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**A SURVEY OF  
PHOENIX**

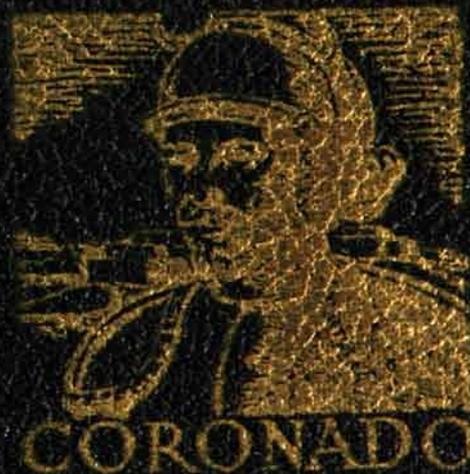
AND THE VALLEY OF THE SUN

**ARIZONA  
1867-1941**

*An Economical, Political  
and Social Encyclopedia  
of Phoenix and  
Maricopa County*

A. C. HORTON

CORONADO EDITION 1941





Marjorie Thomas

*An Economic, Political and Social Survey*

OF

**PHOENIX**

AND THE

*Valley of The Sun*

by

ARTHUR G. HORTON

ASSOCIATE PROFESSOR OF SOCIAL STUDIES AT  
ARIZONA STATE TEACHERS COLLEGE



SOUTHSIDE PROGRESS

Tempe, Arizona

1941

This economic, political, and social survey is mutually dedicated to the future of Phoenix and the Valley of the Sun; to such progressive pioneers as George W. P. Hunt, B. B. Mœur, Dwight B. Heard, Fred T. Colter, Rawleigh T. Stanford, Sidney P. Osborn; and to my wife and children, who inspired me to give my best in this effort





GOVERNOR SIDNEY P. OSBORN

137168

# AN ECONOMIC, POLITICAL, AND SOCIAL SURVEY OF PHOENIX AND THE VALLEY OF THE SUN

by

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**Consultants:** M. E. Bemis, Barry Goldwater, Emmet Graham, Robert C. Hall, Raymond Carlson, Grady Gammage, and R. K. Wyllys.

**Official Sponsors:** State of Arizona, City of Phoenix, Maricopa County Board of Supervisors, Arizona State Teachers College, Tempe; Phoenix Chamber of Commerce, and the Phoenix Junior Chamber of Commerce.

**Student Assistants:** Paul E. Boyle, Jr., Paul Bosworth, Pat Downey, Lucille Lowe, and Eugene Levi, N. Y. A. and students in the Political Science Division of A. S. T. C., Tempe.

## AIMS AND ACKNOWLEDGEMENTS

The Economic, Political, and Social Survey of Phoenix and the Valley of the Sun represents an open-minded, disinterested, scientific, fact-finding survey as the basis for intelligent and constructive city planning in the future. Phoenix and Maricopa County are pictured from an unbiased, unprejudiced, objective point of view in the basic phases with an analysis of fundamental economic, political, and social factors which will determine the destiny of their future.

The aims of the survey are: (1) to help the citizenry of Phoenix and the Valley of the Sun know their community better; (2) to provide a factual basis for future city and county planning; (3) to formulate the blue-prints for the building of Phoenix and the Valley of the Sun, both in quantity and quality into a metropolis of 150,000 by 1950; (4) to make a careful investigation of fundamental economic, political, and social factors which will determine the destiny of Phoenix and neighboring communities in order that united progress may be made on all fronts; (5) to help achieve greater governmental efficiency; (6) to determine the type of manufacturing, wholesaling and retailing establishments of a non-competitive nature which should come to Phoenix and the Valley of the Sun at a profit both to themselves and to the community; (7) to outline an integrated program of agriculture, education and industry which will indicate broad economic and social trends along which progress will be assured; (8) to evaluate the Salt River Valley in terms of national defense; and (9) to make A. S. T. C., Tempe, a research center in economic, political and social areas for the Valley of the Sun.

Much indebtedness is due Dr. Grady Gammage, Dr. R. K. Wyllys, Dr. Samuel Burkhard, Mulford Winsor, M. E. Bemis, Barry Goldwater, Robert Hall, Dr. Sidney Kramer, E. V. Graham, Raymond Carlson, Fred Jahn and to my wife, Vera Ford Horton, for constructive criticism; as well as Paul E. Boyle, Jr., Paul Bosworth, Bob Feland and Eugene Levi, student assistants in the preparation of materials; and to the many students who worked faithfully as reporters and investigators in the political science classes at Arizona State Teachers College at Tempe, 1938-41. Special thanks is due the Maricopa County Board of Supervisors, the City of Phoenix, the Senior and Junior Chambers of Commerce, the State of Arizona, collegiate and non-collegiate N. Y. A. workers, Arizona State Teachers College at Tempe and the many economic, political and social agencies in Phoenix and the Valley of the Sun which gave their whole hearted cooperation.

March 15, 1941.

A. G. H.

# INTRODUCTION

TODAY, more than ever before, the United States is becoming conscious of its natural resources. A United States Natural Resource Committee has been established with Harold L. Ickes, Secretary of the Interior, as chairman. The Secretaries of War, Commerce, Agriculture, and Labor are automatically on this committee. President Franklin Roosevelt feels that in times of national emergency when every effort of the nation is keyed up on the problem of national defense, it is necessary to have scientific surveys made of the natural resources, population elements, and social institutions throughout the nation. Forty-six out of forty-eight states in 1941 had passed enabling acts providing for official planning boards. Arizona and Montana are the only states which had not; hence it is highly desirable to make a start by having a survey of the natural, human and social resources of Maricopa County.

This economic, political, and social survey of Phoenix and the Valley of the Sun has three aims: (1) To be comprehensive; (2) To have a long-range point of view; and (3) To be continuous. The Salt River Valley is the fundamental segment in Arizona and national planning. It should cover outstanding historical facts; natural resources such as land, water, minerals, forests, and agriculture; the economic factors of production, distribution, consumption, and finance; population problems involving citizenship, family, youth, and vital statistics; education, religion, recreation, health; social welfare, juvenile and adult delinquency, law, crime and punishment; and the public administration of city, county, and state government. Every device and technique known to social science will be used in the treatment of the material in this survey.

An elaborate analysis of Phoenix has been made with the hope that by scientific planning that there would be an improvement in the standards of urban life and the raising of the level of living conditions; the elimination of slum areas and crime centers, thus making the community healthier, safer, and self-sustaining; to provide better knowledge about conditions in the city of Phoenix so that its citizenry may know and understand their community better; to create greater governmental agencies without increase in cost; and to make Phoenix and the Valley of the Sun a better place in which to live.

City and county planning is dependent on both physical and social science. It recognizes social change, inevitably due to the modern industrial machinery supplanting the older, cruder scientific machinery. More than 1,440,000 new patents, inventions and discoveries were developed in the United States during the first third of the twentieth century. In contemplating the present survey, it was realized that it must be kept up to date continuously, and that it would be advisable to establish a research center in the Social Studies Department of the Arizona State Teachers College at Tempe, which would keep the data gathered permanently on file in systematic and orderly fashion so that it could be located at a moment's notice. Progress demands that an accurate record of the economic, political, and social factors in the community be continuously kept up to date. Cities and communities can grow for a while in a topsy-turvy fashion, but sooner or later an economic and efficient pattern should be developed in which chance should be eliminated as far as possible. Technology and planning go hand in hand. Transportation and communication facilities are vital aspects of any community. They greatly condition the economic, political and social factors.

There are two billion acres of land within the United States and the rain, snow and sunshine, together with the land, forests, agriculture, rivers, lakes, water-falls, iron, coal, power, oil, chemicals, gold and silver and other mineral deposits either under or on the surface, together with the people with their homes, families and social institutions and with their many skills and activities form our natural resources.

The time has come when the mineral and natural resources of Arizona within its 113,000 square miles, or 72 million acres, should be carefully surveyed in terms of land, water, soil, agriculture, mineral, and timber possibilities, together with the many social factors which go to make up communities. The conservation and proper use of Arizona's natural resources to the maximum degree should be made. This, in brief, is the aim and scope of the Economic, Political, and Social Survey of Phoenix and the Valley of the Sun.

March 15, 1941

ARTHUR G. HORTON.

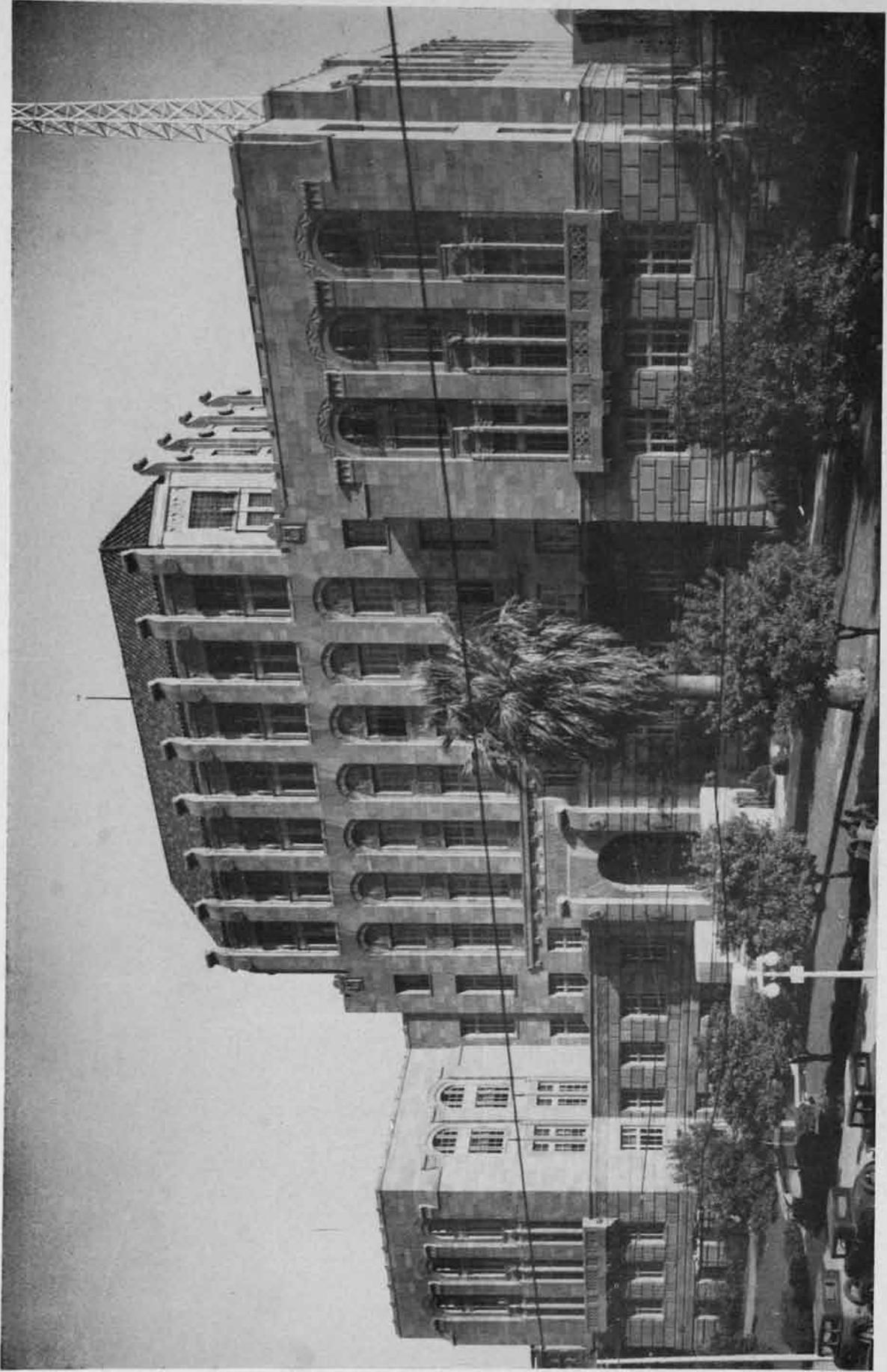
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Maricopa County's Beautiful Court House

SIDNEY P. OSBORN  
GOVERNOR



## Executive Office

State House  
Phoenix, Arizona

February  
11th  
1941

Dr. Arthur G. Horton, Associate Professor  
Department of Social Studies,  
Arizona State Teachers' College,  
Tempe, Arizona

My dear Dr. Horton:

I have been very much interested in your work in compiling an Economic, Political and Social Survey of Phoenix and the Valley of the Sun.

I have long felt the need for such an undertaking and I certainly want to commend you and your excellent staff of workers at the Arizona State Teachers' College for engaging in this tremendous task.

Phoenix and the entire Valley of the Sun have enjoyed prolific growth and expansion in the past decade and these figures as compiled and published to the world can bring yet added impetus to the constant further development of this area.

Sincerely,

A handwritten signature in dark ink, appearing to read "Sidney P. Osborn", is written over the typed name "Governor". The signature is fluid and cursive.

G o v e r n o r

S  
P  
O  
:  
Rd

CITY OF PHOENIX  
OFFICE OF THE MAYOR  
PHOENIX, ARIZONA

REED D. SHUPE  
MAYOR

May 16, 1940

Dr. A. G. Horton  
Arizona State Teachers College  
Tempe, Arizona

Dear Dr. Horton:

The Economic, Political and Social Survey of Phoenix and the Valley of the Sun which has been mapped by you and your staff of workers from the Arizona State Teachers College is a very commendable work.

To my knowledge, this is the first comprehensive survey of this type to be completed in this area. This work should be productive of many practical advantages in solving many of the problems of our social, economic and political lives.

We of Phoenix are grateful to you and your staff for the facts which are made accessible to us through this survey.

Very truly yours,

*Reed Shupe*  
Reed Shupe  
MAYOR

RS:H

JOHN A. FOOTE, CHAIRMAN  
CHARLES H. FIELDS, MEMBER  
GEO. FRYE, MEMBER



JAMES E. DESOUZA, CLERK  
GEO. J. ERHARDT, ASST. CLERK

Office of  
Board of Supervisors  
Maricopa County  
Phoenix, Arizona

September 3, 1940

Dr. Arthur G. Horton  
Arizona State Teachers College  
Tempe, Arizona

Dear Dr. Horton:

I am pleased to advise that the Board of Supervisors believes the accomplishment of your program should bring great benefits to the entire Salt River Valley.

The comprehensive survey of our present situation, tied in with an analysis of our farming, industrial and other resources, will without doubt present a clear cut picture which will point out many possibilities for greatly improving the advantage we now have and opening up new fields.

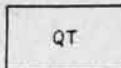
Yours truly,

*J. E. Desouza*  
Clerk

jed/ja

# EXPLANATION

QUATERNARY and TERTIARY



Silt, Sand and Conglomerate



Volcanic Rocks

CRETACEOUS or TERTIARY (LARAMIDE)

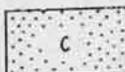


Granitic to Monzonitic Porphyry

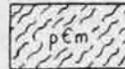
MESOZOIC



Sedimentary Rocks  
CARBONIFEROUS

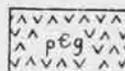


Sedimentary Rocks



Metamorphic Rocks

OLDER PRE-CAMBRIAN



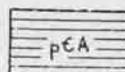
Granitic Rocks

CAMBRIAN - DEVONIAN



Sedimentary Rocks

YOUNGER PRE-CAMBRIAN



Apache Group

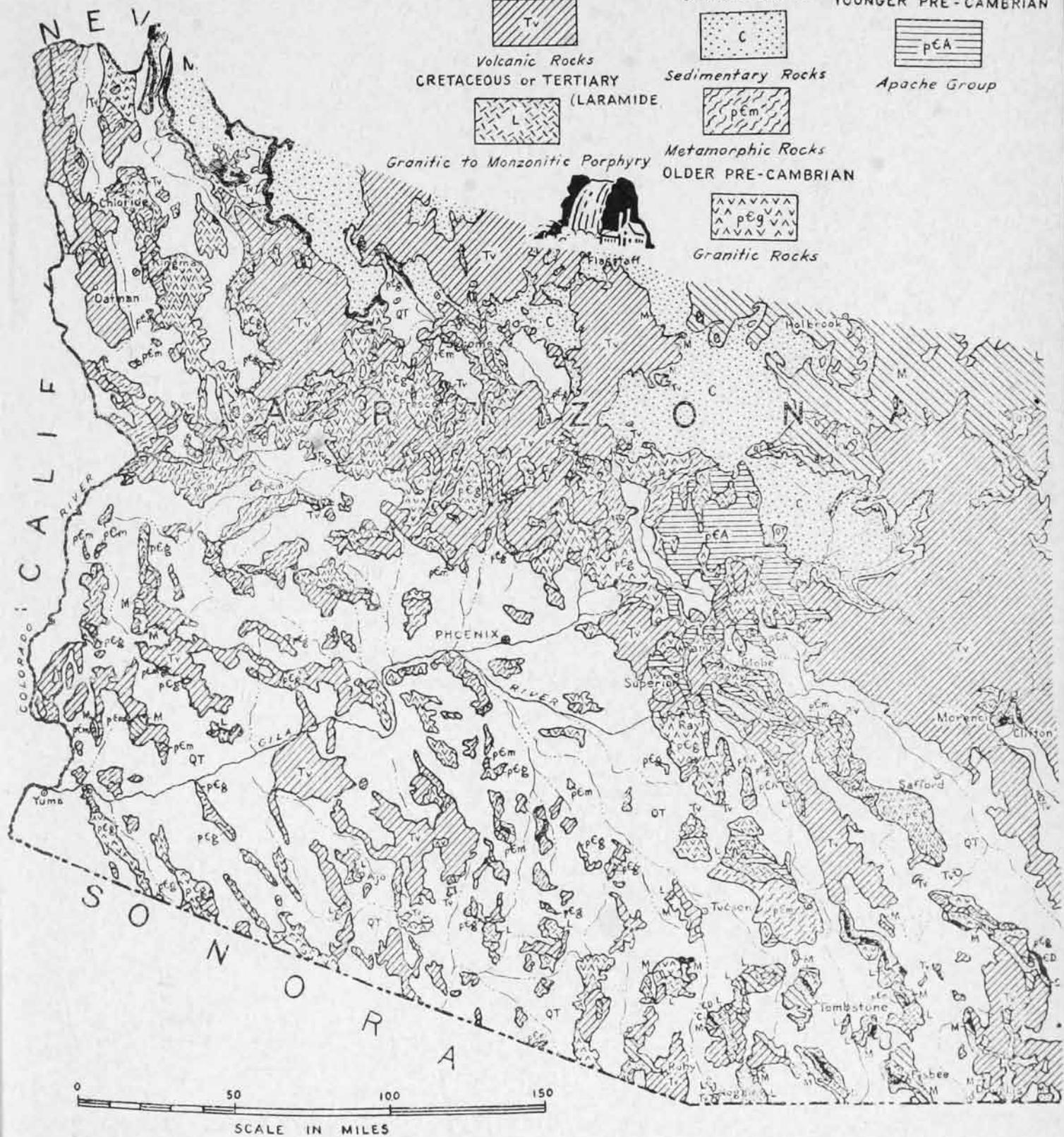


Fig. 1. Geological Map of Arizona, Modified from U. S. Geological Survey Map of the United States--1932.

Source: United States Geological Service.

FIG. 2  
ARIZONA METAL PRODUCTION  
1858 - 1937

COPPER	\$2,802,637,292	;	16,721,008,454 pounds
GOLD	204,643,521	;	9,139,693 ounces
SILVER	177,595,506	;	237,144,005 ounces
LEAD	27,476,972	;	467,429,246 pounds
ZINC	13,511,927	;	163,636,497 pounds
TOTAL	\$3,025,870,218		

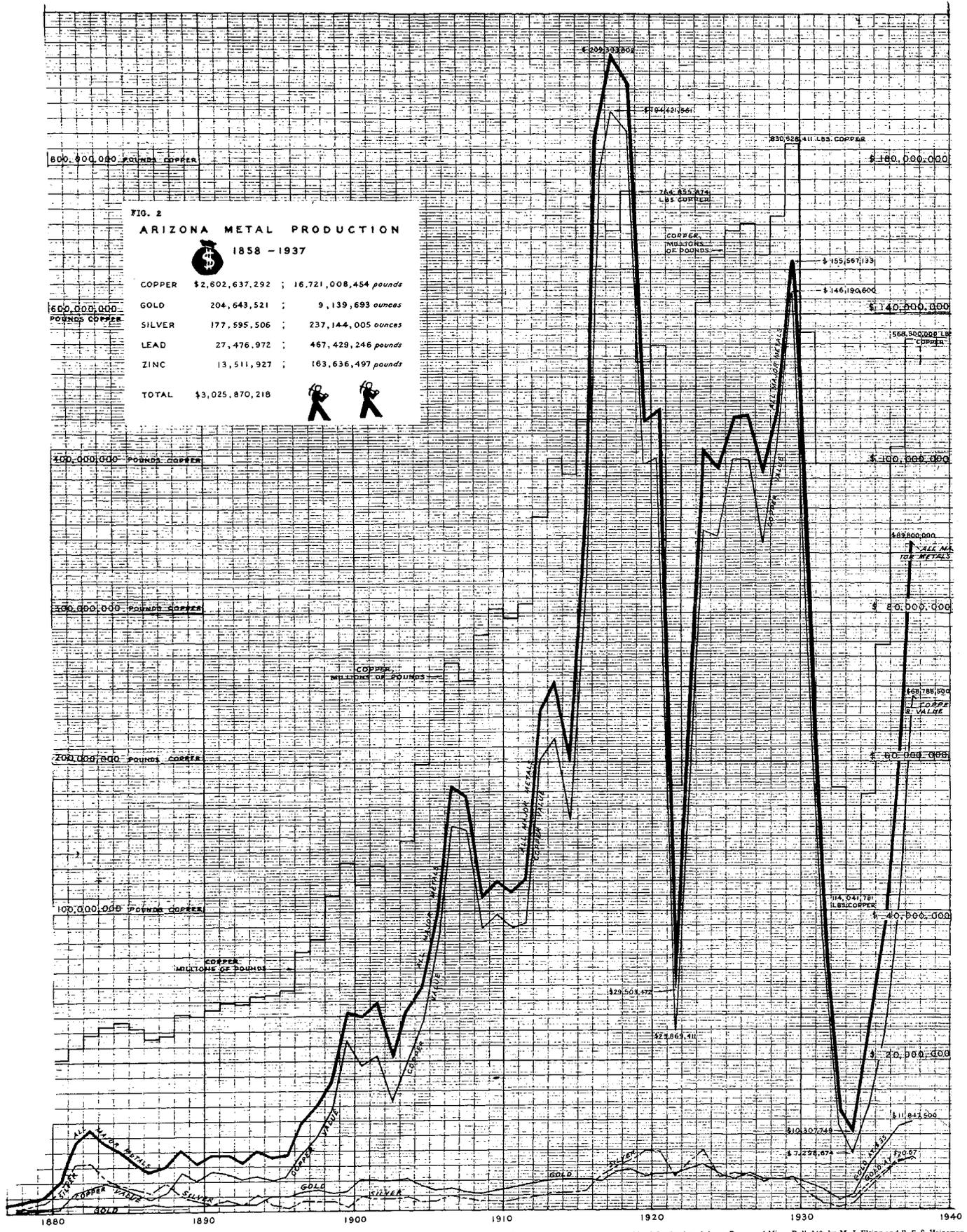
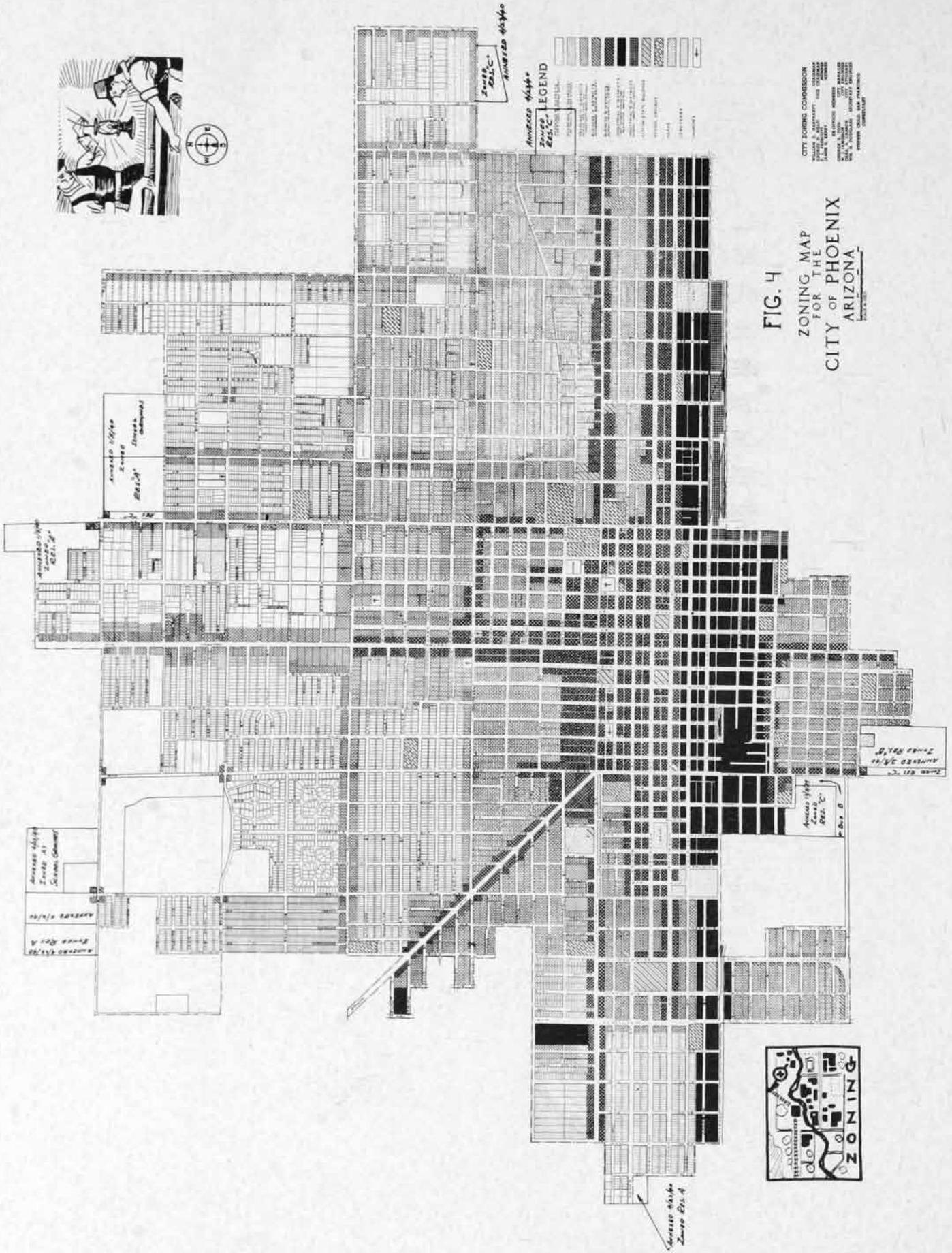


Fig. 2-Graph of Arizona metal production. Value curve labeled "all major metals" includes sum of gold, silver, copper, lead, and zinc. For detailed statistics see Arizona Metal Production, Arizona Bureau of Mines Bull. 140, by M. J. Elting and R. E. S. Heineman.





