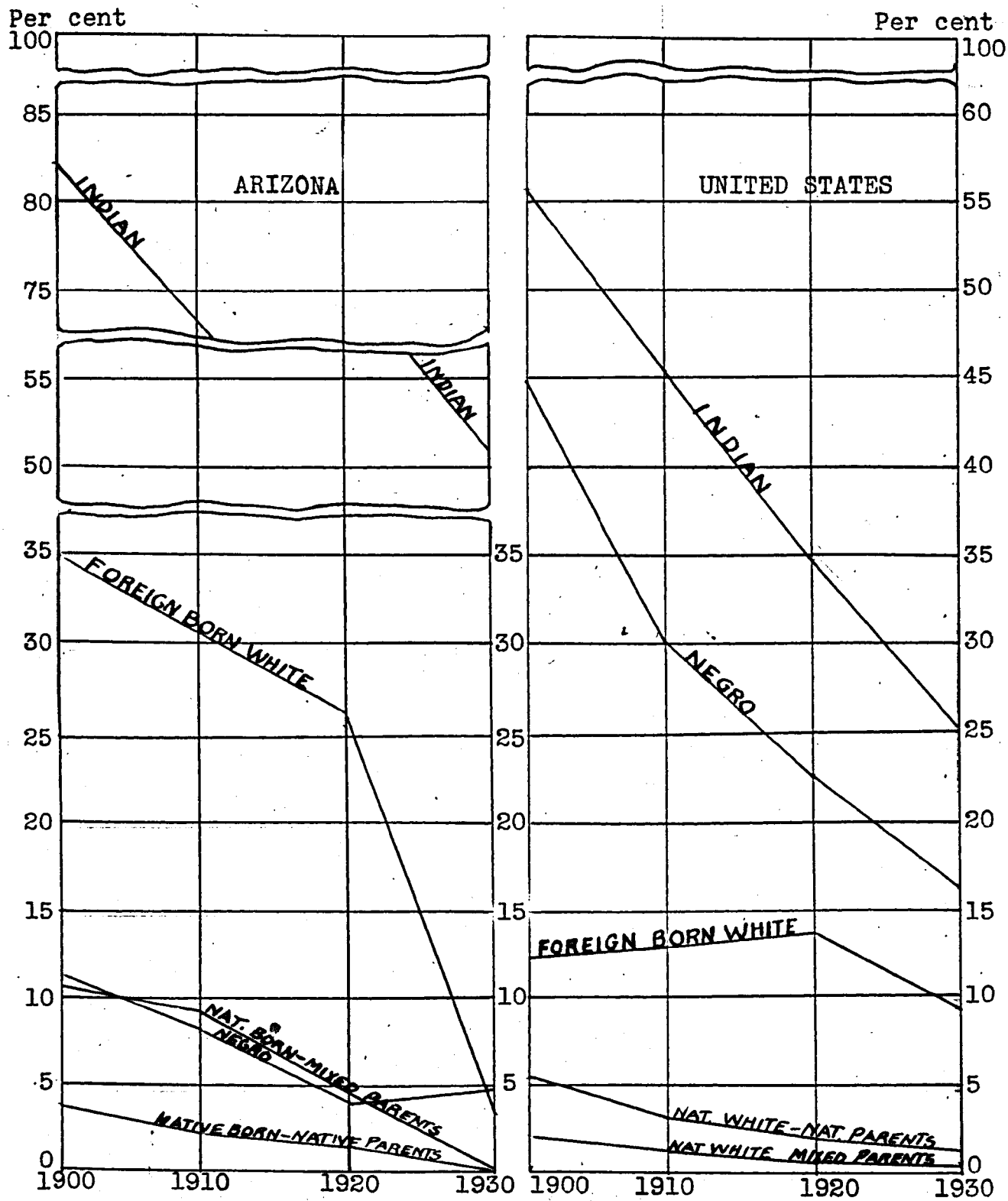

Chart 25. A Comparison of the Trends of Illiteracy on a Basis of Nativity in Arizona and the United States From 1900 to 1910. (Age Group Ten Years and Over)

The greatest variation in the percentages of illiteracy between Arizona and the United States are found in the racial classifications designated as Foreign-Born White, Negro, and Indian.

Prior to 1930 the Foreign-Born White group in Arizona included many of the illiterate Mexicans, which partially accounts for the high percentages of illiteracy in that classification in 1900, 1910 and 1920. In 1930 the Mexican element was put under a separate heading. They were, as we have already learned, 19 per cent illiterate in Arizona and 27.5 per cent illiterate in the United States.

Evidently the few Negroes who have migrated into Arizona have been of the more progressive type since a low percentage of illiteracy has been attributable to them since 1900. It must be recalled that the Negroes of Arizona had, in 1930, a better illiteracy record than did those of Iowa, South Carolina, New Mexico, or Texas.

The record of the Indians of Arizona stands out because the percentage of illiteracy is so much higher than that of the Indians of the United States as a whole. For Arizona, in 1930, the percentage was approximately the same as that of the United States in 1900. Since 13 per cent of the Indians of the United States are located in Arizona, and since the illiteracy figures of the United States include the Indians of Arizona, a more exact comparison could be

could be secured by computing the totals for the United States with the Arizona Indians removed. Undoubtedly this procedure would result in a much lower illiteracy percentage for the Indians in the United States, exclusive of Arizona. The data for 1930 showed Arizona's Indians to be 53 per cent illiterate while those in the United States as a whole were 26 per cent illiterate.

Summary:

1. The illiteracy percentage of each of the racial groups except Negroes averaged higher in Arizona than in the United States. The approximate range of percentages in each racial group for the period from 1900 to 1930 are shown below.

Negro
- Arizona, from 11 to 4 per cent.
- United States, from 44 to 16 per cent.

Indian
- Arizona, from 85 to 53 per cent.
- United States, from 53 to 26 per cent.

Foreign-Born White
- Arizona, from 35 to 4 per cent.
- United States, from 13 to 9 per cent.

Native White, Foreign or Mixed Parents
- Arizona, from 11 to 0.5 per cent.
- United States, from 2 to 0.5 per cent.

Native White, Native Parents
- Arizona, from 4 to 0.5 per cent.
- United States, from 5 to o.5 per cent.

Comparison of Trends of Illiteracy in the United States With Those in Arizona in the Several Age Groups.

Data with regard to trends of illiteracy in Arizona are found on page 49. These same data are presented here along with those dealing with the same age groups in the United States for the same period. Chart 16., page 50, is amplified to include these additional data. Detailed information regarding totals can be found in Tables 19 and 23.

