A SURVEY OF THE PINE PUBLIC SCHOOL,
DISTRICT NUMBER TWELVE, GILA COUNTY, ARIZONA

by

Robert H. Bancroft

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Approved: E. L. Senior
Major Adviser
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CHAPTER I
INTRODUCTION

Early Attitude Toward Public Education.- For ninety years the American public accepted with indifference the matter of free public education. It was considered to be a fundamental principle of democracy and a part of American life. As long as children were in the little red school house kept by a schoolmaster who was "boarded around," educational matters drifted on in very much the same manner in which they had been started. Very little attention was given to them; almost four generations received their knowledge of the basic principles in the same way and by the same methods. Occasionally there were a few enterprising educators who rebelled at the status quo. Horace Mann was one of them. For a few years his efforts attracted the attention of the more progressive, only to be forgotten in the turmoil of the War Between the States and its consequences.

Study of and Changes in Public Education.- Then, in 1893, Dr. Eliot began his study which, during the first decade of the present century, resulted in what might be called a revolution in education. The old methods of teaching and of administration that had been considered satisfactory were proved wasteful, inefficient, and undesirable. But changes came slowly. By 1919-1920 the school population had grown to such
a figure that it was a problem in itself, and, when added to the questions at that time puzzling the leaders in the world of education, created a situation that challenged the wisest and most experienced to offer effective solutions.

Results of Study.—One of the results of investigations and study was the professionalization of teaching, attained by raising the standards and requirements for the vocation. Another was the erection of modern school buildings. Both of these movements continue at the present. There was one great fault in this program. It lay in the fact that for the greater part these constructive movements were concerned principally with city or urban schools. Those schools in rural districts and communities were permitted to continue, in very much the same way that they had followed for a century. Only recently has the rural school had the attention that it needs and deserves. Country children are as much entitled to modern buildings and to competent, well-trained teachers as are their city cousins. Their schools have financial, curricular, and other similar problems that need solution as desperately as do the problems of schools in urban districts.

The Immediate Problem.—The problem here deals with concerns these matters as they apply to a specific case. In the extreme northern part of Gila County, Arizona, on what is probably the last frontier of the United States, is located the Mormon community of Pine. Its citizens are firm believers in education, but they lack the knowledge of how to get the maximum amount of good from their school at the least possible
expense, 3 Pine is by no means a wealthy community. This fact makes careful analysis and sound solutions of its school problems the more necessary. The task, therefore, is to study these problems as revealed by a survey of the situation as it is at present, and to recommend remedies believed most effective in securing the greatest good for the greatest number at the least possible expense. Only after this study is made and these recommendations are adopted will the people of Pine realize the great work that their schools are capable of doing.
CHAPTER II
HISTORY

Need for Background in the Study of School Problems.—The solution of many school problems is often made less difficult if a brief historical background for their study is provided. Such a background affords a broader perspective and permits a more objective treatment of the problems. It is appropriate, therefore, that a short historical sketch or the school which is the object of this study and the community in which it is located be given.

Early Mormon Settlements in Arizona.—The first Mormon settlement in Arizona was made by Anson Call in 1865. This settlement was located on the Colorado river and was included in the "lost county or Pah-Ute" when the latter was ceded to Nevada, in 1865. The date of its founding marks the beginning of the southward expansion of the Mormon faith, which was to play such an important part in the settlement of Arizona. A few years later other settlements were made further eastward:

"Colonies of Mormons have been settling in the lower portions of the valley the past two years, and being an industrious people, will soon become successful colonists." (3)

3. Hodge, Hiram G.: Arizona As It Is, or, The Coming Country, Notes of Travel During the Years 1874, 1875, and 1876, p. 45. The valley referred to is that of the little Colorado river.
The Settlement of Pine.—In 1876, thirteen years after
Call had settled on the banks of the Colorado, J. P. Hough
started the settlement which, within the next four years,
grew into the village of Pine. Mr. Hough came from Oak Creek,
a community of some importance at that time. It was an agri­
cultural community and from it Fort Whipple obtained a consid­
erable part of its fresh food. Other pioneers of this period
were "a Mr. Sidles, a Mr. Bunch, a Mr. Scofield." Where they
came from is not known, but these four men and their families
were the first citizens of the community in which they estab­
lished their homes and founded what was to become a permanent
settlement. By 1881 Pine had become a thriving village, and
that year might be considered the end of the pioneer period.
During 1881 the parents of several of the present citizens of
Pine established homes there. Among them were Mr. and Mrs.
R. Fuller and Mr. and Mrs. A. J. Randall, who, like their
neighbors, were from Utah.

Purposes.—These people had as their purpose to "establish
new settlements and to range ranges for cattle. The families
from Utah came in response to a call of Brigham Young, then
President of the Church of Jesus Christ of Latter Day Saints."

4. This information was obtained by the writer through per­
sonal correspondence with Mr. W. J. Randall, who is a son
of one of the pioneers and who has lived in Pine most of
his life. At the time this was written, he was a member of
the House of Representatives of the Eleventh Legislature of
the State of Arizona.
This purpose was consistent with that given by McClintock in his history, previously referred to. There was also another purpose. The leaders of the Mormon church

"sought a home in the wilderness wherein they might not be hampered in the exercise of their curious religious beliefs and wherein they could found colonies of the proselytes that were expected, and that, indeed, did come. Brigham Young - -- early determined upon a spread of his faith southward by means of colonization." (6)

This period of Mormon settlement marks the climax of the southern expansion movement of these hardy, courageous people. The site of Pine was chosen and actually carved out of the wilderness by the first settlers because "of the opportunity of establishing a small community where crops could be grown and on account of the good feed conditions afforded for the raising of live stock." From the time of the founding of the Mormon church its membership has been agricultural, and "-- the Church, looking for extension and yet careful of the interests of its membership, directed the expeditions that penetrated every part of the Southwest." 8

The First School: - The year 1882 found Pine a definitely settled community. The land had been cleared, the first crops had been harvested, and the first permanent homes had been built; but to this day it remains an unincorporated village. By the end of the four-year period of settlement (1878-1881), the adult population of Pine was at least fifty. The citizens

6. Ibid., p. 450.
MAP OF THE STATE OF ARIZONA, SHOWING THE LOCATION OF PINE AND ITS RELATION TO OTHER COMMUNITIES OF THE STATE

Railroads
State and county boundaries
having followed the tenets of their belief and having observed
them faithfully, now turned their attention to the second fac-
tor or community progress - the establishment of their school.
The number of children in Pine at that time was sufficient to
justify the construction of a school building. This was a
community enterprise, as the labor and the materials were
furnished by the settlement. It represented an investment
of some two hundred sixty dollars. The enrollment for the
first year was "from 24 to 30".

The Second Building. - The first teacher was William
Houston. The building in which Mr. Houston first brought
the three R's to Pine is no longer standing. It was moved
from its original site in 1894 and was used as a church for
several years. In its place was erected the building that
is now occupied by the elementary school. This second
structure represents an investment of at least $1,000.00,
and, like its predecessor, was the result of co-operative
effort of the citizens of Pine.

Early Expenditures for Buildings. - It is interesting to
note at this point that within the period of thirteen years,
or from 1882 to 1895, the town of Pine, with a population
which had never exceeded one hundred souls and which was at
no time any too wealthy, had spent at least $1,250.00 on its

9. Randall, W. J.: in personal correspondence with the
writer, February 11, 1934.
school buildings alone. This amount does not include equipment nor teachers' salary. Is further proof of the interest of these people in the educational welfare of their children necessary?

Later Developments.--And there is yet more to add. In 1925-1926 the third school building was erected. It was made necessary by the steadily-growing pupil population, which had reached 56, the largest number that had ever enrolled up to that time, with the exception of 1918-1919, when the number was 62. The cost of this building is estimated "at about $2,000.00". It is used by the high school, as the elementary grades occupy the building that was erected in 1894.

Present Buildings.--The result is that the public school of Pine now occupies two buildings. This fact alone is inductive to the question of school costs and a study of their possible reduction. This point must be reserved for discussion in a succeeding chapter of this paper. Suffice it to say here that these structures are two of the four buildings now forming the heart of the community, which is symbolic of the combination of things temporal and of things spiritual in the life of Pine, centered as it is in its church, its school, and its community hall.

Summary.—Pine was established as a settlement in 1878. In common with many other communities, especially in northern Arizona, it was settled by representatives of the Mormon church who were concerned with the building of communities which served the double purpose of financial competence and the expansion of the church. The community has grown slowly, the present population being approximately 250. There has been an interest in schooling from the time of the establishment of the settlement; an interest which needs wise direction if the richest results are to be secured.
CHAPTER III
ENVIRONMENTAL, HEALTH, AND ECONOMIC FACTORS

"Ghost Towns" of the West.- In a new community, rapidity of growth is not always followed by permanence of population. The west is full of ghost towns—settlements that were once prosperous because of gold deposits, a mining boom, or good range conditions which made cattle ranching and sheep ranching profitable. Today many of these communities are merely relics of a temporary prosperity. The walls of their deserted buildings, standing at crazy angles and punctured with glassless windows, recall the hectic days of the pioneer and gold rush periods. However, the rich veins of ore were exhausted, and the glory of the new west quickly passed.

The Population of Pine.- But these changes did not affect Pine. Through periods of prosperity and periods of depression the soil has been tilled and cattle have grazed, and the population has increased. This increase has never been spectacular, but it has been consistent.

1. One of the bitterest of these feuds took place about fifty years ago in Pleasant Valley, a settlement some twenty-five miles north of Pine. Intense feeling still persists between the descendants of the Grahams and the Tewkesburys, the two families that were involved, who are now living in Globe. See Arizona Daily Star, Tucson, May 13, 1934. Cf., also, Owen, C. F.: A History of New Mexico, Vol. I, pp 389, 391-392.
"As the precincts in the different counties were not separately returned by the enumerators, the counties can not be published in detail. The figures for the unincorporated places can be considered as only approximate, as the limits of such places are not sharply defined." (2)

An inquiry, however, indicates that there were at least fifty-two people living in Pine in 1881, the year that marked the end of the pioneer period and the establishment of Gila county, which was organized from parts of Maricopa and Pinal counties. This was not the total population, as the number of people in three of the eleven families living in Pine at that time is not known. Pine has never been incorporated; therefore it remains a county precinct and is listed as such in the reports of the United States census. In "Arizona, the Counties are divided into election precincts. Cities, towns, and villages form parts of the election precincts in which they are located, or are co-extensive with one or more of them." It is impossible to give the exact population of any of the precincts of the state previous to 1910 because the figures for this portion of the population were not separately returned. Registration lists - the lists of the names of citizens who are registered and who pay poll taxes and are qualified to vote - are not reliable because they do not contain the name of every one who is entitled to exercise the

8. Ibid., p. 64.
right or suffrage.

It should be noted here that the census of 1910 was the first to report Pine as a separate precinct of Gila county. Until that date its population was included in that of Gila county as a whole, with the exception of the enumerations made previous to 1881, before Gila county became a separate political entity. Data on the population of this county appear for the first time in the census of 1890, which lists the population at 2,021. This number was more than doubled during the decade 1890-1900, as it reached 4,973 at the latter date, and did not include the population of the San Carlos Indian Reservation.

Strawberry.—About seven miles northwest of Pine there is the neighborhood of Strawberry. The homes of its inhabitants, located in a valley, are widely scattered. As these people vote in the Pine precinct and send their children to the Pine school, they must be included in the total population, of which they constitute approximately a sixth.

Growth of Population.—It is a simple matter to explain the growth of Pine. The era of westward expansion of the United States had passed its peak, and those communities which were able to withstand the period of mushroom growth had survived. Also, Arizona Territory had become recognized as an excellent country for cattle raising. In addition, her rich deposits of copper were attracting the interest of eastern

11. Ibid.
investors. These two factors, each of which represents a basic industry - the one agriculture and the other mining - naturally resulted in permanent settlements whose population was bound to increase, for where the people prosper, there the people stay.

Tabulation of the Growth of Population.- Keeping these points in mind, it would probably be neither exaggeration nor conservatism to estimate the average growth of the population of Pine at from 30 to 50 people every ten years. Assuming this to be fairly accurate, this growth may be tabulated as follows:

<table>
<thead>
<tr>
<th>Year</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>1881</td>
<td>52</td>
</tr>
<tr>
<td>1890</td>
<td>87</td>
</tr>
<tr>
<td>1900</td>
<td>112</td>
</tr>
<tr>
<td>1910#</td>
<td>168</td>
</tr>
<tr>
<td>1920#</td>
<td>136</td>
</tr>
<tr>
<td>1930#</td>
<td>232</td>
</tr>
<tr>
<td>1934#</td>
<td>260</td>
</tr>
</tbody>
</table>

Economic Conditions.- This leads to a consideration of the economic situation of Pine. The community was founded as an agricultural settlement, and agricultural it remains. It is truly "rooted in the soil", and because of the foresight of the first citizens it has continued to grow, albeit very gradually, in spite of the hardships of isolation and the vicissitudes of time. When Pine was first settled, it was completely isolated; the only "road" at that time could not be called more than a trail today. This trail is now a state highway, the only one that affords a direct route between Roosevelt and Flagstaff

# Figures given in the United States Census Reports for these years.
1 Estimated.
12 Mr. C. H. Kroeger, in conversation with the writer, April 1, 1934. Mr. Kroeger, now a resident of San Diego, California, made the trip from Flagstaff to Tucson in a covered wagon in 1876.
or Roosevelt and Cottonwood. During the early years a trip to Phoenix required at least a month or six weeks. One or two trips in a covered wagon drawn by six horses or mules were usually made each year. Provisions sufficient for about six months were bought, and after a short vacation of a week or two in the new capital city, the hardy pioneers returned to their isolation.

Farming.—With the exception of the supplies that were bought on these trips, practically all the necessaries of life were of home manufacture. In the early days these independent people wove much of their own homespun, tanned the hides of their cattle for their leather supply, and raised almost all of their food. The altitude, which is approximately 5600 feet, is not too high for growing corn, beans, hay, oats, and garden vegetables, and such fruits as apples, cherries, plums, blackberries, and strawberries; but the short planting, growing, and harvesting seasons and the lack of inherently rich soil do not permit very abundant crops. Not all of the land suitable for farming is cultivated, and one wonders why it is not put to productive use. Its lack of richness could be overcome by the use of natural fertilizer furnished by the live stock. Perhaps the only explanation for the lack of use of this land lies in the difficulty of obtaining a water supply.

14. The settlement of Strawberry, previously mentioned, got its name from the wild strawberries which in the early days grew there in profusion.
Source of the water Supply.—This has always been a problem. The early settlers were engineers as well as farmers, however. Knowing that water is vital, they built their own irrigation system. Pine Creek, which rises about eight or ten miles east of the town in a canyon, drains the valley.

Within a short time after settlement was first made it was put to use. A mile or two up this canyon a diversion dam was built, by means of which the water was led into the community through a shallow, winding canal. Today, after more than sixty years, this same canal ("ditch" to the people of Pine) still furnishes the only water supply of the village, which does not contain a single well, pump, or windmill.

The Irrigation System.—Except when the supply gates are closed, or when frozen in winter, the water of this canal flows continuously. The pressure of gravity, aided by a fall of twelve or fifteen feet at the point where the canal enters the town, gives sufficient momentum to flow into the many acres of land which it irrigates. This irrigation is a very simple matter, effected by the use of ditches which branch from the main canal as it flows through the town. Each of these ditches has a gate or valve, which is little more than an oblong wooden flume, short in length and square in shape. In one end there is a board which is raised or lowered to control the volume of the flow, or to stop it entirely.

15. This information was given to the writer by Mr. Frank C. Randall, Bishop of the Pine Ward of the Mormon Church in Arizona and a brother of Mr. "J. J. Randall.
Impurity of the Water.—The water supply is used not only for irrigation but for domestic purposes also. Before entering the mains it is filtered once through about ten or twelve feet of sand. This is the only purification process used; chlorine and other chemicals are unknown. As several barnyards and outhouses are at higher points than the diversion dam from which the water comes and above the level of the ditch through which the water flows, it is apparent that this one filtration process is insufficient to purify the water for domestic use.

Typhoid Fever.—Such conditions are not conducive to the best conditions of health. It is quite likely that the chief cause of typhoid epidemics which have occurred in Pine from time to time may be traced to the water supply. In the summer of 1932 there were at least five cases, three of them in one family. The illness was responsible for the loss of the enrollment of two pupils for one semester. In a school which has a pupil population of a hundred or more, the loss of two pupils is not felt as severely as it is in Pine, where the enrollment is much less. This is an excellent example of the direct economic effects of illness upon the public school in a small rural community. That these epidemics have not been more serious is partially explained by the fact that the county physician and nurse usually make two or three visits each year. During these visits all the school children are carefully and thoroughly examined. A good many of them have had typhoid, diphtheria, and smallpox inoculations.
Causes of typhoid fever in Pine during the summer of 1932 cannot be placed directly upon the community water supply; however. The origin of the three cases mentioned in the foregoing paragraph was traced to the surface pool from which the family concerned drew their water. This family is desperately poor and cannot afford to use the "municipal" supply. But if this supply is partially, if not wholly, exonerated, there must be other causes. A minor problem is to find them.

Domestic Sanitation.—This is not difficult to do; yet it requires the unpleasant task of facing actual, not imagined, conditions of a very personal nature. To be honest, one wonders at times if domestic cleanliness and order have ever been heard of in many or the homes of Pine. This is particularly true of the older generation. Household and community pride seems to be a matter of public as well as of personal indifference. One cannot expect spotless sanitation in a pioneer settlement, but as development progresses one can certainly expect the introduction of at least a few modern improvements consistent with community growth. Such improvements are not entirely lacking in Pine, but neither have they been adopted to the extent that seems possible. For example, the writer knows of only one completely equipped bathroom in the entire community. The condition in which it was kept during the school year 1932-1933 was little short of appalling. The one source of comfort was the knowledge that sewage was disposed of in a cesspool which did not drain into the community water supply.
School Sanitation. - The condition of the Pine school is even worse. The children are required to use outhouses of a most unsanitary type. These present a constant menace to health; in summer they are breeding places for countless millions of flies, and in winter each pupil is chilled every time he uses them. Such health hazards could be reduced by the use of quicklime - but the use of quicklime for sanitary purposes is unknown in Pine. Wood ashes, taken from the stoves that heat the rooms of the school buildings, could be substituted after having cooled. The writer once suggested this, but the experiment was never tried.

The high school building is equipped with shower baths and hot water. The latter is supplied from a tank connected with the furnace, which is located in the manual training room in the basement. Drainage is disposed of by the use of a cesspool, located less than fifteen feet from the building. It is in the interest of the health of the children that sanitary water closets be installed in the school. It could be done at a cost of less than sixty dollars, because the building is already equipped with running water, and it would be a very simple matter to use some of the space in the shower room for their installation.

The Need for a Sociologist. - This matter of sanitation, or rather the lack of sanitation, presents an interesting problem. Why has the question been met only half-way? Modern plumbing and the best method of rural sewage disposal certainly are not lacking in Pine. The trouble is that the people of the community have, unconsciously, tried to compromise with health. As
no such compromise is possible; the result is public and personal indifference. The situation at Payson, seventeen miles to the south, is scarcely any better. Both towns provide a rich field for the work of an efficient, tactful, rural sociologist.

Perhaps the only reason why epidemics of greater severity than those of the past have not taken heavier toll is that these people, both men and women, inherit the courage and the superb physical strength of their pioneering forebears, and maintain that strength through the hard physical labor that is necessary to make a living. Their children, consequently, are endowed through inheritance with the ability to overcome, at least to an extent, the health hazards which existing conditions present. If one of the cardinal principles of education is health, Pine indeed presents a marvelous opportunity for the educator who has the unsauntable courage to tear down the wall of indifference which surrounds the field of personal and public health, and to bring action upon the realization of the importance of health to personal and community welfare.

Present Health Conditions in Pine.—An analysis shows that there are at least three reasons for the conditions that we have just discussed, namely, indifference, lack of training, and isolation. Any further comment upon the first of these would be trite. Suffice it to say that public indifference is difficult to overcome except through shock or violent measures. Neither of these is within the province of education. Perhaps the most effective means is persistent training.
of the children of Pine in better ideas of personal and public health. Even then the process will be discouragingly slow. Such training as has been given outside the public school has been of a sporadic and ineffective nature. Consequently it has accomplished little, but that little is at least a good start.

Minerals. — One might assume that there are natural resources which might be a source of wealth, but such is not the case. Although located in one of the richest copper-producing counties of Arizona, Pine is totally lacking in minerals: Very few, if any, traces of gold, silver, copper, or coal deposits have been found in its soil. However, "placer gold occurs in the — — Payson, Mazatzal, and Soring Creek regions of Gila county." These placers have been mined in a small way since the seventies, but most of their production was during the early days."

As in most Arizona communities, there is a legend concerning a lost gold mine, which the writer heard. A few questions revealed that it is little more than a story, probably started through the fancy of a prospector who lost his mental balance in a fit of gold fever, and kept alive in the tales told by cowboys around their campfires. "Considerable rich float from the gold-bearing veins in the Payson district, northern Gila county, was picked up during the seventies and the eighties." Considerable interest in these deposits was shown during 1932

17. Ibid., p. 67.
and 1933, after a long period of quiescence. These are the only ore deposits known in the northern part of Gila county. Pine, therefore, will never become a mining community.