**ZONING LEGEND**

[Symbol]	RESIDENTIAL SINGLE-FAMILY
[Symbol]	RESIDENTIAL TWO-FAMILY
[Symbol]	RESIDENTIAL MEDIUM-DENSITY
[Symbol]	RESIDENTIAL HIGH-DENSITY
[Symbol]	COMMERCIAL GENERAL
[Symbol]	COMMERCIAL LIMITED
[Symbol]	INDUSTRIAL
[Symbol]	PUBLIC USE
[Symbol]	UNZONED

**FIG. 4**  
**ZONING MAP**  
**FOR THE**  
**CITY OF PHOENIX**  
**ARIZONA**

CITY ZONING COMMISSION  
 PHOENIX, ARIZONA  
 PREPARED BY THE CITY ENGINEER  
 JAN. 15, 1934





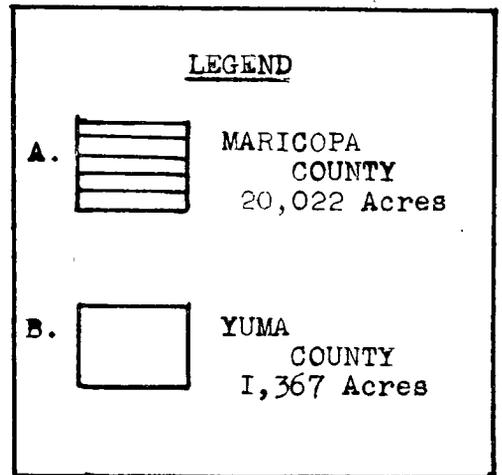
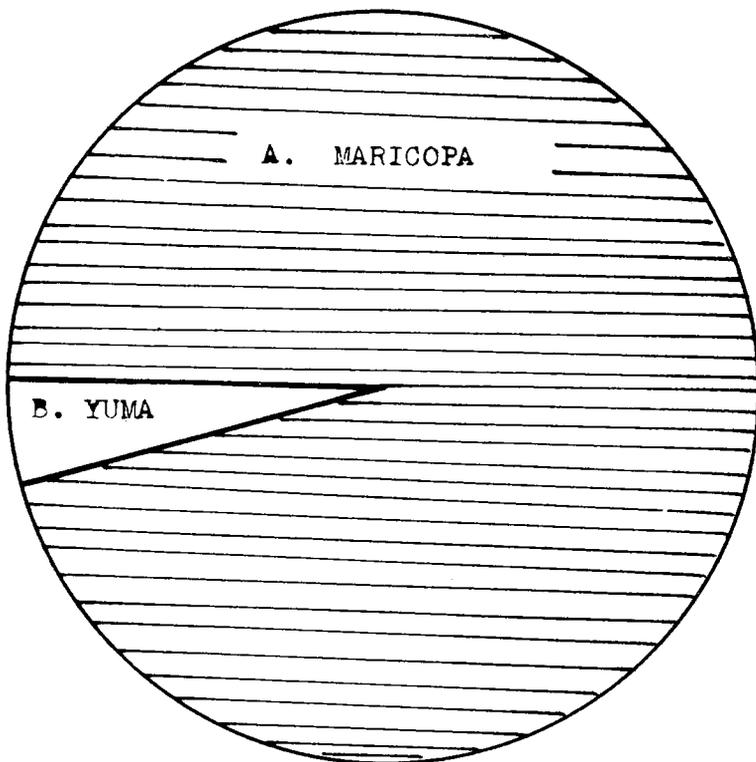


Fig. 8. CITRUS ACREAGE BY COUNTIES, 1940  
 N.B. Citrus grown only in Maricopa & Yuma Counties.  
 Source: John O'Dell, Maricopa County Agent.

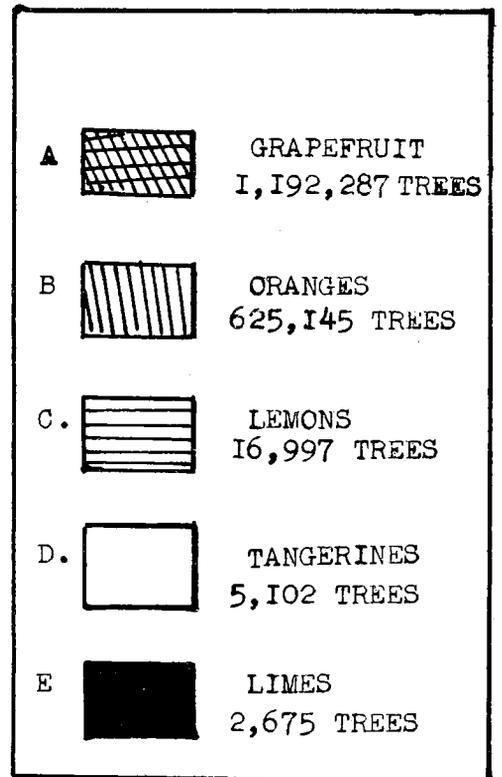
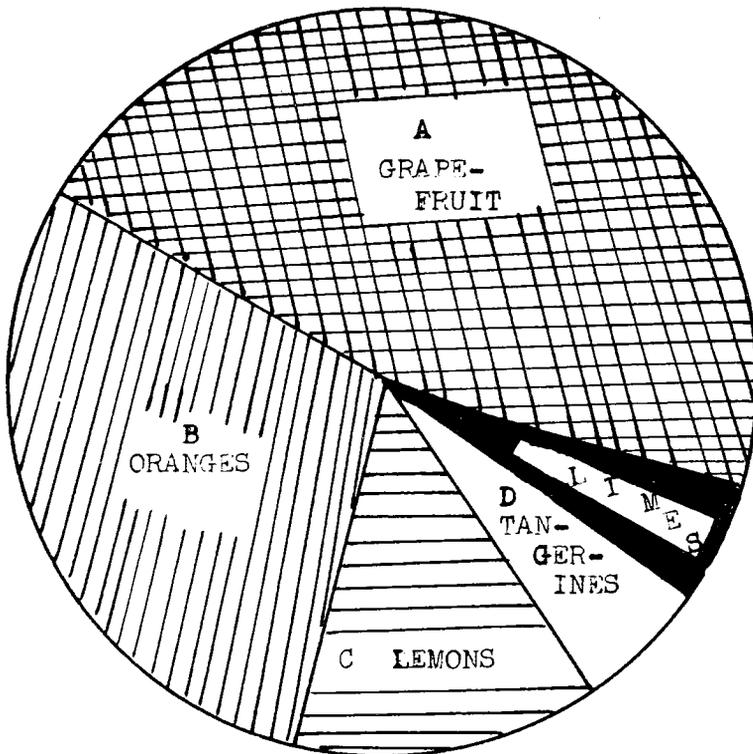
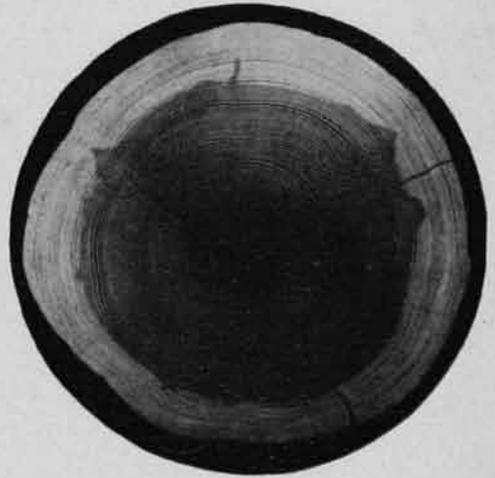


Fig. 9. CITRUS TREES IN ARIZONA, 1940  
 Source: John O'Dell, Maricopa County Agent.

CHAPTER I  
MILESTONES OF PROGRESS (1)

THAT WAS THE YEAR THAT ...

- A. D.  
800-1000 (circa) — Early period of pueblo culture. (2).
- \*1200 (circa) — Oraibi, oldest continuously inhabited village in the United States, established. (3).
- 1300-1400 (circa) — Development of the compound type of dwelling such as Casa Grande. (4).
- \*700-1400 (circa) — Ho-Ho-Kam Village, now the restored Pueblo Grande between Phoenix and Tempe, built. It is a relic of Arizona's pre-historic civilization. The pre-historic canal systems of the Salt River Valley were traced by Herbert R. Patrick, et. al. About 135 miles of main canals were found. Turney has made a compilation of surveys confirming Patrick. (5).
- 1519-1521 — Conquest of Mexico was made by Hernando Cortez, who defeated Emperor Montezuma. Cortez brought Arabian horses to Arizona.
- \*1522 — Spanish rule was established in Mexico by Cortez.
- 1530 — Indian Tejo told Nuno de Guzman, Viceroy of New Spain, of the Seven Cities of Cibola. Nuno de Guzman organized an expedition which went to Culiacan but did not enter Arizona.
- 1531 — Marcos de Niza arrived in Mexico. (6).
- 1533 — Hernando Cortez, at his own expense, fitted out an expedition of two ships to explore the northern coastlands of New Spain on the Pacific side. De Vaca penetrated northward to within 200 miles of the present Arizona border.
- 1536 — Cabeza De Vaca, accompanied by Maldonado, Dorantes and Esteban, brought tidings of the north to New Spain.



Early Indian Culture has been dated by Dr. Douglas' Tree Ring Theory.

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(1) Important Milestones are starred with asterisks.  
(2, 4 & 5) Odd Halseth, director of archeology at Pueblo National Monument.  
(3) Mulford T. Winsor, director of library and archives at the Arizona State Capitol Library.  
(6) McClintock, James., "Arizona, the Youngest State," 1916, Vol. 1, p. 42.

- 1538 ————— Fray Marcos de Niza received sanction to discover the Seven Cities of Cibola. In January, it is said, two Franciscans, Juan de la Asuncion (Juan de Olmeda) and Pedro Nadal, were sent into the north country by direct commission from the Viceroy. They reached a point on the Colorado River not far from Needles on the California-Arizona border. (7).
- \*1539 ————— Cortez sent a third expedition to the northern lands of New Spain. It was commanded by Francisco Ulloa. Fray Marcos de Niza, a native of the City of Niza in the duchy of Savoy, accompanied by Fray Honorato and Esteban left Culiocan, Mexico, in search of gold and precious metals in the famed Seven Cities of Cibola. Eight Indians accompanied them. Honorato became ill and had to turn back. On May 31, Fray Marcos and the remainder of the party entered Arizona. (8) Esteban was killed and six Indians deserted. Fray Marcos described the country and the people of the San Pedro Valley and Sonora. He described the Yaquis and Pimas as "an agricultural, pottery-making people who irrigate by means of artificial canals." (9). Melchior Diaz and Zaldivan reached the Gila Valley.
- \*1540 — Francisco Vasquez de Coronado visited what is now Tucson, then an Indian village. Melchior Diaz explored the Colorado River. He was the first white man to travel up the stream from its mouth. Hernando de Alarcon set sail for the north in search of Cibola. He entered the Gulf of California and the mouth of the Colorado River. Pedro de Castenada entered Arizona as a part of the Coronado Expedition. Lopez de Gardenos, with a company of Coronado's soldiers, reached the edge of the Grand Canyon about September 16.
- 1541 — Coronado started for Quivira in a last search for gold. (10). The Spaniards treated the Indians harshly.
- 1542 — Rich silver mines of Zacatecas, Mexico, gave impetus to mining in every part of New Spain. Coronado returned to Mexico after considerable exploring in search of gold in Arizona and the Southwest.
- 1547 — Mendoza was replaced as Viceroy to New Spain. Hernando Cortez died in Spain.
- 1558 ————— Marcos de Niza died in Mexico City on March 25.
- 1581 ————— Fray Augustine Rodrigues secured permission to journey into the north with Friars Francisco Lopez and Juan de Santa Maria. (13). Tucson had its first missionaries.
- \*1582 ————— Antonio Espejo left Mexico to look for the Franciscan Friars, probably going as far north as the Hopi Villages.
- \*1583 ————— Espejo crossed Arizona from the Rio Grande Valley by way of Zuni to what is now known as Prescott. Espejo found silver ore on the Bill Williams Fork, at the foot of San Francisco Mountains. He discovered Verde River salt deposits.
- \*1595 ————— Juan de Onate made a contract with the Viceroy of New Spain to colonize New Mexico (including Arizona) at his own expense. (12). Onate followed Espejo's route in Arizona. Onate called the land New Mexico and took possession of it. He founded San Gabriel los Espanoles, one of the oldest towns in the United States. (13).



(7) Farish, T. D., "History of Arizona," 1915, Vol. 1, p. 44-45.

(8) According to William A. Bell in "New Tracks in North America," p. 205. Don Joseph de Basconzales crossed Arizona in 1526. His claim is not substantiated by leading historians, however.

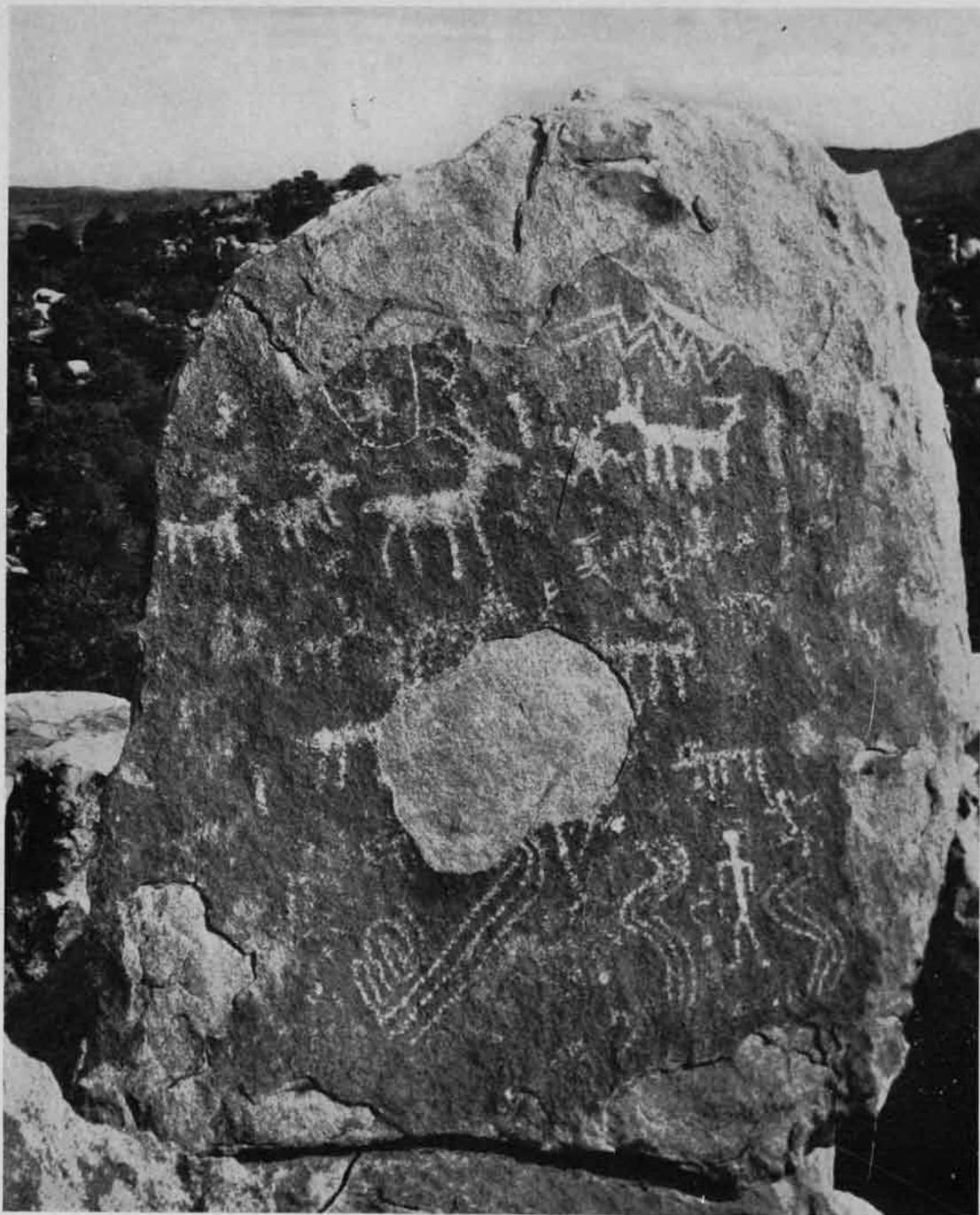
(9) Sloane, R. E., et. al., "History of Arizona," 1915, Vol. 1, p. 13.

(10) McClintock, James H., "Arizona, the Youngest State," 1916, Vol 1, p. 44.

(12 & 13) Ibid, pp. 61 and 62 respectively.

\*1598

First Spanish mission built in what is now United States territory at San Juan, New Mexico.



**Pictorial Sign Language Record of Early Indian Culture.**

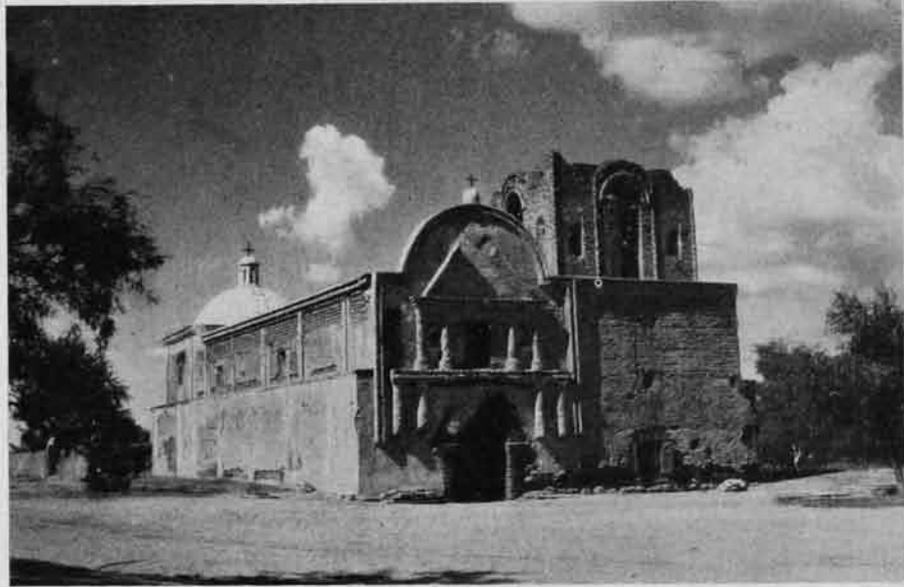
\*1600

Three mission churches were built, namely San Bernadino, San Bartolome, and San Francisco. Padre Francisco Parres converted 800 Indians. Onate again crossed into Arizona, giving the names San Antonio and Sacramento to the branches of the river now called the Verde.

\*1604

Juan de Onate explored northern and western Arizona and for twenty-five years explored the Papago Country—He was the first white man to completely cross the state.

- 1605 ————— Pedro Escobar, with a branch of the Onate expedition, crossed the Gila River and went on to the Gulf of California. Onate founded Santa Fe (later capital of the joint territory of Arizona and New Mexico).
- \*1628 ————— Father Perras became the first religious martyr in Arizona. He was poisoned because the friars made the Indians carry great timbers for the chapel from the far-distant San Francisco Mountains.
- \*1630 ————— Benavides' report of New Mexico (including Arizona) was printed in Spain.
- 1643 (circa) ————— Padre Kino (Eusebio Francisco Quino), great apostle to the Pimas, was born in the Austrian Tyrol on August 10. (14).
- 1645 ————— Forty Indians were hanged for witchcraft in the territory of New Spain. Padre Kino was baptized on August 10.
- 1678 ————— Padre Kino sailed for America.
- 1680 ————— The Pueblo Indians revolted against the Spaniards but were subdued. Santa Fe was captured by the Pueblo Indians under the leadership of an Indian "wizard" named Pope.
- 1681 ————— Padre Kino reached Vera Cruz. He was sent from Mexico to work, with the tribes in Arizona assigned as the northern boundary of his territory. He started work in California, and was called "the Royal Cosmographer." (15).
- \*1687 — By this year Padre Kino had established four missions: (1) San Juan de Delores; (2) San Ignacio de Caborica; (3) San Jose de Imures and Los Remedios. Padre Kino made his home in an Indian Village, Cosari, where he also established the Mission, "Our Lady of Sorrows." The Mission of San Jose de Tumacacori was likewise constructed in Arizona along the course of the Santa Cruz River by Padre Kino. Mission San Xavier del Bac (16) was inaugurated in Arizona by Padre Kino, near Tucson.



Tumacacori Mission

- 1688 ————— Pope, the Indian leader, died. He had maintained his position as supreme ruler of the Indians from the uprising of 1680 until his death.
- \*1690 ————— Kino's missions (17) were inspected by the Reverend Juan Maria Salvaterria. San Gabriel de Guevavi Mission was established in what is now Southern Arizona (18).
- \*1691 ————— Padre Kino crossed into Santa Cruz Valley near Fort Mason as far as Tumacacori on the Santa Cruz River. (19).
- \*1692 ————— Santa Fe was recaptured by Governor Diego de Vargas, who was sent to New Mexico to return it to the Spanish Crown.

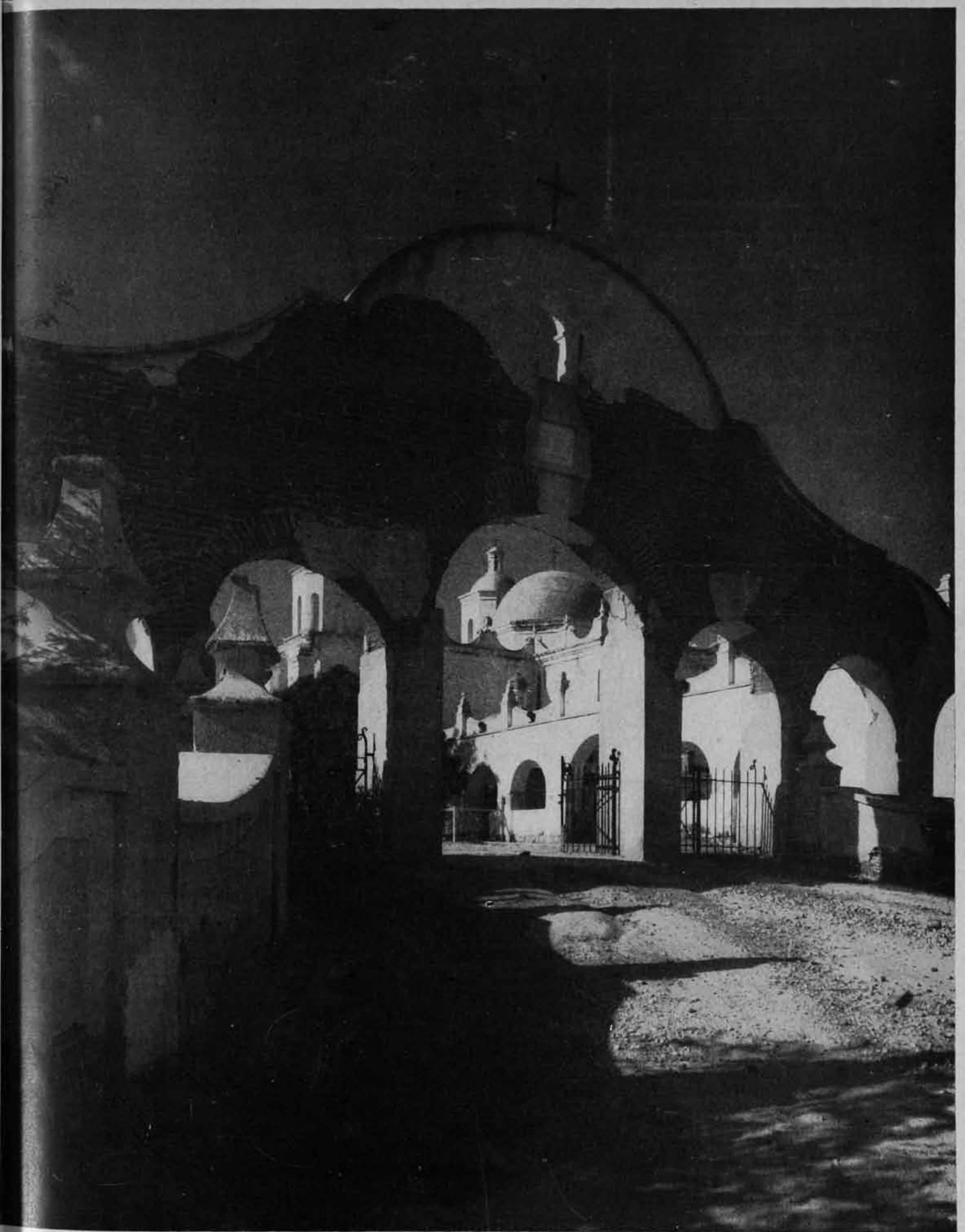
(14) Wyllys, R. K., "Pioneer Padre," Dallas, 1935. Exact year of birth unknown.

(15) Ibid, p. 23.

(16) One of the finest examples of early Spanish architecture to be found in America.

(17 & 18) Hallenback, C., "Spanish Missions of the Old Continent."

(19) Padre Kino's work with the Pima Indians began on December 14.



Mission San Xavier del Bac

- \*1694 ————— Two Missions, the Immaculate Conception and St. Andrews, were established by Padre Kino among the Pimas on the Gila River near Casa Grande. He was accompanied by Captain Juan Menje down the south bank of the Gila River through Pima and Cocomaricopa Villages. (20).
- 1695 ————— Indians murdered Father Saeta at Caborca.
- 1698 ————— Apache raids were very severe in the spring. (21).
- \*1700 ————— The foundation of Mission San Xavier del Bac was made by Padre Kino in May. He also built the Mission of St. Dionysius above the Gila's mouth on the Colorado River. (22).
- \*1705 ————— Padre Kino mentioned the mining of rich silver ore, probably from Santa Rita Mountain deposits.
- \*1706 ————— Padre Kino made his last pilgrimage. It included a visit to more than a score of missions and villages.
- \*1710-1711 ————— Padre Kino died at the age of seventy. "A historian of the times told that he had baptized more than 48,000 Indians." In the same chronicle, that of Colvijero, is told, "In all his journeys he carried no other food than roasted corn; he never omitted Holy Mass and he never slept upon a mattress. As he wandered about he prayed incessantly and sang hymns or psalms. He died as saintly as he lived." (23). Padre Kino had devoted 26 years to missionary work in Sonora and Arizona.
- 1723 ————— The Spanish King forbade trade between Spanish and French colonies in North America.
- 1727 ————— French raided the Indian Village of Cuartelejo about 240 miles north of Santa Fe.
- \*1736 ————— Padre Ignacio Keller visited Casa Grande. The famous Bolas de Plata silver deposit in Arizona and Northern Sonora was located. Silver was found near the present town of Nogales, Arizona.
- 1737 ————— Indian trouble in Arizona. French Canadians arrived in Santa Fe.
- 1741 ————— Jesuit Priests sent to America by the Spanish King.
- \*1744 ————— Padre Jacobo Sedelmair went down the Gila River from Casa Grande to the great bend, thence across the Colorado at about the mouth of the Williams River. (24).
- \*1745 ————— Casa Grande visited by Padre Sedelmair while exploring the Moqui Country. He visited and named 42 rancherias or villages.
- \*1750 ————— Second revolt of the Pima tribes. Some copper mined at Ajo.
- \*1751 ————— Pimeria Revolt—Indians became weary of discipline and revolted, destroying the missions and towns and killing many Spaniards. The Spanish conquered the Pimas in about a year. Apaches destroyed the Mission of San Xavier del Bac.
- \*1752 ————— Tubac was established as a military presidio for the protection of Geuvavi and San Xavier as well as the vistas of Tumacacori, Calabazas and Tucson.
- 1763 ————— The Rancheria of Tucson was abandoned by its few Spanish settlers.
- 1767 ————— A decree of King Carlos III of Spain expelled all members of the Jesuit Society from the dominions of Spain.

(20) Bancroft, H. H., "History of Arizona and New Mexico," 1889.

(21) Wyllys, R. K., "Spanish Padre," pp. 120-126.

(22) Ibid, pp. 152-3.

(23) McClintock, Vol. 1, p. 64.

(24) Bancroft, p. 365.