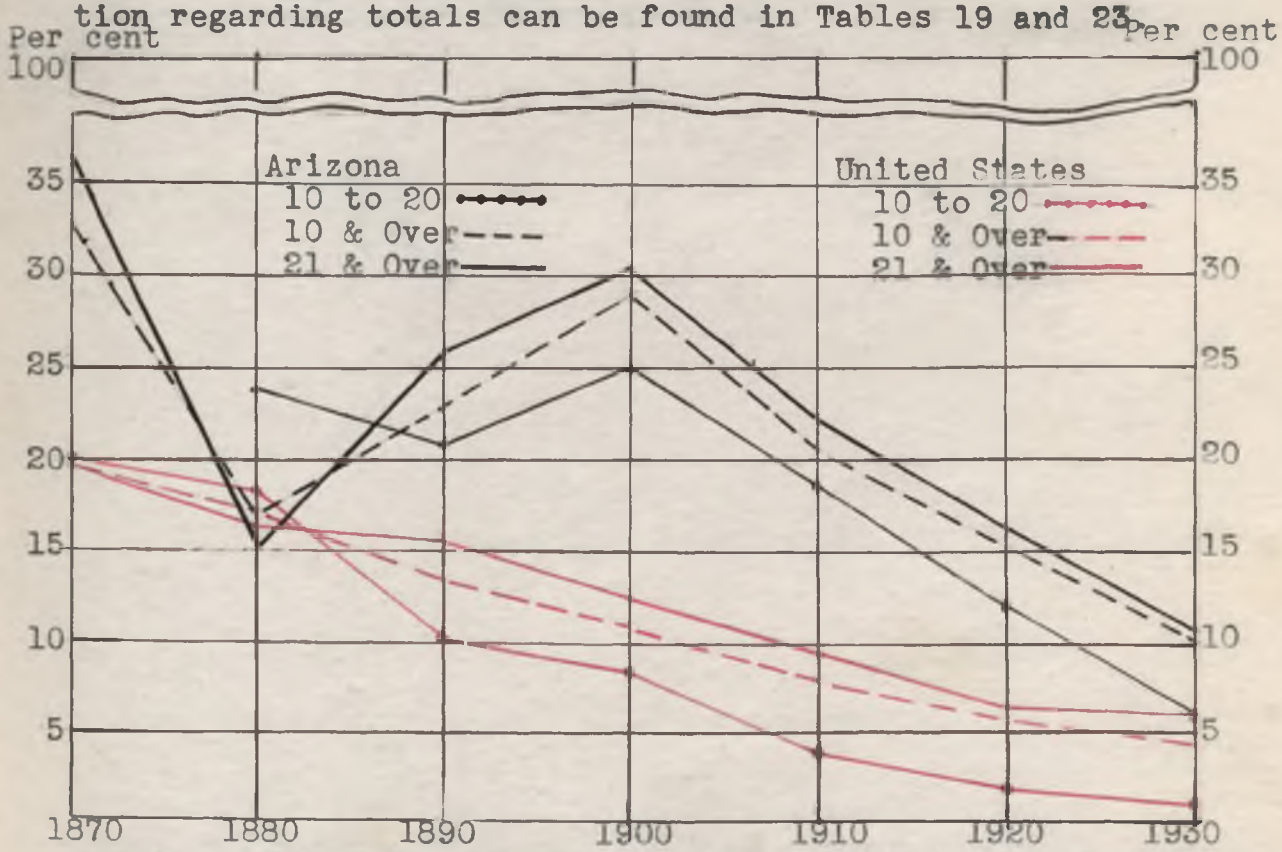

Chart 26. Illiteracy in Arizona and the United States From 1870 to 1930 in Certain Age Groups.

Except in the year 1880 the percentages of illiteracy for each of the four age groups in Arizona remained higher than the corresponding age groups in the United States. In 1880, however, age groups Ten and Twenty-One and Over in Arizona had a lower percentage of illiteracy than any or

all of the groups in the United States. Age group Ten to Fourteen in Arizona in 1890 made the next nearest approach to the figures for the groups in the United States. From 1890 on the difference between the two was considerable, but the rate of decrease in Arizona after 1900 was the more rapid of the two sections. By 1930 the younger age groups of Arizona were within a few points of those of the United States. The percentages for all of the United States groups range from 20 in 1870 to 5 or less in 1930, while those of Arizona range from 35 in 1870 to from 10 to 5 in 1930.

Summary:

1. A comparison of the several age groups in the United States and in Arizona indicate that except for one year the percentages of illiteracy in Arizona were always higher than those in the United States. The two older age groups in Arizona, however, had less illiteracy in 1880 than did any of the groups in the United States.

2. The rate of decrease has been greater for the Arizona groups than for the United States age groups. The percentages in the former ranged from 20 in 1870 to 5 or less in 1930. In Arizona the trends, while much more irregualr, ranged from 35 to from 10 to 5 per cent in the same period.

Comparison of Trends of Illiteracy with Those in the United States as a Whole on a Basis of Sex.

Some of the facts already determined in Chapter II will be reiterated here for the purposes of comparison. Chart 17., page 53 is reproduced with the addition, however, of information pertaining to illiteracy in the United States. The data in the tabulation to follow are taken from Tables

Percentage of Illiteracy

Census Year	United States Male	United States Female	Arizona Male Total	Arizona Male Non-Indian	Arizona Female Total	Arizona Female Non-Indian
1870	17.2	23.3				
1880	15.8	18.2	14.3	@	26.9	@
1890	12.4	14.4	20.3	@	29.1	@
1900	10.2	11.3	25.3	13.6	34.8	17.3
1910	7.6	7.8	19.2	12.9	23.5	13.4
1920	6.0	5.9	13.9	9.0	17.1	11.0
1930	4.4	4.3	9.0	@	11.4	@

@ Data not available.

On a basis of these data the trends are shown in Chart

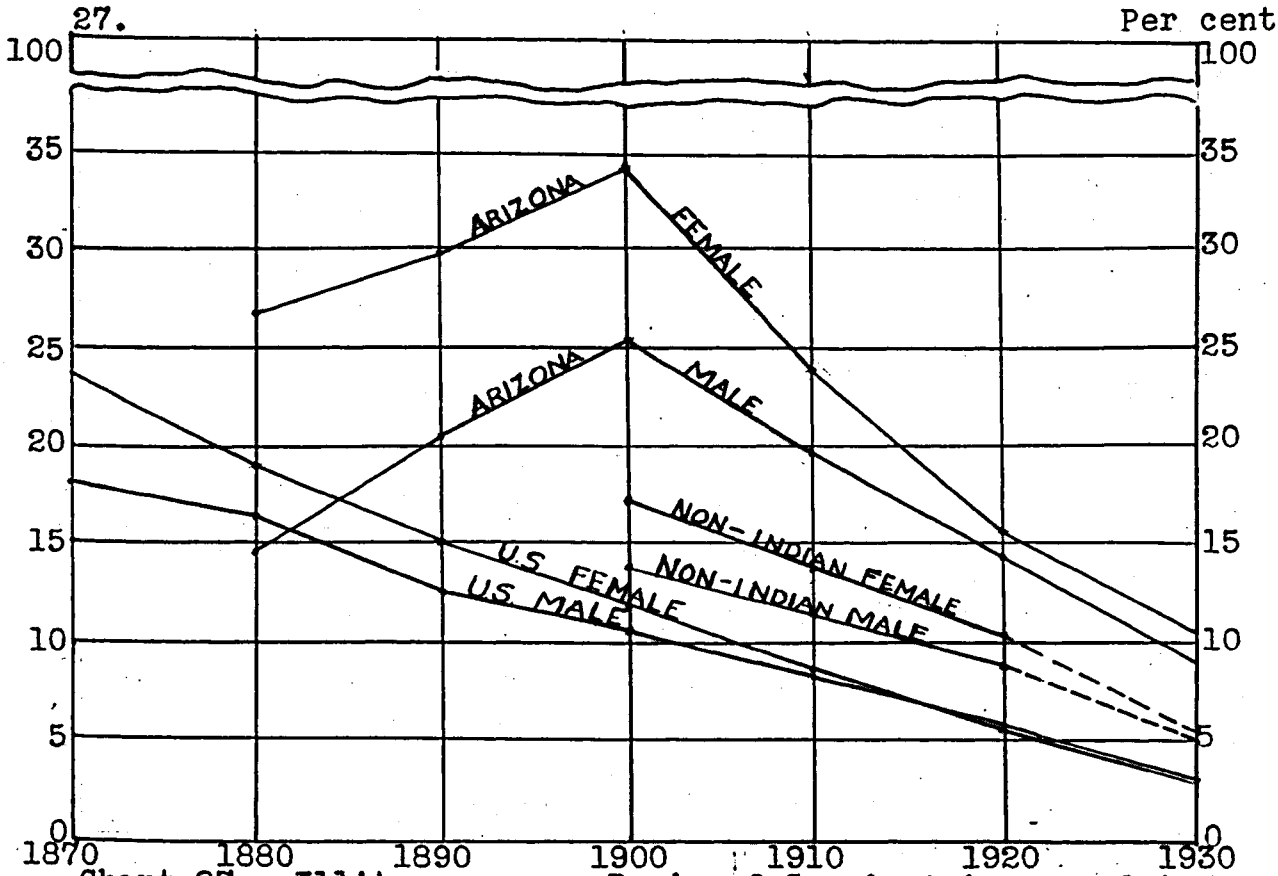

Chart 27. Illiteracy on a Basis of Sex in Arizona and in the United States from 1870 to 1930. (Age Group Ten Years and Over)

The differences between the percentages of the two sex groups in the United States has never been great, especially when compared to conditions in Arizona. Since about 1915 the female group has had a lower percentage of illiteracy in the United States as a whole than the male group. This is obviously not true of the situation in Arizona.

Deduction of the proportion of the illiteracy percentages which was attributable to the male and female Indians from 1900 to 1930 reduces the total percentages for the two sex groups considerably, bringing them down to figures somewhat near those of the United States, and at the same time reducing the difference between the two sexes. No data were to be found regarding illiterate male and female Indians in 1930, hence the lines on the chart for the decade from 1920 to 1930 were extended by approximating the percentages for the latter year.

Summary:

1. The percentages of illiteracy and the difference between the percentages of each sex group have been greater in Arizona than in the United States as a whole since 1880.

2. The percentage of illiteracy for the female group in the United States as a whole dropped below that of the male group about the year 1915 and has remained so since. In Arizona the female group has gradually decreased the gap between the percentages of each group as is shown below.

	1880	1930
Male	14.3	9.0
Female	26.9	11.4

3. Illiteracy percentages in Arizona for both sexes were reduced from one-third to one-half by the elimination of the illiterate Indians.

Comparisons with the United States on a Basis of Place of Residence from 1910 to 1930.

A brief consideration is given here to the general trends of illiteracy in the urban and rural areas of the United States and of Arizona. The main facts regarding these conditions in Arizona have already been established, discussed, and compared with several other states and the United States in 1930. An effort will be made in this and succeeding sections to avoid unnecessary repetition. Chart 28. and the data below are taken from Tables XXI and XXV.