There is no coal. Indeed, coal is practically unknown. Many of the children there have never seen a lump of it. The only fuel is wood, gathered from the mountain sides as it is needed, or kerosene. The cost of the latter prohibits any extensive use of it. This lack of fuel is one of the two factors which would preclude manufacturing, if there were any natural resources available for such industry.

Transportation. — Another factor that precludes mining or manufacturing of any nature is the almost complete lack of transportation. Every article not of home manufacture is brought into Pine through the mails or else by truck. The people do a good deal of business with mail order concerns. The nearest railroad point is Cottonwood, sixty-five miles away. A spur of the Santa Fe runs from Ashfork to Phoenix. This spur branches at Drake, north of Prescott, and the branch ends at Cottonwood. It is the only outlet, with the exception of truck, for the products of the copper smelters located at Clarkdale and its neighboring town, Jerome.

Isolation.— Pine is truly apart from the world. The highway from Roosevelt to Flagstaff and from Roosevelt to Cottonwood, which passes through Pine, has been mentioned. This is the only artery of traffic and the only route between these places. The most direct route to Phoenix is to follow this highway until it joins the Apache Trail at Roosevelt — a trip

of 156 miles. In summer the Flagstaff-Roosevelt road is very dusty; in winter it is dangerous because of the deep ruts and slippery, treacherous mud. During the time of the heaviest snows it is entirely closed. The result is that during normal winters Pine is completely cut off from the world for short periods. The famous Fossil Creek and Strawberry hills become utterly impassable. The latter is not open at all from December or January until after the snow has melted. When reopened for summer traffic, the heaviest of the year, it must be graded and regraded. The only contact that can be made when these roads are closed is by horseback. For a week or ten days during the winter of 1932-1933 this was the method by which the mail was brought in and taken out.

**Telephones.**—There is only one telephone line, and it is the property of the United States Forest Service. There are three instruments in Pine, one in each of two of the three stores and the third in the residence of the forest ranger. Connections are difficult to make. If it were necessary to call Globe, the call, originating in Pine, would be relayed to Payson, from Payson to Roosevelt, and from Roosevelt to Globe. In addition, each intermediate telephone would be the source of possible interruptions, as each instrument is connected with the same line.

**Newspapers and Radio.**—There are, of course, the newspapers and the radio. Neither of these is used to its best advantage. Concerning the former it can be said that very little attention is given to world affairs. Interest is centered chiefly in the
comic sheet and in news of a sensational or morbid nature.
At several parties and gatherings the writer tried to discuss
matters assumed to be of general knowledge, but all efforts
toward such conversation were useless. Political and econ­
omic questions were of no interest, or were not understood.

About the only radio programs listened to were of a
mediocre nature. Jazz and cheap humor seemed to be preferred
to those of a more worthy kind. Occasionally the older people
tune in on the latter. At the time of President Roosevelt's
inauguration the writer was the only one in Pine who heard
the broadcast. At school the following Monday, not one pupil
raised his hand when the classes were asked if they had heard
this program. Under such circumstances, is it difficult to
understand why teaching in Pine is so discouraging? Of course
no teacher could expect a lively interest on the part of these
people in many of the affairs that claim the attention of
those who live in larger communities. The disheartening part
of it is that the teacher, realizing their mental starvation,
finds it almost impossible to give them the mental food that
they want because they refuse to take it. They know that they

...
they don't want to learn. One must admire them for their independence, but not for their blind independence. The latter is the result of years of isolation. It can be overcome only through an efficient and economical school system; for Pine, because of its lack of natural resources, will always remain an isolated agricultural community, tucked under the sunny side of the Mogollon mesa, away from the rest of the world.

Social Life.- With all this lack of transportation, communication, and contact, with all this isolation, one wonders what the people of Pine do for amusement. In contrast with the health and other social and economic conditions, one finds a great deal of wholesome, active diversion. Most of it is of an excellent character. It has its foundations in the religious precepts of Mormonism. One of these precepts is recreation, which this church has always fostered. Healthy social life and contacts are encouraged. In Pine they are centered in the community hall, which is one of the four buildings that form the center of the village, reference to which has already been made.

The Community Hall.- The building would do justice to any city a hundred times the size of Pine. It is quite large, and contains a kitchen, a stage, dressing rooms with connections for showers which have not been installed, an enormous fireplace, and an auditorium equipped with portable benches. It seems redundant to say that it is used very frequently. Old and young, from eight to eighty, attend the dances.

and athletic contests that are sponsored by the church organizations, by the school, and by individuals. A community dance is given about once every two weeks, and is attended by people from Payson, Camp Verde, and sometimes from places as far distant as Cottonwood.

Moral Atmosphere. The conduct at these parties is usually above all reproach. There is very little of the roughness characteristic of most isolated rural districts. This is in decided contrast with Payson, where insobriety seems to be the rule on the part of many who attend. The moral atmosphere of Pine is greatly superior to that of its neighboring community to the south. At one time the latter had the reputation of being the "bootleg headquarters for the state," and very probably it was. It is to the credit of Pine that this influence is not more keenly felt. Total abstinence is not known there, but a case of drunkenness is rare indeed among its citizens. As a whole, the social conditions, with the exception of sanitation, are exceptionally good. There are no drug stores or pool halls to be used by the young people as general meeting places such as are found in larger villages, and which are conducive to indolence as well as being moral hazards.

Political Tendencies. Pine is almost wholly Democratic. Political tenancies, however, seem to be by inheritance rather than by choice. Political affiliation is adopted rather than reasoned. In the national election of November, 1932, there was only one Republican vote cast for president.
This was such a remarkable thing that it caused comment from at least one election official, after the ballots had been counted. Politics, like illness, is accepted in Pine as a matter of course. No effort is given to the discovery of what is behind certain movements nor is any attempt made to forecast through reasoning what the results will be. In other words, political interest is practically non-existent. As the same situation prevails in most small settlements, it is not a point to condemn. Rather, it should be overcome.

Religious Interest.- But religious interest certainly is not lacking. Pine is almost wholly a Mormon community. During the school year of 1932-1933 there were probably not more than twelve members of other faiths among its citizens. This explains the static nature of the village, as well as a number of facts that would otherwise be puzzling. The progressive philosophy of Mormonism is checked by its organization. A study of this point made by the writer while in Pine led to the conclusion that it is almost over-organized. This organization remains much the same as it was at the death of Brigham Young. The Twelve Apostles, the Council of Seventy, and the lesser administrative bodies are practically unchanged, although there have been additions to and changes in the principles held by the faith. Attention seems to be given to continuing the principles of the past rather than to adapting these principles to present needs.
If this were not true, the proselyting done by Mormon missionaries would certainly result in a much more rapid growth of the faith. It is taught, hoped, and even expected that every boy and girl will go on a mission shortly after he or she has finished high school or college. At one time Pine had six young men and women in the missionary field. But the religious matters there remain as they have been for years. The influence of outside ideas and forces is not felt, due to the lack of immediate and continuous contact with other wards in more populous parts of the stake.

Village Government. If the average citizen were told that Pine is communist he would at once assume that the town is a menace to society. The information would probably lead to ideas that are false. Yet the government of Pine is of this type. During the period of settlement it was even more so.

"A frontier organized into communities designed to perform all the services of a cultural unit is found in the -- -- Mormon settlements as truly as it was in the New England towns. Mormonism sent its saints in close groups to carefully selected localities. Their 'stakes' strikingly suggest an improved adaptation of the New England settlement."

As Pine is not incorporated, there is no normal governing body nor any city officers. Any project affecting the community is first considered by the community leaders, who are also the chief officers of the church and two of whom are members of the school board. Therefore all three

20. In the Mormon church a ward corresponds to the parish and a stake to a diocese in other religious bodies.
factors; church, state, and school, are closely interwoven. Any enterprise decided upon is carried out by community cooperation, be it a round-up or painting the community hall.

The citizens rent or own their homes and farms. All other property belongs to the community. The church, the community hall, the school, and the water supply are all publicly owned. The supply of electricity is the one exception, but it, like the water, is furnished without the use of meters. There is not one in the entire town. The electricity is paid for on the basis of the number of lights in the home or in the store of the consumer; the water on the basis of the number of acres irrigated or the number of taps.

In such a small settlement, an organization or governing system of this nature functions effectively and with practically no friction. The only conclusion is that no other type could function as effectively, under present circumstances, as the one now in operation. Dissension and ill-feeling would be the only result, because this community, where every one knows every one else, is too small to afford any other kind. Therefore changes in its present form of government cannot be recommended.

Summary.—Gila county was formerly a part of Maricopa and Pinal counties. It was established as a separate political entity in 1881. Data concerning the development of various areas of Gila county are difficult to secure but there is sufficient reliable information to indicate that Pine has shown a slow but consistent growth during its existence.
Natural resources and conditions in Pine are such that agriculture will probably continue to be the sole means of subsistence in the future as it has been in the past. There are no evidences of any mineral deposits as are found in other areas of the county and of the state.

The present health and sanitary conditions are not of the best. The water supply, obtained from a mountain stream, is impure, due to drainage from barnyards and to the lack of adequate filtration and other purification processes. The impure water supply is probably one of the causes of the typhoid fever epidemics that have occurred in Pine during past years. The health and sanitary conditions indicate the need for a rural sociologist and for thorough teaching of personal and community hygiene in the school.

The social and recreational life of Pine is of an excellent character. There are few, if any, moral hazards.

Religiously, Pine is Mormon; politically, it is Democratic. Almost all of its citizens are members of the Mormon church. The form of government of the community is socialistic. Because of present circumstances and for other reasons this system is the most effective. No changes are recommended.
CHAPTER IV

ORGANIZATION AND ADMINISTRATION OF THE FINE SCHOOL

Legal Background. - Any public institution supported by public funds must have a legal basis. This is particularly true of the public school system of the United States. Every state that has been admitted to the union since the passage by Congress of the Northwest Ordinance of 1785 has made specific legal provisions in its constitution for the establishment and support of free public schools.

From the time of its inception as a territory, Arizona has provided for the education of her children. In his opening address to the First Territorial Legislature, Governor John N. Goodwin said:

"One of the most interesting and important subjects that will engage your attention is the establishment of a system of common schools. -- "Self-government and universal education are inseparable. The common school, the high school, and the university should all be established and are worthy of your fostering care. -- - I earnestly recommend that a proportion of the funds raised by taxation be appropriated for this purpose, and a beginning, although small, be made."

(1)

This request did not go unheeded. The splendid system of public instruction that Arizona has today (but not the present condition of this system) is the result of the germ with which the First Territorial Legislature was inoculated. The

1. Journal of the First Legislative Assembly of the Territory of Arizona, p. 39
legal basis of every public school in the state is found in the constitution which it formulated. It is one of the outstanding and constructive pieces of work which that quarrel-some body accomplished. It is basically sound. An echo of it is heard in the provision of the Enabling Act of 1910:

"Sec. 120, subdivision 4: (Provision for public schools).—That provision shall be made for the establishment and maintenance of a system of public schools which shall be open to all the children of the said State and free from sectarian control." (2)

Article XI, Section 1 of the constitution which Arizona submitted for approval to the Sixty-Third Congress of the United States as a prerequisite of statehood stated very clearly that

"The Legislature shall enact such laws as shall provide for the establishment and maintenance of a general and uniform public school system, which system shall include—common schools, high schools, . . . ." (3)

Specific authority for the establishment of public schools is found in Section 6 of this same article, which states that

"The Legislature shall provide for a system of common schools by which a free school shall be established and maintained in every school district for at least six months in every year, which school shall be open to all pupils between the ages of six and twenty-one years." (4)

Section 9 of Article XI provides for the maintenance of "high, industrial, and commercial schools", thus giving each district the privilege of choosing the type of school which it wishes to establish.

4. Ibid., Section 6.
5. Ibid., Section 9.
It is perfectly apparent from the foregoing that the people of Pine were well within their rights when, in 1882, they established their first school. Their authority for such action lay in the constitution of Arizona Territory, and they were quick to act upon it. From the precepts of the Mormon church it may be inferred that, if no such constitutional provision had been made, these people would probably have supported a school as a community project anyway. Their ideas agreed with the basic law of the Territory. Therefore, ever since a very few years after it was settled Pine has had a free public school.

**Type of School Organization.**—The general type of organization of the Pine public school is that of the eight-four system. Since the first school opened there this plan has been followed, with the exception of the school year of 1932-1933, when the six-six plan was used.

Because of the size of the town, the one occupation of its residents—agriculture—and its lack of any industry which might employ child labor or offer other inducements to pupils to leave school before reaching the age of fourteen, this system has not been wasteful of pupil enrollment, as is the case in such cities as Miami or Phoenix. The break between the elementary and high schools, a main cause of pupil

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Concerning child labor the constitution of Arizona states that "No child under the age of fourteen years shall be employed in any gainful occupation at any time during school hours in which the public schools of the district in which the child resides are in session." (See School Laws of Arizona, 1931, p. 24).
mortality, can be observed in very few instances. The majority of those pupils who finish the eighth grade continue their secondary education. Most of them graduate from the school in which they began their study. There is little incitement for them to do otherwise. The loss of pupils caused by the moving of their family to other towns and cities is heavier than that caused by the break between the elementary and the secondary grades. During 1932-1933, when the six-six plan was used, the latter cause accounted for the loss of three pupils, all in the elementary school. Considering the fifty years that the Pine school has been open, the loss of pupils due to its eight-four type of organization has been negligible. On the contrary, pupil enrollment has slowly but consistently grown, with the exception of a very few years.

Probability of Change. Because of tradition and the acceptance by the public of the eight-four organization as being the most satisfactory arrangement, it is likely that this plan will continue to be followed. Until the pupil population reaches a larger number than the present and which will justify the permanent adoption of the junior-senior high school system, and until the citizens of Pine realize and accept as sound and workable the financial economies which the junior-senior high school makes possible, there is no hope for any change. Under the conditions which prevail at the present, there is little likelihood that changes would be advisable. Any such conclusion is not conducive to the progress of the Pine school, but it is better to have it remain static than to have it close entirely.
Such results are not only possible, but more than likely, and would probably the outcome if changes were introduced into the present eight-hour organization. Under the conditions, financial and otherwise, or the present time changes are not advisable.

Composition of the School Staff. - The school staff has at no time consisted of more than four people, including the principal. For thirty-two years, or from 1882 to 1914, the faculty of the Pine school had only one member. From 1914 to 1926 there were two; from 1926 to 1928 there were three, and since that year there have been four. Whether regular janitor service was provided previous to 1922-1923 is not known, as reports of the costs for such service are given as a separate item for the first time in the report of the County Superintendent for that year. No record of a regularly employed janitor previous to that time is available, although it is likely that such was the case. Otherwise it is to be assumed that the work of this nature was done by the teachers, or else the salary and the expenses of a regularly employed janitor were included as parts of one of the various accounts given in the reports of the superintendent.

The size of the Pine school does not warrant a staff of more than four teachers. Extensive curricula, which at the present time are not justified, would be the only reasons for employing more than this number; one of these being the principal.

7. Reports of the County School Superintendent for these respective years.
Present Status of the Pine School. - Pine at present is rated as a Class B high school. When such handicaps as inadequate buildings and the lack of supplies are considered, one is puzzled by the fact that any rating at all is given. The most effective administration possible under such circumstances furnishes the explanation; or else leniency, induced by the realization and appreciation of existing conditions, accounts for it. Effective and economical administration depends upon such factors as modern buildings, adequate equipment, and efficient, well-trained teachers. Pine is wholly lacking in all of them except the last. This makes its Class B rating the more difficult to understand.

The relation of this status to the principles of school administration, as at present understood, is very distant. But effective school administration means making the best of such conditions as the principal or superintendent finds prevailing in his buildings and their equipment. Pine is most certainly observing it. The efforts of its school board would be more productive of results if its members knew what these principles are. Their lack of knowledge cannot be held wholly responsible, however. Isolation, lack of contact, and above all, the handicap of not having the finances with which to provide for and to maintain a more modern school system, preclude any other conditions. It is to be hoped that the static situation in which Pine has been will be changed. If such a change ever comes it will be the result of a slow and,
at times, a discouraging process. But come it must, if its
public school expects to attain the status that it is capable
of reaching under the effective administration of a modern,
well-equipped school plant.

Summary.—As the constitution of the Arizona Territory
provided for the establishment of free public schools, the
people of Pine exercised their legal rights when they estab­
lished their first public school in 1882. Had there been no
such legal basis for their action, it is likely that they
would have established and supported a school as a community
enterprise.

The 8-4 system of organization has always been used by
the Pine school, with the exception of the school year of
1922-1923, when the 6-6 plan was used. The school staff
has never exceeded four members, and because of tradition
and the lack of finances it is likely that the 8-4 plan will
continue to be used. A change to any other system of organ­
ization is at present neither advisable nor likely. The
school has been given a Class B rating. School matters at
present are rather static in their nature, and there is op­
portunity for decided improvement in the conditions that
prevail.
CHAPTER V
THE FACULTY OF THE PINE SCHOOL

Influence of the Faculty on the School. - The process of making education a profession has brought many changes in the requirements for teaching. Standards of instruction and of preparation are now on a strictly professional basis. The period of preparation for teaching has been lengthened. The introduction of a program of guidance in many schools makes it possible to select at an early date and with a fair degree of accuracy those high school pupils whose abilities and interests indicate that they will succeed as teachers. Thus, their preparation is begun before the period of secondary education is completed. Continued on the level of collegiate study, such preparation can result only in competent, well-equipped instructors who are fully capable of training the youth of today for their places in the society of tomorrow. The more efficient the faculty of a school, the higher is the standing of that school.

Sources of the Teachers in the Pine Public School. - It is apparent that a capable and efficient faculty is the first requirement of a public school. Trained teachers can do more with meagre equipment and supplies than those lacking in professional training can do with unlimited materials at their disposal. It is such training that has enabled the faculty of the Pine school to overcome many of the handicaps under which
they must work. Study of records and conversations with the clerk of the school board reveal that the majority of teachers who have been employed in Pine have had superior training. As Pine is a Mormon settlement, it is to be expected that most of the teachers there have prepared in Mormon institutions. "I believe that most of the teachers in Pine have come from Utah." The greater number have received their collegiate training in the institutions of higher learning of that state. Each of the two teachers' colleges of Arizona and the state university have also supplied faculty members.

The Problem of Tenure.—Teacher tenure is a problem that the public schools have always had to face. It has been a factor in their efficiency since public instruction was introduced into the United States. Both large and small schools, and especially those in rural districts, have been handicapped by the transient nature of their faculties, and Pine is no exception.

Tenure of Teachers in the Pine Public School.—Because of the scarcity of available data concerning tenure in Pine, it is impossible to find an exact average of the length of time that teachers in the past have remained there. However, it is safe to state that it is much less than the present average of from six to ten years for the United States as a whole. The writer knows of only two teachers who were employed in Pine as long as six years during the thirty-year period from

1. Reports of the Gila County School Superintendent, filed in the office of the County School Superintendent, Globe.
1903-1904 to 1932-1933. Of these two, one was the principal, who was a graduate of the Utah Agricultural College. The other taught the first, second, and third grades, and was a graduate of the Northern Arizona State Teachers' College. Both were members of the Mormon church. The former taught in Pine from 1926 to the close of school in May, 1932. The primary teacher held her position from 1927 until the summer of 1933. These two teachers were employed longer than any others who were members of the faculty during the thirty-year period of 1903-1904 through 1932-1933. The writer found no case of a more extended period of tenure in Pine during this time.

Reasons for Short Tenure in Pine. — The short tenure of the members of the faculty of the Pine school must be analyzed, if reasons are to be found. Those who have the power of appointment and dismissal are reluctant to reveal the motives for their actions in matters that concern the school and especially its faculty. The writer knows only two definite reasons for the failure of re-election. One of them is the Arizona law which prohibits nepotism, and the other is that no married woman is at present employed as a teacher.

The first is a matter controlled by the state. The second is a matter within the power of the school board to make and enforce, and is probably a temporary measure put into effect because of the prevailing economic conditions. The Arizona law prohibiting nepotism states:
It shall be unlawful for any executive, legislative, ministerial or judicial officer to appoint or vote for the appointment of any person related to him by affinity or consanguinity within the third degree. — The designation "executive, legislative, ministerial or judicial officer includes — public school trustees." (3)

The present nepotism law of Arizona was the cause of the failure of the re-election of two of the four teachers who were employed in Pine during the year 1931-1932. One of them was also the principal. His daughter married a nephew of the clerk of the school board. In the fall of 1932, a third teacher married another nephew of the clerk. This nephew is a brother of the boy who married the daughter of the principal. Nearly all the families in Pine are related either by blood or by marriage. Therefore there are very few native sons or daughters who are eligible to teach in the village.

Teaching Load. — The health conditions and the teaching conditions which prevail in Pine are in all probability among the minor causes of short tenure. The circumstances under which the faculty work should be considered. Perhaps the most outstanding of these is the teaching load, which is much heavier than that found in the average school system. The Pine school includes all grades from the first through the twelfth, but there are only four teachers. Although the size of the classes is small, the number in each

class has little effect upon the amount of preparation which
the members of the faculty, particularly those who teach in
high school, are required to make for the daily recitations
or their classes. Other duties are expected of the teachers
in addition to their school responsibilities. To cite the
case of the writer who taught all of the English, social
science, music, art, and manual training in all grades from
the seventh through the twelfth, he was also the director of
music in the Mormon church, scoutmaster of the Pine troop of
Boy Scouts, and school reporter for a Globe newspaper. He was
repeatedly called upon to speak, to sing, and to appear on the
programs sponsored by the Parent-Teacher and church organiza­
tions. No compensation was given for any of the additional
work that these duties required. There was no stipulation in
his contract to the effect that he should assume these duties;
it was a gentleman's agreement made when the contract was
signed.