- 1768 \_\_\_\_\_ Franciscan Missionaries arrived to replace the Jesuits who for so long had given up the material comforts to dwell among the aborigines and spread the Faith to them. San Xavier Mission was again demolished by hostile Indians.
- \*1771 \_\_\_\_\_ Francisco Garces went down the Gila River to the Colorado, whence he descended to its mouth.
- 1773 \_\_\_\_\_ The Jesuit Society was abolished by Pope Clement XIV.
- \*1774 \_\_\_\_\_ Juan Batiste de Anza commanded a party from Tubac to San Francisco via the Gila and Colorado Rivers. There was gold placering in the Quoyotos district.
- \*1775 \_\_\_\_\_ Smallpox claimed thousands of victims among the Indians of the Southwest.
- \*1776 \_\_\_\_\_ Tucson was founded as a Spanish settlement when the Spanish garrison was transferred there from Tubac. (25).
- \*1780 \_\_\_\_\_ Spanish colonists went to establish pueblo missions at Conception.
- 1781 \_\_\_\_\_ Father Garces was slain by the Yuma Indians, when attempting to found a mission during their revolt.
- 1783 \_\_\_\_\_ Navajo Indians resisted an attempt to put them under Spanish rule.
- 1785 \_\_\_\_\_ Reconstruction of Mission San Xavier del Bac began.
- 1797 \_\_\_\_\_ San Xavier del Bac completely restored.
- 1800 \_\_\_\_\_ Primitive mining of copper at Santa Rita, New Mexico. After 1800 the Maricopa Indians moved eastward to become the neighbors of the Pimas.
- \*1807 \_\_\_\_\_ Zebulon Pike, first American soldier known to the Southwest, made a trip into New Mexico, visiting Santa Fe.
- 1810 \_\_\_\_\_ All there was left of white man's Arizona was near the Santa Cruz Valley, in the southeastern part of the state. Southwest Missions no longer received remittances from Spain. Anniversary of Grito de Delores, the proclamation of Mexico's independence from Spain. Apaches drove white people from their ranches.
- 1812 \_\_\_\_\_ A company of about ten soldiers went to Santa Fe to raise the American flag on Spanish soil. They were arrested by Spanish officers, but later released.
- \*1821 \_\_\_\_\_ Mexican Revolution—Mexico gained its independence from Spain.
- \*1822 \_\_\_\_\_ The Santa Fe Trail was discovered by Captain Becknell. Antonio Viscarra was installed as first Governor of New Mexico (including Arizona) under the new nation. General Augustin de Iturbide was proclaimed Emperor of Mexico.
- \*1823 \_\_\_\_\_ Republic of Mexico proclaimed. Spanish Missions abandoned.
- \*1824 \_\_\_\_\_ Merchandise was regularly transported over the Santa Fe Trail on the backs of mules and horses. Colonel Marmaduke, later Governor of Missouri, was a member of a party which carried thirty thousand dollars worth of merchandise to Santa Fe. First wheeled vehicles to cross the Great Plains carried eighty missionaries with a trainload of wares, accompanied by pack mules. Trails were made into Arizona and California by Jedediah Smith, the Patties, Bill Williams, Felix Aubrey, Pauline Weaver, Kit Carson, et. al. The Patties obtained permission from the Governor of New Mexico to trap along the Gila River. The Ashley expedition explored the Colorado River.
- \*1825 \_\_\_\_\_ First American scouts began to explore Arizona. Sylvester and John Pattie leased the Chino deposit at Santa Rita, New Mexico. The first American visitors were trappers, hunting the beaver, which were abundant.

(25) It is reported that several Europeans became inhabitants of the Village of Tucson in 1565. However, Barney in his "Place Names," p. 455, states that the alleged great antiquity as a settlement is a fable.

- \*1826 ————— Captain Jedediah S. Smith was the first white man to enter Arizona from the north, reaching the Virgin River in Arizona, near the southwest corner of Utah. Kit Carson explored Arizona and New Mexico thoroughly. Two trappers, James Pattie and his father, entered Arizona by way of the Gila River and were the only ones who left written accounts of their thrilling escapades.



Twenty Mule Team Carrying Merchants to South West.

- \*1827 ————— Kit Carson had his first fight with Apache Indians on the Salt River. Pattie made a second trip down the Gila, accompanied by a party of trappers. Mission schools of the Jesuits were abandoned, leaving Arizona without schools. Franciscans were expelled by the Republic of Mexico.
- \*1829 ————— Kit Carson joined Ewing Young's trapping expedition into Arizona.
- \*1830 ————— Pauline Weaver re-entered Arizona. Old Spanish Trail was discovered following the Virgin River into Arizona on the route to California.
- \*1834 ————— Navajo Indians massacred a party of fifty New Mexicans led by Jose Chavez, in Canyon de Chelly.
- 1835 ————— A Mexican officer complained of lack of protection from the Indians.
- \*1837 ————— The Mexican Government imposed heavy taxes and sent Colonel Albino Perez of the Mexican Army to New Mexico (including Arizona). This caused New Mexico to revolt.
- \*1838 ————— The rebel army was defeated and Jose Gonzales was executed. "One" Johnson shot a cannon loaded with nails, glass, etc., into a peaceful band of Indians, causing deep resentment against the whites.
- \*1839 ————— United States established a consulate at Santa Fe with Manuel Alvarez in charge.
- \*1841 ————— Texas claimed all land west of the Rio Grande.
- \*1843 ————— Terrible smallpox epidemic was reported by Lieutenant Whipple.
- \*1844 ————— Fremont explored the headwaters of the Colorado River. Francois de Van Coeur, with a party, ran into hostile Indians crossing Arizona. (26).

(26) Sources for early 19th century material were: Lockwood, Francis C., "Pioneer Days in Arizona;" Dodge, Ida F., "Our Arizona;" McClintock, "Arizona State;" McClintock, "History of Arizona," Vol. I-II; Bancroft, H. H., "History of Arizona and New Mexico."

- \*1845 ————— Annexation of Texas. United States declared war on Mexico on May 14. Mormon Battalion organized as a unit of the Army for the West. American flag raised over Tucson by Lieutenant Colonel Phillip Cooke who led the Mormon Battalion through the settlement enroute to the Pacific Coast. (27). Colonel A. W. Coniphan, with a considerable military force, visited the pueblos of Arizona and New Mexico. Lieutenant Colonel William Emory had shelters made for the Casa Grande Ruins. A military expedition organized at Ft. Leavenworth, Kansas, under S. S. Kearney, crossed Arizona by way of the Gila River and on November 25, forded the Colorado. The Hopi Indians received much attention from the Mormons, who followed their traditional policy of making friends with the aboriginal Lemnites of the Book of Mormon.
- \*1847 ————— The legislature was called at Santa Fe, capital of New Mexico (including Arizona). Donocrano Vigil, a native New Mexican, was made governor. Mexico City captured.
- \*1848 ————— The Treaty of Guadalupe Hidalgo ended the Mexican War. The Gila River was adopted as the International boundary line. Mexico ceded Arizona, New Mexico, Utah, Nevada and California to the United States for \$16,000,000. Tucson had 760 inhabitants; Tubac, 249. Dr. O. M. Wozencraft organized a party in New Orleans which made the trail through Arizona used by the "Forty-niners" the following year. Gold discovered in California by Marshall. (28).
- \*1849 ————— The first ferry at Yuma was started by the Howard family. Fort Defiance was formed in the northeast corner of the territory. John C. Fremont passed through by the Gila route. In November the Howards were traveling down the Gila by flatboat when their son was born—first child born of white parents in Arizona. Colonel Washington, with 350 men, founded another peace treaty with the Navajos, which was later broken. Lieutenant A. W. Whipple established a ferry service across the Colorado River at Yuma.
- \*1850 ————— New Mexico, including Arizona, became United States territory with its capital at Santa Fe. Kearney set up a de facto government of New Mexico. A boundary survey was started. United States military post was established on the west bank of the Colorado. United States government sent Lieutenant G. H. Derby to explore Colorado. Ferry boat operated at junction of Gila and Colorado Rivers by A. L. Lincoln.
- \*1851 ————— In February, the Oatman Massacre occurred near Gila Bend—the Apaches killed the parents and wounded the Oatman boy, and kidnapped the two Oatman girls (one of whom died in captivity). The Oatmans were moving by wagon to California. Sixty thousand had passed through the Territory of Arizona. New Mexico was given full civil government at the same time California became a state. Fort Yuma was established. Silver deposits near Rio Salado were discovered by Jose Acuna—they were later known as Richmond Basin and Silver King Mines. G. A. Johnson arrived at Yuma with supplies on the schooner, "Sierra Nevada." The United States Government ordered the purchase of camels for transportation on the deserts of the Southwest. James Bobb navigated the river in his boat, "Yuma." Captain L. Sitgreaves made a journey through Northern Arizona, over a route called the "30-50 parallel."
- \*1852 ————— The population of Tucson numbered 300. The steamer, "Uncle Sam," under the command of G. H. Thomas, the first steam craft to navigate the Colorado, reached Fort Yuma. The Colorado Steam Navigation Company began.

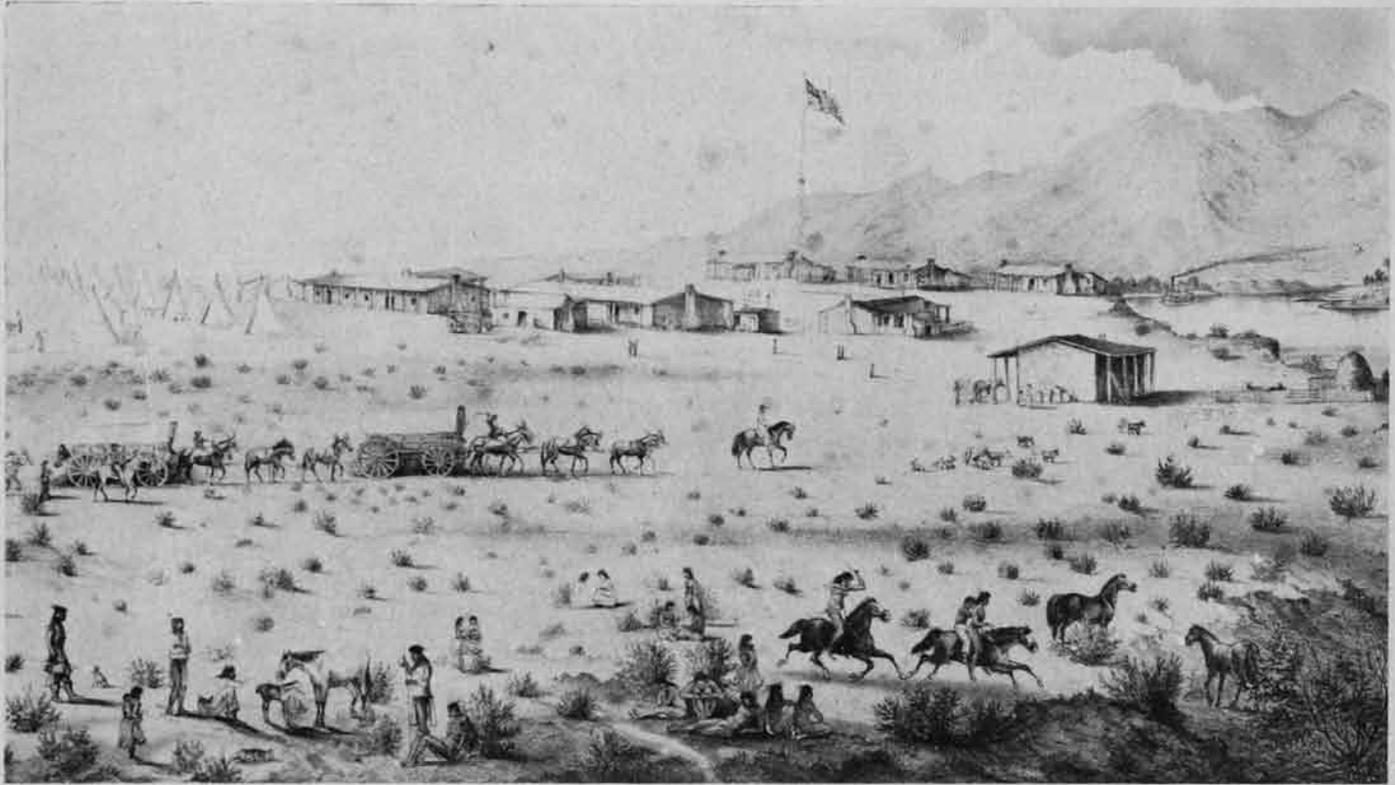
(27) The first wagon road across Arizona, Cooke's Road, through southern Arizona was made by the Mormon Battalion. Cooke crossed into Arizona on October 19, crossing Maricopa County, he went down the Gila River, and thence through the San Bernadino Ranch in the southeastern corner of Arizona.

(28) Murdock, John R., "Constitutional Development of Arizona."

\*1853

The Petrified Forest (now a National Monument) was discovered by Lieutenant Whipple. Congress appropriated \$150,000 to ascertain the best route to the Pacific. Tucson came into the United States when the Gadsden Purchase was signed, November 30. (29). The War Department surveyed the thirty-fifth parallel for a transcontinental railroad.

Yuma Indians numbered 3,000. Pauline Weaver led an expedition of placer miners to Rich Hill. Lieutenant Whipple, in his search for a suitable railway route, followed that of Captain Sitgreaves. (30).



Fort Yuma About 1850.

1854

The Gadsden Purchase was ratified by the Senate. Major Emory was appointed commissioner of the boundary survey. Lieutenant J. G. Parker was instructed to make further surveys from Pima Villages to the Rio Grande. Captain G. A. Johnson arrived at Yuma with General Jessup. Pete Kitchen started his large holdings. The Arizona Mining and Trading Company was formed in San Francisco for exploration of the Gadsden Purchase. The town of Yuma was surveyed.

\*1855

C. D. Potson organized the Sonora Mining and Exploring Company with a capital of \$1,000,000, near Tubac. The United States Congress authorized \$30,000 for buying camels to be used for military transportation in the southwest. A. B. Gray made a survey for the Texas Western Railroad, which was later followed by the Southern Pacific Railroad. Mark Aldrich was the first American to open a store in Tucson. The Ajo Mine produced the first rich copper ore—it was hauled to San Diego.

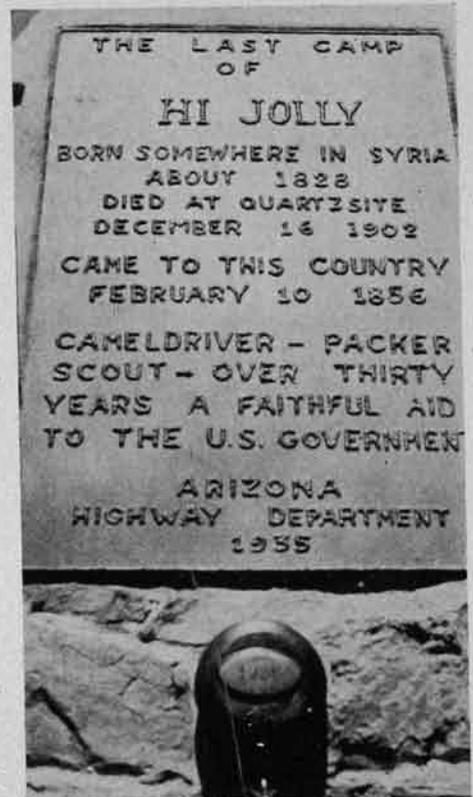
(29) The Honorable John R. Murdock says, "It has been a matter of never ending regret that at the opportune time we did not get a port on the Gulf of California." The Mexican Constitution forbids any further disposal of her lands or territory. We have made many offers to Mexico to buy just enough land to get a Gulf port, but her Constitution will not be disregarded.

(30) John R. Murdock's "Constitutional Development of Arizona" followed closely for constitutional phases; Lockwood and Farish given preference over Sloane and McClintock as to early historical data.



Sahuaro Silhouette

- \*1856 — The Santa Rita Silver Mine, near Tubac, opened. Mexican troops at Tucson were replaced by United States Dragoons. A convention at Tucson memorialized Congress to organize the Arizona Territory. They elected a delegate to Congress, but he was not seated. The first gold rush to the Yuma placers was made. Thirty-three camels were purchased by the U. S. Army from Egypt, Tunis and Samoa. They were landed at Indiana, Texas, by Hadji Ali (Hi Jolly) and "Greek George."
- \*1857 — Prospectors from all over the United States treked to Arizona. Gold discovered in Mohave County near Sacramento Valley. The Penningtons arrived in Arizona—the first American family to make Arizona their permanent home. Magnus Colorados, chief of the Mimbres Apaches, led a massacre. Patagonia Mine discovered by a Mexican herder. C. T. Hayden came to the territory. Nathan P. Cook presented a memorial of 260 names to the United States Congress and sought to organize Arizona as a separate territory. The first Pony Express Rider, Charles Youmans, left San Diego for Tucson. Fort Buchanan established. President Buchanan, in a message to Congress, recommended that a territorial government be established in Arizona. Beale's camel route was established via Flagstaff and Holbrook on the 35th parallel. Some 47 additional camels were purchased for usage in the Southwest.
- \*1858 — Arizona's first newspaper, the "Arizonan," was published in Tubac with Ed Cross as editor. Gila City was started about 20 miles above Yuma, but did not last. Jacob Hamilin, Mormon missionary among the Hopi, made his first trip to Hopi country and marked out the Mormon Road, south from Utah to Beale's route. General Johnson piloted the "General Jessup" to Yuma—the first time a steamer ascended to the head of Black Canyon. Leach Road, from El Paso del Norte to Yuma, was completed. First gold rush occurred when a rich placer was found near Gila City—known as the Dome Placers. The population of Tubac was 800, of whom five-sixths were Mexicans. Fort Mohave was erected. Hopi Pueblos were visited by Lieutenant J. C. Ives of the Topographical Engineers. Many Apaches were slain on the summit of Tempe Butte by a band of Pima Indians. The population of Tucson was estimated at 800. Moury Lead-Silver Mine in the Patagonia Mountains discovered. The famed Butterfield Mail Contract Company succeeded the San Antonio-San Diego Stage Company. William



Camel Caravans were Once a Popular Means of Transportation in Arizona.



Prospectors Trek to Arizona.

- \*1858 (cont.) ———— Onry of Tucson was the first American to enter the stock industry in Arizona. (31).
- \*1859 ———— The Pima Reservation of 110 square leagues of land was established. The Atchison, Topeka and Santa Fe railroad was chartered. Henzleman Mine, 30 miles above Tubac, produced \$100,000 worth of silver. There was a Navajo uprising. The diocese of Arizona added to that of New Mexico by a Vatican decree. Continued agitation by citizens of Tucson for the creation of an Arizona Territory.
- \*1860 ———— On February 1, the New Mexican Government created Arizona County from the western part of Dona Ana County with Tubac as the County Seat. The "Arizonan" was transferred to Tucson. The first book was published in Arizona. H. Wickenburg and W. H. Kirkland arrived in Arizona. Serious Navajo attack on Fort Defiance. A constitutional convention of 31 delegates was held at Tucson. The first marriage between Americans was that of W. H. Kirkland to Miss Bacon at Tucson on May 26. King Woolsey came to the territory, establishing a mill at Agua Caliente—he was a member of the first legislature. The Mormons were the first native born Americans to irrigate land.
- 1861 ———— The County Seat of Arizona was moved to Tucson by legislative enactment on January 8. Beginning of the Civil War. Stock and other property of the Butterfield line was confiscated by the Confederacy. Pauline Weaver discovered La Paz placers on the Colorado. Apaches went on the warpath again. Fort Lowell was established near Tucson.
- \*1862 ———— The Confederate Congress passed an Arizona Enabling Act. Jefferson Davis proclaimed Arizona a Confederate Territory. Confederate troops under Lieutenant John Baylor had established the Confederacy in Mesilla Valley, declaring Arizona in the Confederacy. A troop of Texan Confederate Cavalry under Captain Sherod Hunter reached Tucson. The only battle between Confederate and Union troops on Arizona soil took place at El Picacho Pass on April 15. Colonel James B. Carlton arrived at Yuma from California and declared Arizona a territory, under marshall law, saving Arizona from the Confederates. On May 5 Lieutenant Colonel West raised the Stars and Stripes over Tucson.
- \*1863 ———— United States Congress passed a bill which created the Territory of Arizona. (32). The Territorial Act was signed by President Lincoln on February 24. John Gurley was appointed first governor. However, he died enroute and John Goodwin became the first territorial governor. Temporary quarters were set up for Governor Goodwin at Navajo Springs on December 29. (33). Navajo Indians went on the warpath at Weaver Gulch. Gold was found near Prescott. Vulture Mine was discovered by Henry Wickenburg. Kit Carson established headquarters at Fort Defiance and helped establish permanent peace with the Navajos after capturing 8,000 of them. Poston became Superintendent of Indian Affairs for Arizona. (34).
- \*1864 ———— First Seal of Arizona, designed by Richard McCormack, was used officially. The First Territorial Legislature met on September 26. The first Territorial Government was set up on Granite Street, Prescott. C. D. Poston was elected delegate to the U. S. Congress. U. S. Civil Law first established by Governor Godwin. Mohave, Yuma, Pima and Yavapai were the four original counties in Arizona. Tucson was incorporated. The first battalion of native cavalry was formed. J. P. Osborne brought cattle into Yavapai County. The Governor's house—a log cabin—was built at Prescott. The first schoolhouse in

(31) Lockwood, Frank C., "Pioneer Days in Arizona;" Farish, Tom, "History of Arizona," Vol. VII & VIII; Bancroft, "History of Arizona and New Mexico;" McClintock, "Arizona," Vol. I & II.

(32) Charles D. Poston threw an oyster supper for Lame Ducks in Washington to establish the personelle of the Arizona Territorial Government.

(33) The temporary seat of government was moved to Fort Whipple, later to Granite Creek around which Prescott was built.

(34) Murdock, John R., "Constitutional Development of Arizona," followed closely for governmental phases.

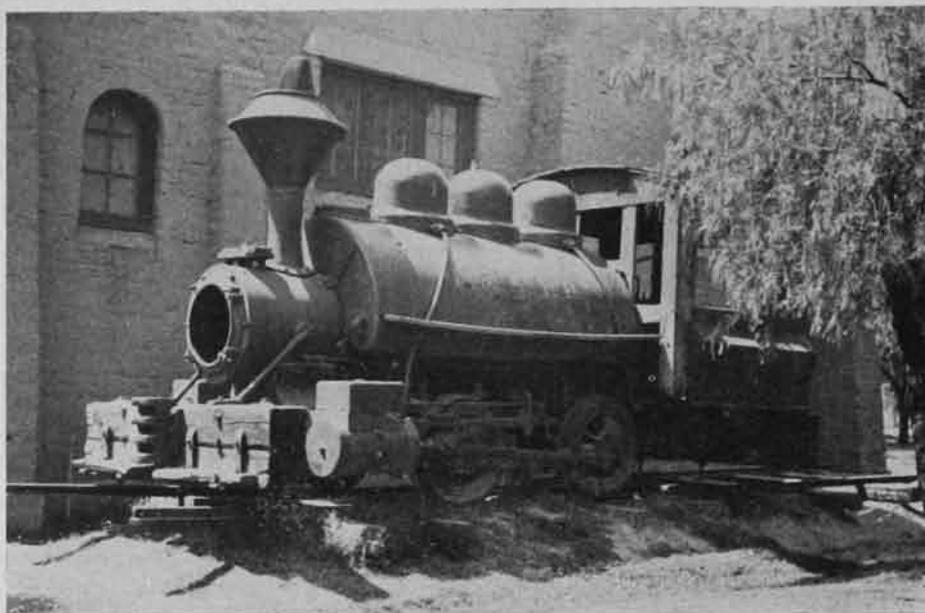
- \*1864 (cont.) — Prescott was also built of logs. The "Arizona Miner" appeared at Fort Whipple. The first white man to pitch his tent on the site of Phoenix was Y. T. Smith, who made a hay camp to supply Camp McDowell. The steamers, "Esmeralda" and "Vina Tilden," competed with the Johnson line. Jacob Hamilin ferried across the Colorado River. Governor Goodwin urged the legislature to establish elementary schools. So many Indians were killed at the Bloody Tanks Massacre that their blood colored the water. The Arizona Historical Society was incorporated.
- \*1865 — Fort McDowell was established as an important army post on the west bank of the Verde River by Brigadier General John S. Mason, commanding five companies of California volunteers. First permanent white settlement near Phoenix was at Fort McDowell—Phoenix was nothing but an Indian village in the center of the desert. The educational system of Arizona had its beginning January 1, in Tucson. Pah-Ute County was created. Richard McCormack became the second Territorial Governor. Company C, Pima Indians, mustered in with J. Brown of San Francisco as Captain.
- \*1866 — Pah-Ute County was lost to Nevada. (35). Mrs. William Tange was engaged to open a school at San Xavier. Apaches went on the warpath. Assembly provided that counties should be divided into road districts with a road supervisor in each district.
- \*1867 — Jack Swilling, Confederate leader, built the first canal from the Salt River into what is now New Phoenix. He formed the Swilling Irrigation Canal Company for the purpose of digging a ditch from a point later known as Hayden's Ferry, the cost being \$400. Irrigation in the Salt River Valley began. Anglo-Americans began locating homes in the Salt River Valley. The Fourth Territorial Legislature changed the temporary capital in Prescott to a permanent one in Tucson. Fremont was organizer and president of the Atlantic and Pacific Railroad Company. It was authorized to build a 2,000-mile track, and claimed 55 million acres under a Congressional Act. S. W. Forman made the first survey of Tucson. Kirkland built the first road from Tucson to the Santa Rita Mountains.
- \*1868 — The Phoenix settlement was first called Mill City. 'Lum' Gray and Mr. and Mrs. Ben Peterson settled in Phoenix. However, Mrs. Gardiner was the first white woman to make her home in Phoenix, and Mrs. C. H. Gray was the first American woman to enter the Valley. The name



Apache Renegade

(35) Pah-Ute County was granted to Nevada under a congressional act of May 5, conditioned upon acceptance by the Nevada Legislature. Accepted January 18, 1867 (see Murdock).

\*1868 - "Phoenix," which had (cont.) been given by Darrel Duppa (36) to the settlement a year or two before, was first used officially by the Board of Supervisors of Yavapai County when they formed an election precinct and called it Phoenix. Phoenix was originally in Yavapai. "Mother of Counties." Jim McKinney and John Alvany built a two-room structure in which they started a salon and a small eating place. Frenchy Sawyer built the first house. The first election was held on June 2, at Swilling's house, with Swilling as inspector and J. H. Davis and J. Burns as judges. The Salt River Valley Canal, the first successful canal, was built by Bill Osborne and Tom Barnum. James Baker brought the first sheep into Mohave County. A horseback mail route ran from Wickenburg, connecting with the main route at Maricopa Wells.



Railroad Comes to Arizona.

\*1869 — The Maricopa Canal was constructed. John P. Osborne, Bill Osborne, Alsap, McKinney, Tom Farish and others came to Phoenix. Construction began on the Richard Flour Mills, the first steam mills in the Salt River Valley. The Mills were located at the present site of the Luhrs Tower, in the heart of the merciless desert. There were only four white women in Phoenix until "Coho" Young and his family moved in, and Mr. Murray with seven grown daughters. A post office was created in the Salt River Valley near modern Phoenix on June 16 with Jack Swilling as postmaster. A. P. Safford elected Territorial Governor.

\*1870 — Townsite of Phoenix was laid out on October 20. John Moore gave 40 acres. However, 320 acres were purchased for \$50, raised by popular subscription for the townsite. W. B. Hellings located his store and mill on Section 1. Captain William Hancock surveyed the town—it was laid off into blocks—sixty-one lots were sold at an average of \$48 each. Judge Berry of Prescott paid \$116 for the first town lot, on the southwest corner of First and Washington Streets. The original site of Phoenix was a mile to the north of the present site. Commissioners elected were John T. Alsap, James T. Murphey and J. T. Perry. A New committee consisting of Duppa, Moore and Griffin, selected West Phoenix for a new site. The first store was made of adobe and belonged to William Hancock. The first protestant organization was a Methodist Episcopal Church. Charles H. Cook, a German clergyman of the Presbyterian Church, was a great influence for good. The Hayden Flour Mill was built near Phoenix. Some of the earliest houses were those of Adams, Vandemark, Sawyer and Hoagre. Articles of Association of the Salt River Town Association Community were signed by Duppa, Barnum, Homes, Alsap, Griffin, Murphy, Buck, Bray, MacElliot, Connell, Ervine, Monihon, Barnett, Block, Dennis, Starar, Perry, Towney and Osborne. The Tempe Canal was dug. The first house in Phoenix was made of adobe and was built on Washington Street

(36) The name Phoenix was suggested by Darrell Duppa, brilliant young renegade from the British Army. He said, "A new city shall spring Phoenix-like upon the ruins of a former civilization."