	Percentage of Illiteracy				
	United States		Arizona		
Year	Urban	Rural	Urban	Rural	Non-Indian Rural
1910	5.1	10.1	9.9	26.1	14.0
1920	4.4	7.7	6.5	20,4	11.5
1930	3.2	6.0	3.7	13.7	6.5

In determining the rural illiteracy in Arizona with the Indian element deducted all illiterate Indians were classed as rural. The data are presented in chart form on the following page.

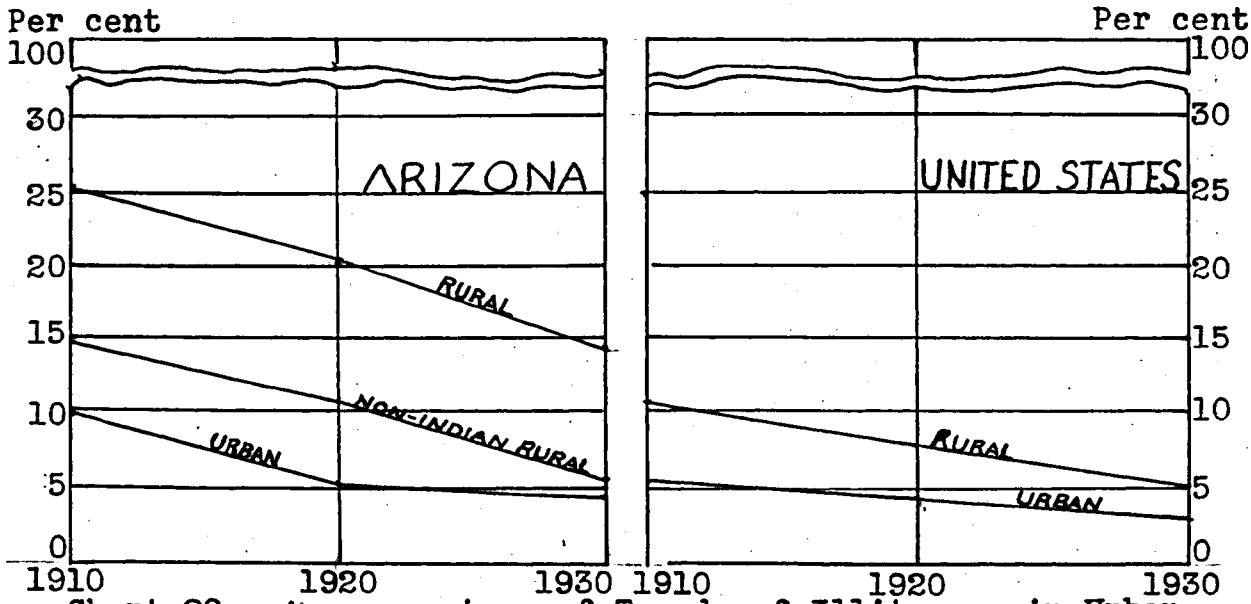

Chart 28. A comparison of Trends of Illiteracy in Urban and Rural Areas of United States and of Arizona from 1910 to 1930. (Age Group Ten Years and Over)

As is true of Arizona, a larger percentage of illiteracy has always existed in the rural sections of the United States than in the urban. However, the percentages for the United States are much less than for Arizona, and the difference between the two sections are much less in the United States than in Arizona. Exclusion of the illiterate Indians from the data in Arizona reduces the difference between the percentages of rural and urban illiteracy to a ratio somewhat similar to that of the United States. Without the Indians the percentages of illiteracy in 1930 were almost the same for both Arizona and the United States despite the fact that Arizona is 65 per cent rural and the United States is 43.8 per cent rural.

The rate of decrease of illiteracy in rural and urban areas in the United States has been almost the same. Since 1920, in Arizona, the decrease in rural illiteracy has been greater than in urban communities.

Summary:

1. The difference between illiteracy in urban and rural areas has always been much greater in Arizona than in the United States. In both areas, however, illiteracy in rural regions has been higher than in urban.

2. Illiteracy in rural areas of Arizona is reduced approximately fifty per cent by the removal of the illiterate Indians. This procedure brings the rural illiteracy for Arizona in 1930 down to 6.5 per cent as compared to 6.0 for the United States.

Comparison of General Trends with the Highest, Median, and Lowest States in 1930.

Investigation has already shown that in 1930 the state with the highest percentage of illiteracy was South Carolina, with the lowest, Iowa, and with the median, Colorado. The data with regard to the percentages of illiteracy in each of these states from 1870 to 1930 have been assembled in tabulation form for comparison with Arizona. These data were secured from Table XXIV.

	Census Years						
	1870	1880	1890	1900	1910	1920	1930
Arizona	33.4	17.7	23.4	29.0	20.9	15.3	10.1
Minus Indians	@	@	@	16.5	13.4	9.9	5.6
South Carolina	55.8	55.4	45.0	35.9	25.7	18.1	14.9
Colorado	18.1	6.6	5.2	4.2	3.7	3.2	2.8
Iowa	5.7	3.9	3.6	2.3	1.7	1.1	0.8

@ Data not available.

Except for the unusual decrease of illiteracy in 1880, Arizona has at no time approached the records of either

Iowa or Colorado, but has always been considerably below South Carolina in percentages of illiteracy. The relative trends are made more clear in Chart 29.

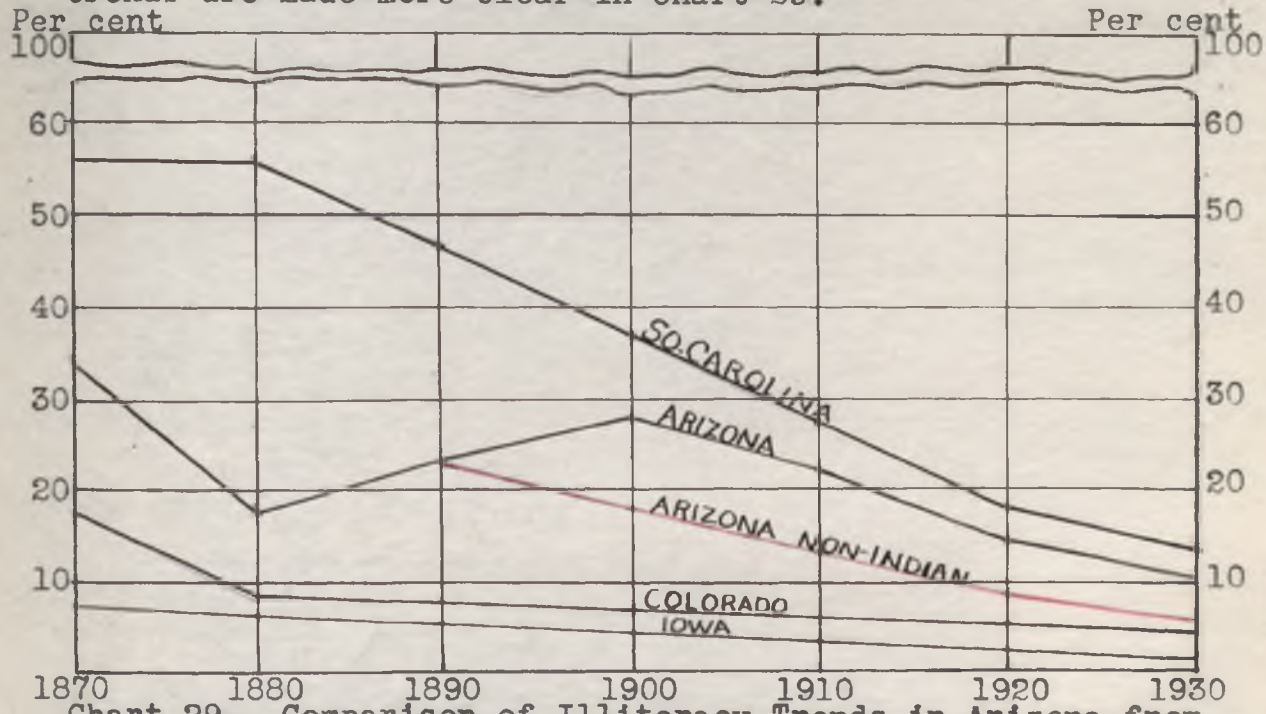

Chart 29. Comparison of Illiteracy Trends in Arizona from 1870 to 1930 with those in South Carolina, Iowa, and Colorado. (Age Group Ten Years and Over)

Although the adjusted trend with the Indians eliminated improves Arizona's record considerably for every census year after 1890 it still does not approach that of Colorado or Iowa. And though South Carolina's record has been higher than that of Arizona the former state has made considerably greater progress than has Arizona toward the reduction of its percentage of illiteracy. Since 1870 South Carolina has reduced its percentage from 55 to 15. In the same period the decline in Arizona was from 33.4 per cent to 5.6 per cent (Indians excluded).