Tenure and Re-Election. - The matter of re-election is one
over which teachers have very little control. In the majority
of schools, tenure is dependent upon the will of the board.
Under such circumstances no faculty member has any guarantee
of tenure beyond the period of employment stipulated in the
contract. Those who seek re-election have no assurance what­
soever that they will have their positions for the next year.
The effort to secure re-appointment is expressed in the effort
to do work that is satisfactory to the community and to the
school board. But what is meant by "satisfactory" work? The
interpretation of this work by the school board may be, and in
smaller towns where knowledge of modern educational matters and methods is lacking, usually is quite different from the interpretation given to it by modern, well-trained teachers. This seems to be the case in Pine. Every effort was made by all four instructors employed there during 1932-1933 to do teaching that would be satisfactory to the school board and to themselves. Not one of them was re-elected. In the case of two of these teachers, however, marriage explains the failure to hold their positions for the ensuing year. No reason for the failure to re-employ the two men was given. One of these two men was the principal, the other was the writer.

The lack of assurance of re-election is always a cause for worry on the part of any teacher. The present practice of the Pine school board in this matter leaves much to be desired and is most certainly a cause of teacher transiency. Elections to the faculty usually are not made until July or August. This keeps the faculty in a state of nervous tension which is bound to affect the quality of their work. No teacher is going to wait two or three months after school closes for a contract which he is not at all certain of being offered. Therefore those teachers in Pine who lack sufficient reasons for expecting re-election (and this means most of the faculty) seek other positions in order to be sure of employment for the following year. If they are successful, others must be found to take their places. The result is yearly changes in the personnel of the teaching staff, and consequently a high
rate or transiency, which prevent reaching the level of efficiency that it is possible to attain when competent teachers are consistently re-employed.

Reasons for Postponing Elections.—Many school boards, especially in the larger cities of Arizona, elect the teachers in their schools in the spring. The school law provides for such early elections, but it does not make them mandatory. In a letter to C. O. Case, (the then) Superintendent of Public Instruction for Arizona, dated January 20th, 1930, K. Berry Peterson, at that time attorney-general of the state, wrote:

"Subdivision 3 of Section 1911 of Revised Code of Arizona, 1928, reads as follows:
The Board may, at any time after the annual election and qualification of the new members, enter into contracts with teachers, principals, for the succeeding year and fix their salaries." (4)

Yearly elections to the school board are held on the last Saturday in October. The new members assume their duties January first, and faculty appointments may be made after that date. The principal reason for postponing these appointments in Pine is due to the present uncertain condition of school finances. This same situation prevails in other cities of the state. Tax delinquencies have greatly reduced the income of the schools. Until this situation is cleared, it is likely that faculty appointments will not be made until the summer.

Religious Consideration. - The influence that their church membership has upon the selection of teachers for the Pine school probably has some effect upon the members of the school board in the election of the faculty. The principal and at least one of the three other teachers are always members of the Mormon church. No exceptions to this rule were found by the writer. The strong religious prejudice may and probably does explain one of the causes of the high rate of teacher transiency in Pine.

Summary. - The majority of teachers who have been employed in the Pine public school during recent years have had excellent professional training. Most of the faculty members have completed their collegiate study in Utah or Arizona institutions or higher learning.

The Pine school, like many other schools, has the problem of teacher tenure to solve. Data indicate that the average length of tenure in the community is less than six years. Among the causes of short tenure are the health conditions in Pine, the heavy teaching load and extra-school responsibilities, the uncertainty of re-election, and religious prejudice. It is the practice of the Pine school board to postpone faculty appointments until the summer. The reason for doing this is that the present financial situation of schools not only in Gila county but throughout Arizona is too uncertain to permit faculty elections until the amount of money apportioned for the year to each school is known. The apportionment is not made until after the first of August.
CHAPTER VI

THE PUPILS OF THE PINE SCHOOL

Questions that Schools Must Solve.—The pupils in any public school are like those in any other public school only in one respect: they are there for the purpose of securing an education. This purpose may be considered the common denominator of all education. But it is the only factor in education that remains constant. The size of the community and the environment in which a school is located, the nature and needs of its student body, and the deficiencies and the destination of its pupils are only a few of the almost unlimited number of questions that each school must study and solve if it is to meet the responsibilities put upon it by society.

Homogeneous Nature of the Pine Student Population.—An outstanding difference is found in the Pine School when the racial composition of its student body is compared with that of the schools in Pima, Maricopa, and even sections of Gila county. In the schools of Maricopa and Pima counties, for example, large numbers of the pupils are Indian or Mexican. In Arizona elementary schools, during 1931-1932 there were 9.5 per cent of the pupils who were classified as Mexican; 33 per cent were of foreign parentage. In the high schools,
8.3 per cent of the pupils enrolled were Mexican.

No such condition is found in Pine. There is not a Mexican nor an Indian family within miles of the village. Differences in race and nationality are conspicuously absent. Therefore the problems that such differences present in the schools and in the communities where they exist are not known in Pine. Every one of the sixty-nine children enrolled there in 1932-1933 was of American parentage. The effect of such racial homogeneity upon the school is apparent.

Pupil Destination. — The principal reason why children go to school is to prepare themselves to do the work by which they expect to earn their living. Selection of life work in the grammar grades or in the junior high school is most frequently the result of exploratory courses which the school offers in these grades. Neither pupils nor teachers expect such selections to be permanent. The final choice in most cases is not made until further and more specific study of vocations is done in the high school. Pupils are influenced in such choice by the size of the school and the exploratory courses included in its curricula, and by the size and nature of the community.

When applied to Pine, the above points classify the pupils of its school into three divisions: those who expect to remain there after completing high school, those who plan to go on

missions for the Mormon church and to live in other places, and those who expect to continue study in institutions of higher learning. The destiny of those in the first division is manifest. The boys will become farmers or livestock men and the girls will become home-makers. Many of those pupils who leave Pine after graduation from high school but who do not continue study usually do missionary work or else find employment in the Salt River Valley of Arizona or in the northern part of the state. Some of them go to Utah. The length of time spent on a mission is usually about two years, although it may continue indefinitely. It may require travel to any part of the world. The missionary is assigned his territory by the church authorities in Salt Lake City. Those who find work in other communities usually are employed on farms or ranches or hold clerical positions. The writer found few exceptions. The pupils who continue their study on the college level usually prepare to enter a profession.

The distribution of choices or vocations made by the pupils who graduate from the Pine high school may be revealed by considering the class of 1933. This class had a membership of five - two boys and three girls - and represented the average class that completes the work which the school offers. There were no failures. A course in occupations was included in the program of studies for 1932-1933. This course was given during the first semester and was divided into two parts, one of which was offered in junior high school and the other in the senior high school. The former was introductory in nature. The
latter was more specific in that it provided an analytical study of the requirements for all the major vocations. One of the requirements of this course was a term paper, the purpose of which was to find the choice of occupation or profession that each of the five members of the senior class made, and to provide guidance. The results were:

1. One girl, the valedictorian, chose nursing, and in September, 1933, entered a nursing school.
2. One girl chose kindergarten teaching, but did not go to college because of ill health and probably because of the lack of finances.
3. One girl chose the teaching of physical education, and began her collegiate study in September, 1933.
4. One boy thought seriously of entering law, but made no final decision.
5. One boy chose agriculture, but did not expect to go to college.

Two of these five pupils went to college; the others remained at home or else sought work in other communities.

Pupil Deficiencies.—The question of pupil deficiencies is a broad one. No school can possibly supply all the needs of all of its pupils. It must limit itself to supplying those needs which will be of most service to the largest number. In pine most of the needs of the pupils are so obvious that they may be easily listed. Such a list would include thorough training in health, in worthy home membership, in the care and repair of personal and public property, training in respect for authority, and, above all, training in responsibility. Most of the children in Pine have not the slightest conception of the meaning of the word. They are not taught to take care of their personal belongings; they have no idea
whatsoever or the value of money (as most children who live in larger communities have), and when given tasks to do, either do them half-way or not at all. In the latter respect they are probably no different from children anywhere else. The fault lies with their parents, who, in most cases, permit their children to do very much as they please. The manner in which children speak to their parents and the tone of voice they use would, in most homes, be rewarded with thorough punishment. But not in Pine. Quite a few times the writer heard the most shocking impudence and even profanity used by children in addressing their parents. The worst part of it was that the only punishment was a threat, which was worse than no punishment at all. No threat was carried out. This condition in the homes might easily have developed disciplinary problems in the junior and senior high school if the faculty had not given the pupils to understand that such conduct would not be tolerated.

These deficiencies could be more easily overcome by the school if the people of Pine could be made to understand the injustice which they do their children. They do not seem to realize the effects that the lack of such home training has. It means, among other things, that the school has the added responsibility of providing the training which the average home can, in most cases, be depended upon to give. But all the efforts that are given to teaching worthy home membership are of little value, because the training is all undone the moment the children reach home after the close of school.
Order responsibility, care or property, and parental respect are unknown. Discouraging as it is, the Pine school must fulfill the duties imposed upon it by such circumstances, and make the effort to overcome the difficulties which exist.

**Pupil Transiency.** - In an unpublished survey of the Payson school, Larson states:

"The school population in various sections is especially a fluctuating one due to the migrations of parents. — In Pima County and in portions of Maricopa County slightly more than half of the students are enrolled during the entire year, the other portion of the school enrollment entering or leaving school as the convenience of the families seems to dictate." (2)

A study of the data concerning pupil transiency in Pine during the school year 1932-1933 (which may be considered an average year in most respects) reveals that transiency was one of the very few school problems that were almost nonexistent during that time. This study may be summarized as follows:

<table>
<thead>
<tr>
<th>Description</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Permanent pupils enrolled for school year</td>
<td>64% (92.75%)</td>
</tr>
<tr>
<td>Pupils transferring to other schools</td>
<td>5% (7.25%)</td>
</tr>
<tr>
<td>Pupils transferring to the Pine school</td>
<td>0% (0.00%)</td>
</tr>
<tr>
<td>Total enrollment</td>
<td>100% (100.00%)</td>
</tr>
</tbody>
</table>

"This situation implies not only a stable student body with which there are large possibilities of school achievement but it also indicates a fairly stable adult population for the support of various school enterprises." (3)

When the transiency of pupils in Pine is compared with

3. Ibid.
that in other schools in Arizona, it is quite evident that the present situation in Pine in regard to this matter is satisfactory.

However, a study of the data as given in Table I on page 56 and in Chart 1 on page 57 indicates that such a low rate of pupil transiency has not always prevailed there. The greatest difference in the number of pupils enrolled for any two successive years is found between 1928-1929, when the enrollment was 67, and 1929-1930, when it was 88. This difference is twenty-one. It is probably accounted for by the prosperous economic conditions which prevailed at that time. It is likely that a number of families left Pine during the period of "Coolidge prosperity" to take advantage of the high wages paid in every type of employment in other parts of Arizona and in the United States as a whole, and returned to their farming after the peak of the period was passed. A similar trend in enrollment is apparent for the years of 1918-1919, 1919-1920, and 1920-1921. There was a difference of 16 between 1918-1919 and 1919-1920, and one of 19 between 1918-1919 and 1920-1921. Economic conditions prevailing at that time were quite similar to those during the period of 1928-1930. The difference was one of degree rather than one of kind, but it had the same effect: a "back to the farm" movement on the part of the people who had left Pine to profit by the business boom that followed the World War.

Other causes of pupil transiency are the same as those noted in the survey of the Payson school, quoted in a previous paragraph. (Page 51).
Average Daily Attendance Records of the Pine School.-

Because of the scarcity of accurate and reliable data concerning the average daily attendance of the pupils enrolled in the Pine school, the use of such data as are available is not a dependable indication of the trends of pupil attendance. The records for the years 1903-1904 to 1921-1922 give the total enrollment of the school rather than the enrollment of each grade in the school. The enrollment by grades was not reported until 1921-1922, the year after age-grade tables were first introduced into the public school system of the state as an additional means of pupil-accounting. "From our records it appears that we had no age-grade tables in the state previous to the fiscal year 1920-1921." Data concerning the ages of the pupils enrolled in the Pine school and their yearly progress from grade to grade are not available, therefore age-grade tables cannot be given. The writer found that the average daily attendance record was the only record of attendance that has been made with any degree of accuracy. By the use of these data it was possible to show the percentage that the average daily attendance has been of enrollment during the twenty-five year period 1908-1909 to 1932-1933. This percentage is shown in Table I. (Page 54).

4. Mr. H. E. Hendrix, State Superintendent of Public Instruction, in a letter to the writer, February 24, 1934.
### TABLE I
**ENROLLMENT AND AVERAGE DAILY ATTENDANCE IN THE PINE SCHOOL FROM 1908-1909 TO 1932-1933**

<table>
<thead>
<tr>
<th>Year</th>
<th>Enrollment</th>
<th>Attendance (A. D. A.)</th>
<th>Percent A. D. A. Was of Enrollment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1908-1909</td>
<td>49</td>
<td>32</td>
<td>65.75</td>
</tr>
<tr>
<td>1909-1910</td>
<td>44</td>
<td>30</td>
<td>68.25</td>
</tr>
<tr>
<td>1910-1911</td>
<td>44</td>
<td>31</td>
<td>70.50</td>
</tr>
<tr>
<td>1911-1912</td>
<td>48</td>
<td>37</td>
<td>77.10</td>
</tr>
<tr>
<td>1912-1913</td>
<td></td>
<td></td>
<td>Data and reports for this year are incomplete.</td>
</tr>
<tr>
<td>1913-1914</td>
<td>46</td>
<td>43</td>
<td>93.50</td>
</tr>
<tr>
<td>1914-1915</td>
<td>49</td>
<td>41</td>
<td>83.75</td>
</tr>
<tr>
<td>1915-1916</td>
<td>54</td>
<td>42</td>
<td>77.75</td>
</tr>
<tr>
<td>1916-1917</td>
<td>51</td>
<td>43</td>
<td>84.30</td>
</tr>
<tr>
<td>1917-1918</td>
<td>56</td>
<td>47</td>
<td>83.90</td>
</tr>
<tr>
<td>1918-1919</td>
<td>62</td>
<td>38</td>
<td>61.50</td>
</tr>
<tr>
<td>1919-1920</td>
<td>46</td>
<td>35</td>
<td>76.10</td>
</tr>
<tr>
<td>1920-1921</td>
<td>43</td>
<td>36</td>
<td>83.75</td>
</tr>
<tr>
<td>1921-1922</td>
<td>46</td>
<td>38</td>
<td>82.20</td>
</tr>
<tr>
<td>1922-1923</td>
<td>48</td>
<td>45</td>
<td>93.75</td>
</tr>
<tr>
<td>1923-1924</td>
<td>54</td>
<td>34</td>
<td>63.00</td>
</tr>
<tr>
<td>1924-1925</td>
<td>54</td>
<td>45</td>
<td>83.40</td>
</tr>
<tr>
<td>1925-1926</td>
<td>56</td>
<td>54</td>
<td>96.50</td>
</tr>
<tr>
<td>1926-1927</td>
<td></td>
<td></td>
<td>Reports giving data for this year are missing.</td>
</tr>
<tr>
<td>1927-1928</td>
<td>57</td>
<td>54</td>
<td>94.74</td>
</tr>
<tr>
<td>1928-1929</td>
<td>67</td>
<td>53</td>
<td>72.00</td>
</tr>
<tr>
<td>1929-1930</td>
<td>88</td>
<td>77</td>
<td>87.50</td>
</tr>
<tr>
<td>1930-1931</td>
<td>81</td>
<td>69</td>
<td>85.50</td>
</tr>
<tr>
<td>1931-1932</td>
<td>77</td>
<td>62</td>
<td>80.55</td>
</tr>
<tr>
<td>1932-1933</td>
<td>69</td>
<td>61</td>
<td>84.50</td>
</tr>
</tbody>
</table>
CHART 1
ENROLLMENT AND AVERAGE DAILY ATTENDANCE IN THE PINE
PUBLIC SCHOOL FROM 1908-1909 TO 1932-1933
Pupils enrolled:——— Average daily attendance:———
Importance of Accurate Daily Attendance Records.—Perhaps the most important record that the principal of every Arizona school has to keep is that of the average daily attendance. The reason is that the allotment of state and county funds is made on the basis of the total pupil population as shown by the attendance records which the principal or the superintendent submits to his school board. The school law of Arizona is quite clear on this point. The importance of an accurate record of the average daily attendance is made more apparent by the law which prescribes the method that the county superintendent must use in estimating the amount of funds needed by the schools of his county for the fiscal year:

"The county superintendent shall multiply the sum representing the average daily attendance of the common and high schools of the county by such sum as will produce the amount of funds estimated by him to be needed for the ensuing year. In figuring the average daily attendance as herewith provided, only the six months of school showing the highest average daily attendance shall be considered." (5)

The apportionment of money from the state is made on the basis of attendance for the entire school year.

Summary.—The student body of the Pine school is racially homogeneous, as there are no children of Indian, Mexican, or other foreign parentage enrolled. This situation is rather remarkable, and different from that in schools in other parts

5. School Laws of Arizona, as Compiled in Revised Code of Arizona, with New Laws and Amendments Passed by the State Legislature Since That Date, p. 96.
of the state, some of which have a rather high percentage of Indian or Mexican children attending. Most of the children who graduate from the Pine high school remain in the community, or go on missions for the Mormon church and live in other towns and cities. A few continue their education in college.

The most outstanding deficiencies of the pupils of the Pine school are their lack of training in personal and community health, in worthy home membership, in the care and repair of personal and public property, in respect for authority, and training in responsibility. The school must meet the responsibility of remedying these deficiencies, which, in most cases, is not assumed by the home.

From data concerning pupil transiency during the last few years, it would appear that transiency in Pine is not as serious a problem at present as it has been in the past. The reason for the rather high rate of transiency at certain times during past years may be traced to general economic conditions. Average daily attendance records have been kept rather accurately in Pine, but age-grade tables, which were introduced into Arizona in 1921 for the purpose of keeping a more accurate record of pupil accounting, have been neglected.
CHAPTER VII

A RECOMMENDED PROGRAM OF STUDIES AND ITS COMPONENT CURRICULA

Technique of Building a Program of Studies. - When planning a building, an architect follows certain lines of procedure. The site or the proposed structure must be studied, the type or building best adapted to the use for which the building is intended must be considered, the strength of the materials to be used must be known, and the cost estimated.

If such a procedure is necessary in building a lifeless structure, how much more necessary is an equally definite procedure in planning the preparation of the structure of human society? The primary purpose of the school is the welfare of its pupils; without such a definite technique much effort is wasted and the results are quite likely to be indefinite and unsound.

Definition of Terms. - Education, like every other profession, has a nomenclature of its own. What is a program of studies? What is a curriculum? Unless one knows what he is dealing with and understands the meaning of certain terms, he is like a man in the dark. In the present instance we are concerned with only a few such terms which apply to the immediate problem.

1 Douglass defines the terms that will be used in the succeeding pages as follows:

"Program of Studies." - The list by years of all high-school courses of instruction (for example, physics and algebra) offered for study in a given school without reference to grouping into curricula.

"Curriculum." - The systematic arrangement of a number of courses into a unit group for differentiated groups of pupils; for example, the college-preparatory and the stenographic curricula.

"Course of Study." - The arrangement of the detailed materials of instruction within a given unit of a subject; for example, the course of study in first-semester or first-year algebra.

"Constant." - A course which is required of all pupils no matter what curriculum is elected.

"Variable or Curriculum Prescription Constant." - A course not required of all pupils in the school; but required of all pupils in a given curriculum; for example, algebra in the college-preparatory curriculum.

"Limited Elective." - Any one or two or more subjects, not all of which are required of all pupils of the school or of a given curriculum, but one which must be elected by the pupil.

"Free Elective." - A subject not required or a pupil in the curriculum which he is following.

These terms will be so interpreted in this problem. With this background, the steps in arranging a program of studies may be outlined as follows:

1. Make a comprehensive community survey.
2. On the basis of this survey, select the curricula which are most desirable and feasible.
3. For each curriculum outline the component courses, - constants, prescriptions, variables, and electives.
4. Provide that each course is constructed to include the proper content.
5. Make available to students such guidance that each student enrolls in the most valuable (for him) curriculum and courses.

Questions on Curriculum Construction and Revision. - Not only is there a technique in planning a program of studies, but also in the construction and revision of curricula must a definite method be followed, and nine questions answered.

2. Taken from material provided in a course in curriculum construction and revision taught by Prof. E. L. Larson at the University of Arizona, second semester, 1933-34.
if a thorough solution of the problems is to be reached. These nine questions are:

1. What is the population of the community?
   a. Number; nature; home owners or tenants?
   b. Are the majority of the people workmen or more or less independent financially?

2. What is the major occupation of the community?

3. What are the cultural interests of the community?
   a. How many high school and college graduates?
   b. What is the kind and amount of out-of-school education - musical, literary, recreational?

4. What is the wealth of the community?
   a. Total wealth; wealth per student?
   b. In many or few hands?
   c. Productive or unproductive in form?
   d. Stable or fluctuating?