- \*1870 (cont.) ————— between Center and First (then called Montezuma) where the first county offices were held. The population of Arizona was 9,658. Camp Apache was established. John Wasson was appointed Surveyor General of Arizona Territory by President U. S. Grant.
- \*1871 ————— The population of Phoenix was set at 300. The last lot of the original Phoenix site was surveyed and the Hancock Map made. The town was one mile long, one-half mile wide and was divided into 96 blocks. Washington was the main street, running east and west and was 100 feet wide. The first brewery opened. In November, Holcomb and Hargraves rented floor space and opened the first butcher shop. Eggs sold for \$1 per dozen and butter cost \$1.25 per pound. Safford's first report on Arizona gave but a single paragraph to Phoenix. The first Protestant congregation organized in Phoenix in December. Work began on the present Central Methodist Church building. Catholics were holding services in a private residence. The first hotel and saloon were opened by Joe Thalheimer. On January 27 and 28 some 23 lots were sold, 2 given to schools, one to the Masonic Order and two to the Methodist Episcopal Church. The Postoffice was removed to the Phoenix townsite.
- First county election was held. Jim Favorite of East Phoenix and J. G. Chenowith of West Phoenix ran for sheriff. Chenowith was ahead, but he killed Favorite. He was acquitted but retired from the race—so East Phoenix put up John Moore and West Phoenix put up Tom Barnum. Barnum was elected first sheriff of Maricopa County. First County Court House erected at a cost of \$900 by Captain Hancock and Jim Monihan and rented to county for \$45 monthly. First District Court of Maricopa County held its initial session in Phoenix. Charles C. McDermott was the first notary appointed from the county. San Francisco Canal dredged. Founding of Tempe by Charles Trumbull Hayden.
- Silver King Mine discovered. Major Powell made his second expedition on Colorado River. Phoenix named as county seat of Maricopa County. Jacob Hamblin, a Mormon, marked out a trail into Painted Desert by way of Lee's Ferry. The Sixth Territorial Legislature convened at Tucson. The "Prescott Miner" published a list of 400 victims slaughtered by the Apaches. General George Crook succeeded Stoneman. Yuma was incorporated in the Territory of Arizona. The first school opened by John Spring at Tucson—a crudely-furnished adobe building. The "Arizona Sentinel" was established at Yuma. (37).
- \*1872 ————— Townsite of Phoenix consisting of 320 acres was officially filed in the United States Land Office at Prescott on February 13. First church conference ever held in the "Valley of the Sun" was that of the Methodist Episcopal Church South at the Mesquite. Three Chinese started a laundry in Phoenix. William A. Hancock, E. Irvine, Alsap, and J. R. Borroche were admitted to practice of law. James Monihan and the Starar brothers open the Phoenix Livery, Feed and Sales Stables. Military telegraph reached Phoenix from Maricopa Wells. Morris Goldwater became the first operator of Phoenix Telegraph station, which was located in Goldwater's newly opened store. School classes held in Court House. Phoenix had its first public school September 5th with an attendance of about 20. The teacher was J. D. DaRoche and the trustees were J. D. Rumberg, W. A. Hancock and J. P. Osborne. First book store and new depot was opened by Edward Irvine under the firm name of E. Irvine and Company. Dr. Forbes opens the first drug store. Dr. Thibodo arrived from Wickenburg. J. E. G. Mitchell opened the first carriage factory. James Grant opened the first harness shop. J. C. Chamberlain had the first supply of honey ready for the market in August. Among first milk dealers in Phoenix were George Roberts and J. Romain. George Buck and Mathilda Murray were the first couple to be married in Phoenix. During the spring, many shade trees were set out along the streets. Johnny George and Jack Walters completed an adobe building with 66-foot frontage. It was a res-

(37) While it is impossible to give documentary evidence on every item, Farish and Lockwood are followed in case of controversy, Bancroft McClintock and Sloane have much interesting material not given by Farish or Lockwood.

- \*1872 (cont.) ————— taurant, saloon and hotel. Barnett and Block constructed a large adobe house on Center Street.  
Lee's Ferry across the Colorado River was started by John Lee. The Chiricahua Indian Reservation was extended to include the whole Gila River from New Mexico eastward for 200 miles. Major General O. O. Howard arrived at Yuma as new head of Indian Management to settle Southwestern Indian affairs. General Cook directed the Indians back to reservations. Indians attacked the John Hughes Ranch. Safford was founded.
- 1873 ————— Miss Ellen Shaver became the first woman public school teacher in Phoenix. "Fight of the Caves" at Salt River Canyon. Squadron of Fifty Cavalry assisted by Apache, Pima and Maricopa Scouts killed scores of Superstition Mountain Apaches who refused to surrender. C. T. Hayden planted his first crop of alfalfa. Apaches and Mohaves went on warpath on the Hassayampa below Wickenburg. The Apache chief, Delshay, and his band were captured by Captain Randall. New Fort Lowell established. Hayden Flour Mills built at Hayden's Ferry, Tempe.  
Governor Safford secured the territory's first experienced teachers from California, two women and one man. A mining boom occurred in Prescott. Jacob Hamblin laid out a wagon road from Lee's Ferry southward. Congress voted an appropriation for 540 miles of military telegraph from San Diego via Yuma and Maricopa to Prescott and Tucson. Governor Safford stressed education in his talk to the legislature. First mine located at Globe. A territorial law was passed making it a misdemeanor to sell or give liquor to Indians. Mormons established permanent northwestern towns of St. Joseph, Snowflake, and Showlow. (38).
- 1874 ————— President Ulysses S. Grant issued a patent to Judge Alsap for the present site of Phoenix. Total expenditures for same were \$550 of which Judge Alsap received \$150 for his services. Business and downtown lots sold for new real estate high record of from \$7 to \$11. Organization of Texas and California Stage Company between Fort Worth and San Diego. Arizona's copper production valued at \$90,000. San Xavier Indian Reservation, 70,000 acres, was established for Papagos.
- 1875 ————— The Phoenix district erected an adobe school house. There were 16 saloons in Phoenix; four dance halls; two monte banks and one faro table. Trustees took over the public sales of town lots which, up to that time, had been held by the commissioners. Goldberg's Clothing Store opened.  
The legislature voted to make Tucson the permanent capital. Minerals were discovered in Bisbee by John Dunn and George Warren, who named the vicinity the Warren Mining District. Yavapai Indians, placed on the San Carlos Reservation, drifted back to their old habitat. Fort Thomas was established on the Gila. Apaches were herded to the San Carlos, Chiricahua and Mimbres Reservations. The Magma Copper Company silver mine was located at Superior. Pinal County was established. The N. Porter Company, nationally known saddlery, was organized.
- 1876 ————— The first Masonic Lodge in Phoenix was instituted. An order was issued that no public meeting, religious or political, should be held in the school house. Social organizations were becoming more prominent in Phoenix. T. T. McMillan made the first settlement in the vicinity of Flagstaff. Chiricahua Reservation was abandoned and 325 Indians were, against their protests, moved to White River Reservation. The Silver King Mine near Superior was located. The first Territorial Prison was located at Yuma, then second largest city in Arizona. The townsite of Flagstaff was laid out.

(38) Frank C. Lockwood; "Pioneer Days in Arizona," Tom Farish; "History of Arizona," Vol. VIII, Bancroft; "Arizona and New Mexico," McClintock; "Arizona."



Grand Canyon, A Study In Contours.

- \*1877 ————— A crime wave swept through Phoenix. The first paper in Phoenix, the "Salt River Valley Herald," was published. Geronimo began a series of raids in Southern Arizona and New Mexico. Geronimo's and Victorio's bands were herded to the San Carlos Reservation. The Southern Pacific was completed to the west bank of the Colorado, opposite Yuma. The legislature gave authority to the Southern Pacific to maintain railroad and telegraph lines across Arizona. Ed Schiefflin recorded a mining claim—Tombstone—on September 3. (39). Copper Queen Mine located. Utah Canal was completed. The Ninth Legislature moved the State Capital to Prescott.



Four Apache Warriors. Geronimo is Extreme Right.

- \*1878 ————— The Phoenix Flour Mill was erected by King Woolsey. The Independent Order of Odd Fellows was established. The Methodists started building their church. National Bank, oldest bank of Phoenix, was established with capital stock of \$200,000. (40). Mesa and Grand Canals dug. J. C. Sistine located a section of land for his home where Mesa now stands. Mesa founded by Mormons under the leadership of Amon Tenney and David K. Udall. All of the principal towns of the territory were connected by stage. "The Silver Belt" was first published in Globe by A. H. Hackney, one of the best known newspapermen of the territory. Presbyterian Church at Tucson was built. John C. Fremont was appointed governor of Arizona by President Hayes. Railroad service established into Yuma.
- 1879 ————— Presbyterians built a church in Phoenix. Vigilance Committee cleaned up Phoenix crime. Postoffice issued \$103,639 worth of money orders. "Salt River Valley Herald" was changed from a weekly to a semi-weekly paper. Ice first manufactured in Phoenix. The Legislature passed a bill permitting the bonding of school districts. Apache County created. The printing press at Tubac was used to print "The Tucson Star" and was moved to Tombstone

(39) McClintock, p. 410.

(40) See Farish, Lockwood, Bancroft and Sloane

- 1879 (cont.) ————— for the "Nugget." The office of Superintendent of Public Instruction was made an elective office by Legislative Act. Mormons made settlements along Upper Gila River in Graham County. Juan Padilla, who arrived in Holbrook by ox-cart, was its first settler. Tombstone founded by Ed Schiefflin.
- 1880 ————— An ice factory was completed. A brick sidewalk was laid in front of the Tiger Saloon. School census numbered 379. Phoenix had eight restaurants, three of which were run by Chinese. Fourth of July picnic held at Buck's Grove. Population of Phoenix set at 2,453 of which 109 were Chinamen. Lodge No. 2 Knights of Pythias held first meeting. Chinese celebrated their New Year with vociferous noise. Phoenix Brass Band organized with twelve pieces. "The Salt River Valley Herald" became the "Phoenix Herald." Maricopa Temperance Society elected officers. Three freight trains passed through Maricopa County daily. First legal hanging in Maricopa County on November 26. A serious shortage of labor for harvest. Arizona Chapter No. 1 of Royal Arch Masons organized. Tom Brown opened the first saloon in the territory. "Arizona Gazette" established at Flagstaff. The first number of the Tombstone Epitaph was issued May 1, in a tent. Jacob Isaacson, San Francisco merchant, reached Arizona's last frontier on the Mexican border. He erected a trading post and a store on the line of the Gadsden Purchase of 1854. The Phelps Dodge Company, a small eastern firm, merged with the Copper Queen and established the Copper Queen Consolidated Mining Company. "Bucky" (William O.) O'Neil, editor, judge, and soldier, organizer of the Arizona unit of Teddy Roosevelt's Rough Riders, arrived in Arizona. Unorganized schools of territory made into a unified system by William B. Horton. First locomotive reached Tucson, causing a celebration. Arizona population was 41,480. "Arizona Gazette" was started as a daily six days a week, by the McNeals. Mule teams were used for freight until this year. Southern Pacific, Arizona's first railroad, was completed; it followed the thirty-second parallel. Havasupai (people of Blue Water) Reservation established in bottom of Cataract Creek in bottom of Grand Canyon. United Verde Railroad reached Tucson in March. James Stevenson began archaeological studies of the Pueblo Indians for Smithsonian Institute. The new gambling law went into effect on April 1.
- 1881 ————— The City of Phoenix was first incorporated in February. (41). A Catholic Church was organized in Phoenix. (42). Phoenix established transportation record when the stage arrived and departed same day. First city elections held and Alsap was elected Mayor. Holsum Bakery formed in Phoenix. First teacher's institute held. There were 10,000 acres of land in grain under cultivation in the valley. First official Phoenix cemetery development organized. John J. Gosper became Governor. The notorious chief, Geronimo, terrorized the southern part of the territory. Gila, Cochise, and Graham Counties were established. Loring Massacre occurred on Ehrenberg Road, nine miles west of Wickenburg. Uniform text books adopted by Territorial Board of Education. In Arizona there were 28,212 males and 12,239 females. Famous gunfight at O. K. Corral in Tombstone climaxed turbulent relations of the Earp-Clanton feud. (43). Birdcage Theatre in Tombstone was notorious. Methodists built a church in Tucson. The Southern Pacific was connected with the Santa Fe at Deming, New Mexico. Some \$12,000,000 in bullion was sent out of Arizona. (44). George W. P. Hunt came to Globe, where he worked as a waiter in a Chinese restaurant and shoveled much in the Old Dominion Mine. (45). He later became governor of Arizona. Apaches revolted as a result of mismanagement and broken promises, and began to murder all white men. The Atlantic and Pacific Railroad, now the Santa Fe, was completed across the territory.

(41) Bancroft; History of Arizona & New Mexico, p. 606-7, 623. (quoting Hamiltons Statistics and Phoenix Herald) Statistics of the tenth census: Arizona population 41,440,— Maricopa County: 5,689, Phoenix: 1,708,— Mesa: 151, Tempe: 135, Arizona schools numbered 98, Teachers: 126, and 10,243 children in school — The average salary was \$75.00 with appropriation of \$86.00 per pupil.

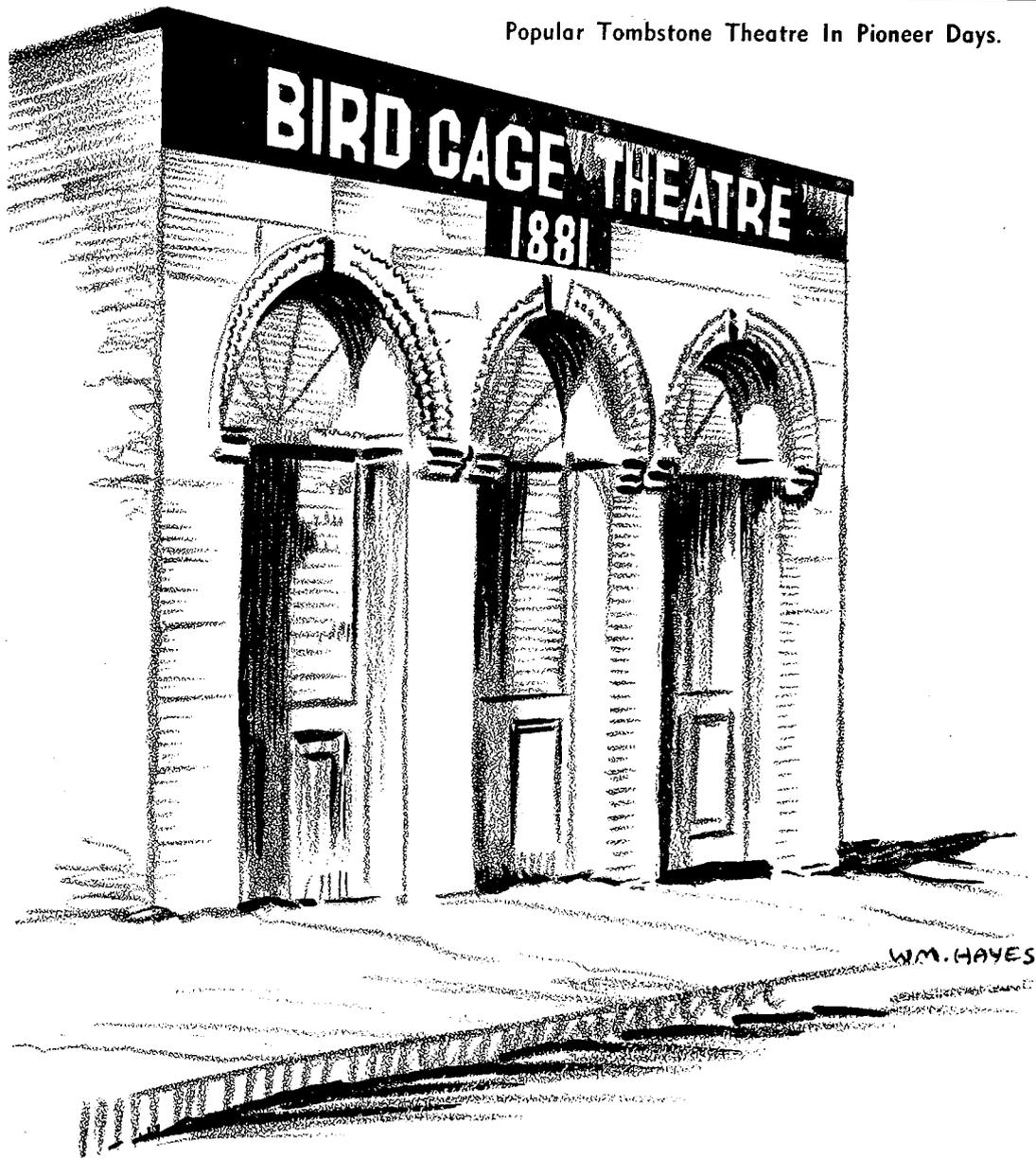
(42) McClintock, Vol. III, p. 494-5.

(43) Sloane and Adams, Vol. II, p. 31-5.

(44) McClintock, Vol. II, p. 481-2.

(45) Proverbial story frequently told by Governor G. W. P. Hunt in pioneer and political meetings.

Popular Tombstone Theatre In Pioneer Days.



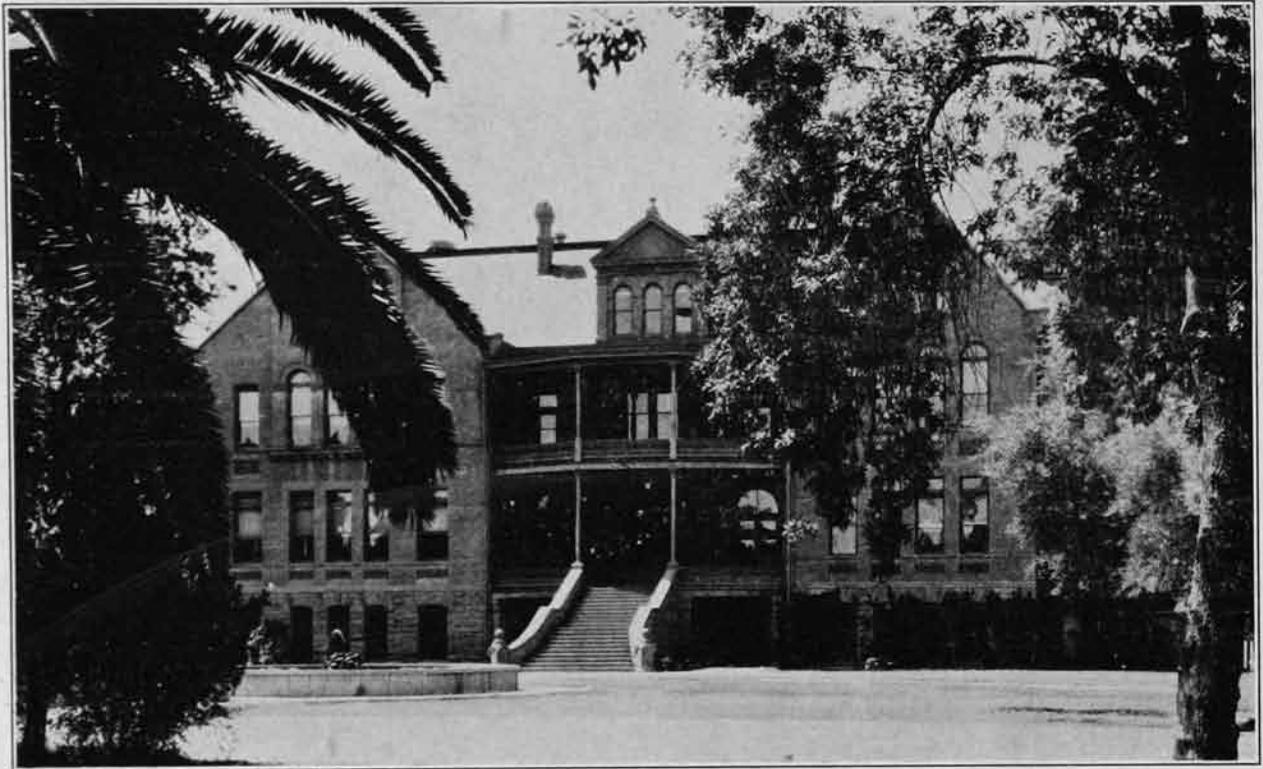
1882

Wells Fargo Express Company opened an office in Phoenix. Building boom. Colonel Christy arrived in Phoenix. Tempe settlement growing. "Coconino Sun" was started in Flagstaff. W. E. Horton of Tucson was re-elected Superintendent of Public Instruction. The greatest Apache Indian massacre in Arizona history occurred when San Carlos and White Mountain Apaches broke loose from their reservations and went on the warpath. (46). Victorio and Geronimo, with some 350 warriors, after great devastation to the ranchers and miners in the White Mountain area, crossed New Mexico, annihilating about 150 at Cooney mining camp, only two escaping to James H. Colter's ranch at Alma, New Mexico, where they spread the alarm. Victorio and Geronimo then led their band on Arizona and New Mexico border-line, where all the ranchers of the area gathered for a two-day fight. (47). Battle of Big Dry Wash in Southern Coconino County was fought July 17. Geronimo surrendered to General Crook. Two murderers were hanged on a sycamore tree on Broad Street in Globe after a stage holdup in which \$10,000 was stolen.

(46) McClintock, Vol. 1, p. 232-267.

(47) Personally related by Fred T. Colter, a former state senator from Apache county.

- 1882 (cont.) ————— (48). Winslow was established when it became a division terminal for the Santa Fe Railway. The Southern Pacific laid a track from Moreno to Benson, Arizona. Fort Moroni was established seven miles northeast of Flagstaff. There were 787 retail and 33 wholesale liquor dealers in Arizona.
- 1883 ————— The Valley Bank was organized in Phoenix with a capital of \$50,000. Felix G. Harwick of Tempe received a reward of \$500 offered by the legislature for the first bale of commercial cotton raised in Arizona. (49). This product was sent to the New Orleans Fair in 1884. Santa Fe railroad completed. January 4, Hualpai Indians of Yuman stock granted a reservation of 782,000 acres from Peach Springs to the Colorado River. Fifty thousand Texas Longhorns were driven into Arizona. The first lodge of the Railroad Brotherhood was in Douglas, after that it branched out rapidly until it represented practically every member of their craft in the territory. Mesa was incorporated on July 15, with A. E. McDonald first mayor.
- 1884 ————— Brigham Young, jr., visited Mesa on January 3. Geronimo surrendered again to General Nelson Miles. Chatto and Geronimo returned to San Carlos. (50). Cayento of the Chiricahua band was sent to Alcatraz for instigating an outbreak. Wolz discovered mine in Superstition Mountain, called the Lost Dutchman Mine. (51).



Old Main A. S. T. C.

- \*1885 ————— First Church of Christ founded December 13. Arizona Canal dug. Tempe Normal was granted \$5,000 plus twenty acres of land. University of Arizona and Arizona State Teachers College were formed by the Thirteenth Legislature. (52). Geronimo escaped again and was at the height of his power. Editorials appeared in every newspaper spreading the fight against the Indians. Zulick was inaugurated as the first democratic governor of territory.

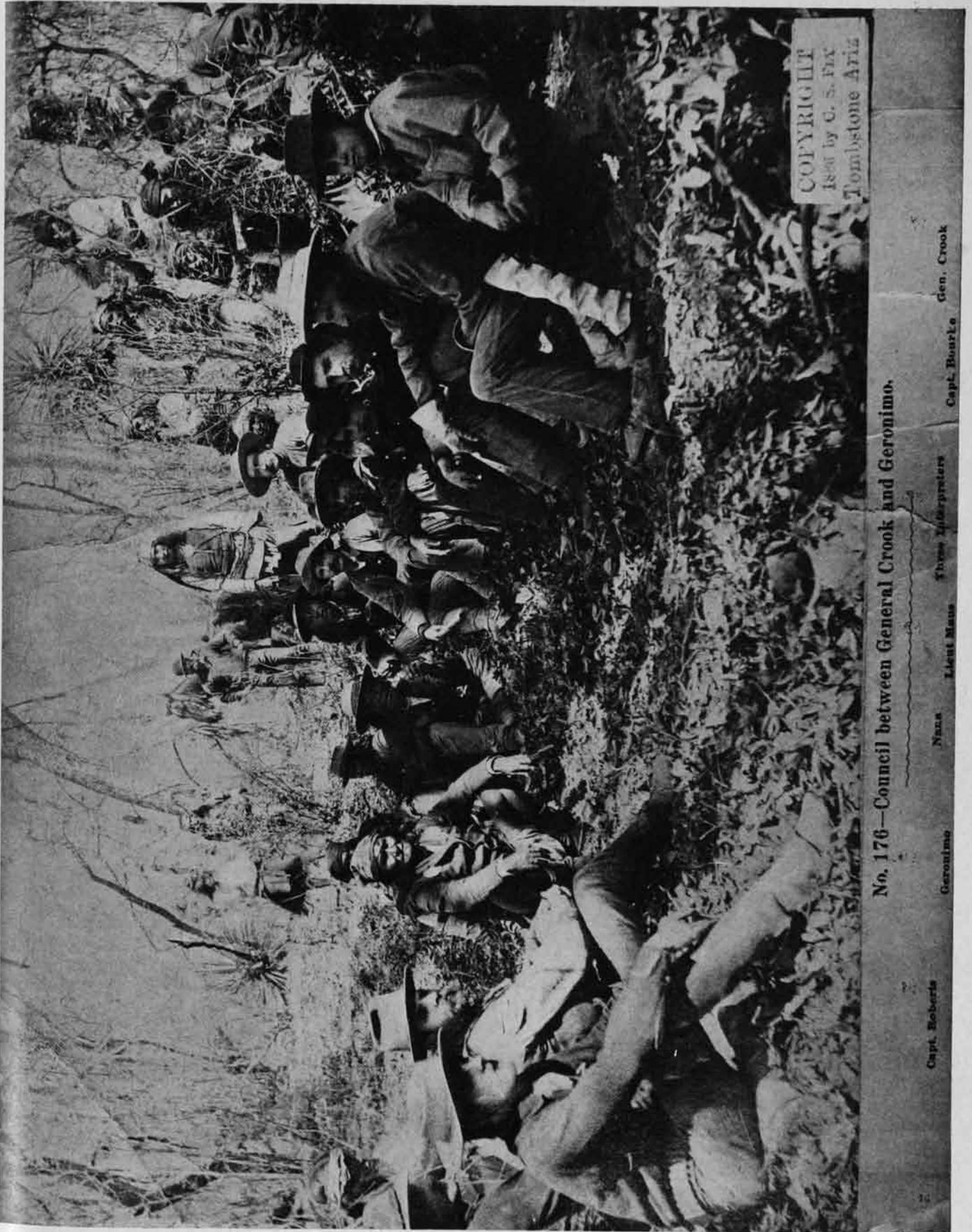
(48) McClintock, Vol. II, p. 572.

(49) McClintock, Vol. II p. 571.

(50) McClintock, Vol. II, p. 232-267.

(51) Rumor only. He lived at Starvar and had a little gold, but no unusual amount.

(52) Discussed by Lockwood, McClintock, Sloane and Adams.



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1880 by C. S. FAY  
Tombstone Ariz

No. 176—Council between General Crook and Geronimo.