It is apparent that neither Iowa nor Colorado has ever

had an appreciable illiteracy problem since 1880. This is particularly true of Iowa, as at no time since 1870 have over 5.7 per cent of its inhabitants ten years of age and over been illiterate. Since 1900 the percentage of illiteracy in that State has been less than two.

Summary:

1. In the period from 1870 to 1930 the percentage of illiteracy in Arizona has been greater than that of either Colorado or Iowa, and less than that of South Carolina.

2. The rate of reduction of illiteracy in Arizona has been greater than that of either Iowa or Colorado, but not as great as that of South Carolina. The data are shown here.

	1870	1930
Arizona	33.4	10.1
Iowa	5.7	0.8
Colorado	18.1	2.8
South Carolina	55.8	15.0

3. Neither Iowa nor Colorado has had a serious illiteracy problem since 1880 as is indicated by the preceding data.

4. Removal of the illiterate Indian element reduced the percentage of illiteracy from one-third to one-half in each of the census years from 1900 to 1930

Comparisons of General Trends with States Having Similar Population Groups.

Before bringing this discussion of general trends to a close a consideration of the conditions since 1870 in the border states would be helpful. A previous comparison of illiteracy conditions in 1930 in these states has shown that Arizona had a better record than each of them except California. The data for the period from 1870 to 1930 are presented on the next page.

	Percentages of Illiteracy						
	1870	1880	1890	1900	1910	1920	1930
Arizona	33.4	17.7	23.4	29.0	20.9	15.3	10.1
Minus Indians	@	@	@	16.5	13.4	9.9	5.6
New Mexico	78.5	65.0	44.5	33.2	20.2	15.6	13.3
Minus Indians	@	@	@				
California	@	7.8	7.7	4.8	3.7	3.3	2.6
Texas	38.8	29.7	19.7	14.5	9.9	8.3	6.2

Allowance is not made for deduction of the illiterate Indian group in Texas and California because they constitute so small a proportion of the population of those two states that the difference in the percentage of illiteracy would be of minor consequence. In Arizona and New Mexico, however, the difference is considerable. Chart 30. presents these same facts in graphic form.

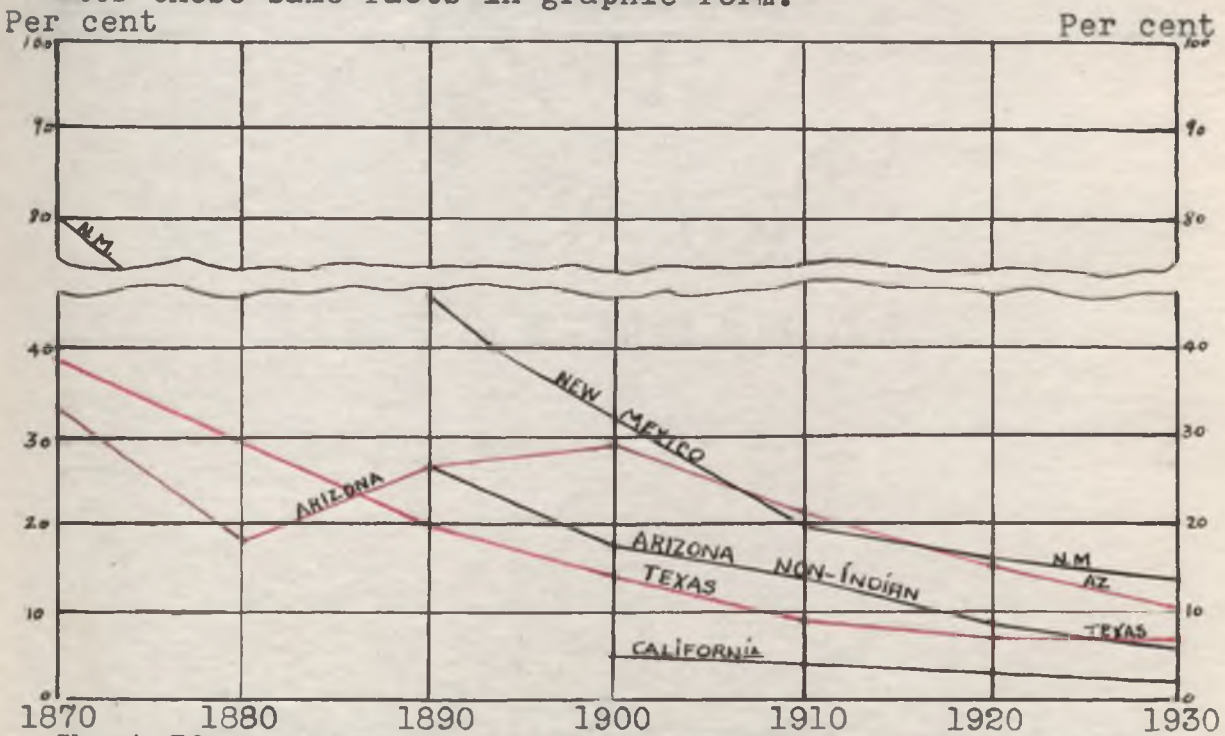

Chart 30. A Comparison of Illiteracy in Arizona from 1870 to 1930 with that in New Mexico, Texas, and California. (Age Group Ten Years and Over)

This comparison discloses certain outstanding facts,

among which are: the extremely high percentages of illiteracy in New Mexico from 1870 to 1900, and the very rapid decline in that percentage; the obvious lack, in California, of a high degree of illiteracy in any period under consideration; and the manner in which Arizona's adjusted percentage equals and finally surpasses that of Texas.

In the matter of improving illiteracy conditions since 1870, New Mexico has accomplished more than either Arizona or Texas, and in the years around 1910 even bettered Arizona's record. Since that time, however, the rate of decrease for Arizona has been greater than for either of the two other states. This fact may indicate that the schools of Arizona are proving more effective than are those of New Mexico and Texas in combating this common enemy. It is evident that as far as official illiteracy records are concerned there will be no great change in either Arizona or New Mexico until the Federal Government takes definite steps to wipe out illiteracy among the Indians.

Summary:

1. The official illiteracy record for Arizona has been generally lower than that of New Mexico, but much higher than that of Texas or California in the period from 1870 to 1930.

2. New Mexico has made the greatest progress toward the reduction of illiteracy since 1870. The percentages were: 1870, 78 per cent; 1930, 13.3 per cent.

3. Deduction of illiterate Indians from the illiteracy records of Arizona and New Mexico reduced the percentages of each state from 35 to 50 per cent in

each decade from 1900 to 1930. This procedure gave Arizona a lower percentage in 1930 than that of Texas.

CHAPTER V

SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS

Major Conclusions: Careful examination and interpretation of data from 1870 to 1930 reveal certain outstanding facts which are outlined below. The reader is referred to the body of this report for a detailed treatment of these various phases of the question.

I. ILLITERACY IN GENERAL

A. Conditions in 1930

1. Arizona has a large percentage of illiteracy. In 1930 it amounted to 10.1 per cent in age group ten years and over.

B. Trends

1. There has been a considerable reduction in the percentages of illiteracy in Arizona since 1870. The percentages for each decade are as follows.

1870	33.4	
1880	17.7	
1890	23.4	Without Indians
1900	29.0	16.5
1910	20.9	13.4
1920	15.3	9.9
1930	10.1	5.6

2. Indians were included in the population enumeration for the first time in 1900. This accounts for the high percentage of illiteracy in Arizona for that year.

C. Comparisons

1. In 1930 the percentage of illiteracy in Arizona was exceeded by that in but five states ranking as indicated below.

South Carolina	14.9
Louisiana	13.5
New Mexico	13.3
Mississippi	13.1
Alabama	12.6
Arizona	10.1

2. Compared with neighboring states having similar populations with regard to nationality groups Arizona ranked lower, in 1930, than New Mexico, but higher than Texas or California. The percentages of illiteracy were.

	Official	Without Indians
Arizona	10.1	5.6
New Mexico	13.3	9.5

Texas	7.5	6.7
California	2.6	2.5

3. A comparison of the illiteracy percentages in Arizona with those in the states having the highest, median and lowest percentages of illiteracy in 1930 indicate that Arizona has an illiteracy problem of much greater magnitude than either Iowa or Colorado, but one that has never been as great as that of South Carolina. The data follow:

	1870	1930
South Carolina	55.0	15.9
Arizona	33.0	10.1
Colorado	10.0	2.3
Iowa	5.0	0.8

II. ILLITERACY ACCORDING TO NATIVITY

A. Conditions in 1930

1. The Indian and Mexican racial groups contribute 94 per cent of the total illiteracy in Arizona. Percentages for which each group is responsible are presented herewith.