5. What is the tax rate of the community?
   a. State; county; local?
   b. How does the tax burden compare with that in other communities?
   c. What proportion is the school tax of the total taxes?

6. What is the school cost?
   a. Per pupil in the elementary and high schools?
   b. How does it compare with that in other communities in the state?

7. What data concerning student population are available?

8. What are the present practices in this school?
   a. What curricula are offered?
   b. What courses are offered?
   c. What student activities are definitely planned for and considered?
   d. What special problems demand solution?

9. What is the status of this school?
   b. State Board of Education and University.

Of these nine questions, only the first three will be considered in this chapter. Those dealing with finances will be discussed under that topic; question nine has been answered.

Population of the Community.- It has been stated that the village of Pine was settled during 1878-1881 by members of the

3. Cf. p. 61, footnote 2.
Mormon church, and that these people were one of the many groups of settlers who migrated southward from Utah for the purpose of spreading the Mormon faith. Most of the people now living in Pine own their homes, although a few of them are tenants. This situation indicates a general interest in school affairs; as a fixed population is more concerned with the education of its children than is one of a transient nature. A somewhat similar situation prevails in employment, practically every one of the citizens of Pine is economically independent. This does not imply wealth, however. There are probably not more than fifty adults—less than one-fourth of the total population—who are directly dependent upon others for work.

Major Occupation of the Community.—Although previously considered, a brief summary of this question may be given. Pine has only one occupation—agriculture. Very few traces of mineral deposits have been found; therefore there is no mining. Natural resources, fuel, and adequate transportation are lacking, and the isolation of Pine precludes manufacturing or any kind. Raising beef cattle by grazing on forest reserves is the principal industry, although general farming is also important. Practically the entire population is directly engaged in agricultural interests. The result is that the majority of this population is permanent, although small.

Cultural Interests of the Community.—No isolated community can have more than a few cultural interests. Lack of contact prohibits acquaintance with the offerings of the life of
today. There is a very decided lack of knowledge of good music, good books, and current topics and problems in Pine.

This situation is partially explained by the fact that only a few of the older people there, the parents of pupils now in school, completed their high school education. Also, the business of making a living does not allow very much time for reading and the discussion of current topics. The young people are thus denied any extensive knowledge of present affairs.

There are probably less than fifty people in Pine who completed their secondary education. The number of college graduates is much less; the writer knew only six people who held academic degrees. A survey of Pine reveals that cultural interests are practically non-existent there. Provision for recreation and social contacts is made by the Mormon church and by the school, which roster and encourage high types of diversion; but basketball and dancing are the only regular pleasures to be had. Both are directly connected with the school, but their field is narrow insofar as their contributions to culture are concerned. Other than this, neither children nor adults are afforded any recreation that is conducive to "the finer things of life". By "finer things" is meant those factors which really make definite contributions to the character and to the full development of the individual and release him from the cares and worries of daily life.
Present Practices at the Pine School.— While teaching in Pine, the writer made a study of the needs and of the present practices of its school. This study revealed that the present practices are not consistent with current educational ideas. For example, health instruction is not given the attention that it should have. The sanitary conditions of the school itself, as well as of the community, are capable of great improvement. The present curricula are not based on pupil needs except in the case of preparation for college. Student activities for 1933-1934 included the book club, the tennis club, the etiquette club, and the school newspaper. There was no activity program nor any pupil guidance program for 1933-1934.

The problems that demand solution include teacher tenure, the installation of curricula that will meet pupil needs, improvement of the sanitary condition of the school, the purchase of sufficient equipment to permit the most efficient instruction, a well-planned and financially economical school program, and an awakening of the school board to modern educational trends and practices.

Data Concerning Pupil Population.— The student body of the Pine school is racially homogeneous, as there are no children of Indian, Mexican, or other foreign parentage enrolled. This situation is quite different from that in schools in other parts of the state, some of which have a rather high percentage

5. Information furnished by Mr. J. B. Anderson, a member of the faculty of the Pine school during this year.
of Indian or Mexican children attending. Most of the children who graduate from the Pine high school remain in Pine or go on missions for the Mormon church and live in other towns and cities. A few continue their education in institutions of higher learning.

The most outstanding deficiencies of the pupils of the Pine school are their lack of training in personal and community health, in worthy home membership, in the care and repair of personal and public property, in respect for authority, and in training for responsibility. The school must meet the duty of remediating these deficiencies, which, in most cases, is not assumed by the home.

From data concerning pupil transiency during the last few years, it would appear that transiency in Pine is not as serious a problem at the present as it has been in the past. The reason for the rather high rate of transiency at certain times during past years may be traced to general economic conditions. Average daily attendance records have been kept rather accurately in Pine, but age-grade tables have been neglected.

Present Status of the Pine School. The Pine school is not recognized by the North Central Association. Such recognition is not likely to be given until many changes and much progress are made. Inadequate equipment, health conditions, and a dozen other factors now obtaining in Pine preclude any hope of early recognition. However, a few years ago the state high school visitor gave its school a Class B rating, which rating it still holds.
This brief consideration of Pine and its school provides sufficient background for the consideration of a program of studies and its division into curricula. An analysis of the local conditions and of the needs of pupils enables definite goals and definite objectives to be established. Such a program of studies and its curricula, with the historical development of recent trends in, and the objectives and the content of each subject which the writer believes to be the best for the school of Pine, are briefly discussed in the following pages.

Steps in Building a Program of Studies. One of the most difficult tasks that most secondary school executives must accomplish at some time during their professional career is that of building a program of studies. By following the steps previously outlined, however, the task becomes much easier. Not only should these five steps be followed, but certain definite principles of education should also be observed. The State of Missouri outlines quite comprehensively a number of such principles in its course of study. Among them are the following:

"Education must be considered an investment by the state to preserve and to promote its own best interests."
"- - - The first duty of the school is to teach pupils to do better those desirable things that they will do anyway. Another is to reveal higher activities and make them both desired and to an extent possible."
"Subject-matter should have some positive justification. - - - explore the interests, aptitudes, and capacities of pupils by means of worth-while material; - - - (and) be of maximum good to the extent to which it is pursued."

6: Cf. p. 61.
"Each course should be so made that any normal, intelligent, and industrious pupil can pass.
"Courses of study should always be considered tentative and should be modified whenever good reasons appear."

Program of Studies Recommended for the Pine High School.-
Because of the improbability of any change in the 8 - 4 system of organization which has always been used in the Pine high school (with the exception of the school year 1932-1933), the program of studies should be arranged on the basis of a four-year high school. The program of studies outlined on pages 69, 70, 71, and 72 is recommended. It will adapt itself to the multiple-curriculum type of organization, which sets up two or more curricula, one of which the pupil selects and presumably follows through all four years of high school. A summary of the trends in enrollment in various subjects that are offered in various Arizona high schools and which are recommended for inclusion in the Pine course of study is given on page 73.
### TABLE II

**CURRICULUM FOR THE FIRST (FRESHMAN) YEAR, PINE HIGH SCHOOL**

<table>
<thead>
<tr>
<th>Subjects</th>
<th>Units</th>
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<tbody>
<tr>
<td>English I</td>
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<tr>
<td>Civics:</td>
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<td>Occupational</td>
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<tr>
<td>Community</td>
<td>$\frac{1}{2}$</td>
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</tr>
<tr>
<td>Practical Mathematics</td>
<td>1</td>
</tr>
<tr>
<td>Health and Physical Education</td>
<td>$\frac{7}{8}$</td>
</tr>
<tr>
<td>Music and Art</td>
<td>$\frac{1}{8}$</td>
</tr>
</tbody>
</table>

* Basic for all curricula and required for every pupil.
# TABLE III
CURRICULA FOR THE SECOND (SOPHOMORE) YEAR, PINE HIGH SCHOOL

<table>
<thead>
<tr>
<th>Agriculture and Home Economics Curriculum:</th>
<th>Units</th>
<th>Commercial Curriculum:</th>
<th>Units</th>
<th>College Preparatory Curriculum:</th>
<th>Units</th>
</tr>
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<tr>
<td>Constants:</td>
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<td></td>
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<tr>
<td>English II</td>
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<td>English II</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Biology</td>
<td>1</td>
<td>Biology</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health and Physical Education</td>
<td>1/8</td>
<td>Health and Physical Education</td>
<td>1/8</td>
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<td></td>
</tr>
<tr>
<td>Music and Art</td>
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<td>Music and Art</td>
<td>1/8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Curriculum Prescriptions:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agriculture I</td>
<td>1</td>
<td>Typing I</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Home Economics I</td>
<td>1</td>
<td>Bookkeeping I</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manual Training</td>
<td>1</td>
<td>Shorthand</td>
<td>1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<p>| Electives:                               |       |                        |       |                                 |       |
| Typing I                                 | 1     | Manual Training        | 1     |                                 |       |
| Bookkeeping                              | 1     | Agriculture I          | 1     |                                 |       |
| Algebra                                  | 1     | Home Economics I       | 1     |                                 |       |
| World History                            | 1     | World History          | 1     |                                 |       |</p>
<table>
<thead>
<tr>
<th>Agriculture and Home Economics Curriculum:</th>
<th>Units</th>
<th>Commercial Curriculum:</th>
<th>Units</th>
<th>College Preparatory Curriculum:</th>
<th>Units</th>
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<tr>
<td>Constants:</td>
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<td>English III</td>
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<td>English III</td>
<td>1</td>
<td>English III</td>
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</tr>
<tr>
<td>American History</td>
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<td>American History</td>
<td>1</td>
<td>American History</td>
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<td>Health and Physical Education</td>
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<td></td>
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<td>Typing II</td>
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<td>Plane Geometry</td>
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<tr>
<td>Home Economics II</td>
<td>1</td>
<td>Shorthand II</td>
<td>1/2</td>
<td>Spanish I</td>
<td>1</td>
</tr>
<tr>
<td>Farm Mechanics</td>
<td>1</td>
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<td></td>
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<td>Electives:</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Typing II</td>
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<td>1</td>
<td>Agriculture II</td>
<td>1</td>
</tr>
<tr>
<td>Spanish I</td>
<td>1</td>
<td>Home Econ. II</td>
<td>1</td>
<td>Home Economics II</td>
<td>1</td>
</tr>
<tr>
<td>Plane Geometry</td>
<td>1</td>
<td>Plane Geometry</td>
<td>1</td>
<td>Typing I</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Spanish I</td>
<td>1</td>
<td>Bookkeeping I</td>
<td>1</td>
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<tr>
<td>TABLE V</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CURRICULA FOR THE FOURTH (SENIOR) YEAR, PINE HIGH SCHOOL</td>
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<table>
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<th>Agriculture and Home Economics Curriculum:</th>
<th>Units</th>
<th>Commercial Curriculum:</th>
<th>Units</th>
<th>College Preparatory Curriculum:</th>
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<tr>
<td>Constants:</td>
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<td>English IV</td>
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<td>1</td>
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<tr>
<td>Problems of American Dem.</td>
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<td>Problems of American Dem.</td>
<td>1</td>
<td>Problems of American Dem.</td>
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<td>Health and Physical Education</td>
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<tr>
<td>Music and Art</td>
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<td>Music and Art</td>
<td>1/8</td>
<td>Music and Art</td>
<td>1/8</td>
</tr>
</tbody>
</table>

| Curriculum Prescriptions:                 |       | Curriculum Prescriptions: |       | Curriculum Prescriptions:       |       |
| Agriculture III                           | 1     | Typing II                | 1/2   | Spanish II                      | 1     |
| Home Economics III                        | 1     | Shorthand II             | 1/2   |                                 |       |
|                                           |       | Bookkeeping              | 1     |                                 |       |

<p>| Electives:                                |       | Electives:              |       | Electives:                      |       |
| Typing I or II                            | 1/2   | Agriculture III         | 1     | Typing I/II                     | 1/2   |
| Bookkeeping                               | 1     | Home Econom. III        | 1     |                                 |       |
| Spanish II                                | 1     | Spanish II              | 1     |                                 |       |</p>
<table>
<thead>
<tr>
<th>Year</th>
<th>Schools Reporting</th>
<th>Number of Pupils</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
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<tr>
<td></td>
<td></td>
<td></td>
<td>1915</td>
<td>1922</td>
<td>1928</td>
<td>U.S., 1928</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>14</td>
<td>14</td>
<td>46</td>
<td>14,275</td>
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<tr>
<td>U.S.</td>
<td></td>
<td></td>
<td>1476</td>
<td>5313</td>
<td>11277</td>
<td>2,096,630</td>
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<table>
<thead>
<tr>
<th>Subject</th>
<th>Percent of Enrollment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. English</td>
<td>73.17</td>
</tr>
<tr>
<td>2. Spanish</td>
<td>26.76</td>
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<tr>
<td>3. Algebra</td>
<td>38.48</td>
</tr>
<tr>
<td>4. Music</td>
<td>35.23</td>
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<tr>
<td>5. Typewriting</td>
<td>23.50</td>
</tr>
<tr>
<td>6. Physical Education</td>
<td>20.93</td>
</tr>
<tr>
<td>7. Geometry</td>
<td>19.00</td>
</tr>
<tr>
<td>8. Home Economics</td>
<td>17.30</td>
</tr>
<tr>
<td>9. American History</td>
<td>15.90</td>
</tr>
<tr>
<td>10. Community Civics</td>
<td>12.67</td>
</tr>
<tr>
<td>11. Manual Training</td>
<td>28.00</td>
</tr>
<tr>
<td>12. Industrial Arts</td>
<td>26.80</td>
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<tr>
<td>13. Biology</td>
<td>26.79</td>
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<tr>
<td>14. General Science</td>
<td>25.90</td>
</tr>
<tr>
<td>15. World History</td>
<td>24.50</td>
</tr>
<tr>
<td>16. Bookkeeping</td>
<td>22.18</td>
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<tr>
<td>17. shorthand</td>
<td>21.70</td>
</tr>
<tr>
<td>18. General Math</td>
<td>21.20</td>
</tr>
<tr>
<td>19. Agriculture</td>
<td>20.71</td>
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<tr>
<td>20. Health-Sanitation</td>
<td>19.40</td>
</tr>
<tr>
<td>21. Problems Democracy</td>
<td>17.50</td>
</tr>
</tbody>
</table>

Data from:
(4) Ibid.
This program of studies meets the standards for the selection of courses recommended by the North Central Association of High Schools and Colleges:

"In the selection and adaptation of materials — the following three facts should be considered: first, that there are certain common needs of all high school students which must be met by certain subjects; second, that differentiation in subjects and subject-matter is determined — by (a) needs of the various groups within the school and (b) by the needs of the various individuals within the several groups; third, that the organization of curricula — should be in accord with the nature and sequences of these objectives." (8)

The Curricula of the Pine High School. — A study of the pupils in the Pine high school reveals that these pupils are divided into three groups, when their adult life is considered: those who will remain in Pine after completing their high school education, those who will go on missions for the Mormon church and who will live in other towns and cities, and those who will go to college. The isolation of Pine; its lack of any natural resources, and its agriculture make farming or ranching inevitable for those pupils who will continue to live there. This manifest destiny requires a curriculum which will prepare them "to do better those desirable things which they will do anyway." Therefore a curriculum specializing in agriculture and home economics must be provided. The second group cannot go into the world unprepared for work or to make their living in commercial

enterprises. There should be a commercial curriculum to meet the needs of these students. The third group, those who expect to go to college, should find a college preparatory curriculum available.

The three curricula having been chosen on the basis of pupil needs, the next step is to arrange the program of studies into three groups of courses that will form the content of these curricula. In any curriculum there are certain core subjects that should be and usually are included. The North Central Association of High Schools recommends

"- - - that 3 units of English, 2 units in Social Science, 1 unit in Biological Science or 1 unit in General Science, and 1 unit in Physical Education or Health (with or without credit) be required for graduation for all students in the four-year high school." (9)

Constants and Electives. As constants are courses which are "required of all pupils, no matter what curriculum is elected," they may be considered as a group. As the student progresses in school, he finds that the number of required courses decreases as the number of electives increases. Irrespective of the curriculum a pupil follows, he should be permitted some freedom of election of the courses that appeal to him. The only restriction placed upon the choice of electives is that they should be courses that will support the work of the chosen curriculum. In addition to other advantages, three major objectives are attained by this freedom

of choice; it gives each curriculum a degree of flexibility; it enriches the work of the pupil's chosen field, and it provides for the study of cultural subjects as well as for the study of practical ones. A discussion of both the required and elective courses recommended for inclusion in the program of studies and its division into curricula for the Pine high school follows.

**English**

**Historical Development and Trends.**—At present English is probably the only study found in every American high school. This has not always been the case. In English speaking countries the use of the language was not allowed in many schools, nor even in the play or their pupils, until after Columbus discovered America. Broome accounts for this on the grounds that

1. The English language and its literature, in comparison to the classics, is relatively new; 2. The indeterminateness of the language and the lack of any common standards have made English difficult to teach; and 3. Culture and training in the classics have so long been synonymous terms in the minds of many that any attention to the mother tongue was regarded as almost a dissipation of energy."

Very little provision was made for instruction in English in the Latin grammar schools, but it was given a place in the other secondary schools and in the academies. It was made a prescription for college entrance requirements in 1819. From that time English has consistently gained in popularity

in the secondary school. But

"It is difficult to describe the present status of English as a high school subject. Progressive practices suggest that much has been accomplished. On the other hand, authorities in the field reflect a pessimistic attitude." (13)

The Aims of English. Present tendencies and practices in the teaching of English seem to indicate that certain definite objectives have become generally recognized. The Missouri state course of study lists the aims as the "ability to read, the ability to speak, and the ability to write" the language. Hosic recommends

"(1) a new type of emphasis on extensive reading, including all types of literature, (2) the development of a truly American spirit through the perspective of an English background, and (3) the ability to find one's way in the library." (15)

With Hosic's second aim the writer heartily agrees. Most certainly a "truly American spirit" should be developed. But there is a danger in such development, in that most Americans are extremists. We overemphasize, we give too much attention to being "100% Americans." This phrase, coined during the World War, precludes from many minds the consideration that the United States is the child of Europe and has a wholly European background. However, during the four and one-half centuries that have passed since Columbus' trip of 1492 we have developed our own nationalism. For most of this period suffident unto ourselves, we could afford to be nationally

independent. But since the Spanish-American War we have become a world power—perhaps the greatest world power, with the exception of the British Empire. We have interests that are hopelessly entangled with all parts of the earth. This fact is sufficient to warrant an international outlook, rather than one that is confined to our own geographical boundaries. Therefore our Americanism should be one that is tinctured with cosmopolitanism. It is the vogue of most of the nations of Europe at the present to be intensely nationalistic. Political dictatorship in Italy, Germany, and in the nations of Central Europe, and the militaristic tendencies of France and Japan, have as their purpose the development of an overintense nationalism. As a result, the world is kept on the edge of a catastrophe. It will remain in such a state until all nations realize that no longer can any country remain wholly unto itself. There can be no political Utopia, but there can be a broader outlook and a better comprehension of the utility of a spirit or nationalism that is too highly developed. Teach nationalism, certainly, but not to the extent of making it political propaganda. Better let it be the realization of and appreciation of our American heritage, broadened by an international attitude.

Content of the English Course for the First Year of High School. - The English of the Freshman year should provide for study of grammar, which would include the parts of speech,

function and use, and their practical application to written work. The latter should include not only assigned topics but original compositions also, which would encourage the development of original thought and its treatment. By permitting children some degree of freedom, healthy attitudes are encouraged and individual weaknesses are revealed.

"- - - At the end of grade IX a pupil should be able to avoid any ordinary error in grammar, to improve expression by varying grammatical structure, and to write good business and social letters." (17)

To prevent the study of formal grammar and written work from becoming tiresome, a certain amount of English and American literature should be included. *Julius Caesar* - the standard classic or freshman English courses - should not be omitted. Some short stories, such as de Maupassant's *The Necklace*, Henry's *The Chapparral Prince*, and others of the same nature might be included.

The English of the Second Year of High School. - English for the sophomore year might well include further study of grammar, so that the pupils may learn to

"write well-unified, coherent sentences, construct correct and effective letters, think clearly and honestly, and to form independent judgments." (18)

Less attention to classics and more attention to current literature should be practiced by the teacher. Oral English could be introduced for the purpose of building the foundation

ior closer study of this subject in the junior and senior years. A greater amount of individual reading should be required. Pupils should be permitted to make their own choice of books, but encouraged to select those of real value as well as of interest. Such literary freedom is characteristic of recent trends, and is a departure from the emphasis that is usually placed on classics.

**The English of the Third Year of High School.**—In the junior year of high school English, the study of grammar, letter writing, and composition should be given much less emphasis than these subjects receive during the first and second years. Oral English should be stressed. This is particularly the case in Pine, as the children of the community begin to give talks in church before they complete grammar school. Debating, story-telling, and the discussion of current topics should be encouraged. The "free-reading" program should be continued. A survey course of English and American literature might be included, in order to acquaint the pupils with the universal field of literature. Such a survey should minimize the usual attention to details; the history of literature might well be omitted. If such a survey is found to be too much for one year, the work may be divided. English literature could be offered during the junior year and American literature during the senior year.