Capt. Roberts      Geronimo      Nana      Lieut. Maus      Three Interpreters      Capt. Bourke      Gen. Crook

- \*1886 ————— Wool Growers Association established in July. Murphy School organized September 16. An electric plant which was one of the first in the West was installed in Phoenix, operated by steam engines burning cordwood. Phoenix Fire Engine Company Number 1 was organized. A fine Phoenix water works plant was built. Canals constructed in Maricopa County totaled 240 miles, irrigating 306,240 acres. Geronimo, with his band, made final surrender ending Apache Wars and was imprisoned at Fort Perkins, Florida. Until Geronimo finally surrendered September 8, the trails to the mining camps were so dangerous that development was very slow. Six mining furnaces were in operation at Globe.
- \*1887 ————— Original Luhrs Hotel was erected with 20 rooms. Phoenix had its first street railway (drawn by mules) owned and operated by the Valley Street Railway Company. (53). The first Southern Pacific train arrived on the Fourth of July. A big celebration followed. Emil Ganz, first president of the National Bank of Arizona arrived in Phoenix. Frank Hamilton Cushing explored and investigated a buried city seven miles south of Tempe, which he named "Los Muertos," the City of the Dead." First class graduated from the Territorial Normal School (A.S.T.C.) at Tempe. January 3, the Reverend Howard Billman, a Presbyterian missionary, opened an Indian School at Tucson. First building of School of Mines constructed at the University. Harqua Hala Gold deposits discovered. "Bisbee Democrat" started. Verde mine resumed operation under control of Senator W. A. Clark.
- \*1888 ————— The Phoenix Chamber of Commerce was organized November 4. (54). First oranges were planted. The first city hall was built on Washington Street. (55). Phoenix Electric Light Company was organized by Mr. Gardner. First Rodeo in the United States was held at Prescott. President of St. Joseph's Stake authorized the establishment of an academy which later became Gila Junior College.
- \*1889 ————— Capitol transferred from Prescott to Phoenix by Fifteenth Legislature on January 26. (56). "Arizona Republican" founded. The Apache Kid appeared in United States District Court at Globe for the murder of William Holmes and Sheriff Glen Reynolds. The Apache Kid escaped. The Copper Queen completed a road gage from Fairbanks, costing \$200,000. The Casa Grande Ruins were set aside as a National Monument. A law passed forbidding polygamists and bigamists to vote. Four bandits robbed the Atlantic and Pacific trains at Canyon Diablo, but were captured by a posse led by Sheriff "Bucky" O'Neil. The Northern Normal School of Arizona was opened at Flagstaff. The Fifteenth Legislature made train robbery a crime punishable by death.
- 1890 ————— One of the strongest religious forces of the state was organized in Phoenix, March 31, known as the Arizona Sunday School Association. Lamson Business College was organized. "Arizona Republican" became a seven-day daily with Ed Gill as editor. Western Investment Banking Company was organized. Placer mining in Yuma County was estimated to have yielded more than \$250,000,000. Arizona's population was set at 88,243.
- \*1891 ————— Lightning Moving and Transfer Company was organized. Washington School was built on West Northern Avenue. Constitutional Convention held at Phoenix. (57). In February a bad flood came to Phoenix. Railroad bridge in Tempe lifted from its piers by flood. Organization of the Santa Fe, Prescott, and Phoenix Railroad made. The Sixteenth Territorial Legislature created Coconino County. Walnut Grove flood. Australian ballot system was adopted. Gold mining revolutionized by cyanide process successfully used in

(53) Lockwood, "Pioneer Days in Arizona," p. 64.

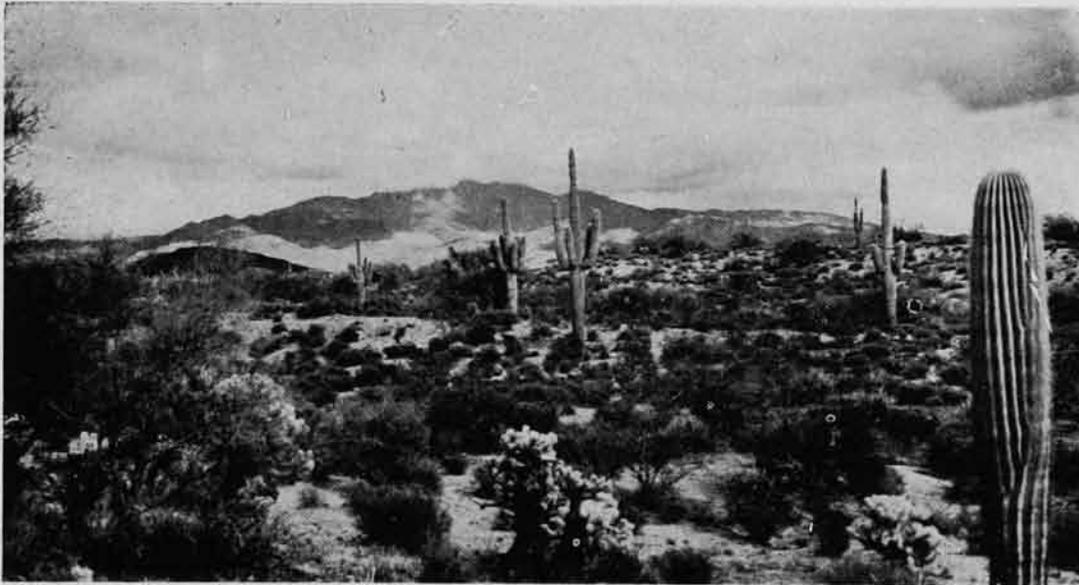
(54) McClintock Vol. II, p. 571.

(55) Ibid, p. 431.

(56) Ibid, p. 537.

(57) Sloane and Adams, "History of Arizona," Vol. II, p. 149.

- \*1891 (cont.) ————— South Africa. Colonel H. C. Corbin was sent to Oraibi with four troops of cavalry to quell disturbances. Phelps Dodge Corporation purchased United Globe Mines. Governor N. O. Murphy recommended that legalized gambling and fiestas be abolished.
- \*1892 ————— Indian Industrial School relocated at Phoenix and the name changed to Phoenix Industrial School. Judge Joseph H. Kibbey gave judgment on the amount of water allotted to each canal company. (58). Phoenix National Bank organized. Mark Smith again went to Congress. (59). Sacred Heart Academy was founded. Secretary Murphy was elected to the office of governor. A bill providing for Arizona's admission as a state passed in United States House of Representatives but was killed in the Senate. G. W. P. Hunt was elected on the Democratic ticket to the House of Arizona's Seventeenth Legislature. Lot Smith, a prominent leader among the Mormons, was killed by the Navajos. Scientific observations were made at Casa Grande by A. S. Bandolier and Dr. J. W. Fewkes. Construction of the railroad started at Ashfork. Hopis refused to move to more fertile valley.
- 1893 ————— Street Electric Railway cars adopted. Y. M. C. A. founded in Phoenix. Alfred Franklin came to Arizona to practice law in Phoenix. He was elected Chief Justice of Supreme Court in First State Election. The railroads reached Prescott. Louis C. Hughes of Tucson was appointed the new Democratic Governor. Due to demonetization of silver, miners once more turned their attention to gold. The Territorial Legislature appropriated \$500,000 for a boy's reformatory to be established at Flagstaff. (60). James Reavis' fraud was discovered and exposed by Tom Weeden, editor of the "Florence Citizen." "The Baron" was sentenced to six years in prison at Santa Fe. The Seventeenth Legislature met; it offered a reward of \$5000 for the capture of the Apache Kid, dead or alive.
- \*1894 ————— Saint Joseph's Hospital was established in Phoenix. The Heard Museum was started with the private collection of Mr. and Mrs. Dwight B. Heard. The Globe and Northern Railway was organized. Lowell Observatory was established just outside of Flagstaff. One of the last of the "Tizwin" debauches was held at Gila Crossing. (61).



Arizona's Desert Lands Are Colorful.

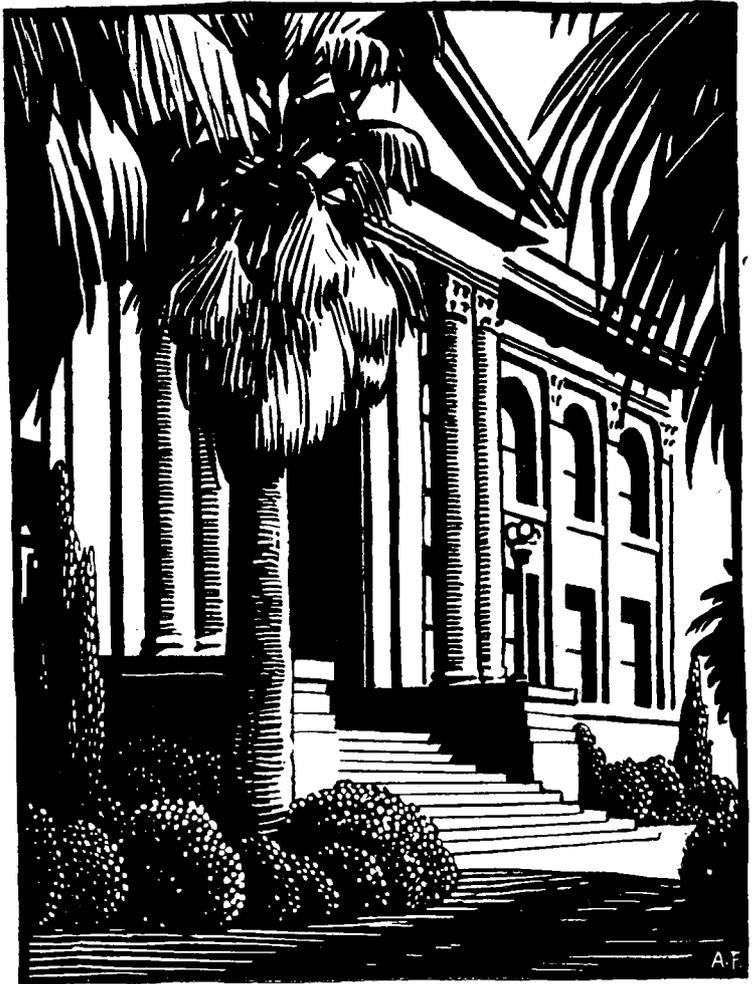
(58) Sloane and Adams, "History of Arizona," Vol. II, p. 440.

(59) McClintock, "Arizona the Youngest State," p. 341.

(60 & 62) McClintock, "Arizona State," Vol. II, pp. 569 & 74, respectively.

(61) "Tizwin" was the domestic liquor brewed from rotted corn, mescal and fruit.

\*1895 — The Santa Fe, Prescott and Phoenix Railroads when finished in March connected the northern route with the southern transcontinental route in Phoenix. (62). Phoenix Union High School was established with an enrollment of 90 students. Dwight B. Heard purchased a ranch in Salt River Valley west of Phoenix. Korrick's store established. Eighteenth Legislature met at Phoenix with L. C. Hughes as governor. (63). Congress Gold Mine introduced cyanide process to Arizona. Fortune Mine discovered. Navajo County created. Globe was not an important copper producer until the Lewison brothers purchased control of the Old Dominion Mine and invested millions of dollars in it.



Phoenix Union High School.

1896 — Franciscan Order took over Catholic parish. Elks Club was organized as fraternal order. Second Catholic Church was built in Phoenix. There were five national banks in entire Arizona Territory with resources of \$1,500,000. Globe was first settled as the result of a silver strike boom, but its greatest wealth and later prosperity was due to the rich copper deposits found beneath the silver. First unit of Western Federation of Miners was formed in Globe.

1897 — McDougall and Cassou established. Central Avenue Dairy started. Suffrage given to taxpayers in Municipal elections regardless of sex. Arizona Historical Society was changed to the Arizona Pioneer's Historical Society. Benjamin J. Franklin was the new governor. More money was appropriated for blocks and cells in the reformatory at Flagstaff but the building remained unoccupied as there were no incorrigibles or insane.

1898 — Captain "Bucky" O'Neil was killed in action in the Spanish War. (64). Arizona contributed three troops to the first United States volunteer cavalry. Phillipine Islands and Porto Rico were acquired by United States from Spain. The Irish Mag Mine, opened at Bisbee by Jim Hoatson, paid a dividend of \$15,000,000. The "Douglas Dispatch" was established.

1899 — First Church of Christ, Scientist organized. Arizona Title and Trust opened on November 28. "Phoenix Herald" consolidated with the "Arizona Republican." (65). Capital transferred permanently to Phoenix. (66). Santa Cruz County created. Lieutenant McNamee was sent with a detachment of the

(63) Sloane, "History of Arizona," Vol. II, p. 158.

(64) Sloane, "History of Arizona," Vol. II, p. 158.—Use Ibid, p. 158.

(65) McClintock, Vol. II, p. 504.

(66) Ibid, p. 348.

- 1899 (cont.) ————— Ninth Cavalry to enforce health regulations on the Indian Villages at Oraibi and vicinity. The Indians were prepared to die rather than to clean up. The Troopers had to rope and render some of them unconscious in order to bathe them. Territorial Governor N. O. Murphy in his report as the governor made a special recommendation to the Congressional Legislature in regard to statehood. Northern Arizona Normal School, at Flagstaff, established by Legislature, opened with 22 pupils and two teachers.
- 1900 ————— Phoenix Country Club established in log cabin on East Van Buren. Women's Club of Phoenix was organized. Valley Bank organized in Phoenix. Boston Store started here. On January 10, a Mastodon tooth was discovered north of Phoenix at a depth of 80 feet. The population of Phoenix reached 5,554. The Indian School, three miles north of Phoenix, had a capacity of 600 and an enrollment of 700. The school consisted of 30 buildings. Republican Territorial Convention met in Phoenix. (67). Phoenix held a reunion of the members of the First Territorial Infantry. Statehood arguments were renewed by Governor Murphy in his report. He recommended congressional legislation admitting Arizona as a state. The Fowler Bill passed the territorial legislature, authorizing any county in Arizona with assessed valuation of eight million to propose a plan and specifications for storage reservation. Women were not allowed to serve as bartenders or entertainers in local salons. Nevertheless, riotous dance halls, boarding houses and saloons of Brewery Gulch flourished and overflowed. An English exporting company was established to export acid to England, but the plant was abandoned in a year. The Phelps-Dodge Corporation built a smelter at Douglas. Rich gold ore was found in the Oatman district. Santa Fe and Grand Canyon line was built. (68). The bonded debt per capita was \$8.00. Apache's last foray took place when a group of Apaches in Chihuahua raided a Mormon settlement. Bisbee was incorporated. A terrific sandstorm occurred on August 1, doing great damage. Arizona population was set at 122,931.
- 1901 ————— A ten acre plot was donated for the State Capitol at Phoenix. The Capitol Building was dedicated on February 24, by Governor N. O. Murphy, Chief Justice Webster Street and President Eugene S. Ives of the Territorial Council. (69). The Arizona Ode was sung for the first time by Mrs. Frank Cox of Phoenix. The cost of the Capitol Building was \$130,000. The Twenty-first Territorial Legislature met for the first time in the new Capitol Building in Phoenix. (70). In regard to statehood the people were earnestly aroused. The Fifteenth Territorial Legislature authorized a Constitutional Convention. Arizona's oldest union, Phoenix Typographical Union Number 352 was organized on February 14. Railroad built to Canaan. Maricopa County was bounded for two million dollars to procure adequate water storage. Mrs. A. J. McClatchie of Phoenix organized Arizona's Federation of Women's Clubs in February.
- \*1902 ————— The auditorium for the Indian School was completed at a cost of \$7,500, and a bath house for the girls was finished at a cost of \$4,500. Plans were authorized for a new building amounting to \$34,000. President Theodore Roosevelt signed a reclamation act providing that the proceeds of the sale of state lands in certain western common-wealths should be used in building reclamation works such as the reservoir for Phoenix. To make available the benefits of this act to meet the needs of Phoenix, the irrigators of the Salt River Valley formed themselves into an association which acted in cooperating with reclamation officials. Chairman B. A. Fowler and his associates formed a body called the Salt River Valley Water Users Association with himself as President and Judge Joseph H. Kibbey as counsel. This association was one of the first localities to receive benefits from reclamation act since it already had an irri-

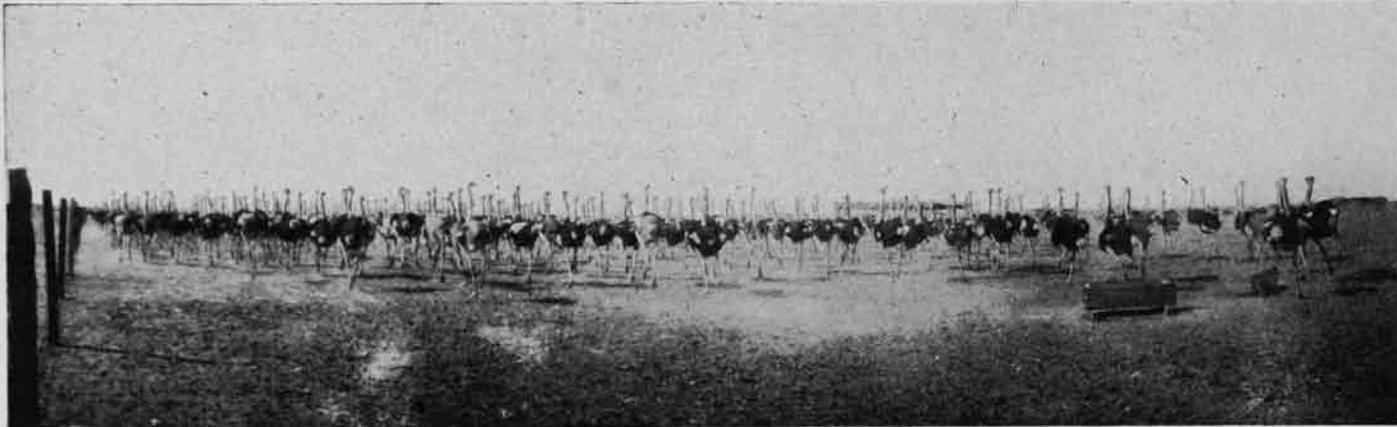
(67) McClintock, Vol. II, p. 508.

(68) McClintock, Arizona State, Vol. II, p. 349.

(69) McClintock, "Arizona State," Vol. II, p. 295.

(70) Kelly, "Legislative History," p. 206.

\*1902 (cont.) ————— gation system worked out and could give a definite report as to what could be accomplished by the proposed reservoir. Honorable John C. Phillips elected probate judge of Maricopa county served until 1912. The issue over statehood was uppermost. The Territorial Governor appointed was Col. A. O. Brodie. (71). July 1, discontinuation of the practice of issuing rations to the Apache Indians at San Carlos. A committee of United States Senators, headed by Senator Beveridge of Indiana visited Arizona and New Mexico to gain first hand knowledge of resources and general fitness for statehood. (72). This committee reported unfavorably on Arizona. Senatorial committee proposed joint statehood of Arizona and New Mexico, Arizona refused. Hi Jolly the picturesque camel driver died at Tyson Wells. (73).



When Ostrich's Flourished In The Valley.

\*1903 ————— An interesting enterprize was the ostrich farm just outside of Phoenix. This farm was the largest outside of Africa. New buildings were erected at the Southern Methodist Church, Post Office and foundations for a Baptist Church. Increased facilities for the City of Phoenix were plants and equipment for electric lights, gas, water and electric railroad companies; ice factory; cold storage plant; steam laundries; steam flour mills; creameries. A new railroad line was started called the Phoenix and Eastern Tourists. The Arizona Gypsum Plaster Company Plant was established employing approximately thirty men. The enrollment of the Indian school was 1,825. Additions to the school included a brick cottage, a hospital, a dairy barn, and addition to the dining hall and a large dormitory for boys. Salt River Valley Water Users Association organized under state laws on February 4. (74). There was a steady growth due to the prospect of the building of Tonto Dam and the reservoir for the purpose of irrigating Salt River Valley. Congress authorized Roosevelt Dam on March 10. Phelps-Dodge obtained control of Old Dominion at Globe. Gold Road Mine discovered at Oatman. A second committee headed by William Randolph Hurst visited Arizona and gave a favorable report. Twenty-second Legislature held. Alexander O. Brodie was governor. Bill was passed establishing an eight hour working day in mines. Arizona legislatures passed a law forbidding the working of trainmen more than sixteen consecutive hours. A large dam which had been built by the Mormons in 1886 on the Little Colorado was washed away by floods. Colonel Theodore Roosevelt visited the Grand Canyon. (75).

(71) Kelly, "Legislative History," p. 221.  
 (72) Lockwood, "Pioneer Days in Arizona," p. 369.  
 (73) 1930—Arizona Yearbook, p. 70.  
 (74) Sloan "History of Arizona," Vol. II, p. 191.  
 (75) McClintock, Vol. II, p. 542.

- 1904 ————— A beet sugar factory was set up eight miles from Phoenix and began operation with the first general crop of beets to be raised around Phoenix. The beginning capacity was set at 500 tons of beets daily with an intended increase to 800 tons. The enrollment of the Indian school was 872. The improvements of the school included the laying of 660 square yards of concrete walk and the digging of two wells, and the construction of an ice plant of which the capacity was four tons per day. The asylum had 226 inmates of which 38 were females and 188 were males. The recovery rate for the year was 10.5% of the number treated and 30% of the number admitted during the year. The cost of maintenance for the year was \$37,413.90. Fifty-eighth Congress session to authorize issuing of municipal bonds for construction of wagon road from Phoenix, Tempe and Mesa to what is known as Salt River Valley Reservoir dam site—not to exceed 2% of all real and personal taxable for municipal purposes. (76).
- 1905 ————— The first fair opened on December 24. The building permits totaled \$136,425. Governor Kibbey prohibited games of chance in saloons. The Democratic party in Phoenix declared against granting licenses for such games, but was defeated, in the city election. Heaviest annual rainfall ever recorded in Phoenix amounted to 19.13 inches. Roosevelt Dam site on Salt River was selected. Resolution of protest against proposed action of Congress to admit Arizona and New Mexico jointly as a state was unanimously passed by Arizona legislature. (77).
- 1906 ————— First colored Baptist Church built. Phoenix Musicians Club organized. Phoenix water system was acquired. (78). Phoenix gets its first ambulance. Enabling Act passed Congress for the joint statehood bill on Arizona and New Mexico. Arizona rejected this proposal by a vote of 16 to 1. (79). Republican Convention included in its platform an agreement to submit the question of gambling to the public. The proposition proved to be popular for every Republican candidate was elected in the face of an apparent Democratic majority. This vote by the public on the question of gambling was the first referendum ever known in the territory other than referendum in school districts. Since a large majority by this referendum instructed the city council to prohibit it all over the state and make gambling illegal, the following spring the Territory Legislature prohibited it all over the state. United States Forest Service was established. Jack the Ripper was killed.
- \*1907 ————— Telephone service was installed in Phoenix by the Sunset Telephone and Telegraph. Population of Phoenix was 15,000. Phoenix was the leading agricultural region of Arizona. Phoenix was connected by rail with the line of the Santa Fe on the north and with the Southern Pacific on the south. Phoenix had fine buildings, beautiful parks, flour mills, planting mills, and ice factories, and shipped large quantities of farm products and cattle. Famous John Leicht murder trial was held. (80). Riverside Nurseries established. Arizona Cattle Company organized by Charles B. Mullen of Tempe. The Phoenix Water Company was bought for \$155,000. (81). This included its property and franchises and is now the Salt River Valley Water Users Association. The Territorial prison was moved from Yuma to Florence. To Al Seiber, famous Indian Scout, the territory of Arizona erected a shaft. He was active during the days of Geronimo and helped to bring him to justice. Bisbee miners voted to strike although the year before they had voted against joining a union. Gambling outlawed. Equestrian statue of "Bucky" O'Neil, who was killed when leading Rough Riders up San Juan Hill to Cuba, was executed by Solon Borglum. Gila County courthouse was built.

(76) United States Statues at Large, Vol. XXXIII, p. 6.

(77) Lockwood, "Pioneer Days in Arizona," p. 371.

(78) McClintock, "Arizona State," Vol. II, p. 568.

(79) Lockwood, "Pioneer Days in Arizona," p. 374.

(80) McClintock, p. 370.

(81) Ibid, p. 568.

- \*1908 ————— Night phone service was established in Phoenix. The Merchants and Manufacturers Association was organized. Building permits for the year amounted to \$294,905. St Luke's Home established as a consumptives refuge by the Episcopal Church. (82). The Carnegie Public Library was dedicated February 14, by the Honorable B. A. Fowler. Receipts and expenditures amounted to \$2,441.21. The value given the library was set at \$125,000. Sixtieth Congress of United States first session appropriated \$136,400 for support and education of 700 pupils at the Phoenix Indian School and for general repair. (83). Sixtieth Congress appropriated \$41,000 for United States Post Office and court house at Phoenix. (84). Phoenix Union High School had its first football team. It was coached by Mr. Mitchell. A telephone pole line was completed between Phoenix and Tucson. Granite Reef diversion dam, 30 miles east of Phoenix was finished. Miami Company and Inspiration Copper Company were organized. Ruins of Tumacacori made a National Monument.
- \*1909 ————— Brotherhood of Carpenters and Joiners organized. First re-enforced concrete structure erected in Phoenix on southeast corner of First and Adams Streets. (85). Citizens of Phoenix subscribed \$50,000 as one-half the cost of the South Center Street bridge. Motor Supply company organized. Building permits for the year amounted to \$559,850. Richard E. Sloan inaugurated as governor of Arizona in executive chambers May 11. (86). Office of State Librarian created by Territorial Legislature, the post going to Mulford Winsor. (87). Last Territorial Legislature Session adjourned March 18. (88). Sixtieth United States congress second session appropriated \$127,400 for educational support, general repairs, and improvements for Phoenix Indian School. (89). Twenty-fifth Territorial Legislature gave Arizona her first direct primary law. (90). City of Phoenix empowered to issue its bonds in any sum not exceeding \$155,000 for the funding of its floating indebtedness. (91). On February 17, Geronimo died at a military prison at Fort Sill, Oklahoma. Greenlee County was created by Twenty-fifth Legislature. (92). Pioneer Home established at Prescott. (93). Globe declined in prosperity after the mining camp of Miami was started. Old Dominion Mine at Globe shut down in protest against walking delegates collecting dues for union at mouth of the shaft, but opened after union removed its delegates. Amy Semple McPherson, Los Angeles, was supposed to have been kidnapped from Aqua Prieta. Inspiration began construction of its huge reduction plants. Miami Copper Company began production on a large scale. The Rainbow Natural Bridge in Northern Arizona was discovered. Stone and Galloway made a successful trip down the Green and Colorado Rivers. Assembly provided for the appointment by the governor every two years of territorial engineer to operate under the supervision of teh Board of Control.
- \*1910 ————— Two telephone companies in Phoenix had a total of 1,000 subscribers. Merchant Police Patrol organized. Through telephone service connected Phoenix with Pacific Coast. Building permits for the year amounted to \$634,452. Combined bank resources amounted to \$5,228,427.41. The bonded debt per capita was \$64.00. Phoenix assessed valuation was \$9,013,353.90. Lescher and Mahoney entered architectural profession. Paving of city streets began on March 11. A new Y.M.C.A. building costing \$102,000 was built. Phoenix Union High School started constructing \$150,000 worth of buildings. First

(82) Phoenix has always been deeply interested in welfare organizations, and through its years has contributed to their support, disregarding demominational lines.

(83) United States Statutes at Large, Vol. XXXV, Part I, p. 76.

(84) Ibid, p. 528.

(85) Phoenix Municipal Code, 1939, p. 13.

(86) McClintock, p. 369.

(87) Lockwood, "Pioneer Days," p. 364.

(88) "History of Arizona," Sloan, p. 207.

(89) United State Statutes, Vol. XXXV, p. 1 & 787.

(90) McClintock, p. 358.

(91) United States Statutes, Vol. XXXV, p. 1, 605.

(92) Sloane, "History of Arizona," Vol. II, p. 530.

(93) McClintock, Vol. 11, p. 358.