Indian	48.7
Mexican	45.3
Native-White	2.9
Foreign-Born White	1.6
Negro	1.1
All Others	0.4

2. Illiteracy is greater in the Indian race group than in any other. The percentage of illiteracy in each race group is given below.

Indian	53.4
Mexican	19.3
Asiatic	9.5
Negro	4.0
Native-White	3.6
Foreign-Born White	0.5

3. Of the total of 33,969 illiterates in Arizona in 1930 but 2,061 were non-Indians and non-Mexicans. These data are for age group ten years and over.

B. Trends

1. No considerable progress has been made in decreasing illiteracy among Indians. The percentages for the last four census years are:

1900	83.1
1910	72.8
1920	67.8
1930	53.0

3. No accurate data prior to 1930 can be obtained regarding illiteracy percentages for the Mexican group since they were included chiefly in racial group Foreign-Born White. The percentage of illiteracy for that group dropped from 26 in 1920 to 3 in 1930 in consequence of the removal of the Mexicans.
4. Illiteracy in the Negro and the two Native-White groups was at all times below 12 per cent during the thirty year period examined. The percentage for the Native-White, Native Parents group ranged from 4 down to 0.5.

C. Comparisons

1. The Mexican, Indian,,and Negro race groups contribute the greatest proportion of the illiteracy in each of the four western states studied. The data for 1930 were:

Ariz ona	94 per cent	(Mexican and Indian)
Texas	82	(Mexican and Negro)
New Mexico	53.6	(Mexican and Indian)
California	40.0	(Mexican)

2. Arizona has a more literate group of Mexicans than does either of the three other states, while Texas has the most literate Indian group. The data give the percentage of illiteracy in each group for each state in 1930.

	Mexican	Indian
Arizona	19.3	53
New Mexico	26.1	57.5
Texas	33.8	18.3
California	19.3	21.0

3. Percentages of illiteracy in each of the various racial groups in 1930 (Indians excepted) in Arizona were lower than in the same racial groups in Iowa, Colorado, South Carolina, New Mexico or Texas, and the United States as a whole.

III. ILLITERACY ACCORDING TO AGE GROUPS

A. Conditions in 1930

1. The illiteracy problem in Arizona is concerned chiefly with adults. Ninety-one per cent of Arizona's illiterates in 1930 were twenty-one years of age and over.
2. The percentage of illiteracy showed definite and consistent increases in each age group from ten to sixty-five years and over. The data are shown on the next page.

Age Group	Per cent of illiteracy in age group.	Per cent of total illiteracy in State
10-14	4.2	5
15-24	7.2	17
25-34	9.7	21
35-44	11.1	20
45-54	13.2	16
55-64	16.2	11
65 and over	22.0	10
21 and over	11.9	91

3. The greater proportion of the illiterates in each of the racial groups are adults. The percentages are given herewith.

	Per cent
Native-White	
Native Parents	85.2
Mixed Parents	90.3
Foreign-Born White	98.1
Negro	93.9
Mexican	91.8
Indian	78.6

B. Trends

1. The percentages of illiteracy in all age groups have decreased rapidly since 1900, in which year the Indians were included in the data. The data show that changes that took place in the four chief age groups.

	1880	1900	1930
10 years and over	18	29	10.1
10 to 14 years	20.9	22.2	4.3
10 to 20 years	24	25	5.5
21 years and over	23.7	30.4	11.9

2. Since 1900 the two younger age groups have had a lower percentage of illiteracy than have the two older groups. The opposite was true in 1880. No data for the lesser age groups are available prior to 1880.

C. Comparisons

1. Illiteracy was greater in age group Twenty-One Years and Over than in age group Ten Years and Over in all states examined, and in all racial groups examined except in Arizona. This was especially true of the Mexican, Indian, and Negro race groups. In Arizona the percentage of illiteracy was the same in both age groups for the Native-Born White, Native and Mixed Parents and Foreign-Born White.
2. Except for the census year of 1880 the percentage of illiteracy in the various age groups in

Arizona has been higher than those of the United States for the period from 1870 to 1930.

IV. ILLITERACY ACCORDING TO SEX

A. Conditions in 1930

1. The total illiteracy in Arizona is unequally divided between the male and female groups. The percentage contributed by each sex in 1930 was: male 48; female 53.
2. The male population of Arizona in 1930 was 9 per cent illiterate as compared to 11.2 per cent for the female group.
3. The number of male illiterates as compared to the number of female illiterates was as 100 is to 125.

B. Trends

1. The difference between the percentages of illiteracy for each sex has been gradually diminishing since 1870, and at the present rate of decrease will no longer exist by 1940. In 1870 the percentage of illiteracy among males was 14.5, and among females was 26.9 ,
2. In the period from 1900 to 1910 the male sex group had less illiteracy than the female group in each of the racial groups except the Native-White, Native-Born in 1930, and the Negro group in 1910 and 1920.

C. Comparisons

1. By contrast with Arizona the female group in the United States has had a slightly better record from 1915 to the present than has the male group.
2. The female group in 1930 had a greater percentage of illiteracy than did themale group in New Mexico, Colorado, and Arizona, and a lower percentage in Iowa, South Carolina, and in the United States. In California and Texas the percentages were the same.

V. ILLITERACY ACCORDING TO PLACE OF RESIDENCE

A. Conditions in 1930

1. Illiteracy in Arizona is found chiefly in rural areas. Approximately 85 per cent of the total illiterates ten years of age and over were classed as rural in 1930.
2. The rural population of Arizona in 1930 was 13.8 per cent illiterate according to official figures, and 7 per cent illiterate with the Indians eliminated. The population of urban communities was 4.1 per cent illiterate.

B. Trends

1. The percentages of illiteracy in all age groups decreased faster in urban than in rural areas in the period from 1910 to 1930. The approximate reductions in terms of percentages are shown here.

	rural	urban
10 years and over	50 per cent	60 per cent
21 years and over	20	50
10 to 14 years	60	95

2. Adjustment of rural illiteracy percentages for age groups Ten and Twenty-One and Over to include only non-Indian population groups greatly reduced the extent of illiteracy in both. The new percentages for the thirty year period range from 16 to 9 as compared to 27 to 12 when Indians were included.

C. Comparisons

1. In all states examined and in the United States as a whole there were a greater number and percentage of illiterates in rural than in urban areas. The one exception was Iowa where the rural percentage was 0.7 and the urban 0.9.
2. Illiteracy in rural areas in Arizona and in New Mexico was higher than in any other areas examined.
3. The percentages of illiteracy in the rural areas of both Arizona and New Mexico was considerably decreased by the removal of the proportion of illiteracy contributed by Indians. The change is indicated below.

	Percentages of Illiteracy (Rural)	
	Official	Non-Indians
New Mexico	22.4	15.9
Arizona	13.7	8.0

VI. ILLITERACY IN THE COUNTIES OF ARIZONA

A. Conditions in 1930

1. Illiteracy percentages in the counties of Arizona show a wide variation. In 1930 they ranged from 4.1 per cent in Cochise County to 53 per cent in Apache County.
2. Five counties had in 1930 percentages of illiteracy above ten per cent. They were; Pima, Pinal, Coconino, Navajo, and Apache.
3. A high percentage of illiteracy was found to exist in almost all counties having large Mexican and Indian populations.

B. Trends
1. All counties except those with large Indian populations have made creditable progress toward the elimination of illiteracy. The greatest reduction took place in Santa Cruz County where the percentage was reduced from 32 in 1910 to 5.1 in 1930.
2. The lowest average percentage of illiteracy for the thirty year period was made by Cochise County and Yavapai County each having averaged 7.5 per cent.
3. Illiteracy in Apache County and Navajo County has shown comparatively little improvement due to the large Indian populations in each of the two areas.

Implications and Recommendations. The preceding data carry certain implications and justify some rather definite recommendations. For convenience these implications and recommendations are discussed together.

I. The largest group of illiterates in Arizona are Indians.

One of the most common methods of judging the merits and accomplishments of the schools of the various states and political subdivisions is by determining the degree of illiteracy that exists in those particular regions. Therefore, when calculating the percentage of illiteracy in each state or minor unit, only those inhabitants that are under the jurisdiction of the school systems of the regions involved should be considered.

The fact that the Indians in Arizona are not under the authority of the State should justify the deduction from the total illiteracy in Arizona of that proportion for which they are responsible. Official illiteracy data for Arizona and all other states having Indian populations should be calculated only on their non- Indian inhabitants.

Were this done in Arizona the illiteracy percentage would be 5.6 instead of 10.1. In comparisons with other states Arizona would no longer be classed with those that are recognized as having inadequate educational systems, a group in which Arizona does not rightfully belong.

II. By far the greatest proportion of the illiterate population in Arizona, other than Indians, is made up of adult Mexicans.