**The English of the Fourth Year of High School.**—It should be observed that English is a required subject for the fourth year in the Pine high school. The work of the last year would
be of most value if it were made a thorough review of that of
the three preceding years. The purpose is to prepare better
those pupils who choose the college preparatory curriculum.
Nor would it be wasted time and effort on the part of those
who select either one of the two other curricula. Particu-
larly should oral English be emphasized, for the purpose of
preparing pupils for their missionary work. Written English
is of as much importance because of the responsibilities that
require the ability to express themselves by use of the writ-
ten word as well as by the spoken word. It is logical, there­
fore, to arrange the work of the senior year on this basis.

### Health and Physical Education.

**Historical Development and Trends.** — Not until the first
decade of the nineteenth century was physical education
introduced into American secondary schools. The earliest
courses were probably those required as a part of military
training. After the opening of the United States Military
Academy in 1802, military training was introduced into many
academies and into a few public schools. Physiology and
health, which were first studied during the second quarter of
the last century, developed rapidly after 1850. In 1921,
twenty-eight states had laws concerning the teaching of phys-
ical education in the schools, both elementary and secondary.
At present more interest is shown in physical education than

19. Inglis, Alexander: Principles of Secondary Education,
p. 640.
there ever has been previously. Thirty-nine states, at present, have laws requiring the teaching of these subjects in their public schools. Koos states:

"The rapid growth of physical training in secondary schools is further evidence that we are ceasing to think of education as solely concerned with man as an intelligent being and are realizing that his physical being also needs care, development, and sometimes even correction."

The Aims of Health and Physical Education. - If health and physical education are the disposition and ability to secure and maintain a condition of personal health and physical fitness, probably no better aims than the following can be established:

"The chief aim of health teaching is to establish right habits. Others are to instill a working knowledge of practical facts relating to cleanliness and sanitation, of food, fresh air, rest, exercise, games, sports, and other types of recreation; the causes of preventable diseases and the means of checking them; to build ideals regarding health, beauty, and service to self, school, and community, that will result in better living, including the proper use of leisure time; and to develop the individual's sense of his responsibility, not only for his own health, but for that of the community in which he lives." (22)

Content of the Health and Physical Education Courses. - The content of the course whose aim is to provide sound, adequate training in health and physical education cannot be prescribed in a manner that will be satisfactory to all schools. Such courses must be flexible in order to meet local circumstances. The factors of climate, athletic and gymnasium equipment, and the needs of pupils must be considered. But whatever local

adjustments have to be made, the course in health and physical education should contain:

"1. Instruction in physiology and hygiene,
2. Physical training provided as a regular part of the school work,
3. Athletics and play." (23)

**Music and Art.**

**Historical Development and Trends.**- During ancient times music, like athletics, reached its highest development in Greece. Its popularity continued even after the fall of Rome, through the Middle Ages, and up to the time of the rise of Puritanism. Probably not then did interest in music cease, although most music was condemned as ungodly by the misguided puritans. Their influence in the colonies explains to a great extent why it was not taught in any of the public schools or colonial America. Nor was it taught in many public schools after the Revolutionary War. Only the academies included it in their work.

The attitudes of Americans have had a good deal to do with the lack of attention to music in the public schools.

"Attitudes toward music in this country have been such as to give it little more than occasional recognition in the secondary school until after the opening of the present century." (25)

Only during recent years has music become recognized as a course in almost every curriculum. The increase in the amount of leisure time has brought a greater demand for it than there has been in the past. Some very encouraging signs are given

by the improvement in quality of many radio programs. During the winter and spring of 1933-1934 one of the great tobacco companies sponsored the broadcasts of the Metropolitan Opera Company. Although tainted by advertising and capitalizing a false psychology, these programs nevertheless brought a great deal of the world's best music to millions of Americans.

**The Aims of Music.** In outlining the aims of music, the Missouri state course or study lists the following:

"To provide a means of self-expression through the medium of vocal and instrumental music; to train the pupil to take part in the life of the community by performance and thereby raising — the quality of the music, and encouraging and strengthening the love for better-class music in the community; to develop an appreciation of the best in music and counteract the influence of so-called popular music; — "

In several school subjects, social aims have been discarded. Recent studies indicate that this is not the case with music. An example is found in the National Survey of Education, made in 1932:

"The social aim — includes the training of pupils in social contacts and in the tenets of citizenship through participation in musical activities. A group spirit is the sine qua non of successful musical organizations, — and therefore opportunities for the promotion of good fellowship and the development of exemplary civic qualities are frequent. — — A reflection of new trends in education in general is seen in the Pasadena, St. Louis, and San Diego courses, which hold that music should contribute to an intelligent international understanding."


Content of the Music Courses. - The music that is taught in the elementary and grammar grades usually is sufficient to provide a foundation for the study of technical points and for applied work in high school. A variety of courses, including "courses in practice," chorus singing, glee-club work, orchestra, and applied music, both vocal and instrumental - - - "(28) should be offered in secondary grades. These courses are common to all four years, but they should advance in difficulty and in content as the pupils progress. It is suggested that a course in the history and appreciation of music be given during the senior year.

The need for such a course in Pine is apparent. The people of the community seem to have a predilection for good music, but they rarely listen to worthwhile programs that are brought to them by radio because they do not understand nor appreciate programs of this nature. If the course in music offered in the Pine school is to be of greatest value, the subject of music appreciation must be included.

Art.

Historical Development and Trends. - It has been stated that "Art now means good taste in everyday living, and it reveals itself in our clothes, our business, homes, and communities." (29) This status has been reached through an evolutionary process. At present there is a tendency to give to art more attention than it has had as a high school subject, in the past. Much remains to be done, however, as art does not yet enjoy the

same status as that held by other subjects.

In tracing the history of art in American public schools, Koos says that

"Although drawing was listed among the subjects recommended by Franklin to be offered in the first academy and in the early high school, art - - - as a field of instruction, even in recent years, has had a smaller proportionate recognition in secondary schools than most subjects and subject groups. - - - Elementary schools have rather generally given training in this field, but on the high school level the proportion is much smaller."

The National Survey of Education for 1932 reports a more encouraging growth, however, not only in interest in the subject, but also in the expansion of the content and the aims of art courses.

Aims of Art. - If the interpretation of art as "good taste in everyday life" is to be applied, definite aims must be established. In discussing such aims, Hilpert says:

"The general aims include - - - the enlarging and enriching of aesthetic experience through exercise of the imagination and of the creative impulse in design."

The specific aims are:

"To enable pupils to appreciate and enjoy beauty wherever found and to desire it in their personal possessions.

"To develop selective judgment in the choice of design, color, and construction,

"- - - to develop good taste, - - - to enrich life and train for leisure, - - - to gratify the desire to create." (32)

32: Ibid.
Content of the Art Courses. — As the aims of art have changed within recent years, so has the content of the courses offered in most high schools. Sargent says:

"Under present conditions high school art courses may be broadly classified as follows:
1. Courses in drawing and design which are organically related to industrial and constructive work, including household art.
2. General art courses, which correspond somewhat to traditional art-school courses and which appeal particularly to pupils with special art interest.
3. Courses consisting of illustrated lectures, readings, and class recitations which present a survey of art."

As this content meets the needs of art courses in the high school, it should be arranged — as all content in any subject should be arranged — in psychological units. Such an arrangement provides a comprehensive idea of the aesthetic as well as of the practical values of art. It also provides training in the basic principles of the subject, and gives all pupils the chance to express their ideas and to develop original thought. "Courses of this sort are becoming fairly common in high schools."

The Social Studies.

The social studies "are understood to be those whose subject-matter relates directly to the organization and development of human society and to man as a member of social groups."

34. Ibid., p. 18.
In the United States,

"History as well as English had little recognition in the Latin grammar school, but soon found a place in the academy. Geography made its appearance almost contemporaneously, but was suppressed to the elementary school level. General history and history of the United States were among the subjects that, during the period 1826-1840, attained a prevalence in the academies of New York of from seventy-five to one hundred per cent. The early high school also found a place for courses in geography and history. Toward the middle of the century, to a number of courses in history there had been added work in such fields as "political economy" and the "Constitution of the United States." The expansion in the social studies between 1860-65 and 1896-1900 doubled." (36)

The Department of Superintendence of the National Education Association reports that, from 1914,

"American history gained slightly in emphasis, English, mediaeval, and ancient history lost considerably in proportional enrollment, and world history took the place of the above three courses. The newer "social studies" have increased both as electives and required subjects. Today, the social studies imply pupil contacts not only with history and civics, but also such subjects as sociology, problems of democracy, and modern social problems." (37)

An analysis of senior high school courses of study made during the national survey of education in 1932 revealed that European history, American and United States history, civics, economics, sociology and social problems, problems of American Democracy, international relations, and current events were the courses in social science offered most frequently in the high schools of today.

37: Department of Superintendence, National Education Association, Sixth Year Book, 1928, pp. 293-294.
Aims of the Social Studies. - The national survey of education for 1932 reveals that, in the social studies,

"The number of objectives listed in a particular category varies in different courses of study. Only one objective is found in many instances, while the largest number found in one course -- -- is 135. One course in another subject contains a list of 85 objectives." (99)

To discuss each of the objectives when they cover such a wide field is not practical in the present instance. They may be summarized by stating that, while contributing to all or the seven cardinal principles of education, these objectives have as their principal aim not only to reveal to pupils the principles of good citizenship but also to create the desire and the ability to practice it.

Content of the High School Social Science Courses. - The social science of the first year of high school, civics, is usually divided into two parts. The first, community civics, is offered during the first semester and is followed by vocational civics in the second. Community civics includes the study of community welfare, government, and citizenship. The work of the second semester is concerned with vocations. Its material includes a survey of different businesses and professions and their subdivisions. The course is of a survey nature to enable pupils to become acquainted with the great variety and extent of the world's work and to prepare them to make intelligent choices when selecting the vocations which they will follow and in which they believe they can succeed.

World history, offered most frequently as an elective during the sophomore year, is usually little more than a survey. It embraces the study of ancient civilizations, their rise, fall, and contributions to mankind; the Middle Ages; and the Renaissance. Modern civilization, the result of all that has gone before, is emphasized.

The social study in the junior year of high school is usually confined to American history. The work begins with the discovery, exploration, and colonization of the New World, or with a consideration of our European background. This is followed by the study of the events leading to the Revolutionary War and the War itself; its consequences, and the development of the new nation; the westward movement, the controversy over slavery, and the growth of nationalism following the Civil War. The West Virginia State Course or Study recommends particular attention to the development of the United States since 1850. Some of the larger units include the growth of American democracy, the conservation of natural resources, and international relations.

The work in social science during the senior year of high school is concerned with a course that is a composite of economics, sociology, and political science. The economics phase deals with the forces that govern mankind in the process of making a living. Factors of demand and supply, transportation,

40. State of West Virginia, Department of Education, Bulletin 1926: Course or Study for Junior-Senior High Schools, p. 15
42. State of West Virginia, Department of Education: op. cit.
industry, and communications are considered. The sociological phase deals with man himself and with the society in which he lives and of which he is a part. It also considers the sociological questions of population, crime, and other problems of our present civilization. Political science deals with government, local, state, and national. The topics included in this course are practically the same as those included in separate courses in civics, economics, and sociology. The principal difference is that the work in this course is usually condensed so that it may be covered in the year's study.

Mathematics.

Development and Present Trends of Mathematics. - Although arithmetic and geometry were taught in many of the secondary schools of Europe, and although algebra was offered in the lower schools of Boston as early as 1727, "--- mathematics beyond arithmetic did not make its appearance in the curriculum of the Latin grammar school until late - not until some time after the academy had recognized it generously." In 1730 one James Lyde of New York City offered to teach "Arithmetic, in its parts, Geometry, Trigonometry, --- Algebra, and sundry other Parts of Mathematical Learning." By 1774 there were at least fifty schools in Boston, New York City, and Philadelphia which included "various parts of the mathematics" in their

curricula. These courses were gradually enriched; by 1823 "intellectual" (mental) and written arithmetic, algebra, geometry, navigation, surveying, and "astronomical calculations" were taught in the schools of Boston. All of these subjects, to which trigonometry was added in 1836, were offered as late as 1852.

During the last quarter of the nineteenth century there was a decline in the popularity of mathematics.

"Prior to 1875 the mathematical offering on the high school level was more extensive than it is today. The trend to restrict the high school curricula to algebra, geometry, and arithmetic began, apparently, soon after 1875, for the Conference on Mathematics of the Committee of Ten reporting in 1893 recommended only algebra, geometry, trigonometry, and higher algebra." (46)

The effects of this recommendation are still felt in the high schools of today. One rarely finds included in their curricular offerings any mathematics courses other than these, and trigonometry and higher algebra are rarely taught. The present tendency seems to be to offer those mathematics courses which are of greatest value. An example of this is found in the course in "general" or "practical" mathematics, which has been introduced into the high school only recently.

The Aims of Mathematics. — Mathematics seems to have almost as many aims as it has uses. In one course of study these aims have been summarized thus: "The purpose of mathematics is to reveal the quantitative aspects of one's environment.

46. Ibid., p. 284.
and to enable one to control these aspects." This is the general aim. Each branch of the science has its own objectives. As only three of these branches — practical mathematics, algebra, and geometry — are recommended for inclusion in the program of studies for the grade high school, the aims of each of these three will be considered.

The West Virginia state course or study lists a total of twenty-seven objectives for practical mathematics. These objectives may be summarized in the statement that the aim of practical mathematics is to give pupils a knowledge of the use and applications of the mathematics that they need in order to solve the problems that arise in their daily life, and to train pupils in the skills that are needed for the solution of these problems.

The general aims of algebra are to "Give an understanding of the language of algebra, — the ability to use the algebraic method in stating and solving problems," and the "ability to understand and to interpret correctly graphic representations of various kinds." A recent study lists thirty-six specific aims, divided into seven groups. Among these aims are: the understanding of fundamental laws and operations of algebra, concepts of mathematical law, graphs and statistics, and applications of algebra.

47. State of West Virginia, Department of Education: Course or Study for Junior-Junior High Schools, 1926, p. 175.
48. Ibid., pp. 177-185.
In a recent survey it is revealed that

"Of the courses in which objectives for plane geometry are listed, the following appear in five or more:

1. Development of logical reasoning,
2. Appreciation of utility and beauty of geometric forms,
3. Understanding and appreciation of deductive proofs,
4. Precision and accuracy." (51)

The course of study for Colorado includes another which is of particular interest:

"To humanize the subject by the use of practical applications to the geometry of appreciation, geometry and forms of nature, architecture, manufacture, and industry, and by the use of improvised measuring instruments in field work measurements and calculations?"

Content of the Mathematics Courses. - It is recommended that the work in mathematics for the freshmen year of Pine high school be concerned with a course in practical mathematics. As the title indicates, the content would be composed of material involving the application of the fundamental processes. It might appear that this would amount to the mere repetition of the arithmetic studied in the grammar grades.

Such is not the case, because the work of these grades is but the foundation for more advanced study. In practical mathematics the pupil will apply what he has already learned to

the problems that he must face in daily life. This fact is
the basis for the content of the course.

The content has three divisions: arithmetic, intuitive
geometry, and algebra. Under arithmetic the following are
included: percentage, business arithmetic, banking, arith-
metic in the home and in the community, investments, frac-
tions, ratio and proportion, and graphs. Intuitive geometry
deals with measurement, areas, circumferences, volumes, con-
struction, and familiarity with geometric forms. The algebra
content deals with simple equations, the drawing and inter-
pretation of graphs, and negative numbers.

Algebra, a constant in the college preparatory curriculum
but an elective in the others, should include as the minimum
content the study of simple equations, polynomials, fractions
and fractional equations, factoring, quadratics, graphs and
graphical representations, positive and negative numbers,
linear equations, ratio and proportion, and equations in two
unknowns.

Plane geometry should include as the minimum the follow-
ing content: angles, triangles, parallels and perpendiculardas
parallelograms, the sum of the angles of a triangle, inequalities, loci, the circle, tangents, applications of similar
polygons, measurement of the circle, lines and planes in
space, and dihedral angles.

93. Office of Education, Bulletin 1932, No. 17, Monograph 23:
Instruction in Mathematics, pp. 24-25.
54. State of Missouri, Department of Education, Bulletin 12,
55. State of Oklahoma, Department of Education, Bulletin 126,
Science.

Development and Trends of Science in the High School.

The study of science was not introduced into secondary schools until the latter part of the eighteenth or early part of the nineteenth century. In the United States, private schools included a course called "natural philosophy", which was later expanded to include astronomy. Laboratory work, such as it was, was done by the teacher. There was little change in either method or content from 1860 to 1900. Since the latter date, the enormous increase in the application of science to daily life has resulted in making order out of chaos and in including certain specific courses in the program of studies. The requirements are the result of the recommendations made by various committees that have reported the results of their studies at different times from 1893 to 1920. In the majority of the high schools of today, at least an acquaintance with science is considered of such importance that one and usually two years' study of it are required for graduation. Two years are usually the minimum prescription for pupils who plan to go to college.

The Aims of Science.- The aims of this subject are summarized in the following statement:

"This committee, then, recognizes the aim of science teaching to be contributory to the aim of education; viz., life enrichment. It recognizes

57. Ibid., pp. 351-352.
the objectives of science teaching to get the functional understanding of the major generalizations of science and the development of associated scientific attitudes."

Under specific aims, Beauchamp lists at least twenty-nine. The following appear to the writer to be the more important:

1. To acquire knowledge which will produce a better understanding of our environment.
2. To acquire information concerning the lives of great men of science.
3. To acquire a knowledge of the application of scientific principles to industry.
4. To develop the ability to think scientifically.
5. To develop the power of observation.
6. To develop the ability to form independent judgments.
7. To view facts objectively.
8. To be open-minded.
9. To develop a scientific attitude.
10. To acquire wholesome interests which may be used to enjoy spare time.

The Objectives of Biology: - Biology is the first applied science to be studied in the high school. It deals with living organisms and therefore it is a study of life.

"... practically all courses in the special fields included statements of specific objectives, such as: to give the pupils an understanding of the life processes of plants and animals; to observe and explain the close relationships between plants and animals; to learn about the human body; and to learn how to care for plants and animals." (60)

Content of General Science: - In the first year of high school the general science course should seek to satisfy curiosity by revealing the truth. To do this most effectively the course should be thoroughly organized and the topics should follow each other in logical sequence.

60. Ibid.; p. 13.
"The National Education Association Commission on the Reorganization of Secondary Education — indicated certain topics to be discussed in the field of general science, namely, (1) combustion, (2) water, (3) the air and weather, (4) light and its benefits, (5) work and energy, (6) magnetism and electricity, and (7) nature's balance of life." (61)

The St. Louis course of study lists processes common to all life, the interrelations of animals and plants, the adaptations of animals and plants to environment, the laws of heredity and environment, and the meaning of hygiene and sanitation. "The extended applications of science to manufacture and agriculture within recent years have placed greater and greater emphasis on the — — values of the study of natural science in the secondary school."

Curricular Prescriptions.

The foregoing discussion of the program of studies concerns the constants and the free electives included in the proposed program of studies for the Pine High School. As this program is to be divided into three distinct curricula, the constants of each curriculum will now be considered. It should be brought to attention that every subject, whenever a constant, a curriculum constant, variable, or a free elective, has as its paramount aim the education of children as intelligent consumers. In the immediate instance, the exception to this is found in the agriculture-homem Economics.

curriculum. It should be remembered, however, that all basic industries, of which agriculture is probably the most important, are concerned with production. Even so, such production should be done on scientific bases. If this points toward technocracy, then upon technocracy falls the burden of proof. As the philosophy of technocracy has not yet been generally accepted, only time and trial can prove the soundness or its theories.

As most of the boys and girls who complete their high school work in Pine will remain there and continue to live on "the farm", or will go to some other community whose principal industry is agriculture, it is the opinion of the writer that the agriculture-home economics curriculum is the most important of the three curricula offered. Equal attention should be given to the commercial and to the college preparatory curricula, however. The courses considered here are prescribed for the agriculture-home economics curriculum but are electives for the others.

Historical Development and Trends in Agriculture and Home Economics.- It seems strange that agriculture, perhaps the most basic of all basic industries, has received very little attention as a regular study in the high school until recent years. Man has always been a drawer of water and a newer of wood, yet modern methods of drawing water and newing wood have had their greatest development during the past one hundred years. Only
recently has it been realized that

"- - - training for farming is warranted by the fact that it is one of the two dominant occupations in rural territory (the other is home-making), because a large proportion of the boy-graduates of rural high schools return to the farm, and because a large majority of those who have taken courses in agriculture are at work on farms." (64)

Before 1850 some of the academies included agriculture as a part of their work, but previous to that date the normal study of agriculture was unknown. The history of home economics almost duplicates that of agriculture. No mention of cooking, sewing, or any other study usually included under home economics was reported by any schools, public, private, or academy, previous to 1840. Inglis reports that sewing was taught during that year. Home economics was offered in twenty schools during 1860-1865, and "The first high school to provide instruction in sewing, cooking, dressmaking, and millinery, was one in Toledo, Ohio, established in 1886."

The present status of agriculture and of home economics has been reached since the Smith-Hughes Act was passed in 1917 although there had been a significant development in home economics before this act became a law. In 1928, 16.48 per cent of all the schools that reported to the Office of Education included home economics in their program of studies.

Objectives of Agriculture and Home Economics Courses. - A rather comprehensive list of objectives of agriculture instruction is found in the Missouri state course of study.

It includes the following:

"To meet in some measure the vocational needs of those students in high schools (a) who will be directly engaged in the occupation of pruning or (b) will engage in a business closely allied to agriculture."