- \*1910 (cont.)** ————— Fire Department Chief was elected. Phoenix Title and Trust Company established. The Adams Hotel, largest in Phoenix was destroyed by fire. Construction started on building for Women's Club. Census of Maricopa County was 34,488. Roosevelt Dam was constructed to irrigate 200,000 acres of land, resulting in agriculture expansion in the Salt River Valley. Constitutional Convention of 52 delegates met in Phoenix on October 10 for a 60 day session. George W. P. Hunt was the president of the convention. (94). United States Congress appropriated \$100,000 for the expenses of the convention. (95). The Democrats incorporated labor planks into their program. The Constitution evolved was one of the most progressive in the United States. It provided for the initiative, referendum, and recall; the corporation commission; liberal educational provisions; and the protection and welfare of laborers. The Sixty-first Congress also increased the expenditure of the United States Post Office and Court House at Phoenix by \$30,000. (96). \$127,400 appropriated for support, education, and general repairs of Phoenix Indian School by Sixty-first Congress. (97). An enabling act providing for separate statehood of Arizona was passed by both Senate and House. The citizens of the territory ratified the Constitution by a vote of 12,187 to 3,320. On December 9 the Seal of the State of Arizona was provided. State population was 204, 354.
- \*1911** ————— The Good Samaritan Hospital was incorporated. Building permits approximated \$1,500,00. The Hotel Adams was rebuilt with 250 rooms at a cost of \$350,000. Postal business for Phoenix in 1911 was \$80,530.36. New sewer system was started with initial cost of \$400,000. Phoenix Savings Bank and Trust Company formed. First paving contracts for expenditures of \$200,000. Total planting in valley was about 15,000 acres. Roosevelt Dam was dedicated by Theodore Roosevelt on March 18. The Arizona electorate voted on the proposed State Constitution, ratifying same by the overwhelming majority of 12,189 for to against. On February 9 the electorate of Arizona adopted the proposed Constitution. President William H. Taft objected to Recall of Judges provision in Arizona's Constitution.
- \*1912** ————— Phoenix Public Library was founded. Phoenix re-incorporated June 8 in Arizona. Manufacturers Association became incorporated. Honorable John C. Phillips became Superior Court Judge. United States Courthouse in Phoenix remodelled. Roosevelt School organized April 22. President Howard Taft approved Arizona's Statehood and Arizona became the baby state of the Union on February 14. (98). George W. P. Hunt was elected first governor. Governor Hunt issued his call for the first state legislature on March 18, 1912. (99). On November 5 in a special session four amendments were made to the Arizona Constitution. (100). These amendments were: (1) recall of any officer elected or appointed; (2) allow Arizona or any of its municipalities to engage in industrial pursuits; (3) constitutional limitation on state indebtedness and (4) woman suffrage. Some 8,000,000 acres of land were set aside in Arizona by Act of Congress for common school purposes. First commercial cotton crop. Completion of Yuma reclamation. Pension plan for teachers with twenty-five years experience and free text books were provided by legislature. Tempe Women's club organized. Vic Hanny Clothing Company came to Phoenix.
- 1913** ————— McKean's Laundry and Dye Works founded on April 23. The Federal Building, which included the Post Office, Land Offices, and the Federal Court, was constructed, costing \$172,000. Phoenix entertained about 3,000 tourists during the winter season. Assessed valuation of Phoenix was \$24,111,600, and the bonded debt per capita was \$60,000. Building permits were listed at \$1,577,284 and Postal business amounted to \$105,825.84. The number of telephones totaled 1,350. H. H. Shoup Lumber Company opened. Governor Hunt called his second and third legislature special sessions of his

(94) Sloane, "History of Arizona," Vol. II, p. 218.

(95, 96, 97) United States Statutes, Vol. XXXVI, p. 677.

(98, 99, 100) Sloane and Adams, "History of Arizona," Vol. II, p. 221, p. 226.

- 1913 (cont.) ————— first term. (101). Second special session resulted in the passing of a criminal code of Arizona over the Governor's veto. The "U. S. S. Arizona" was built in the New York navy yard under a Congressional Act passed March 4. (102).
- \*1914 ————— The F. W. Woolworth Company came to Phoenix. Monroe School opened. Rotary Club established. On April 7, Phoenix adopted a commission form of government, which marked the beginning of the modern city of Phoenix. W. A. Farish, civil engineer, was elected the first city manager. Phoenix at this time had a municipal water plant, several miles of sidewalks, 100 blocks of pavement, a good sewer system, a Y.M.C.A. building, a federal building, a Water Users Association Building, many handsome churches, the Public Library, the State Capitol, hundreds of homes, a group of high school buildings, many public school buildings, and a Woman's Club Building. The assessed valuation of Phoenix was \$29,289,018 with a per capita bonded debt of \$53.00. Resources of all banks and loan associations in Arizona totaled \$42,000,000. (103). Fred T. Colter elected first state National Committeeman. Majority of state officers were returned to their posts. Carl Hayden was reelected Congressman, and Mark Smith went back to Washington as Senator. Governor Hunt was kept in office. (104).
- 1915 ————— Area of 2000 acres of land five miles east of Phoenix was set aside by the United States Congress as Papago Sahuaro National Monument. The public library contained 6,000 books. Hayden Flour Mill replaced. Large gold ore body developed in United Eastern Mine at Oatman. Metal prices boomed. Arizona Bureau of Mines was created by Legislature. International Smelting Company was erected at Miami. Flotation was introduced at Inspiration, first large scale copper flotation operations in United States. First highway bridge built over the Colorado River at Yuma. Western Federation of Miners, although it had a large proportion of Mexicans, struck at Clifton, Morenci and Ray and gained an increase of wages at Clifton-Morenci. Pancho Villa laid siege to Agua Prieta and was defeated. The legislature (1) created the Bureau of Mines at the University and (2) adopted the state colors: blue and gold. (105). Chandler Women's Club organized.
- 1916 ————— Phoenix Postal buisness amounted to \$157,705.66. Phoenix population was estimated at 24,786. The assessed valuation of Phoenix was \$28,007,460, while the bonded debt per capita was \$44.50. Governor Hunt was defeated by Thomas E. Campbell for Governor by thirty votes. The vote was contested in court with Judge Rawleigh Stanford presiding at the trial. After inspection of ballots it was found that Campbell was victor by 60 votes. The case went to the Supreme Court which declared Governor Hunt "The duly elected Governor of the State of Arizona". (106). United Verde Extension Mines developed an ore body at Jerome.
- \*1917 ————— St. Mary's Girl's High School opened. District 1 of the Arizona State Nurses' Association established. The Arizona Vocational School at Phoenix was made possible by the Smith-Hughes Act of Congress. (123). Building permits in Phoenix totaled \$713,428. First Mexican Baptist Church built. Maricopa had 270,000 acres under cultivation. The crops under cultivation included alfalfa, cotton, wheat, corn, other maizes, beans, peas, potatoes, truck garden, vegetables, deciduous fruits, melons, citrus fruits, and olives. (107). United Eastern purchased Big Jim Mine at Oatman. High war prices paid for metals. Manganese and tungsten deposits worked. Tucson established first municipal airport in the United States. Yavapai County Court House was built at Prescott, at a cost of \$250,000. In Bisbee, the strike of the mem-

(101) Sloane and Adams, "History of Arizona," Vol. II, p. 221.

(102) Its displacement was 31,000 tons, an dwas 609 feet long and had a speed of 21 knots, and had 34,000 shaft horsepower.

(103 & 104) Sloane and Adams, "History of Arizona," Vol. II, p. 340, p. 234.

(105) Sloane and Adams, "History of Arizona," Vol. II p. 236, 7.

(106) Murdock, John, "Constitutional Development of Arizona," p. 101.

(107) As compiled by the State Council of Defense and verified by L. M. Harrison, Government Field Agent.

- \*1917 (cont.) ————— members of the Union Mine, Mill and Smelter Workers in July culminated in the Bisbee Deportation, during which more than 1,000 miners were locked into box cars and deported to far distant destinations. Auditorium was built for the use of dramatic students at Flagstaff College. Thousands of Arizona citizens enlisted when the United States entered the World War on April 6. The first degrees were granted by the University of Arizona. 1,700 workers struck against Old Dominion Company, for a closed shop. The strike occurred during war-time and was complicated by a jurisdictional dispute between the Western Federation of Miners and the International Workers of the World.
- 1918 ————— Martin Cotton Company established in Phoenix. Phoenix Day Nursery opened. Frank Luke Jr. of Phoenix, America's second World War Ace, was killed in action. Drainage bonds floated during the year amounted to \$100,000. Phoenix bank deposits totaled \$11,613,978.05. Barker Bakery opened. Building permits totaled \$371, 556.87, while the postal business mounted to \$227,923.37.
- Tempe suffered a crop loss of half a million dollars. A special session of the legislature was called by the governor to consider war measures. Governor Hunt of Arizona and Governor Calles of Sonora fixed a permanent armistice. A Mexican ammunition smuggler caught crawling under the fence of the International Line was killed. This caused a battle between citizens of the two countries and resulted in many casualties. Stewart Observatory was founded in Tucson by Dr. A. E. Douglas. Fred T. Colter was defeated for governor by Thomas Campbell, by some 339 votes. (108). Five legislative laws were referred to the electorate and all but one were disapproved. (109). Steamshovel operations started at Sacramento Hill in Bisbee.
- \*1919 ————— Walter J. Thalheimer opens office. Arizona Packing Company was founded by the Tovreas on the present site. Total licenses for the city and the county numbered 11,027. Bond issue floated for a new water supply of \$1,300,000. The plan provided for an infiltration intake under the riverbed of sand and gravel and conveyed the water by redwood pipes to the city in a large main, of sufficient capacity, supposedly, to supply water for 100,000 people. The reservoir for the water would be seven miles north of Phoenix and have a capacity of 25,000,000 gallons. The pressure at the hydrants would be standard at 50 pounds. Assessed valuation of Phoenix \$33,246,975 with bounded debt per capita of \$50.90. The total amount of the bonded debt was \$2,593,000. Postal business added up to \$108,707. Building permits increased 300% to a total of \$2,368,950. Frank Luke Jr.'s. parents received the Distinguished Service cross for extraordinary bravery in action in France. He was Arizona's outstanding hero of the war, and the only man to receive the Congressional medal. (110).
- There were 20, 869 school children in Maricopa County.
- Water Code enacted by State Legislature which carefully defined water rights. The total output of Arizona mines for copper, gold, silver, lead and zinc for the year totaled \$108,707,000 according to the United States Geological Survey. Experimental flotation plant installed at Ajo. Laws of Arizona underwent a revision. (111). Total licenses for state numbered 29,717.
- \*1920 ————— First Church of the Nazarene was built. Yellow Cab Company started. Vincent Carter Electric Company organized. General Electric Company founded. Phoenix Junior College was established with 15 students. Phoenix Union High School had about 2,000 students enrolled. Of the 22,293 church members in Phoenix some 9,400 were Roman Catholics. Bonded debts of \$500,000 were floated for the purpose of adding three new buildings to the high school, which had an enrollment for the year of 1,300. Phoenix was prepared to receive the new water supply form the Verde River, some 40 miles away. The drainage system was completed at a cost of \$100,000. Phoe-

(108) Sloane and Adams, "History of Arizona," Vol. II, p. 238.

(109) Murdock, John, "Constitutional Development of Arizona," p. 70.

(110) Sloane and Adams, "History of Arizona," Vol. II, p. 281-2.

(111) Ibid, p. 344.

- \*1920 (cont.) ————— nix was in the midst of her greatest building activity. Permits were issued for 1,080 public buildings. These included garages, a church, and business establishments. The church edifice was estimated to cost \$125,000. A business building was estimated to cost \$44,469. Fifteen additional residences under construction; a ware-house was built; eight business blocks were improved. Heard Building and J. W. Walker Buildings completed. A new bandstand was built in Library Park. Population of Phoenix reached 29,053. Tele-phones of Phoenix numbered 6,063.  
The population of Maricopa County was 89,576. The population of Arizona was recorded at 334,162. (112). A special session of the legislature was called to ratify the Woman's suffrage amendment to the Constitution. State Welfare Board was created. Governor Thomas Campbell was re-elected. George W. P. Hunt was appointed to serve as United States Minister to Siam. However, Hunt contested the election and Governor Hunt was declared governor by the Supreme Court. R. O. T. C. of United States Cavalry Units were established at the University of Arizona.
- 1921 ————— Boy Scouts of Phoenix were granted first charter. Community Chest established. Herb Bland opened men's clothing store. Phoenix had 35 miles of paved streets; 64.16 miles of sidewalks and 125 miles of streets and avenues. Assessed valuation of Phoenix was \$42,840,531. Building permits totaled \$1,770,373. The enrollment in the public schools increased to 7,066. Postal business was \$239,280. Phoenix had 298 arc lights and 610 post lights for lighting the streets. The area of the city was 3,354 acres. There were 21 miles of street-car lines. Second year's work corresponding to that given in any other college was added to the work of the Phoenix Junior College. Approximately three million dollars expended for local development. Verde water system was completed.  
Many citrus trees were planted. Maricopa County had an assessed valuation of \$128,119,051. Due to over supply, copper price dropped to twelve and a half cents per pound. (113).
- \*1922 ————— Phoenix Colored High School organized. Garfield Community Methodist Church built. Foxworth, McCalla Lumber Company established. KTAR, Arizona's pioneer radio station formed, inaugurated on June 21, 1922. KFAD (now KTAR) was the thirty-sixth company in the entire country to receive license to operate a radio station. KOY was started as DDYW by Taylor Smith. Phoenix assessed valuation was \$47,483,513. Building permits amounted to \$1,779,037. Enrollment in public schools was 6,970. Postal business was totaled at \$250,308.77. Ellis Building erected.  
Assessed valuation of Maricopa dropped to \$116,826,456.  
Honorable John C. Phillips served as a member of the state legislature. Phelps Dodge operated the entire Morenci district. Fred T. Colter made water fillings on Colorado for Arizona as Arizona's Water Trustee. Automobiles in Arizona were valued at \$12,506,684. (114)
- \*1923 ————— Chambers Transfer & Storage Company opened in October. Phoenix had 17 grammar schools. The Phoenix Union High School had seven modern buildings and was fully accredited. Its enrollment was 1,827. The area of Phoenix was 3,354 acres or 52 square miles. Forty-two denominations had churches in Phoenix. Of the parks in Phoenix 12 were public; 2 amusement centers, and 1 was an auto park. Phoenix had 7 banks and trust companies. School of Nursing was started at Good Samaritan Hospital.  
The assessed valuation of Maricopa County is listed at \$112,160,266. County tax rate dropped to \$198 per \$100. (115).  
Hunt was elected again, remaining in office until 1929. The Colorado River compact occupied most of the time of the Sixth Legislature. Cattle companies were ordered off Indian Reservations. (116).

(112) United States Census reports. 1921.

(113) "Arizona Guide," p. 92.

(114) "State Tax Commission," 14th report, p. 78.

(115) Annual Report Clerk of Board of Supervisors, Maricopa County for 1939, p. 10.

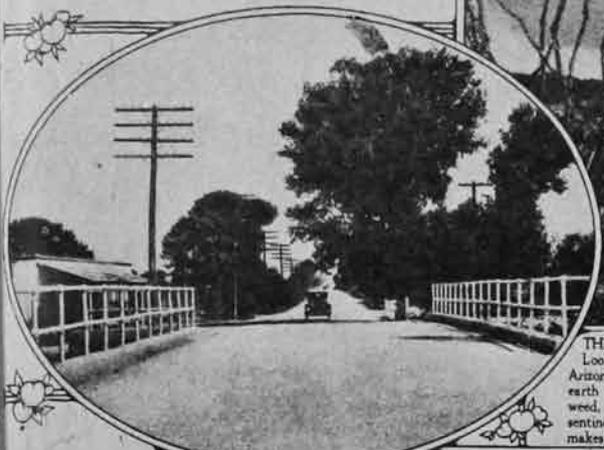
(116) "Arizona Guide," p. 30.

# Picturing a Man-Made State

The wonders wrought by irrigation in the desert lands of Arizona shown in unusual photographs with descriptive captions written by Robert Hunt Lyman of The New York World, who has recently made a journey through the section here described.



**THE DESERT AS IT WAS BEFORE IRRIGATION**  
Looking toward Superstition Mountain, across the Arizona Desert, which is unlike any other desert. The earth is like ashes with unending patches of greasewood, sage brush, mesquite and cacti standing like sentinels of desolation. Yet with irrigation man makes it a garden of delight.



**THE APACHE TRAIL NOW A CONCRETE ROAD.**

Over that part of the Apache trail that takes one from Phoenix out 17 miles through mesquite what was once the desert along the Salt River, man has built a 16-foot concrete highway, six and eight inches thick, that stands up finely under traffic. Arizona will have 300 miles of such roads finished by the end of the year.



**THE START OF THE JOURNEY**

The City of Phoenix is proud of her broad, well paved streets, lined with palms and other shade trees (like Central Avenue shown above) which stretch out net-like over the Salt River plain.

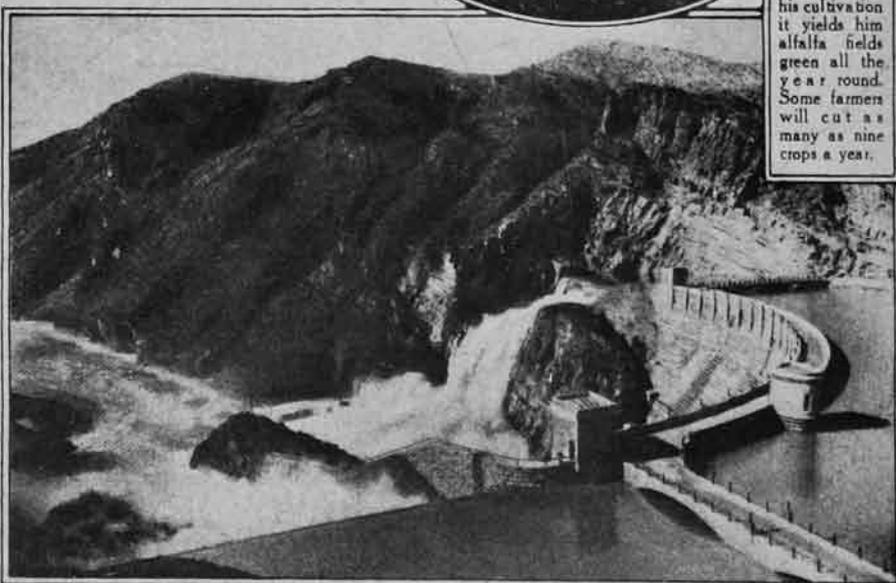


**WHERE ONCE IT WAS A DESERT.**  
Where man has turned water on the desert. Under his cultivation it yields him alfalfa fields green all the year round. Some farmers will cut as many as nine crops a year.



**LUXURIOUS FOLIAGE DUE TO IRRIGATION**

Broad level roads lined with ash like this are found in all sections. Man has run his irrigation ditches and planted his orange trees and olive trees, his cotton and his walnuts. Remember, on the other side of the big main ditch that waters Phoenix, the desert comes up to the very bank—thirsty and unwatered.



**THE ROOSEVELT DAM WHICH IS RESPONSIBLE FOR THE GREAT CHANGES**

Man's greatest work for redeeming the desert is the Roosevelt Dam that impounds the waters of Salt River, storing up 1,367,303 acre-feet of water, enough to supply for three dry years, if necessary, the 200,000 acres now under irrigation in Phoenix, 78 miles away, over the tortuous, gorgeous Apache trail. The dam is 284 feet high, 700 feet long at the top and 210 at the base. The road crosses on its crest. The first stone was laid Sept. 10, 1906. It was dedicated March 18, 1911, and the reservoir was filled April 14, 1915. It can develop 60,000 horse-power, and high tension wires carry the electric current miles across the mountains and canyons to work the huge copper mines.

- \*1924 ————— Maricopa Fuel & Feed Company opened. Fire Departments starts program of mechanization. Assessed valuation of Phoenix was \$47,794,293 and building permits totaled \$1,903,648. The enrollment of the public schools was 7,602 and Postal business amounted to \$317,080. Civil Service Commission of three members was created. United States Veteran Bureau was established at Phoenix, October 31. Lightest rainfall ever reported in Phoenix amounted to 3.03.  
Maricopa County was given an assessed valuation of \$114,993,708. Calvin Coolidge signed a bill for construction of Coolidge Dam. Arizona was given a net valuation of \$1,649,879,308. The total property taxes for all purposes were given \$15,155,806. (117).
- \*1925 ————— Maricopa Council of Camp Fire Girls established in Phoenix. Cecilian Singers organized. Arizona Sash, Door and Glass Company opened. First Federal Savings and Loan Association of Phoenix organized. Phoenix assessed valuation was \$49,667,474. Building permits amounted to \$3,106,722. Enrollment in public schools was 8,257. Bank deposits totaled \$25,439,429, while postal business amounted to \$357,111. The board of Phoenix Junior College secured title to the Cottonwood Court for building purposes. The enrollment was 141 and the college graduated a class of twenty. Tempe Normal School changed name to Tempe State Teachers College. Assessed valuation for Maricopa County increased to \$117,500,000. Tax rate was boosted to \$2.23 per \$100. of assessed valuation. (118). Mormon Flat Dam on Salt River completed at a cost of \$1,559,000.  
Dr. J. Fewkes made study of Wupatki National Monument Ruins. The Shattuck and the Denn Mining Companies merged, and formed the Shattuck-Denn Mining Corporation. Workmen's compensation law was passed. (119). The Phelps Dodge Corporation installed modern ventilation systems in their Copper Queen Branch and cut their accident rate 95.5% between 1925 and 1934.
- \*1926 ————— Federal Clothing Store opened. Lowell School completed. The completion of the Southern Pacific Main Line on January 5 to Phoenix was the occasion of a big celebration in Phoenix on October 15, commemorating the \$15,000,000 project. Assessed valuation of Phoenix was increased to \$52,495,285 while building permits amounted to \$2,637,124. St Mary's Parochial School was built. The enrollment in public schools was 8,920. Postal business totaled \$403,349.22.  
Assessed valuation for Maricopa County increased to \$119,921,651. County tax rate was reduced to \$2.10.  
Grady Gammage was installed as president of Northern Arizona Teachers College at Flagstaff. Governor Hunt was re-elected. According to the federal census, some 60 per cent of the 153,086 church members in Arizona were Catholics. The Miami Postoffice was built. Eight National Forests, with a combined area of 11,389,357 acres, contained nearly three-fourths of the timber within the state. (120).
- \*1927 ————— Liefgreen Seed Company opened. St. Joseph's Hospital was built at a cost of \$115,000. The Arizona Museum was built. Regular scheduled passenger and express plane service was begun in late November when the Aero Corporation of California inaugurated a tri-weekly line between Los Angeles, Phoenix and Tucson. Mountain States Telephone Company built their present quarters for \$120,000. Newberry Store was built. The San Carlos Hotel with its 175 rooms was completed at a cost of \$268,494. Borden Company No. 1 plant in Tempe opened.  
The first sea plane in Arizona burned on Roosevelt Lake. It was flown by Commander Francisco de Pinedo, an Italian who had visited six continents. Lake Pleasant Dam on the Agua Fria River completed, with capacity of 56½

(117) Fourteenth Report State Tax Commission of Arizona December 31, 1938, p. 154.

(118) Annual Report, Clerk of Supervisors, Maricopa County, p. 10.

(119) Murdock, John R., "Constitutional Development of Arizona," p. 177-124.

(120) Arizona Guide, p. 19.

- \*1927 (cont.) ————— billion gallons of water. Horse Mesa Dam on the Salt River was completed at a cost of \$4,373,000. Mormon Temple at Mesa, costing \$800,000 was dedicated in October. Mesa built a \$190,000 hotel. The Temple of Music and Art was built in Tucson. A wild horse movie was taken in Arizona. An eight-hour working day for women was established. An act established a colony for mentally defective children. Assessed valuation of Arizona was \$673,127,177. (121). Arizona State Highway Commission and Arizona Highway Department was established.
- \*1928 ————— Arizona Automobile Association established. Judson School for Boys was established. The Arizona Biltmore Hotel was being constructed (owned by William Wrigley, jr.) near the site of his Phoenix home. It was designed by Phoenix's internationally-known architect, Frank Lloyd Wright. Hotel Westward Ho was built. Assessed valuation of Phoenix had grown to \$57,625,882. Building permits increased to \$5,999,465. The construction included High School Buildings, \$442,976; Junior College, \$127,000; High School Stadium, \$100,000; Security Building, \$462,000. Enrollment in public schools now amounted to 10,421. Bank deposits totalled \$36,789,781, with combined bank resources of \$40,059,636 and a postal business of \$475,034.94. Mental Patients in state hospital at Phoenix numbered 704. Coolidge Dam was dedicated on the Gila River by Calvin Coolidge on March 4, with Will Rogers attending. The revised code of all Arizona laws was made by the Eighth Legislature. (122).
- \*1929 ————— Borden Company opens Phoenix plant. Whittier School established. Phoenix Symphony Society organized. Phoenix had 59 churches, 60 garages, 18 laundries, 7 ice companies and 12 hotels. Phoenix had 6 banks with combined resources of \$43,009,555. Bank deposits alone amounted to \$36,787,781. Check transactions for year amounted to \$523,529,493. Budget for City of Phoenix 1929-30 was \$1,826,459. Dwight B. Heard, eminent Arizona pioneer, died. Heard Museum formally opened on June 25. Assessed valuation of Phoenix had grown to \$57,625,882. Establishment of the Orpheus Club completed. Enrollment in the Phoenix schools totaled 10,000. Building permits in Phoenix totaled \$5,248,674. The beautiful City and County Building cost \$1,063,528. Other edifices included the Baptist Church, \$170,000; Phoenix National Bank, \$100,000; Terminal Market, \$110,000; the Firestone Building; the Grunow Clinic, \$112,000; the Good Samaritan Hospital, \$180,000; and the Adams Annex at \$300,000. Maricopa County Free Library system was established November 2. Buckeye was incorporated. Maricopa County had an assessed valuation of \$142,321,528. The Ninth Legislature convened January 14, creating the Colorado River Commission. The State Bureau of Identification was established. Lee's Ferry Bridge over Colorado River was dedicated on June 14. Graf Zeppelin crossed Arizona on August 27, on its around-the-world cruise, dipping its nose over Tucson as a salute. John Phillips elected the second Republican governor since the admission of the state into the Union in 1912, all other terms being held by Governor Hunt except 1921-1923. Secretary of State I. P. Frazier published a pamphlet edition of the constitution. (123).
- \*1930 ————— Lerner Shops opened. Major water system for Phoenix insured by the building of a 48-inch concrete pipeline from the Verde River 35 miles northeast of Phoenix to the municipal reservoirs some 8 miles from Phoenix. There were 12,558 families in Phoenix with an average size of 2.9. The total area of Phoenix was 4,112 acres or 6.425 square miles. Streets totaled 161.65 miles of which 77.85 were paved. There were 120 miles of sidewalks. The total bonded debt was \$845,500. Population of Phoenix proper was 48,118, with a metropolitan area of 93,904. Carnegie Library facilities were 51,000 volumes,

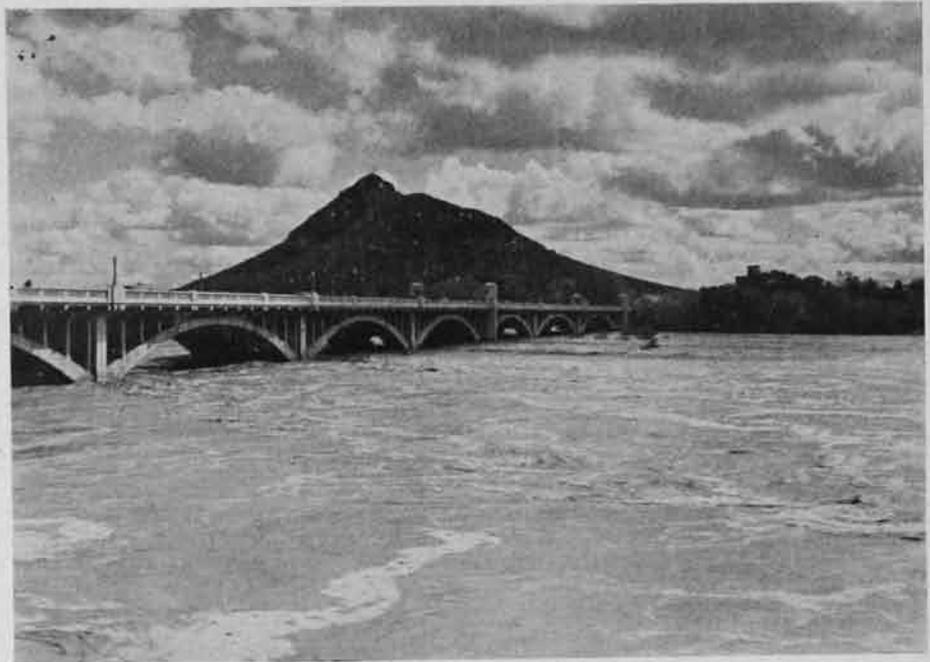
(121) Fourteenth Report of State Tax Commission, p. 154.