The illiteracy problem in Arizona resolves itself into one of adult Mexican education. Mexican adults constitute approximately ninety per cent of the total number of illiterates in the State. The school system of Arizona is not organized to take care of this type of problem. Considering the cost and the difficulties involved in instituting a program of education for Mexican adults there is little likelihood that such a program would be feasible at the present time. The fact remains, however, that only by such methods can any great change be made in the illiteracy percentage of the State.

III. The second largest group of illiterates in Arizona is composed of non-Mexican adults. (Non-Indian)

Excepting Indians and adult Mexicans there are approximately 5,250 illiterates in Arizona. Of these 4000 are adults. The secondary illiteracy problem of the State is therefore one of non-Mexican adult education. The same situation exists with regard to this group of adult illiterates as with the Mexican group. The schools are not prepared to deal with the problem.

There is, however, a greater likelihood that a program of education for non-Mexican adults would be more successful than one for Mexican adults. The former group is not apt to be as isolated by social, economic, linguistic, and geographical conditions as the latter. Whether or not such a program would be practicable does not alter the fact that the second largest illiterate group in Arizona cannot be dealt with otherwise.

IV. The number of illiterate minors in Arizona is relatively small and is made up chiefly of Mexicans.

There are but 1419 illiterate minors in Arizona (1930) of which 1255 are Mexican. Apparently the State is not enforcing its compulsory attendance laws as satisfactorily as it might. It is to be admitted that the situation is made difficult by the transitory nature of many of the Mexican families and the economic necessity for the use of the children of the family to help support it,

especially in certain types of agricultural industries. Nevertheless, if the proportion of the illiteracy in Arizona which these minors contribute is to be reduced the compulsory attendance laws must be enforced.

V. The United States Government is responsible for certain factors which have to do with the illiteracy problem in Arizona.

The first, illiteracy among Indians, has already been discussed. It is hoped that more progress will be made toward its reduction under the new educational program of the Federal Government than was made under the old.

The entrance, legal or otherwise, into the State of illiterate immigrants from Mexico, constitutes another situation with which the State cannot cope. An important step in any program for the reduction of illiteracy would be the stoppage of all leaks on the Mexican border.

The definition of illiteracy used by the United States Census Bureau is not such as actually achieves the results desired. While the census data serve to approximate in a general way the extent and trends of illiteracy they are in no way accurate and are disarming since they greatly underestimate the actual situation. An exact picture of conditions might disturb the complacency of the public, and of certain educators who have been misled by the data into believing that the illiteracy problem has already been satisfactorily disposed of in most regions.

To bring about these results it would be necessary for census workers to require that each individual demonstrate exactly to what extent he or she can write. While there may be some doubt of the practicability of such a procedure the need for it is evident.

Illiteracy data should not be considered merely as indices of the extent of peoples' ability in certain tool subjects. Such a concept is far too restricted. In their broader connotation illiteracy data constitute very important criteria in the science of demography which deals with the measurement

of the degree of peoples' culture. The existence of illiteracy connotes many undesirable conditions, economic, sociological, and political as well as educational. It is, therefore, of tremendous importance that it be effectively dealt with in this and in all other states.

VI. Recommendations Summarized.

To the State Government.

1. There should be instituted by the schools of Arizona an adult educational program especially suited to the needs of Mexican illiterate adults.
2. The compulsory attendance laws should be more carefully enforced.

To the Federal Government.

1. Illiteracy possessed by racial groups whose education is under the jurisdiction of the Federal Government should not be included as part of the illiteracy percentages attributed to the states within which such racial groups reside.
2. Federal regulations denying admittance into the United States of illiterate Mexicans and other racial groups should be carefully enforced.
3. A more defensible test of illiteracy should be used by the Census Bureau.

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APPENDIX

TABLE XIX ILLITERACY IN ARIZONA FOR THE SEVERAL AGE GROUPS FROM 1870 TO 1930 AND IN THE MALE AND FEMALE POPULATIONS FOR THE AGE GROUP TEN YEARS AND OVER

Divisions of Population	Census Year	Population	Illiterates Number	Illiterates Per Cent
Total Population 10 years and over	1870	8,237	2,753	33.4
	1880	32,922	5,842	17.7
	1890	46,072	10,785	23.4
	1900	94,147	27,307	29.0
	1910	157,659	32,953	20.9
	1920	255,461	39,131	15.3
	1930	335,029	33,969	10.1
Male 10 years and over	1870	*	*	*
	1880	24,267	3,511	14.3
	1890	29,736	6,027	20.3
	1900	57,027	14,404	25.3
	1910	94,812	18,183	19.2
	1920	143,651	19,984	13.9
	1930	180,366	16,309	9.0
Female 10 years of age and over	1870	*	*	*
	1880	8,655	2,331	26.9
	1890	16,340	4,758	29.1
	1900	37,120	12,903	34.8
	1910	62,847	14,770	23.5
	1920	111,810	19,147	17.1
	1930	154,663	17,660	11.4
Total Population 21 years of age and over	1870	5,353	1,950	36.4
	1880	26,200	4,183	15.6
	1890	35,414	8,427	26.6
	1900	*	13,835	30.4
	1910	117,942	25,807	21.9
	1920	187,929	30,636	16.3
	1930	244,115	28,992	11.9
Total population 10 to 14 years of age inclusive	1870	*	*	*
	1880	3,289	690	20.9
	1890	5,760	1,174	17.5
	1900	11,671	2,592	22.2
	1910	21,535	3.300	15.3
	1920	38,276	4,394	11.5
	1930	42,862		

*Data not available

TABLE XIX (Continued)

Divisions of Population	Census Year	Population	Illiterates	
			Number	Per Cent
Total population 10 to 20 years of age inclusive	1870	*	*	*
	1880	6,722	1,659	24.7
	1890	10,662	2,358	22.1
	1900	24,869	6,243	25.1
	1910	39,717	7,146	18
	1920	67,532	8,495	12.6
	1930	90,942	4,977	5.5

*Data not available

TABLE XX ILLITERACY IN ARIZONA, NEW MEXICO, TEXAS, AND CALIFORNIA IN 1930 AMONG THE POPULATION TEN YEARS AND OVER CLASSIFIED ACCORDING TO NATIVITY.

Divisions of Population	Population of Group (10 yrs. and over)	Illiterate Number	Illiterate Per Cent	Percentage of Total Illiteracy in State
ARIZONA	335,029	33,969	10.1	100.0
1. Native White				
Native Parentage	164,848	785	0.5	2.3
Foreign or Mixed Parentage	33,009	175	0.5	0.5
Total	197,857	960	0.5	2.9
2. Foreign Born White	15,410	551	3.6	1.6
3. Negro	9,125	366	4.0	1.1
4. Other Classes				
Mexican	79,748	15,378	19.3	45.3
Indian	30,960	16,530	53.4	48.7
Japanese, Chinese Filipino, etc.	1,929	184	9.5	0.6
Total	112,637	32,092	28.5	94.5
NEW MEXICO	314,370	41,845	13.3	100.0
1. Native White				
Native Parentage	225,095	18,468	8.2	44.1
Foreign or Mixed Parentage	17,540	265	1.5	0.6
Total	242,635	18,733	7.7	44.8
2. Foreign Born White	7,755	530	6.8	1.3
3. Negro	2,328	140	6.0	0.3
4. Other Classes				
Mexican*	40,938	10,674	26.1	25.5
Indian	20,408	11,744	57.5	28.1
Japanese, Chinese, Filipino, etc.	306	24	8.5	0.0
Total	61,652	22,442	36.4	53.6

*Includes persons of Mexican birth or parentage not returned as White or Indian.

TABLE XX (Continued)

Divisions of Population	Population of Group (10 yrs. and over)	Illiterate Number	Illiterate Per Cent	Percentage of Total Illiteracy in State
TEXAS	4,547,987	308,121	6.8	100.0
1. Native White				
Native Parentage	3,000,942	40,777	1.4	13.2
Foreign or Mixed Parentage	292,473	6,101	2.1	2.0
Total	3,293,415	46,878	1.4	15.2
2. Foreign Born White	97,764	7,136	7.3	2.3
3. Negro	671,335	90,225	13.4	29.3
4. Other Classes				
Mexican	483,455	163,622	33.8	53.1
Indian	787	144	18.3	0.0
Japanese, Chinese, Filipino, etc.	1,231	116	9.4	0.0
Total	485,473	163,882	33.8	53.2
CALIFORNIA	4,806,490	124,810	2.6	100.0
1. Native White				
Native Parentage	2,414,873	6,392	0.3	5.2
Foreign or Mixed Parentage	1,117,162	3,448	0.3	2.8
Total	3,532,035	9,840	0.28	8.0
2. Foreign Born White	801,303	45,600	5.7	36.8
3. Negro	69,737	2,148	3.1	2.2
4. Other Classes				
Mexican	257,868	49,728	19.3	40.0
Indian	14,824	3,108	21.0	2.4
Japanese	68,108	6,304	9.3	5.0
Chinese	30,497	5,100	16.7	3.0
Filipino	29,108	2,309	7.9	2.6
Total	1,271,445	114,297	8.9	91.0

TABLE XXI ILLITERACY IN ARIZONA IN THE URBAN AND RURAL POPULATIONS FOR THE SEVERAL AGE GROUPS FROM 1910 TO 1930 INCLUSIVE.