"To supply students with an opportunity to acquire worth-while information concerning the great basic industry of agriculture."

"To develop an appreciation of the problems concerning the farmer and through understanding to bring about a better attitude and a closer relationship between rural and urban people."

The aims for home economics must be equally definite:

"What the modern home-maker needs is knowledge that will enable her to judge values, to buy and use economically, to avoid adulterations, and the like. She needs to know how to budget a specified income, and how to save and invest the surplus. She needs to be skillful in manipulating labor-saving devices. She needs to know how to serve a meal in harmony with modern scientific knowledge and due regard for etiquette." (69)

These aims are summarized in the following statement:

"To do one's part as a worthy member of a home in securing and maintaining the best family standards adapted to the community." (70)

Content of the Courses in Agriculture and Home Economics. - It should be remembered that Pine is wholly an agricultural community. Therefore the content of the agriculture and home economics courses must meet all of its needs. The following

courses are recommended because they are the best that can be found, when these needs are considered:

"The group planning to enter general farming would have as prescriptions courses such as yield crops, - - - animal husbandry, - - - soils, horticulture, dairying, poultry, farm shop, farm mechanics and farm management," (71)

Cattle raising ranks in importance equally with farming in Peru. Practically all of the people there are connected either directly or indirectly with it. This fact makes apparent the reason for the emphasis placed upon the study of beef cattle. The work of the first semester of the junior year could be spent most profitably in the study of this topic alone, and not less than an entire semester should be required to cover it thoroughly.

Home Economics.—In a report of the Department of Superintendence of the National Education Association the following content for home economics is recommended:

"We commonly find in high schools such courses as cookery, nutrition or dietetics, textiles, clothing, millinery, costume design, house furnishing, home management, household accounts, laundering, and more recently, child care and home mechanics." (72)

The foregoing content in both the agriculture and home economics courses would be sufficient to provide thorough training in the work of the sophomore, junior, and senior years of high school and to prepare pupils for adult life.

Manual Training.—One more prescription of the agriculture-home economics curriculum remains—manual training.

72. Department of Superintendence, National Education Association, Sixth Year Book, 1926, p. 402.
The study of the use of tools was practically unheard of in the early educational institutions of the United States. No mention of manual training under that or any other name is found in either the early high schools or academies. Monroe and Weber report that it was introduced as a school study in

"- - - Finland, Sweden, and Russia during the third quarter of the nineteenth century. Its beginning in the United States was stimulated by the exhibit of the Russian Government at the Centennial Exposition held in Philadelphia in 1876."

(During 1886-1890 it had a place in a few schools. Stout, in his study of twenty schools which he made during 1906-1911, found it offered in half of them. By 1918 the proportion had reached three-quarters of all the schools that reported their courses to the Office of Education. At present manual training is offered in almost all junior high schools, with advanced work provided for senior high schools.

The Aims of Manual Training and Shop. - The aims of manual training are numerous, and are practically the same in all schools. The manual training high schools could add many more to those listed, for example, in the St. Louis course of study:

"To develop the ability to analyze, plan, and perform mechanical tasks,

"To develop an appreciation of and a demand for good workmanship,

"To develop a desire to do simple tasks in and about the home which will contribute to its economic upkeep.

4. To develop a knowledge of the common tools of the household and to acquire some degree of skill in their use.
5. To acquire a practical knowledge of simple mechanical devices.

The aims of shop are closely related to those of manual training. Pupils should be taught how to care for farm machinery such as wagons, harness, and separators, and to make the simpler repairs of tractors and harvesters.

Content of the Manual Training and Shop Courses. In listing the content of manual training courses, Koos says:

1. Jobs for the pupils themselves and their homes, such as chairs, cedar chests, bookracks, ---
2. Jobs for the school shop, such as tool boards and cabinets, lockers, ---
3. Jobs for the school system in general, such as bulletin boards, magazine racks, athletic and playground equipment.
4. Community service, such as auditorium equipment.
5. Jobs for the farm, such as hayracks, wagon boxes, gates, ---

Shop would include the teaching of elementary mechanics and would provide knowledge of simple farm machinery, how to repair and replace machine belts, the proper care of machinery, its repair, tin and glass work, and a variety of topics that would train pupils in the purchase, upkeep, and most economical use of farm machinery.

The Commerce Curriculum.

The second of the three curricula suggested for the Pine high school is the commerce curriculum. Its aims are to prepare those pupils who expect to go on missions for the Mormon church and who plan to earn their living in business enterprises. Each of these groups will come in contact with

the world while those who remain in Pine know only through occasional visits to larger communities. Therefore those pupils who leave Pine after graduation from high school but who do not plan to enter college must be prepared to meet the situations with which they must, or necessity, come in contact.

**Historical Development and Trends of Commercial Subjects in High Schools.** Commercial subjects were among the first subjects to be taught in American high schools. Monroe and Weber report that they were offered during colonial times, but that not "until after 1900 did they become prominent in the curricula of the high school." Evidently, bookkeeping was taught in many of the early high schools; the English high school at Boston listed "Bookkeeping by Single and Double Entry" in 1823. Commerce was introduced before 1838, and stenography as early as 1849, but they did not receive very much support. "--- instruction was extremely formal and detached from practical or vocational application." By 1865, 40 per cent of the high schools offered bookkeeping, but only 5 per cent included other commercial subjects. The business colleges provided business training more than did high schools, and in 1893 seven times as many pupils were enrolled in the courses offered in the former as were enrolled in the latter. Between 1893 and 1915, however, the condition

was reversed. The increase in enrollment was 150 per cent, but that in high schools was 1700 per cent—over a hundred times as great. Today the majority of public secondary schools provide commercial education.

The Aims of the Commerce Curriculum. — The general purpose of the commerce curriculum is to prepare pupils for the world of business. The course of study for the public schools of Denver summarizes them as follows:

"To give an appreciation of human elements necessary to business success, to aid the pupil in establishing his place and relations when he enters a business as an employee, and to instill in him a desire to attain the training necessary for promotion." (82)

These aims are general for the commerce curriculum. Specific aims of each of the prescribed courses follow.

The Aims of Typing. — Typing is usually a year-and-a-half or a two-year course. The aims for the first year should be:

"To teach the pupil the parts of the typewriter and their uses, to teach all the characters of the keyboard, to form the habit of correct position of the body and arms, to develop invariable fingering, to attain staccato stroke and rhythm, to give a thorough training in accuracy and neatness in all typewritten work, and to train in ideals of honesty and responsibility through guidance in checking work!" (83)

These aims are fundamental and prepare pupils for more advanced work during the second year. The work of this year is of an applied rather than of an introductory nature. Its aims are:

"To provide work of a business type which the pupil

82. City of Denver: Board of Education: Course of Study, Monograph No. 18, Commerce, p. 84.
83. Ibid., p. 84.
may apply the principles and skills of the first year, to stress business letters, tabulating; to master figures, and to further inculcate the ideal of neatness, honesty, and responsibility in typewritten work." (84)

**The Aims of Shorthand.** - This course, when combined with that in typing, justifies changing the name of the curriculum in which it is a prescription from "The Commerce" to "The Stenographic". Shorthand is one of the most important of all the courses that prepare pupils for stenographic or secretarial work. Its aims should include the following:

"To develop in the pupil the habit of writing words as they are pronounced, to establish the principles by drill and review so that they will function when new matter is given, to develop the ability to read without hesitation, and to build ideals and attitudes necessary for this work." (85)

The aims of the second year are developed from those of the first:

"To stress good phrasing, to drill pupils on prefixes and suffixes until they can hear and apply them in new words, to give enough practice on reading and writing letters and articles, and to insure ability to read and to write at a normal rate." (86)

**The Aims of Bookkeeping.** - A third prescription of the commerce or business curriculum is bookkeeping. The aims of this subject have developed through the years from the general and quite obvious one of "To learn how to keep books" to the more specific ones listed as follows:

---

85. Ibid., p. 106.
86. Ibid., p. 111. Cf., also, St. Louis and Oklahoma courses of study in commercial subjects.
"To teach the analysis and preparation of simple financial statements, the theory and use of some of the fundamental accounts, to develop the records peculiarly applicable to the sole proprietorship type of business organization, and to teach the adjusting and closing of books at the end of the fiscal period, the journal method being used." (87)

The more advanced work would have as its aims:

"To study the partnership type or business organization, to teach the principles or accounting as applied to the partnership, and to interpret more complicated financial transactions." (88)

A fourth subject recommended for inclusion in the commercial or business curriculum is commerce. This subject has as its aims: to give pupils an idea of business, "what it is all about", to prepare them for the activities and the responsibilities of business and commercial enterprises; and to direct the development of vocational ability.

**Content of the Commerce Courses.**—In order to realize to the greatest possible extent the aims that have been established for the commercial subjects, definite content in each or them must be provided.

For typing I, the content would be technical in nature and would provide for elementary drill. A knowledge of the mechanics of the typewriter should certainly be taught. The work of the second year would emphasize applied work, attention being given to tabulating drill and advanced material.

Shorthand is usually difficult for most pupils. Therefore extensive drill should be given and the fundamentals mastered by the pupils before they are permitted to begin advanced work.

87. City or Denver, Board or Education, Course or Study, Monograph No. 8, 1925: Commerce, p. 42.
88. Ibid., p. 58.
When they have become proficient in basic techniques, simple
dictation may be given. This will provide drill in the
application of the elementary principles and will inculcate
habits of accuracy. Speed is secondary; accuracy is the
more important and should receive emphasis. The second part
of the course should continue practice to develop them, not
only in writing shorthand but also in reading it. Dictation
will provide applied work, and will enable pupils to become
thoroughly proficient and capable by the time they complete
the course.

Bookkeeping I would be introductory. Emphasis should be
given to the elements of accounting. The purpose and use of
account books should be studied in detail. The advanced work
would be concerned with the study of the partnership. The
principles of the partnership and the accounts used in this
type of business organization should be carefully considered
and thoroughly understood.

Commerce would be a composite or introduction to business,
advertising, salesmanship, and business organization. The
first two topics would be studied the first semester, and the
two others would be the content for the second semester. A
few elements of business law, such as state laws concerning
taxes, partnerships, and corporations, would be part of the
content. The work for the entire year would be elementary in
nature - an orientation course, for the purpose of acquaint-
ing pupils with the world of business and commerce.
The College Preparatory Curriculum.

With one exception, the subjects that comprise the college preparatory curriculum have been considered. This exception, Spanish, will now be discussed.

Spanish.

Historical Development and Trends. - "In the foreign languages, we have the origin of the secondary-school curricula in America." Of the foreign languages, Latin and Greek were offered most frequently in the high schools of the colonies. Italian, Portuguese, French, and Spanish were also taught. They were important during the colonial period because of the heavy commerce of the colonies with the islands or the Caribbean Sea and with the countries of Europe.

"An unknown schoolmaster of New York as early as 1735 advertised that he taught French and Spanish." (91)

A few grammar schools offered modern languages, but not until the rise of the high school did these languages have a prominent place in the curricula. In 1918, German, which had been taught in many schools, was eliminated from most of them and Spanish took its place. Koos speaks of "the sudden and almost total disappearance of German and the consequent and sudden increased demands made on French and Spanish." French has always been more or less popular in American secondary schools, but Spanish is comparatively new. Since 1918 Spanish

89. Cr., pp. 76-98.
seems to have lost little of its popularity; recent figures indicate that it is now included in the curricula of many high schools.

Aims of Spanish. - In recently revised course outlines,

"There is general agreement — — on two cultural objectives, namely, (1) knowledge of the foreign country and its people, and (2) increased knowledge of English words, English grammar, and relationships between the foreign language and English." (94)

The traditional four-fold aim — the progressive development of the ability to read, to write, and to speak the language, and to understand it when spoken — are still included in present trends. And Spanish, like all foreign languages, is important in promoting an international outlook and a cosmopolitan attitude. Therefore two other aims should be added to the foregoing. These aims are:

"To effect a decrease in one's provinciality through the development or increased ability to understand the ideals, standards, and traditions of the Spanish-speaking peoples" and "To aid in and promote desirable international relations." (95)

Content of Spanish Courses. - To include more than one foreign language in the program of study of the Pine high school would be uneconomical. Probably not one child in a hundred would ever have any use for French or German. Also, only one foreign language is required for college entrance. In addition, the Spanish and Mexican influence is quite evident in Arizona and the other western and southwestern

94. Office or Education, Bulletin 1932, No. 17, Monograph 24: Instruction in Foreign Languages, p. 3.
states, where Spanish is used in daily conversation and where many people are bilingual. For these reasons Spanish is the only foreign language recommended for the Pine high school.

During the first year of Spanish a thorough study of pronunciation, grammar, vocabulary, and reading should be made. Pupil interest can be aroused and the usual antagonism toward the study of grammar and of the important but less interesting points of its mechanics can be overcome by a short introduction to the language. The first three or four class periods following the opening of school would be profitably spent in creating interest through "informal talks by the teacher about Spanish countries and peoples, making use of maps; a short talk or study by each pupil about something Spanish, and enjoyment of realia, such as pictures and coins? A recent tendency to emphasize and to increase the amount of reading is to be observed.

"It is proposed -- to replace the present emphasis on reproductive exercises and grammatical analysis by a direct attack upon reading as the first objective of the course. -- In this course the grammatical content is reduced to the essentials required for reading, the vocabulary is selected in accordance with standard word and idiom frequency lists and the reading material is graded in difficulty on the basis of these vocabulary lists." (97)

The second year of Spanish would be enriched by placing emphasis upon the reading and the speaking of the language.

Some attention should be given to grammar, but as the aim is
to enable pupils to read and to speak Spanish, drill should
be given in its use rather than in the dissection and study
of its fine points. Original composition would provide ex-
ercises in written work. During the last half of the second
semester a thorough review of the entire course should be
given.

Extra-Curricular Activities and Guidance.

Bases for Extra-Curricular Activities and Guidance.- The
small number of pupils enrolled in the high school and
the large number of extra-curricular activities from which to
choose make the problem of student clubs rather difficult to
solve. It is not necessary to provide formal student body
organization, nor is student government recommended. The
small size of the high school student body and its homoge-
neous nature preclude it.

Probably the best solution of the problem of extra-cur-
ricular activities is to establish an activity program on the
basis of pupil needs. It is proposed that the program be
limited to three or four clubs. Because of the public indif-
erence to health and sanitation, a health club is recommended.
Care should be taken to keep it a club and to prevent its be-
coming a gymnasium period. The lack of knowledge of and inter-
est in books suggests a book club, whose purpose would be to
stimulate interest in books and reading. A third activity
recommended is the etiquette club. Pupils were observed
to be ill at ease and very self-conscious upon several occasions because they did not know "how to behave in public." Much embarrassment could be avoided and the lack of self-confidence could be overcome by such an activity. It would require a sponsor of great tact and sympathy, but, when properly conducted, would be of great value.

Guidance in the Pine High School. - The guidance provided in the Pine high school should be given without the use of a formal guidance program. Again the size and nature of the student body preclude a formal organization. Daily contact with less than forty high school pupils is sufficient to provide the faculty with a rather thorough knowledge of the disposition, abilities, background, and home environment of each child. This does not mean that counseling should be omitted. The children of Pine need guidance quite as much as, if not more than, the children of any other school. This guidance can be provided by personal conferences between each pupil and the teacher upon whom the responsibility for guidance is placed. It is suggested that the teacher of the social studies be given this duty, assuming that he has had preparation for this work.

Summary. - In planning a program of studies and its division into curricula for any school, a definite technique should be followed. A knowledge of the neighborhood or of the community in which the school is located is necessary. This information is best secured by making a survey, noting such points as the wealth of the community, its tax rates, its principal industries,
the nature of its population,3 and the needs of the pupils of its school.3

A survey of Pine reveals that the community is wholly agricultural in its nature,3 that most of its wealth is in a few hands, that its population is fairly stable, and that the pupils of its school may be grouped into three divisions when their probable vocations are considered. These three groups are composed of those pupils who will continue to live in Pine after they complete their high school education, those who will go on missions for the Mormon church and later enter work of an agricultural or commercial nature, and those who will go to college.

To meet the needs of each of these three groups, three curricula are suggested, namely, the agricultural-home economics, the commercial, and the college preparatory. In each of these curricula there are basic courses, which form the constants required of all students. As the pupils progress in their chosen curriculum, they find prescribed work which they must complete for graduation.

Each subject offered in the course of study has its history, its content, and its aims. These aims must be definite and should be adjusted to meet the needs of the pupils. A program of extra-curricular activities should be installed, and pupil guidance should be provided in the Pine high school.
If the proposed program of studies and its curricula are installed in the high school of Pine, the writer is convinced that the results will be more efficient use of the school plant, greater economies, better prepared pupils, and a richer and happier community life.
CHAPTER VIII

FINANCES

The Problem of Finances.—The problem of school finances is probably the most important of all the problems with which the school board of Pine has to deal. During the present economic situation, this question has become even more difficult than it has been in the past. Drastic economies affecting the welfare of the school have been made necessary because of the greatly decreased income from state and county funds. As a result the Pine school has suffered probably as much as any other school in Gila county that has succeeded in remaining open in spite of the lack of finances.

Legal Basis of School Funds.—From the time that Arizona became a territory there has been a system of free public schools supported by taxation. One of the measures passed by the first territorial legislature was a law prescribing its establishment and support. The principal source of income is the general property tax:

"The major portion of the revenue necessary for the operation of government in the state, the county, the city, and special districts comes from direct property taxes." (2)

Other sources are the incomes from gasoline, poll, and sales taxes, licenses, and federal government subsidies.

1. Cf. p. 32.
"Further, study indicates that the property tax receipts in former years were from 75 to 80 per cent of the total expenditures. The direct property tax is the source of 70 to 75 per cent of the revenue used as a basis for governmental expenditures." (3)

Arizona, perhaps more than any other of the 47 states, has the greater part of its area under public control. 61.18 per cent of the total area of 73,931,840 acres is under Federal control and 8,340,634 acres, or 11.28 per cent, is state land and land owned by schools, churches, and municipalities. A total of 72.46 per cent of the total area, therefore, is tax exempt. The result of this is that the tax rate of private property is very high.

The state law prescribing the appropriation of the revenues received by taxation for educational purposes states:

"There shall be appropriated in the general appropriation bill for the common and high school education in the state, during each fiscal year, a sum of money not less than twenty-five# dollars per capita per annum on all pupils in average daily attendance in the common and high schools of the state, as shown by the records of the state superintendent of public instruction for the preceding year." (5)

The apportionment of the school funds so raised to the several counties of the state is prescribed as follows:

4. Ibid., p. 80.
#. This amount was reduced to twenty dollars by action of the eleventh legislature during its regular session in February, 1933, upon the recommendation of the governor: "It is necessary that the appropriation for the state common schools be reduced at least $500,000 for each of the two ensuing fiscal years." See Journal of the Senate, Eleventh Legislature of the State of Arizona, p. 18.
"After making the necessary allowance for the payment of all amounts made payable from the appropriation for the state board, -- the board shall apportion the remainder to the several counties of the state, prorating the same on the average daily attendance in the common and high schools of the county, as shown by the records of the state superintendent for the preceding year." (6)

The fiscal year for schools in Arizona begins July first, and

"On or before the first day of July each year the trustees of common school districts and the board of education of high schools shall file with the county superintendent an itemized statement of the amount of money needed for defraying expenses of the schools within their districts for the ensuing year. -- The county superintendent shall on or before the first day of August each year, furnish the board of supervisors an estimate in writing of the amount of school funds needed for the ensuing year." (7)

Such are the legal bases for school funds in Arizona.

With this background, the finances of the Pine district can be better understood.

**Finances of the Pine School.** Before discussing this matter, three of the nine questions that must be answered when making a school survey will be considered:

1. What is the wealth of the community?
2. What is the tax rate of the community?
3. What are the school costs?

A brief discussion of each follows.

**Wealth of the Community.** Pine has never been a wealthy
village. Its assessed valuation for 1933-1934 was only $91,911.00. The estimated enrollment of the school was 58. The per pupil wealth, therefore, was approximately $653.64.

There are only three "leading" families in Pine. These three groups are the heaviest taxpayers. The wealth is in neither corporate nor popular control, although it approaches the former, as three brothers of one family and two brothers in the two other families operate their farms and ranches on a partnership basis. The outcome of such an arrangement is that most of the wealth of Pine is in a few hands. Probably not more than a dozen people control the greater part of it. It is in productive form and rather stable in nature. This stability, however, is dependent upon the fluctuations in the prices of cattle, which are the only commodity shipped from Pine and the chief source of income, with the exception of a very small quantity of garden and farm products. Most of the latter are grown for local consumption.

Tax Rate of the Community.—Available data concerning tax rates for Arizona, Gila county, and the Pine district may be tabulated for the purpose of comparing the tax rates for each of these divisions. Before making this comparison; however, a summary of the finances of Pine during the five-year period 1929-1930 through 1933-1934 may be given. This summary will be found on the following page.