(122) Murdock, John R., "Constitutional Development of Arizona," p. 69.

(123) Winsor, Mulford, "Arizona News-letter," No. 11 on Constitution of Arizona.

\*1930 (cont.) — and 50,000 pamphlets. The mayor was Franklin D. Lane. The police department had grown to 70 men with 16 pieces of motor equipment and one well-kept station. Budget for City of Phoenix 1930-31 increased to \$2,033,886. The Luke Memorial was erected on State Capital grounds on November 11, in honor of Arizona's outstanding World War hero. "Phoenix Evening Gazette" consolidated with the "Arizona Republic" on November 18. Telephones in Phoenix numbered 15,618. Office of Temperance Director was created by City Manager. KTAR became connected with NBC on June 8 and offered top-ranking programs of both Red and Blue Networks. Postal air routes were established between Phoenix and Tucson on October 15. Phoenix assessed valuation increased to enormous figure of \$87,941,639. Building permits added up to \$3,001,066. Luhrs Tower was built at a cost of \$238,000 and Korrick's (annex) at \$200,000. Postal business amounted to \$555,450.76. The Arizona State Building, adjoining the Capitol grounds was erected. The Arizona Biltmore Hotel was completed at a cost of \$2,000,000. The Matthews Library Building was completed at A. S. T. C. at Tempe. Net valuation of Maricopa County was estimated at \$153,825,229. The heavy planting of citrus groves created an unprecedented demand for suitable land for young trees. Practically all the available water from the tributaries of the Colorado River had been put into usage. Stewart Mountain Dam on the Salt River was completed at a cost of \$2,839,000. (124). The Arizona Highway Department reported (April 1) 2,461 miles of road surfacing in Arizona. Arizona's population was 435,573. Governor Hunt was re-elected governor for seventh term. Heaviest rains in years. John D. Greenway Memorial unveiled in Statuary Hall, Washington, D. C., on March 24. The Gammage Library at Flagstaff was completed, containing 28,000 volumes.

\*1931 — Phoenix Piano Teachers Association formed. Fox West Coast Theatres came to Phoenix. Tovrea Packing Plant succeeded the Arizona Packing Company. Construction in Phoenix included the Valley Bank and the Title and Trust Building (the latter at \$650,000). Checking transactions in Phoenix amounted to \$386,089,379 while building permits totaled \$2,125,343. The new concrete Tempe Bridge was completed. The assessed valuation of Maricopa County reached an all-time high of \$154,674,121. (125). The United States Supreme Court handed down a very favorable decision in regard to Arizona rights in the Colorado River. In the case of Arizona vs. California (126) rendered on March 10, held in substance that Arizona is not

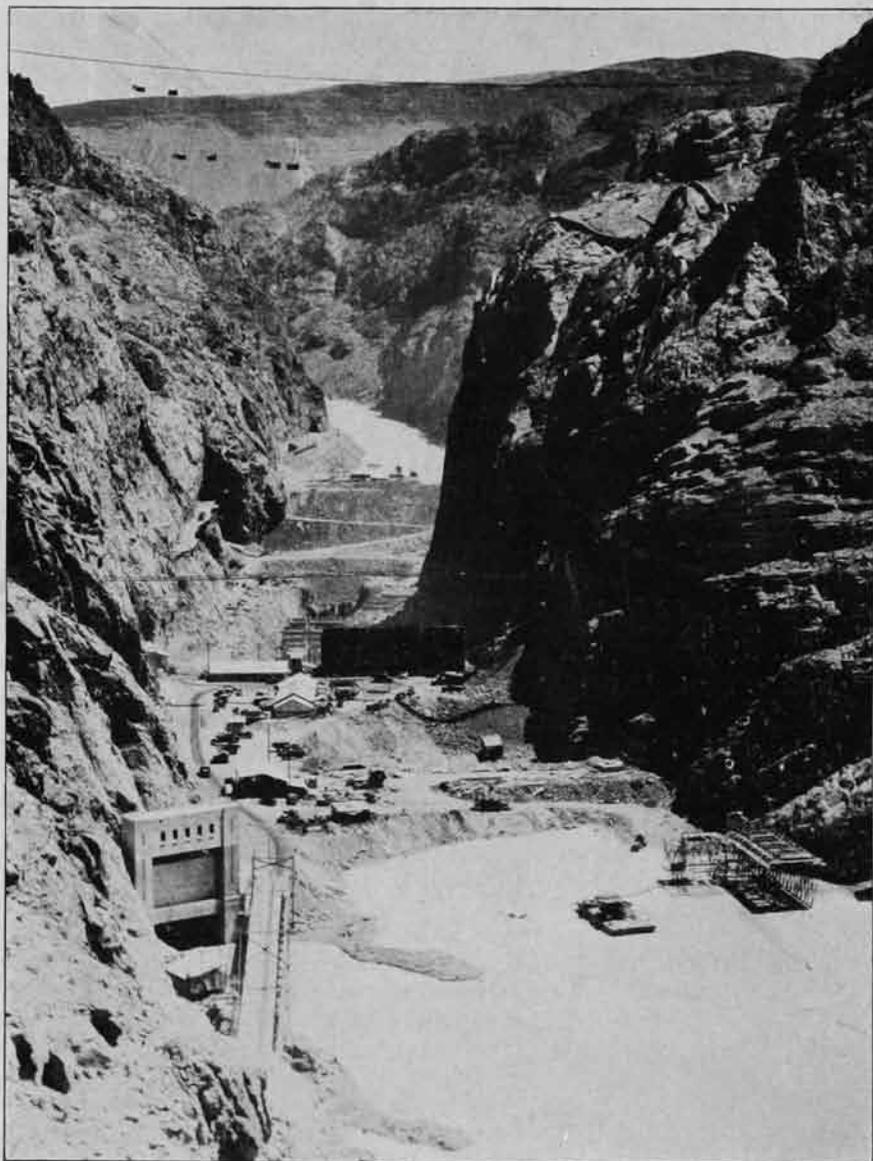


Tempe Bridge Showing Flood On Salt River

(124) Salt River Valley Water Users Association Pamphlet, "Salt River Project," p. 3.  
 (125) Annual report of clerk of Board of Supervisors for Maricopa County, 1939, p. 10.  
 (126) 283 United States 522.

\*1931 (cont.) — bound by the Santa Fe Compact, the Boulder Canyon Project or by the dam itself, that Arizona's present and future rights and projects were not impaired thereby, that Arizona can take water out above Boulder Dam or elsewhere in the state. Phelps Dodge absorbed Calumet in Arizona Mines. Brewery Gulch Gazetter Building dedicated. The pit floor of the Sacramento Pit was widened by caving the walls. Workers from the Copper Queen applied for relief. The Phelps Dodge Mining Corporation acquired the Calumet and Arizona Smelter, and had a deed to its \$2,500,000 worth of new equipment and buildings, thus achieving the ownership of 9,100 productive acres. The Copper Queen Smelter was abandoned.

\*1932 — McElhaneys Flower Shop opened. Phoenix Labor Press established. League of Business and Professional Women organized. The Professional Building was constructed at a cost of \$914,500. Sewer and water improvements necessitated an outlay of \$3,000,000 in modernizing Phoenix. Checking transactions totaled \$238,425,422. Postal business reached \$477,188.82. The Constable Ice Company built a \$50,000 storage plant. The Phoenix Symphony was organized. Telephones totaled 14,086 on November 3. Assessed valuation of Maricopa revolved at \$126,200,783. Dr. B. B. Moeur, Democrat, of Tempe, elected governor. Copper operations were curtailed. An authorized three-volume report was submitted by Fred T. Colter to the attorney - general, entitled "Diligence In Protection and Development of Arizona Water Resources." Article 23 on Prohibition was repealed by amendment initiated by people, passed November 8. (127). Boulder Dam was started.



Building Boulder Dam

- 1933** ————— Modern Study Club organized. Feltman-Curme Shoe Store opened. Number of Phoenix telephones totaled 13,559. Phoenix Oratorical Society organized. Postal business dropped to \$452,676.08. The assessed valuation of Maricopa County took another major drop to \$100,-473,741 with a tax rate of \$3.56. A PWA loan was applied for in November, 1933, amounting to \$350,000,000 to construct the Glen Bridge-Verde Highline Reclamation Project to develop five million electrical horsepower by Maricopa County Board of Supervisors. Bonded indebtedness of Maricopa County was \$12,285,125. Depression conditions and increased price of gold brought renewed interest in gold fields and prospecting. The statewide sales tax was adopted. The gasoline tax law, requiring a tax of 5 cents per gallon was enacted.
- 1934** ————— Arizona Hotel completely modernized. National Scouts held huge convention in Phoenix. Phoenix Park Board was created. Banking transactions totaled \$305,654.932. Building permits dropped to lowest level of depression, \$310,-950. The assessed valuation of Maricopa County was \$96,315,507. County tax rate was \$3.56. The Easter Morning Sunrise Service at Grand Canyon was initiated and was released over a nation-wide hook-up of NBC. The Taylor Grazing Act was enacted. Dr. B. B. Moeur was re-elected governor. The net valuation of the state was set at \$356,783,687. Cost of state government for 1934-35 was \$9,744,212.03. (128).
- \*1935** ————— Arizona Vocational School came into existence on September 1 as part of the Phoenix Union High School system. City records showed bonded indebtedness of \$1,000,000. Building permits totaled \$140,145. Assets of the Federal Loan and Saving Association were \$13,135,990. Phoenix had retail sales of \$35,234,000; it led the nation in cash merchandising in all of the 763 urban centers in cities ranging from 10,000 to 50,000 in population. It had some 1,033 retail stores, employing 4,459 employees with a payroll of \$4,509,000. Tempe Garden Club organized. Arizona Distributing Corporation started. A. S. T. C. was raised to the ranking of a standard teacher's college with a four-year course in education leading to the degree of Bachelor of Education. Water Users Project developed by the United States Reclamation Service at a cost of more than \$13,000,000 to irrigate an area of about 50,000,000 acres. A federal survey showed there were 21,390 acres of citrus in the Salt River Valley and the Yuma-Mesa districts. Loan application for \$350,000,000 for Glen Bridge-Verde Reclamation Project was renewed by Board of Supervisors. The union called a strike against Phelps-Dodge in which the secretary of the union was shot. A college elementary school was established at Flagstaff College. The school was used for observation, practice, and laboratory teaching. The percentage of farm tenants was 17.8 and a slight raise from 1930 figures. The Miner's Monument was dedicated. The C. I. O. began its activity in Arizona. Cost of state government for 1935-36 was \$12,-170,603.76. (129).
- \*1936** ————— The Valley Bottling Company established. Four-Square Church built. Phoenix Theatre opened in July. New ultra modern postoffice built on Fillmore and Center was completed. Four transcontinental highways led to and away from Phoenix; namely: U. S. 60, 70, 80 and 89. Transcontinental busses, the Greyhound and the Santa Fe, had stations in Phoenix on Jefferson street. The first horse race was held in Phoenix. Hank Leiber of Phoenix was the third leading batter of the National League. Construction was started on the Bartlett Dam on the Verde River. It was to contain 165,000 cubic yards of concrete and was to be built at an estimated cost of four million dollars. Assessed valuation of Maricopa County was \$96,414,781. Three grazing districts were organized in Arizona. A system was put under way to use water from Colorado on 580,000 acres near Yuma. Kino Memorial Park honoring Eusebio Francisco Kino was erected in Tucson. Some 800,000

(128) Annual Report of Department of State Auditor, Ann Frohmler, June 30, 1939.

(129) Ibid, preface.

- \*1936 (cont.) ————— acres of Ponderosa Pine was sold to the highest bidder at considerably higher than any price received before. Judge Rawleigh C. Stanford was elected governor. Arizona was divided into 59 high school districts. Boulder Dam (Hoover Dam) was dedicated. It was completed at a cost of \$76,500,000. It was 727 feet high and had a capacity of ten quadrillion (10,000,000,000,000) gallons of water. The Painted Desert was made an addition to the Petrified Forest National Park. The cost of state government for 1936-37 was \$15,583,329. (130).
- \*1937 ————— The Art Center in Phoenix was completed. The Ferrous Chloride manufacturing plant was built in Phoenix for odor control. The traffic department of the police department installed parking meters. KOY in March became affiliated with Columbia Broadcasting System. Building permits totaled \$2,036,984. Telephones increased to 18,901. New Mill Avenue Underpass in Tempe started as a \$77,430 WPA project. Mesa-Tempe highway enlarged to four lanes at a cost of \$215,000. In March, an act of the Thirteenth Legislature authorized the Tempe College to grant the advanced degree of Master of Arts in Education. "Southside Progress," Tempe weekly newspaper, began publication, with Fred M. Jahn as owner. Tempe Beach dedicated, representing a \$30,000 park development. Tempe built \$20,000 citrus juice cannery. SRVWUA built a \$550,000 Diesel plant at Tempe. The over-pass near Tempe was finished. Phelps-Dodge began \$28,000,000 development of its Clay Ore body at Morenci. Arizona produced 268,000 bales of short staple cotton and 12,000 bales of Pima cotton. The cost of state government for 1937-38 was listed at \$18,359,402.60. (131). Net valuation of taxable property of Arizona was placed at \$382,327,743. (132).
- \*1938 ————— St. Mary's Boys High School opened in September. Fiesta del Sol, Spanish colorful celebration, featured by parade, crowning of the queen, and the Casa Manana dance, was sponsored by the Chamber of Commerce. Postal receipts amounted to \$702,000. The Better Business Bureau of Phoenix was established on September 1. Expenses in operating the city government of Phoenix during the fiscal year July 1, 1937, to July 1, 1938, totaled \$4,487,999. Telephones in Phoenix passed the 20,000 mark. Valley National Bank in Phoenix increased its deposits over 452 per cent from 1932-1938. Plans for the construction of a new Phoenix North High and the New Junior College were completed. Bonded indebtedness reached \$8,840,000. Postal receipts climbed to an all-time high of \$7,500,503. Purchase of campsite of Phoenix "Y." Final "H" plan of the State Capitol was completed when the North Wing, designed by Orville H. Bell, was finished. M. A. degree conferred by, for the first time, A. S. T. C. on May 31. There were 2,851 marriages in Maricopa County. The L. D. S. Seminary Building completed in Mesa. Tempe built a \$65,000 Grammar School Building. Some \$722,500 in A. S. T. C. improvements was proposed, including a new stadium and six dormitories.
- \*1939 ————— Robert T. Jones was elected governor. Cost of state government increased to \$19,221,259.89. (133). Revenue of State Highway Department amounted to \$6,659,734. Barq's Bottling Company opened in January. Vic Hanny united with Goldberg's. Gala World's Championship Rodeo, sponsored by the Phoenix Junior Chamber of Commerce, held in February. North Phoenix High with an enrollment of 1517 and New Junior College opened on Thomas Road, made first-class addition to Phoenix educational system. Second National Sciots Convention held in Phoenix with 2,500 in attendance. Telephones totaled 20,720 on November 30. City Manager Fred Hislop put Phoenix on a cash basis. Phoenix retail sales reached all-time high record. Robert Burgunder, jr., received death sentence for murder of two Phoenix automobile

(130) "The Arizona Republic and Phoenix Gazette" were used to check most of these items.  
 (131) Annual report of Department of State Auditor, Ann Frohmiller, preface, 1939.  
 (132) Fourteenth report of State Tax Commission, 1938, p. 154.  
 (133) State Auditor Report, preface, 1939.

- \*1939 (cont.) ————— salesmen. Ruth Judd, notorious murderess in torso trunk killing of two female Phoenicians, made two sensational escapes from the State Hospital. The A. S. T. C. Bulldogs won Border Conference Football Championship and played Catholic University of Washington, D. C., in Sun Bowl at El Paso on New Year's Day (1940). The Bartlett Dam on the Verde River was completed. Moeur Activity Building was opened to the public by Dr. Grady Gammage, president of A. S. T. C. Delegates from the Brotherhoods, A. F. of L. and the C. I. O. unions formed the Arizona League for better government. The United States border and sub port handled exports amounting to \$1,741,380; and imports, especially cattle and copper amounting to \$2,108,425. The University of Arizona had 40 buildings, and a faculty and staff of some 300; enrollment of 3,000. There were 45,000 milk cows in Arizona. Game and Fish Commission supervised the keeping of a herd of 200 buffalo in Houserock Valley. Contract for \$4,000,000 Salt River Valley power line was signed. Colorado River electric power will supply valley utility companies via Parker Dam. Parker Dam on the Colorado River, between Arizona and California, was erected at a cost of nine million dollars. Cost of state government for 1939-40 was officially estimated at more than \$22,000,000. (134). Arizona News-Letter, No. 11 on "The Constitution of the State of Arizona" published by Mulford Winsor. (135).
- \*1940 ————— Radio Station KPHO established in July, on Buckeye Road and began operations in October. Phoenix population set at 65,454 with Metropolitan population of 125,000. Phoenix girded herself for national defense. Greatest retail trade in history of Phoenix. KTAR's power was increased from 1,000 to 5,000 watts by the FCC. (136). New buildings for Montgomery Ward, Sears Roebuck, and Porter's Saddlery, completed. World's Championship Rodeo again sponsored by Jay-Cees. The date of the Phoenix City primary was changed to the second Tuesday in January. The Arizona Guide was published. Technicolor movie film came to Phoenix. Sheriff Lon Jordan received \$500 for capture of a Turtletaube, New York, gangster and No. 1 racketeer. Phoenix P.B.S.W. "Ramblers," girl's softball team, won world's championship. Tempe received confirmation of its projects for a new postoffice and a new city hall. Movies filmed in Phoenix, Tempe and Mesa. Plans executed for a new city hall in Tempe. A. S. T. C. at Tempe starts work on a new \$100,000 stadium and plans six new dormitories. Maricopa farm land was valued at \$16,986,665 by the county assessor. A. S. T. C. Bulldogs won second consecutive Border Conference Football Championship. With completion of the All-American Canal, from Imperial Dam, some 109,000 acres of desert wasteland around Yuma was irrigated. 326,159 acres of irrigated land in Arizona is under the jurisdiction of the United States Bureau of Reclamation Service. Arizona National Guard left for Louisiana war games on August 4. Herd of 23 midget wild horses discovered in Grand Canyon by Jack Tooker, railroad engineer, and Arthur Beloit, Buckeye rancher. State Fair held at the Fairgrounds in Phoenix in November and was very successful. Sidney P. Osborn was elected governor. First peace-time conscription took place on October 16. Initiative Amendment provided that state pay \$65.00 for each grammar school child and \$95.00 for each high school child, based on A. D. A.

(134) Estimate by State Auditor, Anna Frohmiller, 1940.

(135) Published in July, 1939.

(136) Effective January 1, 1941.

## CHAPTER II

# NATURAL RESOURCES

Among Arizona's natural resources are its climate, land, forests, minerals, agriculture and livestock. Arizona's future as the "Egypt of America" lies in the development of these natural resources, along with its water and power.

### I. CLIMATE

Arizona with its historic past, romantic beauty, and natural wonders has one phenomenal resource that gives it a perennial and undisputed claim to world greatness, and that is her Egyptian, sub-tropical climate. Because the sun shines 84 per cent of its possible daylight sojourn throughout the heavens, the result is a dry, warm climate. This is a most attractive feature to residents, tourists, and health-seekers. The average relative humidity over a forty-year period at Phoenix has been 25.1 degrees. (1).

Dr. Joseph Bank, prominent Phoenix physician, made a statement for this survey on "Climate and Health", which follows:

"To the oft repeated quotation of Mark Twain that nothing is being done about the weather, might be added the statement that science knows little of the detailed relationship between climate and illness. Since ancient times man has sought a change to improve health and has often been successful in his search. There is no doubt that certain diseases improve in some regions and do not improve in others, but when pressed for an explanation the scientist cannot tell us what is in the climate that does the trick. Whether recovery is due to altitude, atmospheric pressure, humidity, sunshine, temperature, or other factors is a matter open to discussion and opinion, but not to experimental demonstration.

"Against facts there can be no arguments, even though we may not be able to account for the facts, which have been recorded or observed. Baron Larrey, Napoleon's surgeon-general in the Egyptian campaign, noted in his memoirs, his amazement at the rapidity with which wounds healed in the Egyptian climate, which is similar to that of Southern Arizona. Physicians whose practices has been limited to this part of the country often surprise their colleagues in the east by stating that they have seen few, if any, cases of rheumatic fever. This disease is known as one of the major causes of chronic heart disease and is especially prevalent along the northern Atlantic seaboard and the Mississippi Valley. Prominent cardiologists in the east have for years been sending patients with rheumatic heart disease to Arizona when they have failed to improve under adverse climatic conditions. One encounters here daily, people with chronic infections of the respiratory tract such as bronchitis, asthma, or bronchiectasis, whose health has been restored in the Valley of the Sun and whose lives have been rehabilitated. The rheumatic who was the joke of his friends in the humid east because his pains served as a barometer for approaching inclement weather, remembers his aches as something of the past in the Arizona sunshine."

Phoenix' mean temperature, according to United States Weather Bureau (2) records from January 1, 1896, to December 31, 1939, averaged 70.2 degrees.

The average temperature for any one year has never fallen below 70 degrees since 1924, and it has never fallen below 68 degrees since weather bureau records were first taken in 1896.

There is no other section in the country that has as healthy a climate as Phoenix. In addition, the annual rainfall is less than 8 inches per year. Arizona has a negligible amount of surface water, some 135 square miles, in a total land surface of more than 113,000 square miles.

Phoenix is some 10 degrees warmer on the average than the rest of the state. The state's average temperature,



**Arizona Has Perhaps the Finest Sub-tropical Climate  
In the Nation**

based on 123 Arizona meteorological centers is 60.5 degrees as contrasted with the average of Phoenix at 70.2 degrees.

The highest recorded temperature for Arizona is 119 degrees and the lowest, 12 degrees. The average mean temperature in January is 51 degrees, while that in July is 90. Arizona has an average rainfall of 13.91 inches, near-

- (1) U. S. Weather Bureau Reports. Miami, Florida, has an average relative humidity of 75.1 per cent while that of Tucson is 30 per cent.
- (2) Record kept by United States Weather Bureau located at Phoenix since 1896. The unusual amount of sunshine with a relative low humidity in the summer makes the heat much more endurable than in most cities where the humidity is higher.

ly twice that of Phoenix, which has an average of 7.74 inches. The lightest rainfall in the experience of Phoenix was 3.03 inches in 1924, and its heaviest annual precipitation was 19.73 inches in 1905. (3).

Rain fell in Phoenix in measurable quantities during 35 out of 365 days during 1939, according to the Phoenix Weather Bureau. The heaviest rainfall for any 24-hour period was 4.98 on July 1-2 in 1911. The January, 1941, rains were exceedingly plentiful.

There are very few days in Phoenix when the sun fails to shine. Phoenix and the Salt River Valley are known internationally as the "Valley of the Sun." Phoenix is in the sun belt, which extends from El Paso west to San Diego.

It might be added that Phoenix is also outside of the tornado and hurricane areas which so frequently devastate coastal regions. The average gale velocity is 5.8 miles per hour.

All of the above indicates that Phoenix is perhaps the number one health spot of the nation. It is peculiarly attractive to health-seekers. There are many sanatoriums, health camps, and hospitals in and about the Valley of the Sun, where the patient can secure adequate care, good food and careful attention, which his case demands. The outstanding feature of Arizona climate is its sunshine. Arizona is particularly outstanding because the summer sunshine remains throughout the winter season. This sunshine, with its ultra-violet rays, supply vitamin D. Child-

Arizona is beastly hot in the summer. However, the climate is much healthier for health-seekers in the summer than in the winter and effective cures are far more frequent then. Phoenix claims to be the air-conditioned capital of the world, and major offices, department stores, buildings, theatres, restaurants, etc., are air-cooled. Practically every home and all of the better hotels, resorts, sanatoriums, etc., are equipped with air-cooling apparatus.

## II. LAND

Arizona's land resources are expensive and varied. They embrace more than 113,000 square miles or 72,931,860 acres, which makes it the fifth (4) largest in area in the United States. It is divided into fourteen counties, the largest of which is Coconino with 18,623 square miles, the second largest county of the some 3,000 counties in the United States. (5). Second in size is Mohave, whose area is 13,390 square miles. The areas in square miles of Arizona's additional twelve counties are: Cochise, 6,170; Gila, 4,699; Graham, 4,630; Greenlee, 1,878; Maricopa, 8,891; Navajo, 9,899; Pima, 9,505; Pinal, 5,380; Santa Cruz, 1,229; Yavapai, 8,150; and Yuma, 9,987.

There has been considerable change in the status of land owned by the government and private individuals within the last ten years. In 1930 private holdings amounted to only 12.9 per cent. These were increased in 1940 to 25.8 per cent. There has been practically no change in the ownership of state land in the past 10 years.

Uncle Sam in 1930 owned 72.6 per cent of Arizona. This

TABLE I—OWNERSHIP OF LAND IN ARIZONA, 1930-1940 (6)

	1930		1940	
	Acres	%	Acres	%
Federal lands	53,019,870	72.6%	43,425,419	59.5%
State lands	10,539,236	14.5%	10,685,500	14.7%
Private Holdings	9,372,734	12.9%	18,820,941	25.8%

ren in Arizona are unusually healthy and free from rickets.

Not only does the sunshine come in terms of the direct sunlight, but also in the citrus and deciduous fruits and the fresh vegetables which are ripened naturally from the sun.

was reduced to 59.5 per cent in 1940. But still three-fifths of Arizona is owned by this absentee land owner, Uncle Sam. What is the land usage of U. S.-controlled lands? The following table compares U. S. land usage in 1930 and 1940.:

Arizona was a ward of the United States Government

TABLE II—USAGE OF FEDERAL LANDS IN ARIZONA (7).

	1930		1940	
	Acres	%	Acres	%
Indian Reservations	20,463,020	28.4%	19,566,339	26.8%
Nat'l. Forests	11,376,341	15.5%	11,389,357	15.6%
Public Domain	20,526,080	27.8%	11,396,260	15.6%
Nat'l. Parks	659,429	.9%	1,000,455	1.4%
Military Reservations			73,008	.1%

The sunshine in the Valley of the Sun is a source of heat, making the winter days comfortable and warm. This is conducive to outdoor activity. Sunshine is a natural therapeutic agent against arthritis, neuritis, sinus and tubercular maladies. Most people have the correct idea that

from the time of its organization as a territory in 1863 up until its entrance into the Union in 1912. This long federal tutelage has resulted in an acute problem of federal bureaucratic control over its land. There have been increasing federal withdrawals for National Forests, National Monu-

(3) U. S. Meteorological records. G. K. Greenway, 1896-1940.

(4) It is superceded in area by only four states; namely, Texas, California, Montana and New Mexico.

(5) San Bernardino County is the largest county in the United States.

(6) "Report of Colorado River Commission of Arizona in 1931-32," p. 19., "The Dependence of Arizona on Mining Industry, Department of Mineral Resources, State of Arizona, 1940, p. 23.

(7) "Report of Colorado River Commission of Arizona in 1931-32," p. 19. Also, "The Dependence of Arizona on the Mining Industry, Department of Mineral Resources, State of Arizona—1940, p. 23.



Some 26.8% of Arizona is Given  
Over to Indian Reservations

ments, Indian Reservations, or Military Reserves. About sixty per cent of Arizona is under federal control. Some 19,566,339 acres or 26.8 per cent of the total area of Arizona is devoted to Indian Reservations.