Divisions of Population	Census Year	Population	Illiterate Number	Illiterate Per Cent
URBAN				
10 years and over	1910	50,667	5,036	9.9
	1920	93,339	4,512	6.5
	1930	120,617	6,072	5.2
21 years and over	1910	39,083	4,158	10.6
	1920	71,702	5,277	7.4
	1930	91,635	4,296	4.7
10 to 14 years	1910	6,176	337	5.5
	1920	11,976	281	2.3
	1930	13,099	44	0.3
10 to 20 years	1910	11,584	878	7.6
	1920	21,637	795	3.7
	1930	28,982	216	0.7
RURAL				
10 years and over	1910	106,992	27,917	26.1
	1920	162,122	33,059	20.4
	1930	214,412	29,457	13.7
21 years and over	1910	78,857	21,649	27.5
	1920	116,227	24,696	21.8
	1930	152,480	25,359	16.2
10 to 14 years	1910	15,359	2,963	19.3
	1920	26,302	4,113	15.6
	1930	29,762	1,745	6.8
10 to 20 years	1910	28,113	6,268	22.3
	1920	45,895	7,700	16.8
	1930	61,932	4,761	7.7

TABLE XXII ILLITERACY IN THE SEVERAL COUNTIES OF ARIZONA IN THE POPULATION TEN YEARS OF AGE AND OVER FROM 1910 TO 1930.

County	Year	Total Population	Illiterate Number	Illiterate Per Cent	Rank 1930
	1910	6,309	3,982	63.1	
Apache	1920	9,271	5,243	56.3	
	1930	12,388	6,230	50.3	14
Cochise	1910	27,087	2,486	9.2	
	1920	35,750	3,282	9.2	
	1930	31,973	1,319	4.1	1
Coconino	1910	6,458	2,479	38.4	
	1920	7,350	2,163	29.4	
	1930	10,357	2,175	21.0	12
Gila	1910	12,953	2,529	19.5	
	1920	19,655	2,370	12.1	
	1930	23,236	1,487	6.4	6
Graham	1910	17,462	4,918	28.2	
	1920	7,143	475	6.6	
	1930	7,589	378	5.0	2
Greenlee	1910	*	*	*	
	1920	10,877	1,628	15.0	
	1930	7,251	650	9.0	9
Maricopa	1910	27,019	3,098	11.5	
	1920	69,295	7,670	11.1	
	1930	118,338	7,358	6.2	5
Mohave	1910	3,173	450	14.2	
	1920	4,253	457	10.7	
	1930	4,491	272	6.1	4
Navajo	1910	8,313	3,417	41.1	
	1920	11,576	4,467	38.6	
	1930	15,185	4,395	29.6	13
Pima	1910	17,413	4,035	23.2	
	1920	27,016	4,367	16.2	
	1930	43,952	4,522	10.3	10
Pinal	1910	6,890	1,991	28.4	
	1920	12,174	2,363	19.4	
	1930	16,692	2,050	12.3	11

TABLE XXII (Continued)

County	Year	Total Population	Illiterate Number	Illiterate Per Cent	Rank 1930
Santa Cruz	1910	4,984	1,598	32.1	
	1920	10,213	1,298	12.7	
	1930	7,570	575	7.6	7
Yavapai	1910	13,367	1,083	8.1	
	1920	19,361	1,625	8.4	
	1930	22,273	1,333	6.0	3
Yuma	1910	6,231	887	14.2	
	1920	11,527	1,728	15.0	
	1930	13,734	1,124	8.2	8

TABLE XXIII ILLITERACY IN THE UNITED STATES IN THE VARIOUS AGE GROUPS FROM 1870 TO 1930.*

Divisions of Population	Census Year	Population of Groups	Illiterate	
			Number	Per Cent
Total Population 10 years and over	1870	28,228,945	5,658,144	20.0
	1880	36,761,607	6,239,958	17.0
	1890	47,413,559	6,324,702	13.3
	1900	57,929,825	6,180,069	10.7
	1910	71,580,270	5,515,163	7.7
	1920	82,739,385	4,931,905	6.0
	1930	98,725,047	4,283,753	4.3
Male 10 years and over	1870	14,258,865	2,503,317	17.2
	1880	18,735,980	2,966,421	15.8
	1890	24,352,659	3,008,222	12.4
	1900	29,928,804	3,055,056	10.2
	1910	37,027,558	2,814,950	7.6
	1920	42,289,969	2,540,209	6.0
	1930	49,949,798	2,198,293	4.4
Female 10 years and over	1870	13,970,079	3,248,283	23.2
	1880	18,025,627	3,273,537	18.2
	1890	23,060,900	3,316,840	14.4
	1900	28,295,796	3,191,801	11.3
	1910	34,552,712	2,701,213	7.8
	1920	40,449,446	2,391,696	5.9
	1930	48,773,249	2,085,460	4.3
Total Population 21 years and over	1870	18,536,901	3,699,807	19.9
	1880	25,453,277	4,204,383	16.7
	1890	33,723,477	4,929,460	14.5
	1900	40,762,007	4,886,676	12.0
	1910	51,554,905	5,570,017	8.9
	1920	60,886,520	4,333,111	7.1
	1930	72,943,624	3,863,215	5.3
Total Population 10 to 14 years	1870	4,786,189	1,010,705	21.4
	1880	5,615,186	1,131,955	19.2
	1890	7,033,509	731,688	10.4
	1900	8,080,234	577,649	7.1
	1910	9,027,707	370,136	4.1
	1920	10,641,137	246,360	2.3
	1930	13,101,612	195,304	1.4

*Inclusive. Various ages are inclusive also.

TABLE XXIII (Continued)

Divisions of Population	Census Year	Population of Groups	Illiterate	
			Number	Per Cent
Total Population 10 to 20 years	1870	9,692,945	1,958,337	20.4
	1880	11,308,330	2,035,575	18.1
	1890	13,690,072	1,395,242	10.2
	1900	17,167,817	1,293,393	7.7
	1910	18,190,000	818,550	4.5
	1920	21,852,795	598,794	2.7
	1930	25,799,423	420,538	1.6

TABLE XXIV ILLITERACY FROM 1870 TO 1930* IN THE POPULATION 10 YEARS OF AGE AND OVER IN ARIZONA AND CERTAIN OTHER STATES SELECTED FOR COMPARISON.

State	Census Year	Population (10 years and over)	Illiterate	
			Number	Per Cent
Arizona	1870	8,237	2,753	33.4
	1880	32,922	5,842	17.7
	1890	46.076	10,785	23.4
	1900	94,147	27,307	29.0
	1910	157,659	32,953	20.9
	1920	255,461	39,131	15.3
	1930	335,029	33,969	10.1
Colorado	1870	37,631	6,823	18.1
	1880	158,220	10,474	6.6
	1890	327,896	17,180	5.2
	1900	425,424	17,779	4.2
	1910	640,846	23,780	3.7
	1920	747,485	24,208	3.2
	1930	835,341	23,141	2.8
Iowa	1870	900,740	45,671	5.7
	1880	1,181,641	46,609	3.9
	1890	1,441,308	52,061	3.6
	1900	1,711,789	40,172	2.3
	1910	1,760,286	29,889	1.7
	1920	1,913,155	20,680	1.1
	1930	2,007,699	15,879	0.8
New Mexico	1870	66,464	52,220	78.5
	1880	37,966	57,156	65.0
	1890	112,541	50,070	44.5
	1900	141,282	46,971	33.2
	1910	240,990	48,697	20.2
	1920	267,595	41,637	15.6
	1930	314,370	41,845	13.3
South Carolina	1870	529,205	290,379	55.8
	1880	667,456	369,848	55.4
	1890	802,406	360,705	45.0
	1900	942,402	338,659	35.9
	1910	1,078,161	276,980	25.7
	1920	1,219,316	220,667	18.1
	1930	1,292,939	192,878	14.9

Note: South Carolina, Colorado, and Iowa in 1930 were the states with the highest, median, and lowest percentage of literacy, respectively. New Mexico and Texas are states bordering Arizona, and which have populations somewhat similar to that in Arizona.

*Inclusive. Various ages are inclusive also.