9. Information supplied by Mrs. Dorothy Elson Sykes, Gila County School Superintendent, January 30, 1934. All financial data not otherwise accredited were secured by the writer from the records on file in the office of the Gila County School Superintendent.
### Table VII

**Financial Summary of School District 12, Pine, Gila County, 1929-1934.**

<table>
<thead>
<tr>
<th>Year</th>
<th>1929-1930</th>
<th>1930-1931</th>
<th>1931-1932</th>
<th>1932-1933</th>
<th>1933-1934</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assessed Valuation</td>
<td>$90,706</td>
<td>$74,843</td>
<td>$76,089</td>
<td>$45,654</td>
<td>$37,911</td>
</tr>
<tr>
<td>County Tax Rate</td>
<td>.8139</td>
<td>.8999</td>
<td>1.1100</td>
<td>1.8400</td>
<td>2.3300</td>
</tr>
<tr>
<td>Tax Rate for Schools</td>
<td>.4594</td>
<td>.4937</td>
<td>.5795</td>
<td>.9928</td>
<td>.9961</td>
</tr>
<tr>
<td>Special Levy</td>
<td>.5600</td>
<td>1.214</td>
<td>.9020</td>
<td>2.1416</td>
<td>1.0840</td>
</tr>
<tr>
<td>Apportionment, A.D.A.</td>
<td>80.00</td>
<td>80.00</td>
<td>80.00</td>
<td>70.00</td>
<td>65.00</td>
</tr>
</tbody>
</table>

With the exception of the general economic conditions that prevailed during 1931, that year may be used as a typical example. Table VIII on the following page lists the state and county tax rates for 1931 and also gives the tax rates for the Pine, and three other school districts of Gila county with which that community is best comparable. The illustration indicates that there is a favorable contrast between Pine and the other districts when such factors as area and population are considered. As by far the greater proportion of the tax revenues is spent for public education, the amount spent in Pine for this purpose - approximately 30.5 per cent, or less than one-third of the total - cannot be considered exorbitant.
**TABLE VIII**

TAX RATES FOR ARIZONA, GILA COUNTY, AND FOUR SELECTED SCHOOL DISTRICTS OF GILA COUNTY, '31

<table>
<thead>
<tr>
<th>District</th>
<th>District Number</th>
<th>State</th>
<th>County</th>
<th>School#</th>
<th>Total Local School Tax</th>
<th>Total Tax Rate</th>
<th>Pct. Spent for School</th>
<th>Rank of District</th>
</tr>
</thead>
<tbody>
<tr>
<td>Packard</td>
<td>33</td>
<td>.95</td>
<td>1.11</td>
<td>1.4110</td>
<td>1.4110</td>
<td>$3.4710</td>
<td>40.6</td>
<td>1</td>
</tr>
<tr>
<td>Payson</td>
<td>10</td>
<td>.95</td>
<td>1.11</td>
<td>1.3228</td>
<td>1.3228</td>
<td>3.3828</td>
<td>39.1</td>
<td>2</td>
</tr>
<tr>
<td>Pine</td>
<td>12</td>
<td>.95</td>
<td>1.11</td>
<td>2.0620</td>
<td>.9020</td>
<td>2.9620</td>
<td>30.49</td>
<td>3</td>
</tr>
<tr>
<td>Rice</td>
<td>20</td>
<td>.95</td>
<td>1.11</td>
<td>.3010</td>
<td>.3010</td>
<td>2.3610</td>
<td>12.70</td>
<td>4</td>
</tr>
<tr>
<td>Other Districts of Gila County</td>
<td></td>
<td>.95</td>
<td>1.11</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

# Includes both elementary and high school.
School Costs Per Pupil.—Statistics concerning the cost per pupil for the state, for Gila county, and for Pine are available, and are given in Table IX on page 123. In this table all calculations are based on total school costs. It is apparent that the total cost per pupil in Pine during 1925-1926 was almost double the total cost per pupil for 1923-1924, although the average daily attendance for 1925-1926 was less than that for 1923-1924. This difference is due to the increase in teachers' salaries for the school year of 1925-1926. The same fact explains the increase in the per pupil cost for 1928-1929. There is also a very decided contrast between 1928-1929 and 1929-1930. The difference is explained by two factors, namely, the increase in the number of pupils enrolled and the decrease in salaries. During the latter year there were 24 more pupils enrolled than there were enrolled in 1928-1929. This figure represents an increase of 45.28 per cent. The situation may be summarized in the statement that the higher the enrollment, the lower the per pupil cost——a fact that should be self-evident.

The higher per pupil cost per year in Gila county is due, partially, at least, to the sparseness of population.

"It should be noted that there has been a decided decrease in cost per pupil during the last two years. This decrease is not due to an actual decrease in expenditures but to an increase in enrollment." (10)

<table>
<thead>
<tr>
<th>Year</th>
<th>A.D.A. Pine</th>
<th>Schools of Arizona</th>
<th>Gila County Elem. Schools</th>
<th>Cost, Pine</th>
</tr>
</thead>
<tbody>
<tr>
<td>1923-1924</td>
<td>48</td>
<td>$92.52</td>
<td>$200.91</td>
<td>$124.33</td>
</tr>
<tr>
<td>1924-1925</td>
<td>34</td>
<td>86.80</td>
<td>200.99</td>
<td>111.28</td>
</tr>
<tr>
<td>1925-1926</td>
<td>45</td>
<td>98.31</td>
<td>199.58</td>
<td>114.02</td>
</tr>
<tr>
<td>1926-1927</td>
<td>54</td>
<td>90.60</td>
<td>206.44</td>
<td>103.42</td>
</tr>
<tr>
<td>1927-1928</td>
<td>No data</td>
<td>87.38</td>
<td>184.86</td>
<td>105.60</td>
</tr>
<tr>
<td>1928-1929</td>
<td>53</td>
<td>84.39</td>
<td>196.62</td>
<td>103.93</td>
</tr>
<tr>
<td>1929-1930</td>
<td>77</td>
<td>89.48</td>
<td>209.38</td>
<td>103.17</td>
</tr>
<tr>
<td>1930-1931</td>
<td>69</td>
<td>84.02</td>
<td>199.15</td>
<td>-</td>
</tr>
<tr>
<td>1931-1932</td>
<td>62</td>
<td>87.15</td>
<td>182.34</td>
<td>-</td>
</tr>
<tr>
<td>1932-1933</td>
<td>61</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
When the cost per pupil in Arizona is compared with the cost per pupil in Pine, it is shown that the latter has not been exorbitant, when the factors of salaries, transiency, and isolation are considered. Table IX also indicates that pupil transiency in Pine has been a problem during the past ten years. However, data for 1931-1932 and 1933-1933, when used as an index, indicate that there is a tendency toward a more stable pupil population. It is to be hoped that this tendency will become permanent.

Bases for Comparative Study. - The lack of sufficient and reliable data for the years previous to 1927-1928 makes an extensive study of the school finances for Pine during those years of questionable value. The writer found the assessed valuations of school district number 12, in which Pine is located, for only five years, 1930-1934. Therefore the valuations for these years will be used for purposes of comparison. "Valuations of school districts are not listed unless such districts are making a special levy for the support of 11 schools."

Trends in Valuation. - Table X on the following page shows the trends in valuation of property in Pine from 1930 through the present school year. The great reduction in the assessed valuation between 1931-1932 and 1933-1934 represents a cut of $38,178.00, or over 48 per cent. This is accounted for in part by the downward trend in property values consequent to the business depression of 1929. It should be observed also

TOTAL ASSESSED VALUATION AND ASSESSED VALUATION
PER PUPIL IN THE PINE SCHOOL DISTRICT
FROM 1930 TO 1934, INCLUSIVE

<table>
<thead>
<tr>
<th>Year</th>
<th>Assessed Valuation</th>
<th>A.D.A.</th>
<th>Assessed Valuation Per Pupil</th>
</tr>
</thead>
<tbody>
<tr>
<td>1930-1931</td>
<td>$74,843.00</td>
<td>69</td>
<td>$1,084.68</td>
</tr>
<tr>
<td>1931-1932</td>
<td>76,089.00</td>
<td>62</td>
<td>1,227.24</td>
</tr>
<tr>
<td>1932-1933</td>
<td>45,654.00</td>
<td>61</td>
<td>748.43</td>
</tr>
<tr>
<td>1933-1934</td>
<td>37,911.00</td>
<td>58#</td>
<td>653.64</td>
</tr>
</tbody>
</table>

# Estimated
that the average daily attendance of pupils also decreased, but not in the same proportion. The average daily attendance for 1933-1934 was 88.06 per cent of that for 1930-1931, but the total assessed valuation per pupil for 1933-1934 was only 60.20 per cent of that for 1930-1931.

Comparison With Other Districts. - In making comparisons of the Pine school with schools in other districts, the schools should be similar on such points as the number of teachers employed, pupil attendance, tax rates, and on other factors that the schools have in common. The following table shows the comparison of Pine with three other school districts in Gila county on the points of average daily attendance and assessed wealth per pupil for 1932.

<table>
<thead>
<tr>
<th>Name of District</th>
<th>Number of District:</th>
<th>A.D.A.</th>
<th>Assessed Wealth Per Pupil A.D.A.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Packard</td>
<td>33</td>
<td>43</td>
<td>$834.00</td>
</tr>
<tr>
<td>Payson</td>
<td>10</td>
<td>99</td>
<td>2,509.00</td>
</tr>
<tr>
<td>Pine</td>
<td>12</td>
<td>69</td>
<td>1,103.00</td>
</tr>
</tbody>
</table>

Special Levies. - It has been stated that the valuations of school districts are not listed unless the districts make a special levy for the support of their schools. During recent years it has been necessary for nine of the twenty school districts of Gila county to make such levies. Pine is one of

these districts, and for the past four years additional funds have been raised by this method. The table on page 128 lists these special levies and the estimated and the actual expenditures for these four school fiscal years.

The per pupil cost during each of these years was $81.04, $72.36, $72.46, and $68.19, respectively. It is apparent that the expenditures per pupil exceeded the $80.00 received per pupil, on the basis of average daily attendance, by the schools of Gila county during 1931-1932. The deficits of $1.04 and $2.32 per pupil for 1930-1931 and 1931-1932 (using the 1931 figure or $80.00 per pupil as the basis) were due to delinquent taxes.

<table>
<thead>
<tr>
<th>Year</th>
<th>Past Fiscal Year Expenditures</th>
<th>District Balance</th>
<th>Estimated Expenditures For Year</th>
<th>Special Levies</th>
</tr>
</thead>
<tbody>
<tr>
<td>1930-1931</td>
<td>$6,320.00</td>
<td>-</td>
<td>$6,240.00</td>
<td>$905.60</td>
</tr>
<tr>
<td>1931-1932</td>
<td>6,240.00</td>
<td>$661.21</td>
<td>5,680.00</td>
<td>686.32</td>
</tr>
<tr>
<td>1932-1933</td>
<td>5,680.00</td>
<td>-1937.81*</td>
<td>4,480.00</td>
<td>977.72</td>
</tr>
<tr>
<td>1933-1934</td>
<td>4,480.00</td>
<td>-2546.00*</td>
<td>4,160.00</td>
<td>410.97</td>
</tr>
</tbody>
</table>

* Deficit
Tax Delinquencies.—The total tax delinquency for Gila county as of June 30, 1931, was $59,113.47; two years later this amount had increased to $867,462.40. These delinquencies account for the deficits in the budget of the Pine school for 1931-1932 and 1932-1933.

"In 1931, the Miami Copper Company did not pay its taxes. In August, 1933, an adjustment was made. The Miami Copper Company had been assessed at $17,327,729.00, but paid on an assessment of only $6,000,000.00. Up to August, 1933, the matter was in litigation, which prevented any court action being taken. When the assessment was finally made, the budget for 1933-1934 had already been estimated and therefore did not include the taxes received from the final settlement of the question of the assessment of the Miami Copper Company. This company did not pay its taxes for the last half of 1932, nor for the first half of 1933. In May, 1934, the second half of the 1933 taxes will be due, but it is not known whether the Miami Copper Company will or will not pay them." (15)

The Miami Copper Company did not agree with the Tax Commission's conclusions concerning its assessed valuation, and carried its protests on the 1931 assessments to the courts. This is the reason why that company did not pay its taxes for 1931.

The heaviest taxpayers in Gila county and among the heaviest taxpayers of the state are this company and the Inspiration Consolidated Copper Company. In 1934 the total assessed valuation of these companies was $47,327,729. The Gila county tax

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15. Sykes, Dorothy E.; Gila County School Superintendent, in conversation with the writer, January 25, 1934.
rate for that year was $1.84 per one hundred dollars assessed valuation. Had these companies paid their taxes on this valuation, the revenue from them alone would have amounted to $670,830.21. But the litigation over the assessments precluded the payment of any such amount, and therefore the schools of Gila county and of the state suffered.

Tax Rates.-It is of interest to compare the total tax rates for all purposes of the Pine district with the school tax rates of that district. Such a comparison is an excellent means of correcting the erroneous idea that the school receives and spends an unreasonable proportion of public revenue. In discussing this question the tax rates for the four-year period of 1929-1930 through 1932-1933 will be considered. Table X on page 133 gives the data. From these data it is easy to show that during this time the Pine school spent 49.374 per cent of the sums received from the general property tax. As the general property tax constitutes approximately 70 per cent of all the revenue raised by taxation in Arizona, the percentage of the revenue from this source that is spent for schools is found by multiplying this percentage by the tax rate. In the case of Pine, therefore, the average tax rate for the four-year period under consideration has been used. Expressed mathematically, this is .70 x .7082, which equals .493740. Expressed in per cent, the figure becomes .49.374.

the Pine school is responsible for the expenditure of 70 per cent of the total tax rates, is false. Rather is it responsible for only 49.574 per cent of the funds used for all purposes of government. This statement applies to every school in Arizona, when the tax rates and the percentage of expenditures are figured correctly and on this basis. The percentage that the school spends of the funds used for all purposes of government will of course vary in each school district. The point to be emphasized is that the public schools of the state are not guilty of the unreasonable expenditure of the public funds, as they are sometimes charged with doing.

Bonded Indebtedness.—The State of Arizona has little bonded indebtedness. As of December 31, 1932, this indebtedness was $252,000.00. The redemption fund amounted to $2,888.00. The net bonded indebtedness of the State was, therefore, $249,112.00.00. The reason for this very low amount of bonded indebtedness is found in the Constitution of Arizona:

"The State may contract debts to supply the casual deficits or failures in revenues, or to meet expenses not otherwise provided for; but the aggregate amount of such debts, — shall never exceed the sum of three hundred and fifty thousand dollars; — —."

The State has a heavy indebtedness due to tax anticipation bonds; however. In 1921 this indebtedness amounted to

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TABLE XIII

TOTAL TAX RATES AND SCHOOL TAX RATES OF PINE SCHOOL DISTRICT, FOUR-YEAR PERIOD, 1930-1933.

<table>
<thead>
<tr>
<th>Year</th>
<th>State</th>
<th>County</th>
<th>District</th>
<th>Total</th>
<th>State</th>
<th>County</th>
<th>District</th>
<th>Total</th>
<th>Per Cent School Tax Rate Is Of Total Tax Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1929-1930</td>
<td>.9300</td>
<td>.8139</td>
<td>.5600</td>
<td>2.3093</td>
<td>.4486</td>
<td>.4594</td>
<td>.5600</td>
<td>1.4680</td>
<td>64.56</td>
</tr>
<tr>
<td>1930-1931</td>
<td>.8000</td>
<td>.8999</td>
<td>1.2140</td>
<td>2.9139</td>
<td>.4345</td>
<td>.4937</td>
<td>1.2140</td>
<td>2.1422</td>
<td>73.51</td>
</tr>
<tr>
<td>1931-1932</td>
<td>.9500</td>
<td>1.1100</td>
<td>.9020</td>
<td>2.4620</td>
<td>.4816</td>
<td>.5795</td>
<td>.9020</td>
<td>1.9631</td>
<td>79.73</td>
</tr>
<tr>
<td>1932-1933</td>
<td>1.0700</td>
<td>2.3300</td>
<td>2.1416</td>
<td>5.5416</td>
<td>.5494</td>
<td>.9928</td>
<td>2.1416</td>
<td>3.6838</td>
<td>66.48</td>
</tr>
<tr>
<td>4-yr. Av.</td>
<td>.9375</td>
<td>1.2885</td>
<td>1.2044</td>
<td>3.3067</td>
<td>.4785</td>
<td>.6315</td>
<td>1.2044</td>
<td>2.3143</td>
<td>70.82</td>
</tr>
</tbody>
</table>
$1,500,000.00; since that year it has steadily grown to almost three times that sum. In 1932 the amount was $4,200,000.00. In 1928 the amount was $4,400,000.00, the largest for the twelve-year period of 1921-1932.

This is quite in contrast with the bonded debt of other political divisions of the State:

"The State of Arizona has only a very small bonded debt. However, cities and towns, school districts, and irrigation and drainage districts have issued bonds in considerable amounts." (20)

The total bonded indebtedness of these subdivisions rose from $39,974,904.20 in 1922 to $56,525,404.00 in 1933. As the total assessed valuation of the state for 1933 was approximately $386,000,000.00, the total bonded indebtedness of the various political divisions was 14.6 per cent, or one-seventh, of this valuation.

This situation is quite different from that prevailing in Pine. It is rather remarkable that neither the community nor its school has ever had any bonded indebtedness. Rather than incur financial obligations which require the payment of interest, the citizens prefer to make special tax assessments. This means of raising additional funds results in financial economies, because there is no interest to pay on bonded indebtedness and because no bond redemption fund is necessary.

20. Ibid., pp. 24-25.
Amount of Funds for School Purposes Raised in Pine.—At this point may be noted the contribution of the Pine district to the state and county educational funds and the amounts received by this district from these funds. Table XIV on the following page summarizes the data. For 1929-1930, for example, the district levy was $.3600 and the state and county levies amounted to $.073 per one hundred dollars. These are the per cents of the total tax levies for all purposes that were spent for school finances during that year. The amount raised in Pine by the state and county school tax was $928.65. The district levy amounted to $597.95. The total amount raised in Pine for school purposes during 1929-1930 was $1,436.60. The total expenditures were $7,559.93. The remainder, or $6,123.33, came from the state and from Gila county. Therefore, Pine contributed approximately 23.43 per cent of the total expenditures that were required for the operation of its school during 1929-1930.
**TABLE XIV**

**CONTRIBUTIONS FROM STATE AND COUNTY FUNDS TO THE PINE SCHOOL DISTRICT AND AMOUNT OF MONEY RAISED IN THAT DISTRICT FOR SCHOOL PURPOSES, FOUR-YEAR PERIOD 1929-1933**

<table>
<thead>
<tr>
<th>Year</th>
<th>Assessed Valuation:</th>
<th>Amount Raised For Schools In The Pine District:</th>
<th>Total Spent</th>
<th>Net Contribution From State And County:</th>
<th>Per Cent Of School Support From Local District</th>
</tr>
</thead>
<tbody>
<tr>
<td>1929-1930</td>
<td>$90,706.00</td>
<td>$928.65</td>
<td>$507.95</td>
<td>$1436.60</td>
<td>$4,699.40</td>
</tr>
<tr>
<td>1930-1931</td>
<td>74,843.00</td>
<td>791.31</td>
<td>905.60</td>
<td>1696.91</td>
<td>7322.58</td>
</tr>
<tr>
<td>1931-1932</td>
<td>76,089.00</td>
<td>828.00</td>
<td>686.32</td>
<td>1514.32</td>
<td>7173.95</td>
</tr>
<tr>
<td>1932-1933</td>
<td>45,654.00</td>
<td>714.89</td>
<td>977.72</td>
<td>1692.61</td>
<td>4956.84</td>
</tr>
</tbody>
</table>

*Data taken from Tenth and Eleventh Biennial Reports of the Arizona State Tax Commission and from the records of the Gila County School Superintendent for these years.*
Total School Costs.--The Study of trends in school costs over a period of years is an excellent method of revealing how well the finances of the school have been administered. The percentage of expenditures for certain items in the Pine school are shown in Table XII, given on page 129. The classifications of school expenditures used in this table are the standard form used throughout Arizona and the United States. Such standardized treatment makes rather accurate comparisons of school costs possible. Items are explained thus:

"General Control" refers to expenditures necessitated by administrative procedure -- as school board expenses, stationery, or supplies for the superintendent's office.

"Instructional Service" includes the salaries of teachers and supervisors and the costs of supplies used in instruction.

"Operation" refers to fuel, janitor's supplies, and salaries paid for janitorial service.

"Maintenance" deals primarily with repairs and replacements.

"Auxiliary Agencies" is composed of the expenses of transportation, health, and library service.

"Fixed Charges" include expenditures for insurance and rents.

"Capital Outlay" refers to expenditures for new buildings, sites, and (in Arizona) new books added to the library.

"Debt Service" includes the money necessary for interest and the redemption of bonds." (21)

It is interesting to note that there was a difference of approximately 39.50 per cent in total expenditures between 1931-1932 and 1932-1933, and of 34.43 per cent between 1929-1930 and 1932-1933. These differences are explained by the fact that great salary reductions and very strict economies in other items were made. The cause of these differences may

be traced directly to the general economic conditions resulting from the business depression of 1929. Arizona did not begin to feel the effects of the depression until the summer or fall of 1931. Since that time the state has suffered severely. The tax difficulties of the copper mines illustrates the point. As copper mining is the principal industry of Arizona, the conditions of the mines are a rather accurate barometer of the general situation prevailing in the state.

TABLE XV.

SCHOOL EXPENDITURES OF THE PINE SCHOOL DISTRICT FOR 1929 - 1933

<table>
<thead>
<tr>
<th>Item</th>
<th>1929-1930</th>
<th>1930-1931</th>
<th>1931-1932</th>
<th>1932-1933</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Control</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Instructional Service</td>
<td>$6945.55</td>
<td>$6330.08</td>
<td>$6343.76</td>
<td>$4648.85</td>
</tr>
<tr>
<td>Operation</td>
<td>453.18</td>
<td>392.57</td>
<td>413.90</td>
<td>229.91</td>
</tr>
<tr>
<td>Maintenance</td>
<td>89.92</td>
<td>448.16</td>
<td>98.45</td>
<td>8.65</td>
</tr>
<tr>
<td>Auxiliary Agencies</td>
<td>38.85</td>
<td>42.19</td>
<td>64.90</td>
<td>-</td>
</tr>
<tr>
<td>Fixed Charges</td>
<td>32.45</td>
<td>109.58</td>
<td>242.94</td>
<td>69.45</td>
</tr>
<tr>
<td>Total Current Expenditures</td>
<td>7559.93</td>
<td>7322.58</td>
<td>7173.95</td>
<td>4956.86</td>
</tr>
<tr>
<td>Capital Outlay</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Debt Service</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>7559.93</td>
<td>7322.58</td>
<td>7173.95</td>
<td>4956.86</td>
</tr>
</tbody>
</table>
Budgatory Distribution of School Expenditures. - The percentage that each of the items of the school budget is of total expenditures indicates whether or not any of the various administrative functions of the Pine school are neglected or overemphasized. Data concerning the percentage of the same items in the administration of 62 elementary schools and 49 high schools in Arizona are available, and are used for purposes of comparison. Again 1930-1931 has been taken as an average year. Table XIII on the following page shows the budgatory distribution of the Pine school funds for that year. The figures for the total expenditures, rather than those of the budget estimates, have been used.

This table indicates that, for the most part, the finances of the Pine school are well administered. By far the greatest expenditure of the school funds is for instructional purposes. "Other things being equal, the proportion of the total budget devoted to this single item should be as large as possible without decreasing the efficiency in other types of service." From available data, the trends in total salaries of the faculty of the Pine school during the 15-year period of 1918-1919 to 1932-1933, may be shown by means of a graph. This graph, which appears on page 141, also illustrates the trend in total expenditures for the same period. The total salaries and the total expenditures are tabulated.

### TABLE XVI

**BUDGETARY DISTRIBUTION OF SCHOOL EXPENDITURES IN THE PINE SCHOOL DISTRICT AND IN OTHER ARIZONA SCHOOL SYSTEMS FOR 1930-1931**

<table>
<thead>
<tr>
<th>Item</th>
<th>Percentage of Pine Total Expenditures</th>
<th>Median Percentage Distribution of Expenditures in 62 Elem.</th>
<th>49 H. S.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>General Control</strong></td>
<td>- - - -</td>
<td>4.70</td>
<td>.27</td>
</tr>
<tr>
<td><strong>Instructional Service</strong></td>
<td>86.44</td>
<td>73.43</td>
<td>67.89</td>
</tr>
<tr>
<td><strong>Operation</strong></td>
<td>5.40</td>
<td>8.92</td>
<td>10.52</td>
</tr>
<tr>
<td><strong>Maintenance</strong></td>
<td>6.70</td>
<td>2.57</td>
<td>3.10</td>
</tr>
<tr>
<td>** Auxiliary Agencies**</td>
<td>.06</td>
<td>6.22</td>
<td>5.29</td>
</tr>
<tr>
<td><strong>Fixed Charges</strong></td>
<td>1.40</td>
<td>.22</td>
<td>2.61</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>100.00</td>
<td>99.61%</td>
<td>93.05%</td>
</tr>
</tbody>
</table>

# From data computed by Mr. C. E. Rose and his class in School Finance, University of Arizona, April, 1932.

# As medians are used, totals will not equal 100 per cent.
<table>
<thead>
<tr>
<th>Year:</th>
<th>Total Salaries</th>
<th>Total Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td>1918-1919</td>
<td>$1,680.00</td>
<td>$2,265.06</td>
</tr>
<tr>
<td>1919-1920</td>
<td>2,101.50</td>
<td>3,249.00</td>
</tr>
<tr>
<td>1920-1921</td>
<td>2,835.00</td>
<td>3,363.37</td>
</tr>
<tr>
<td>1921-1922</td>
<td>2,835.00</td>
<td>5,541.66</td>
</tr>
<tr>
<td>1922-1923</td>
<td>1,990.00</td>
<td>4,014.08</td>
</tr>
<tr>
<td>1923-1924</td>
<td>3,133.12</td>
<td>4,176.33</td>
</tr>
<tr>
<td>1924-1925</td>
<td>2,950.00</td>
<td>3,973.36</td>
</tr>
<tr>
<td>1925-1926</td>
<td>5,100.00</td>
<td>7,525.33</td>
</tr>
<tr>
<td>1926-1927</td>
<td>4,990.18</td>
<td>8,209.95</td>
</tr>
<tr>
<td>1927-1928</td>
<td>No data</td>
<td>No data</td>
</tr>
<tr>
<td>1928-1929</td>
<td>6,949.30</td>
<td>9,176.55</td>
</tr>
<tr>
<td>1929-1930</td>
<td>6,495.00</td>
<td>7,559.93</td>
</tr>
<tr>
<td>1930-1931</td>
<td>6,090.00</td>
<td>7,332.58</td>
</tr>
<tr>
<td>1931-1932</td>
<td>6,212.33</td>
<td>7,173.95</td>
</tr>
<tr>
<td>1932-1933</td>
<td>4,607.62</td>
<td>4,956.86</td>
</tr>
</tbody>
</table>

* Data taken from annual reports for these years, on file in the office of the Gila County School Superintendent.
Expenditures:

CHART 2
GRAPH ILLUSTRATING THE TOTAL EXPENDITURES OF AND TOTAL SALARIES PAID TO THE FACULTY OF THE PINE PUBLIC SCHOOL, 1918-1919 THROUGH 1932-1933

Total expenditures: Teachers' salaries:
Summary.- School finances constitute the most important problem with which the school board of Pine has to deal. The principal source of income in Arizona is the general property tax, which supplies from seventy to seventy-five per cent of the revenue spent in the operation of the state, county, and local governments. The remaining portion is derived from gasoline and poll taxes, the sales tax, federal government subsidies, and other similar sources. As the greater part of the area of Arizona is under public control, the result is a very high tax rate on private property.

The appropriation of school funds is made on the basis of average daily attendance of each school. The state contributes twenty dollars per pupil per year to each school. This amount was reduced from twenty-five dollars by action of the Eleventh Legislature during its regular session in February, 1933. The remainder is supplied by the counties.

Due to tax delinquencies in Gila county, the income of this county has been reduced greatly. Consequently the schools of the county have suffered.

Pine is not a wealthy community, and such wealth as it has is in a few hands. The tax rate in Pine has increased during the past five years, but less than one-third of the revenue raised by taxation is spent for educational purposes. Data indicate that the cost per pupil in the Pine school has not been exorbitant, especially when this cost is compared with that in other schools in Arizona. The finances of this school appear to be well administered. The greater proportion
of the income is spent for teachers' salaries. Expenditures for operation, maintenance, auxiliary agencies, and fixed charges constitute the remaining expenditures.
CHAPTER IX
BUILDINGS

It has been stated that of the three school buildings in Pine, two are still in use. The first was erected in 1882 and was used as a church for some time after it was replaced by the second, which was built in 1894. The third was opened for use in 1926.

Location of the School Buildings in Pine.—The Pine school buildings are conveniently located in the center of the village. This location affords easy access except for the children of Strawberry. Transportation for these pupils is furnished by the Pine school district.

The size of the lot upon which the school buildings stand is about one-quarter of an acre. The size of the lot is not sufficient for extensive playgrounds, but in spite of this handicap there are two tennis courts, a jumping pit, swings, and other equipment on the campus.

The church and the community hall stand upon the lot adjacent to the west side of the campus. The total area of the two lots is approximately one-half acre. Both are level and slope sufficiently to drain. A wire fence surrounds and separates them. These two lots are the heart of the community, in which the educational, religious, and social life of Pine are centered. A better location for the school could not be recommended.
The physical condition of the Pine School buildings.

The Pine school occupies two buildings. The first was erected in 1894 and the second during 1925-1926. The elementary school is housed in the former and the high school in the latter. Each has two classrooms. In addition the high school has two entrance halls, one of which is used as a shower and locker room, and a basement.

Although the physical condition of the elementary school building is none too good, if a few badly needed repairs were made it could be used for several more years, possibly as many as sixteen. The foundation is solid, but a new floor should be laid. Ample window space provides sufficient light, but broken window panes should be replaced. The walls of the two rooms should be painted a buff color to cover the poisonous shade of green that they now bear. The blackboards are in very good condition, but two electric light fixtures should be installed. Perhaps the greatest need is a permanent partition between the two rooms, to replace the heavy and unsightly canvas curtain that now separates them. This curtain was installed so that by raising it the building could be used as a recreation hall. As a community hall was erected for this purpose during 1931-1932, the use of the elementary school building as a recreation center is no longer necessary. At present effective instruction is impossible because the recitations in one room interfere with those in the other.
Storage space is provided by two closets. One of these is used for texts and library books, and the other for janitor's supplies and equipment. New stoves and boxes for fuel should be installed. The present heaters are not only uneconomical and unsightly, but also constitute fire hazards.

Twice the roof of the elementary building has caught fire because of an overheated flue. The shingle roof now covering the building should be replaced by one of fireproof material, and a coat of paint would greatly improve the appearance of the structure. Also, a cement walk should be laid between it and the street, and between the elementary and the high school buildings.

Such as it is, the equipment of the elementary school building is in fairly good condition. A sanitary drinking fountain has been installed. There is a sufficient number of desks, but some of them in the room used by the grammar grades are of the old-fashioned double-seat style. These double seats should be replaced by single ones. There are a sand table, a kindergarten table and chairs, and a piano in the primary room. Movable seats in both rooms are convenient, and, like the teachers' desks, are in fairly good condition.

The High School Building. - The Pine high school building is in much better physical condition than is the building which houses the elementary school. It is a frame structure and consists of a basement, two entrance halls, and two classrooms.
The foundation of the high school building is cement and provides a firm basis for the structure. In the basement are the manual training room and two closets. One of these closets is used as a tool room, in which is kept all of the equipment used by the pupils - and by the townspeople, also - in their manual training work. The other is used as a supply room and is equipped with sturdy shelves. Additional storage space would be provided by removing the so-called sanitary dry toilet, which was installed when the building was erected but which, apparently, has never been used.

The manual training room contains five work tables, a number sufficient to meet the size of the classes. The supply of tools, however, is quite limited. The floor is of cement, and ample light is provided by basement windows. An objectionable feature is the inefficient not-air furnace, to which a hundred-gallon not water tank is connected, located on the west side of the room. The south end of the room has not been fully excavated, but there is a space of about two feet between the ground and the first floor of the building. This space is used for storing lumber, tin, and a heterogeneous collection of odds and ends. By completing the excavation, quite an amount of additional space would be provided, and would allow the manual training room to be divided into two classrooms.

The high school building has two entrance halls. That at the north end is used as a coatroom, from which stairs lead to the basement. The other is used as a shower and locker
room. This room is equipped with three shower heads, and has a cement floor which slants toward the center from the four sides. By removing the lockers and by moving the outside door of the shower room from the east side to the north side, sufficient space would be provided for two sanitary water toilets. Such modern plumbing most certainly should be installed in order to do away with the present unhealthy outbuildings, reference to which has already been made.

On the two classrooms in the high school building, the larger is used for the academic work. This room is well equipped with movable seats, several bookcases, a large magazine rack, chairs and two large tables, and a jacketed stove. Ample light is provided by live large windows, and may be regulated by adjustable shades — which, by the way, should also be installed in both rooms of the elementary building. Provision for ventilation, which is totally lacking during the winter months, should be made. Blackboards are provided on two sides of the room. The present walls are of composition wall board, and should be replaced by plaster. Not only are plaster walls easier to keep clean, but economy in heating would be provided, also. The jacketed stove now used is inefficient and wasteful, and, like the one in the elementary building, is a fire hazard. That the not-air furnace in the basement is not sufficient to heat the high school building is proved by the fact that a stove is necessary to heat the larger of the two classrooms.
The smaller of these two rooms is used for domestic art and science, biology, art, and advanced English and mathematics classes. Such a variety of uses prevents the best instruction. That is why the excavation of the basement should be completed. The present manual training room could then be divided into two rooms, one of which would be used by the domestic art and science classes.

The equipment of the household arts and science room includes a coal oil stove, a kitchen sink, a sewing machine, a collapsible ironing board, two large cabinets, chairs, and two tables. With the exception of blackboards, however, the equipment necessary for instruction in biology and other subjects taught in this room is almost totally lacking.

It is recommended that the present electric light sockets be removed, and that the high school building be rewired and modern fixtures, controlled by wall switches, be installed.

A new fireproof roof was put on the building in the fall of 1924, but because of poor workmanship it has always leaked. During normal winters snowstorms are frequent in Pine. As the snow melts from the roof, considerable damage as well as considerable inconvenience is caused by the dropping of water into the building.

Irrespective of the poor arrangement and lack of equipment of the high school, the building is in a much better condition than is the elementary building. If the proposed improvements could become realities, there is little, if any
valid reason why the school plant of Pine cannot be made the equal or that of any rural school in Gila county.

Probability of a New Building.- At the present there is little probability of a new school building in Pine, because conditions make it practically impossible to finance a building program. The structures now in use are sufficient. The important problem is that concerning their equipment and repair. As practically all improvements of this nature that are made in Pine are community enterprises, the writer estimates that the cost of making the needed improvements would not exceed $750.00. The recreation hall, a modern, well-built structure, erected during 1931-1932, cost less than $4,000.00. Labor was furnished by the people of Pine.

However, if any building program is adopted, the writer is of the opinion that, rather than construct a new building, the elementary school should be torn down and the lumber and materials thus provided be used for an addition of two rooms to the high school building. By excavating, a second room could be added to the basement, thus providing for six classrooms in one building instead of five in two buildings, as the situation is at present. The result would be great economies in maintenance and overhead. A central heating plant would result in fuel saving and would eliminate the untidy, inefficient, and hazardous heating system now in use. More efficient use of classrooms would be possible. Problems of administration would be solved, and certainly a better scholastic atmosphere would prevail. Also, more space for playground and athletic equipment would be provided.
Probabilty of Consolidation. - The information given in Larson’s *A School Building Survey of Payson, Arizona*, 1932, referred to several times in this thesis – reveals that an extremely unsatisfactory situation prevails in the public school of that community. The Pine school buildings, though lacking in equipment and supplies, are in a much better condition.

Assuming that a new school building in both communities is not only desirable but is also necessary, the writer at one time considered the feasibility of combining the school districts, Payson number 10 and Pine number 12, and erecting a modern, well-equipped building. There are several factors which preclude this, however. Among them are the difficulty of financing such a project, the impassability of the road between Pine and Payson during the periods of heavy snows, and the selection of a site that would be satisfactory to both communities. The conclusion is that, because of these factors, a consolidation – even though it would result in immediate administrative economies and ultimate financial savings – cannot be recommended at present.

Summary. - The Pine school occupies two buildings, one of which is used by the elementary school and the other by the high school. They are centrally and conveniently located in the heart of the village. The elementary school is in great need of repair and improvement; although its equipment is in good condition and is sufficient for present needs. The high school building, the newer of the two, is in good physical
condition and is adequate for present needs, except in the matter of supplies and equipment. Suggested improvements recommended for the high school building include the excavation of the basement to provide additional room, provision for adequate ventilation, the installation of sanitary water closets, rewiring of the electric light system, and the installation of a satisfactory heating plant.

A possible solution for the school problems of finance and buildings and their equipment now challenging the people of Payson and Pine is found in the consolidation of the two districts. Although such a solution is greatly to be desired, there are several important factors that preclude such a program at present. This being the case, it is recommended that the building now used by the elementary school be torn down, and the lumber used to build an addition of two rooms to the high school building. This could be done at a comparatively small expense, and would result in great financial economies, as well as in an equally treat improvement in teaching, in scholarship, and in the general scholastic atmosphere.
CHAPTER X

FINAL SUMMARY AND CONCLUSIONS

Summary of the History of Pine. - Pine, a Mormon community located in the extreme northern part of Gila County, was settled during 1878-1881. The town is purely agricultural in nature, and in all probability will remain so because of its lack of natural resources and because of its isolation. It is an unincorporated settlement, whose form of government is co-operative or socialistic. This is the only type of government that is adapted to the best interests of its citizens. The health and sanitary conditions prevailing in the community are not of the best, and should be improved by educating the people, in order to reveal to them the great importance of domestic and community sanitation and personal health.

History and Present Organization of the Pine School. - The first school building in Pine was erected in 1882. Since that date two more buildings have been constructed, both of which are still in use. The first of these two structures was erected in 1894, and is used at present by the elementary school. The second was built during 1925-1926, and is used by the high school. The Pine school is organized on the 8-4 plan, which, with the exception of one year (1932-1933), has always been used. Tradition and the adaptability of the plan to local conditions make it the most satisfactory system.
The Faculty of the Pine School. - Most of the teachers who have been employed in Pine have had excellent professional preparation; but tenure is a problem. Health conditions, uncertainty of re-election, heavy teaching loads, and, to an extent, religious prejudice are among the reasons for the comparatively short teacher tenure.

Pupils of the Pine School. - The pupils of the Pine school may be divided into three groups: (1) those who will remain in the village after completing their high school education, (2) those who will go on missions for the Mormon church and later engage in business enterprises, and (3) those who will go to college. Curricula which will meet the needs of the pupils in all three groups are recommended.

Each of the subjects contained in the program of studies and in the three curricula into which it is divided has its history and certain definite content. The aims of the various courses of study must be set up and adjusted to meet pupil needs and local conditions. These aims must be definite and should be adhered to carefully.

During past years there has been quite some degree of pupil transiency, although data for the past two or three years indicate that there is a tendency toward stability in enrollment. The nature of the student body is homogeneous. There are no children of Indian, Mexican, or other racial parentage in Pine.
Finances of the Pine School.—Over one-half of the public funds of Arizona is spent for education. The chief source of revenue is the general property tax, which in past years has supplied between 70 and 75 per cent of all public income. Due to present economic conditions, there have been heavy tax delinquencies. As a result of these delinquencies, the public schools of the state, and especially those of Gila county, have suffered greatly because of the reduced income.

Data indicate that the finances of the Pine school have been carefully administered. By far the greater amount of expenditures has been for teachers' salaries. The decrease in the funds that have been apportioned to the district has necessitated rigid economies. These economies have affected the welfare of the school. Special district levies have been made during the past four years.

Seventeen miles south of Pine is the town of Payson. A recent survey of that community reveals that its school is in a wretched condition. A possible solution for the school problems of finance and buildings and their equipment now challenging the people of Payson and Pine is found in the consolidation of the two districts. Although such a solution is greatly to be desired, there are several major factors that preclude such a program at present. This being the case, it is recommended that the building now used by the Pine elementary school be torn down and the lumber used to build an addition of two rooms to the high school building. This can be done at a comparatively small expense. The results would be
great financial and administrative economies, improved teaching, and improvement in scholarship and in the general scholastic atmosphere.

Recommendations. - A year of employment in and study of the Pine public school led the writer to choose that school as the topic for this thesis. After an analysis, the purpose or which was to find the causes or the conditions that prevail in Pine and in its school and to suggest remedies for these conditions, the following recommendations are made:

An improvement in the health and sanitary conditions of Pine is necessary. This improvement can be effected only by persistent and protracted instruction not only of the pupils or the school but also of the citizens of the community.

In view of the manifest destiny of the children of Pine, the school should offer three different but articulated curricula. One of these should be the agriculture-home economics curriculum which would meet the needs of those pupils who will remain in Pine and who will enter farming or ranching after graduation from high school. The second curriculum should be commercial or business preparatory. This curriculum would provide training for those children who will leave Pine to do missionary work and who later will enter business or commercial enterprises. The third curriculum should be collegiate preparatory, as a certain percent of the boys and girls who graduate from the Pine high school will continue their education in collegiate institutions.

More accurate record-keeping of pupil transiency, or age-
grade tables, or age-grade progress tables, and or financial accounts is recommended. It is also suggested that the school board elect the faculty earlier in the year rather than postpone appointments until the summer.

Better care should be taken of all school property. This, like health, seems to be a matter of public as well as personal indifference. Although the school is provided, the most efficient, most effective, and most economical operation is not possible under the present attitude of the citizens of Pine. Perhaps adult education would be an effective means of overcoming this indifference. However, the problem is one of a sociological nature and cannot be taken care of by the school.

The centralization of the Pine school in one building or six rooms, rather than the use of two buildings, is probably the best solution of the building problem. It is recommended that the elementary school building be torn down and the lumber and equipment be used for an addition of two rooms to the high school building. This would result in great financial and administrative economies, and in an improved scholastic and community atmosphere.

"We face no more serious educational problem than that raised by the adjustment of the rural high school to the needs of its constituency and by the necessity or bringing all rural children within the zone of influence of some high school. - - - ." (1)

The situation and the conditions now prevailing in the Pine school are not hopeless. They are discouraging, it is true; but, by "meeting the needs of its constituency" and by

bringing the children of the community within its zone of influence, the school can become the most powerful factor in the life of the people of Pine. It can prepare its pupils to take an active and an intelligent interest in community affairs, it can enrich their lives, and it can teach them to be worthy members of the society of which they are a part.
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