TABLE XXIV (Continued)

State	Census Year	Population (10 years and over)	Illiterate	
			Number	Per Cent
Texas	1870	571,075	221,703	38.8
	1880	1,064,196	316,432	29.7
	1890	1,564,755	308,873	19.7
	1900	2,163,913	314,018	14.5
	1910	2,848,904	282,904	9.9
	1920	3,556,614	295,844	8.3
	1930	4,547,987	308,121	6.8
California	1870	*	31,716	*
	1880	681,062	53,430	7.8
	1890	989,896	75,902	7.7
	1900	*	58,959	4.8
	1910	2,007,698	74,902	3.7
	1920	2,870,855	95,592	3.3
	1930	4,806,490	124,810	2.6

*Data not available.

TABLE XXV ILLITERACY IN THE UNITED STATES IN THE URBAN AND RURAL POPULATION FOR THE SEVERAL AGE GROUPS FROM 1910 TO 1930.

Divisions of Population	Census Year	Population	Illiterate	
			Number	Per Cent
Urban				
10 years	1910	34,278,790	1,748,830	5.1
and over	1920	43,798,576	1,955,112	4.4
	1930	57,117,322	1,800,694	3.2
21 years	1910	25,837,435	1,575,684	6.1
and over	1920	33,939,092	1,867,441	5.5
	1930	43,896,714	1,734,741	4.0
10 to 14	1910	4,287,970	39,142	0.9
years	1920	5,486.700	28,710	0.5
	1930	5,949,693	23,798	0.4
10 to 20	1910	8,441,355	173,146	2.1
years	1920	10,039,484	87,671	0.9
	1930	13,220,608	65,863	0.5
Rural				
10 years	1910	37,301,480	3,767,333	10.1
and over	1920	38,760,739	2,796,793	7.7
	1930	41,605,725	2,483,149	6.0
21 years	1910	25,717,473	2,999,333	11.6
and over	1920	26,947,428	2,465,670	9.1
	1930	29,046,910	2,128,474	7.3
10 to 14	1910	4,940,385	301,356	6.1
years	1920	5,976,825	227,119	3.8
	1930	6,055,184	154,435	2.6
10 to 20	1910	11,584,000	773,000	6.8
years	1920	11,813,311	511,123	4.3
	1930	12,558,815	354,675	2.8

TABLE XXVI ILLITERACY IN ARIZONA AND IN CERTAIN OTHER STATES SELECTED FOR COMPARISON IN AGE GROUPS TEN YEARS AND OVER AND TWENTY-ONE YEARS AND OVER CLASSIFIED ACCORDING TO NATIVITY. (1930).

Divisions of Population	Populations of Group	Illiterate	
		Number	Per Cent
Age Group 10 years of Age and Over *			
IOWA			
1. Native White			
Native Parents	1,287,834	5,805	0.5
Foreign or Mixed Parents	536,941	2,372	0.4
2. Foreign Born White	165,045	5,932	3.6
3. Negro	14,426	777	5.4
4. Mexican	2,760	877	31.8
5. Indian	500	98	19.6
COLORADO			
1. Native White			
Native Parents	520,669	5,095	1.0
Foreign or Mixed Parents	177,009	712	0.4
2. Foreign Born White	85,029	7,331	8.6
3. Negro	10,280	403	3.9
4. Mexican	38,734	8,949	23.1
5. Indian	1,048	339	32.3
6. Asiatic	2,452	293	
SOUTH CAROLINA			
1. Native White			
Native Parents	694,683	36,143	5.2
Foreign or Mixed Parents	11,188	103	0.9
2. Foreign Born White	5,239	297	5.7
3. Negro	618,928	181,422	29.3
4. Mexican	None	None	None
5. Indian	672	256	38.1

* See Table XX for data with regard to Arizona, New Mexico, Texas, and California

TABLE XXVI (Continued)

Divisions of Population	Population of Group	Illiterate	
		Number	Per Cent
Age Group 21 Years and Over			
ARIZONA			
1. Native White			
Native Parents	120,568	669	0.6
Foreign and Mixed Parents	26,122	149	0.6
2. Foreign Born White	14,795	541	3.7
3. Negro	7,407	344	4.6
4. Mexican	53.182	14,123	26.6
5. Indian	20,488	12,989	63.4
6. Asiatic	1,502	174	
NEW MEXICO			
1. Native White			
Native Parents	154,415	16,820	10.9
. Foreign and Mixed Parents	13,278	240	1,8
2. Foreign Born White	7,539	528	7.0
3. Negro	1,768	123	7.0
4. Mexican	26,569	9,421	35.5
5. Indian	13,160	9,152	69.5
6. Asiatic	110	10	9.1
TEXAS			
1. Native White			
Native Parents	2,101,825	35,055	1.7
Foreign and Mixed Parents	233,730	5,377	2.3
2. Foreign Born White	94,878	7,069	7.5
3. Negro	469,637	81,840	17.4
4. Mexican	319,237	124,523	39.0
5. Indian	559	126	22.5
6. Asiatic	965	101	

TABLE XXVI (Continued)

Divisions of Population	Population of Group	Illiterate	
		Number	Per Cent
CALIFORNIA			
1. Native White			
Native Parents	1,876,353	5,593	0.3
Foreign or Mixed Parents	871,351	2,876	0.3
2. Foreign Born	762,822	45,331	5.9
3. Negro	57,560	2,104	3.7
4. Mexican	182,895	47,380	25.9
5. Indian	10,685	3,010	28,2
6. Chinese	24,833	5,009	20.2
7. Japanese	50,849	6,191	12.2
8. Filipino	24,407	2,045	8.4
COLORADO			
1. Native White			
Native Parents	373,373	4,617	1.2
Foreign and Mixed Parents	130,916	601	0.5
2. Foreign Born White	82,760	7,310	8.8
3. Negro	8,570	393	4.6
4. Mexican	25,334	8,074	31.9
5. Indian	745	308	41.3
6. Asiatic, Filipino	1,775	296	
IOWA			
1. Native White			
Native Parents	879,401	5,014	0.6
Foreign and Mixed Parents	451,209	2,206	0.5
2. Foreign Born White	161,712	5,886	3.6
3. Negro	11,330	757	6.7
4. Mexican	1,976	816	41.9
5. Indian	340	95	27.9
SOUTH CAROLINA			
1. Native White			
Native Parents	461,513	30,458	6.6
Foreign and Mixed Parents	8,582	93	1.1
2. Foreign Born White	5,022	295	5.9
3. Negro	343,788	121,270	35.3
4. Mexican	None	None	None
5. Indian	413	182	44.1

TABLE XXVII ILLITERACY AMONG THE INDIANS OF ARIZONA FOR THE SEVERAL AGE GROUPS FROM 1900 TO 1930.

Divisions of Population	Census Year	Population	Illiterate	
			Number	Per Cent
Total Population 10 years of age and over	1900	26,480	16,049	83.1
	1910	20,088	14,939	72.8
	1920	23,700	16,068	67.8
	1930	30,960	16,530	53.4
Total Male 10 years and over	1900	*	7,921	80.6
	1910	10,625	7,269	68.4
	1920	12,411	8,069	65.0
	1930	*	*	*
Total Female 10 years and over	1900	*	8,128	85.7
	1910	9,863	7,670	77.8
	1920	11,281	7,999	70.9
	1930	*	*	*
Total Population 21 years and over	1900	*	*	*
	1910	13,030	10,951	84.0
	1920	15,394	11,714	76.1
	1930	20,488	12,989	63.4
Total Male 21 years and over	1900	*	*	*
	1910	6,701	5,519	79.4
	1920	8,215	5,937	72.3
	1930	*	*	*
Total Female 21 years and over	1900	*	*	*
	1910	6,329	5,632	89.0
	1920	7,179	5,777	80.5
	1930	*	*	*

*Data not available.

TABLE XXVII ILLITERACY AMONG THE INDIANS OF ARIZONA FOR THE SEVERAL AGE GROUPS FROM 1900 TO 1930.

Divisions of Population	Census Year	Population	Illiterate Number	Illiterate Per Cent
Total Population	1900	26,480	16,049	83.1
10 years of age	1910	20,088	14,939	72.8
and over	1920	23,700	16,088	67.8
	1930	30,960	16,330	53.4
Total Male 10	1900	*	7,921	80.6
years and over	1910	10,625	7,269	68.4
	1920	12,411	6,069	55.0
*	1930	*	*	*
Total Female 10	1900	*	8,128	85.7
years and over	1910	9,865	7,670	77.8
	1920	11,281	7,999	70.9
*	1930	*	*	*
Total Population	1900	*	*	*
21 years and over	1910	13,030	10,051	84.0
	1920	15,364	11,714	76.1
	1930	20,498	12,989	63.4
Total Male	1900	*	*	*
21 years and over	1910	6,701	5,319	79.4
	1920	8,215	5,937	72.3
*	1930	*	*	*
Total Female	1900	*	*	*
21 years and over	1910	6,329	5,632	89.0
	1920	7,179	5,777	80.5
*	1930	*	*	*

* Data not available.