In 1930, some 9,372,734 acres or 12 percent of Ari-

zona, listed under private holdings, were composed principally of railroad land grants. Former Governor G. W. P. Hunt was deeply concerned over the proper disposition of lands under federal control. He estimated (8) the worth of the 15,180,880 acres of unreserved land in Arizona in 1932 to be worth approximately 20 million dollars. Very little of this was worth three dollars per acre. Most of it was worth less than a dollar per acre. Governor Hunt, as chairman of the Arizona Colorado River Commission, vigorously objected to further extending the federal management of Arizona's grazing lands. (9).

The value of these fifteen land grants is of considerable concern to the institutions, schools and general public as a source of income for the permanent and current funds. The exact amounts are being checked by WPA workers.

Some 10,685,500 acres of land have been set aside for specific land grants.

The state treasurer in 1938-39 received \$417,102.59 from permanent and miscellaneous funds concerning state lands.

A soil survey was made of 3,500,000 acres by the Arizona-Colorado River Commission during 1930-31. (11). The Reclamation Department examined 1,200,000 additional acres, making a grand total of 4,700,000 acres. It was found that some 2,800,000 were arable. Much additional arable land could be made available for irrigation if the water were available from the upper Colorado River. The soil was examined as to its acid, neutral or alkaline status. Arable areas either met the minimum Bureau of Reclamation standards or were rejected. Soil analysis was made under the direction of P. J. Preston of the United States Bureau of Reclamation, former manager of the Yuma project, and a competent field force. Soil maps were made of the Colorado-Verde project of land in Maricopa, Pinal and Pima and Yuma counties in 1932-33. The reports indicate that approximately 59.5 per cent of the soil surveyed was arable. This survey is completely recorded in the report of the Arizona Colorado River Commission, 1931-32.

A complete and comprehensive soil survey has also been made of the Salt River Valley under the direction of W. G. Harper of the Department of Agriculture. The area surveyed covered 535 square miles, or 342,000 acres, most of

TABLE III—A SUMMARY OF LAND GRANTS AS OF 1938-39 FOLLOWS: (10)

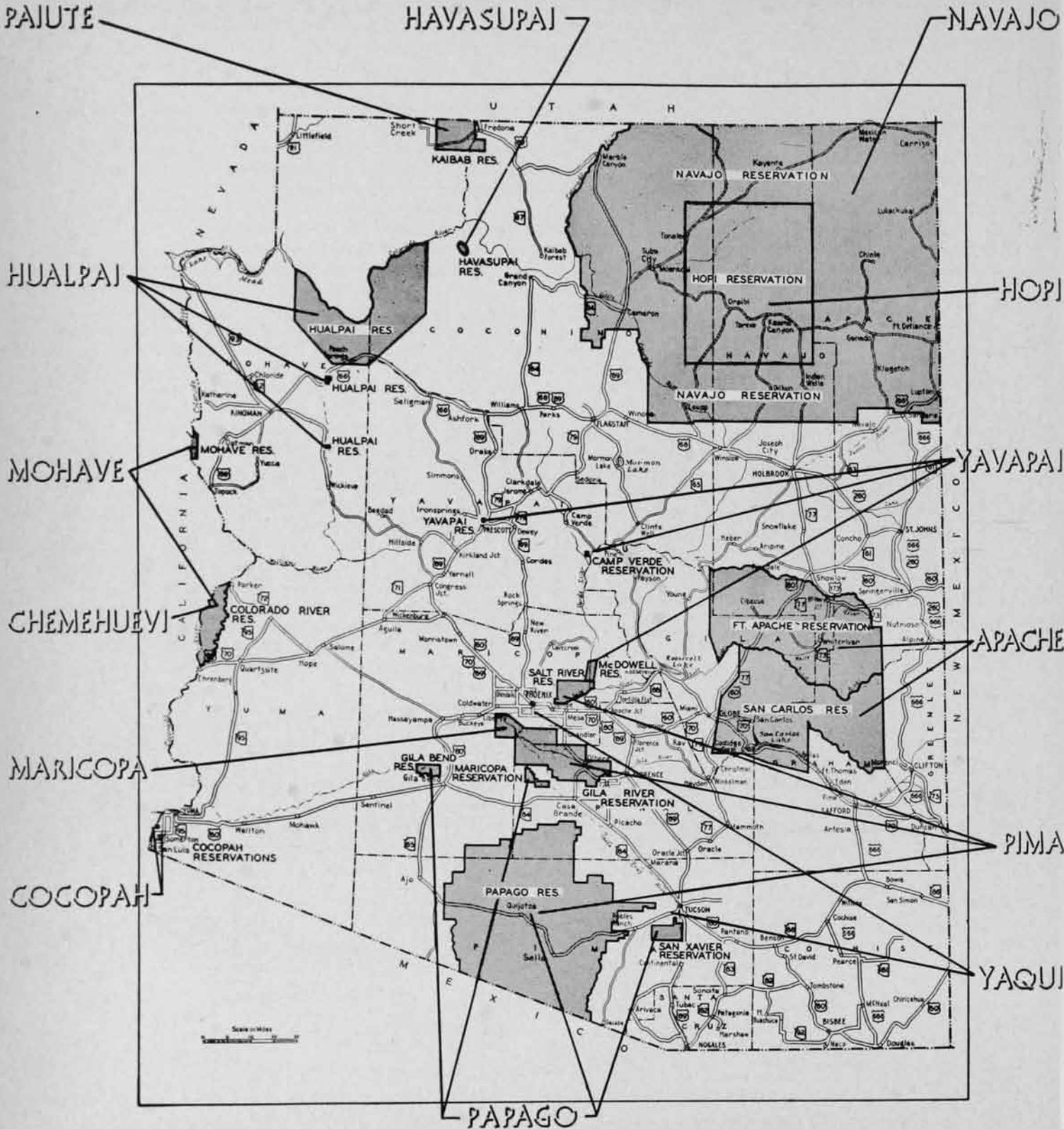
Grant	Name	Acres of Land
A	University	200,000.00
B	Legislative, Executive and Judicial Bldgs.	100,000.00
C	Penitentiaries	100,000.00
D	Asylum for the Insane	100,000.00
E	School and Asylum for Deaf, Dumb and Bland	100,000.00
F	Miners Hospital for Disabled Miners	50,000.00
G	Normal Schools	200,000.00
H	Charitable, Penal and Reformatory Institutions	100,000.00
I	Agricultural and Mechanical Colleges	150,000.00
J	School of Mines	150,000.00
K	Military Institutes	100,000.00
L	Payment of County Bonds	1,000,000.00
M	Miners Hospital for Disabled Miners	50,000.00
N	University Grant (1881)	46,080.00
O	Indemnity School Land	2,446,080.00
S	Area Due State in Sections 2, 16, 32 and 36	8,239,420.00
Total Lands		10,685,500.00

(8) Letter to Gerald P. Nye, Chairman of Senate Public Lands Committee on March 19, 1932.

(9) Report of Arizona Colorado River Commission, 1931-32, p. 19.

(10) Twenty-seventh Annual Report of State Land Commissioner, 1938-39, pp. 6-7.

(11) Ibid pp. 6-7.



Some 19,566,339 Acres or 26.8% of the Total Area of Arizona is Devoted to Indian Reservations

which is included in the Salt River irrigation project. The lowest elevation was about 900 feet, and that of the highest irrigated land about 1,350 feet. The soils of the Salt River Valley were divided into two groups: first, soils which had been developed from materials accumulated by the disintegration and decomposition of hard rock and which cover the rock from which they have been derived; and second, soils that have been developed from rock debris that has been transported, principally by water, from its place and deposited elsewhere. More than 50 types of soils were classified, charted carefully, and mapped. Some important conclusions from the soil survey of the Salt River Valley follow (12):

"The non-irrigable lands of the area are inextensive and include rough stony and broken land. The irrigable soils are divided into two groups, soils derived from old transported alluvial deposits and soils derived from recently transported alluvial deposits. The profile development in the old soils varies from mature, with firmly cemented lime-carbonate hardpan, to less mature, nodular layers, or lime-carbonate mottles. The recent soils include principally brown or dark brown medium or heavy textured, slightly stratified materials and a less extensive area of lighter-colored light-textured soils. Six soil series, represented by 23 soil types and phases constitute the old transported soils types and 8 phases, constitute the recent soils. In addition, 3 classes of miscellaneous materials were mapped.

"Soils derived from old transported materials occur on the alluvial fans that slope from the adjacent hills or mountains. The recent soils occupy bottom land adjacent to rivers and streams and areas on the alluvial fans on which intermittent desert streams and flood waters have deposited later materials.

"Adequate drainage has in the main been effected by a system of electrically operated pumps and a few open drainage and waste ditches. Only a small part of the area is poorly drained at present. Likewise, only a small part is affected by high accumulations of alkali, and parts of these affected areas are being reclaimed."

The Arizona State Department of Mineral Resources was created by the Fourteenth Legislature on March 1, 1939. It has attempted to develop mine-to-market roads wherever feasible under county supervision, and to interest capital in establishing lead or zinc smelters or reduction plants, of which Arizona has none at present. It has protested vigorously against the wholesale withdrawal of public lands which in many cases has revoked prospecting rights. It has attempted to equalize the tax burden for small mine operators. It has stymied the reciprocal trade agreements between the United States and Chile. It has also encouraged the introduction of foreign capital

into the mining industry in Arizona.

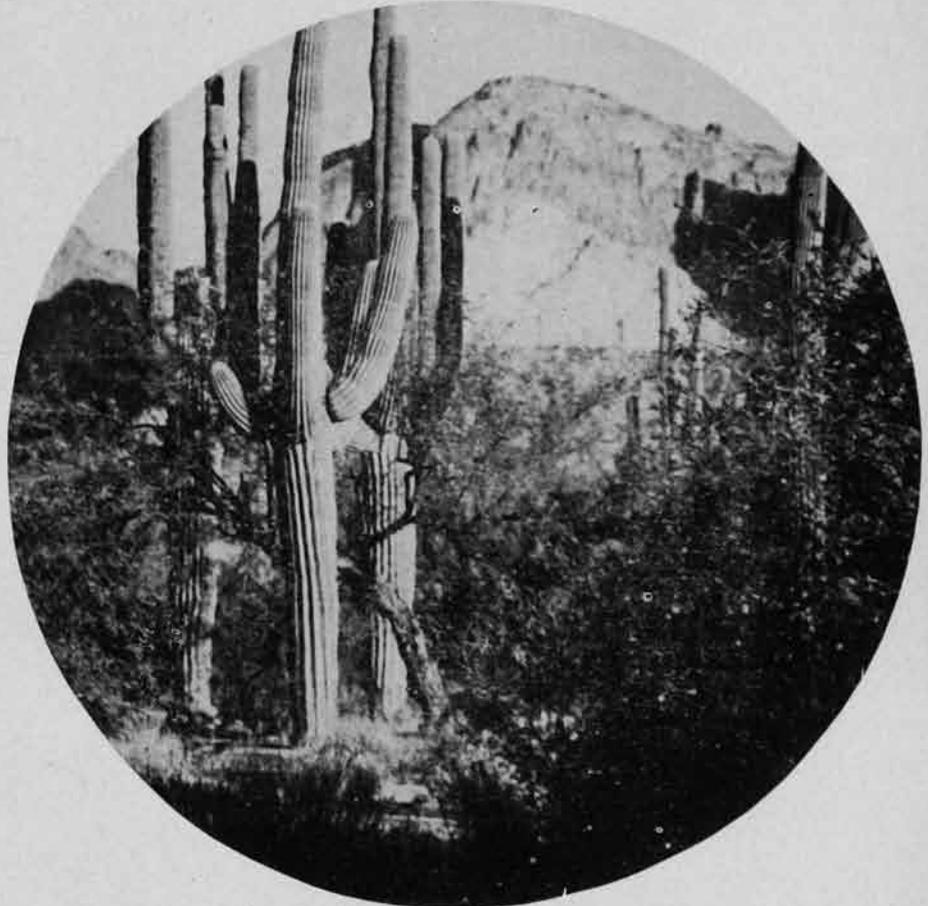
How will Arizona organize, conserve and use its land, water and mineral resources in the future?

"The Geographical Setting of Phoenix" was developed in an Arizona State Teachers College radio discussion over KOY on December 15, 1940, in which the following conversation occurred: (13)

"What natural advantages have favored this oasis above others?"

Mr. Hoover: "A glance at the map of Arizona will reveal why so large a proportion of the population of the state, nearly a third, is concentrated in the area tributary to Phoenix. The state is roughly made up of three natural regions; a plateau region to the north and east; a belt of mountains stretching across the state from northwest to southeast; and third, a lower desert in the southwestern part of the state which includes about 49% of its area. The Salt River Valley is situated toward the inner margin of this desert region and is thus located toward the center of the state. The map further reveals the area around Phoenix as the largest area of flat land in the state, being at the confluence of the most important streams of the Salt, Gila, and Santa Cruz Rivers.

"In a physiographic sense, the Salt River Valley is not a valley at all, but a detrital plain; for it has been built up

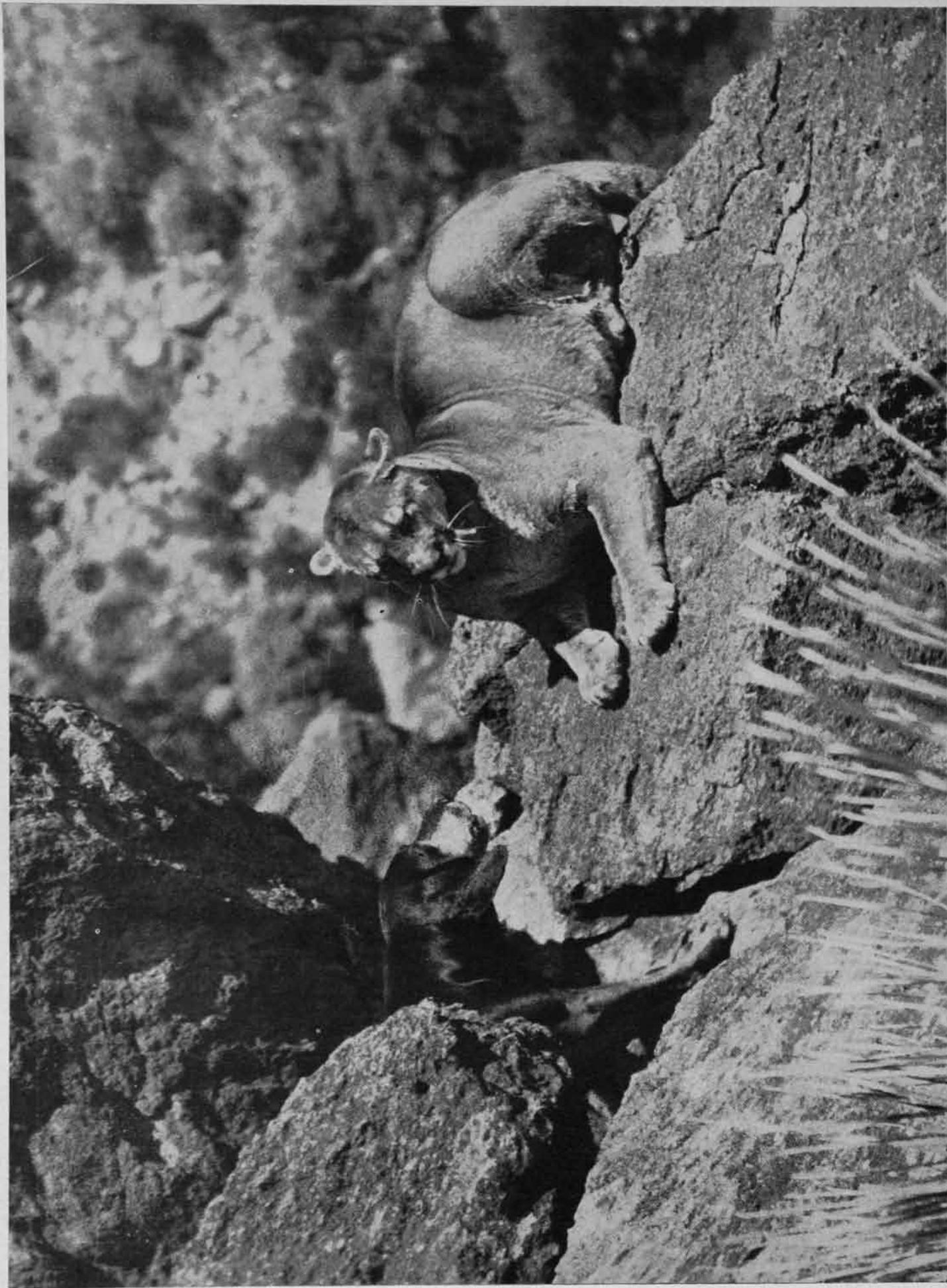


Saguaro Cacti in the Salt River Valley

by the deposition of detritus brought down from the mountains by the Salt River and Gila Rivers. The slope of the land is just right for the distribution of waters from the rivers. The soils, having been deposited by the rivers

(12) Soils Survey of the Salt River Area, Arizona, By Harper, Youngs Strahorn, Armstrong and Schwalen, p. 55.

(13) J. Wenger Hoover, Associate Professor of Geography and Geology at A. S. T. C., Tempe, Arizona.



It's Your Move!



Welcome to Arizona, by Dudettes.



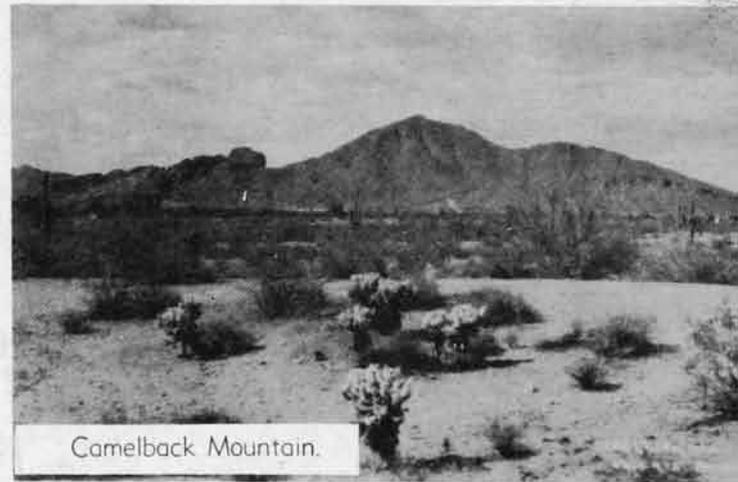
Saguaro Blooms.



Country Club, Phoenix.



Camelback Inn.



Camelback Mountain.

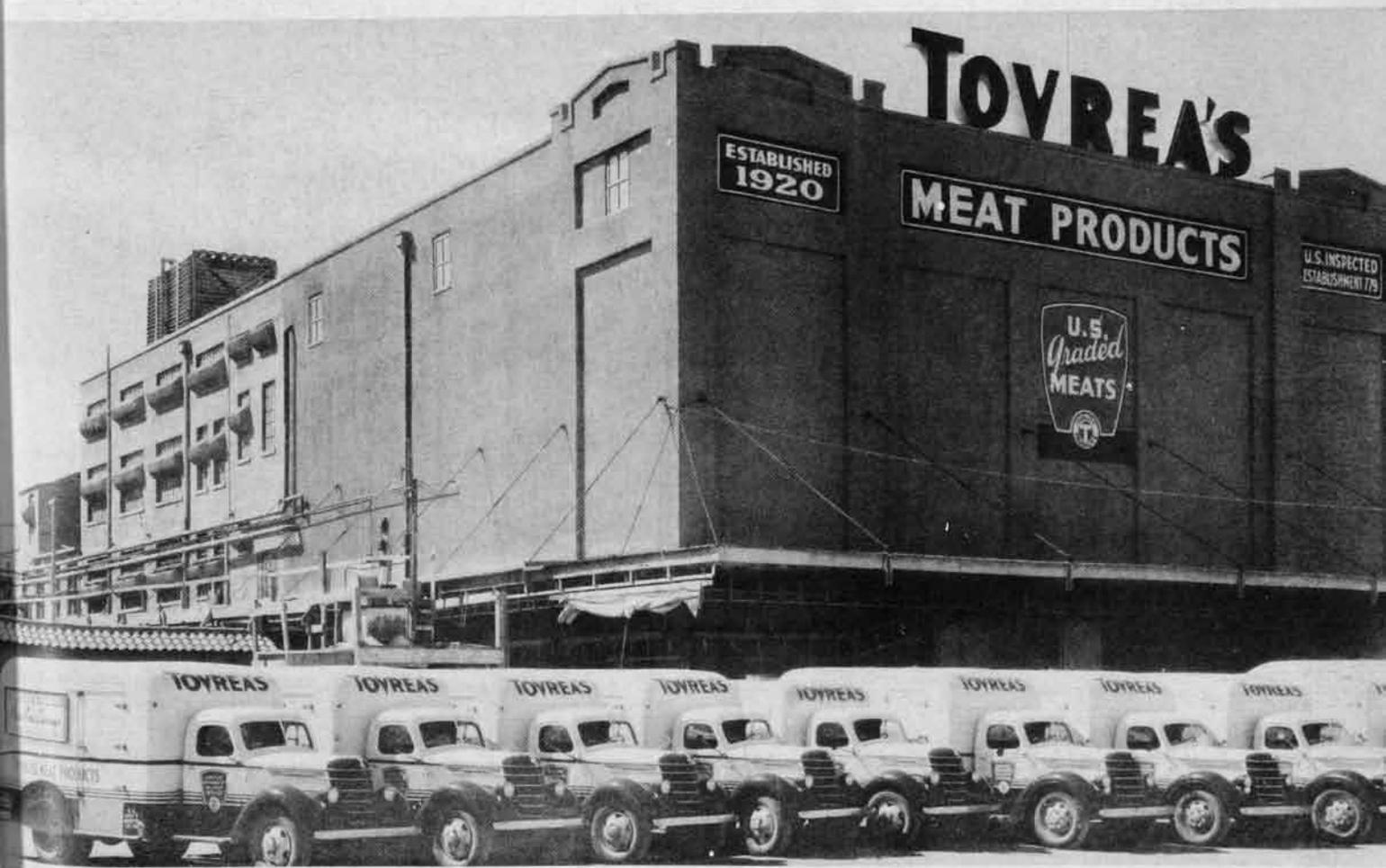


The Professional Building is a modern, stream-lined edifice, and the headquarters for the Valley National Bank.



A Night View of one of Phoenix' Modern Laundries.

Tovrea's Meat Packing Plant is the finest in the Southwest.





Arizona Biltmore, a \$2,000,000 Hotel, is Arizona's finest. Aerial view, above;  
A close-up of main hotel, below.





Phoenix has fine theatres. Orpheum Theatre, above; Fox Theatre, below.





Arizona has  
Splendid Hotels.





Administration Building, Fairgrounds, State WPA headquarters, top; Barrows Furniture Co., center; Crawford Tractor Company, bottom.



Phoenix is noted for its beautiful buildings. Hotel Westward Ho, above;  
U. S. Postoffice, below.



are alluvial and highly fertile. The desert climate has further acted upon them to give them a high content of the mineral salts needed for crop growth. Thus this area is unusually favored by a combination of (1) a large area of level land; (2) an abundant supply of water, and (3) a fertile soil. And greatest of all its advantages is the genial climate, which is the heritage of all southern and western Arizona: a climate which favors the growth of semi-tropical products of high per acre value, and of early vegetables for shipment to northern markets.

"The physical features of the state, beyond the valley, have also helped by focusing transportation lines upon the area. The easiest route across the state is that from the mountain passes in the east by way of the valleys of the Santa Cruz and Gila Rivers, thence to the Colorado river and the Gulf of California. This is the route which was followed by the early stage road and later by the Southern Pacific Railway and modern highways. The easiest north-south route here also intersects the east-west route. Phoenix, it is true, was served only by branches of the Southern Pacific and Santa Fe Railways until as late as 1926."

"Has the Salt River Valley always been an important center?"

Mr. Hoover: "Even in prehistoric times this central plain of the Salt, and Gila, was an important center of population. Then as now, the largest population lived tributary to the Salt River, rather than to the Gila. Here is found the most elaborate system of prehistoric Indian canals, in the western hemisphere. Some 125 miles of such canals can be traced, not counting laterals. The total length of the canals has been estimated as exceeding 400 miles. When the white man came, he found the Pima Indians irrigating and cultivating the flood plain of the Gila River; but due to the incursions of the Apache Indians from the nearby mountains, the Salt River Valley was left as a no-man's land, and hence open to settlement. Lesser nuclei of settlement developed later around Florence on the Gila. Thus the Pima Indians lands have been surrounded by White settlements, of this region, for they have always been friendly to the white settlers, and allied themselves with the whites against the raiding Apaches. Early travel across the state was directed by way of the Pima villages as a haven of safety with a guarantee of replenished supplies."

"How do geographic features of the Salt River Valley affect its culture?"

"It was only an historical incident which gave rise to the metropolis on the site of Phoenix rather than at the older settlement of El Mclinic, midway between Phoenix and Tempe. As it is, the site of Phoenix is at the lower end of this funnel-like construction of the Oasis, and commands the area which opens fan-like to the west, while Tempe is similarly situated at the eastern end, a position to command a corresponding area widening out eastward and southward. The growth of Tempe, however, was thwarted, being overshadowed by its much more rapidly growing neighbor. Lately, however, Tempe is showing promises of new growth as a suburb of Phoenix, and so the entire funnel area is tending to become a metropolitan area."

"The impounded waters from the series of lakes on the Salt River are released to flow a distance of nearly 60 miles from Roosevelt Lake, before being diverted from the river by the Granite Reef Diversion dam."

"Is the topography of the Salt River Valley such that it portends well for the future?"

"Slopes over the oasis are in general remarkably suitable for economical distribution of water by canals. Owing to the settling of the river sediments in the impounding reservoirs, the water nearly always flows clear, and there is no silt problem as the Imperial Valley has had to contend with. The fall of the canals is thus adjusted to grade; that is, the maximum rate of flow without erosion. The main canals have therefore the lowest gradient, about two and one-half feet per mile, while the smaller ones vary from three to fifteen feet. The general slope, of the valley about nine feet per mile, is right for the easy distribution of the water through the laterals which need to have greater fall

than can be laid out in conformity to the general checker-board pattern of land cultivation. The main canals, if allowed to flow directly down the slopes would tear out their channels. Hence they are directed across the slopes. The terraces bordering the flats of the Salt River north of Mesa are also of great advantage, as the canals flowing along them are allowed to rise gradually relative to them, and thus reach the higher lands above the flats. The water to be used on the flats below the terraces is then again let down through power plants, and thus electrical power is generated to add to that generated at the dams on the upper course of the river.

"Thus have men artificially supplied water to make the desert blossom like the rose. But as nature has failed to provide water by rainfall on the land, as too it has failed to provide for the drainage away of the water underground. So problems of water-logging and alkalinity have followed irrigation, until provision has also had to be made for artificial removal of water by pumping. Thus the oasis has become an artificial reproduction of the conditions of humid lands. So the soil itself, a product of arid climate, is now subject to the conditions of humid regions and must slowly change by leaching until it too is similar to the soils of humid climates in similar latitudes."

"Thus is the future of Phoenix guaranteed as a trade center for a rich agricultural region, and a collecting and distributing point for a much greater area. In the future the picture may be expected to change more and more to a pattern of attractive homes, established by people of means who have come here from other parts of the country, just for the delight of living in "The Valley of the Sun."

"What is best Use of Salt River Valley Lands?"

"In considering the best use for the lands of the Salt River Valley, it would be well to consider their physiographic differentiation. In the first place, as I have already indicated, the valley is really a plain of detrital fill carried down from the wasting mountain slopes. Hence we may divide all the land into two classes, rather steeply sloping rough or stony lands, and nearly level lands which have a deep soil cover."

"The steeper rougher lands are of essentially two types; steep rocky mountain slopes, and the bahada slopes, which are the slopes extending from the bases of the mountains, usually with about three degree gradient."

"The rugged rocky mountain slopes have no productive value, but as they are tributary to Phoenix and other cities and rural districts of the valley, they are of exceptional recreational value because of their picturesque scenery and natural wildness. Phoenix South Mountain Park is a splendid example of such use; also Papago Park and Echo Canyon. The remaining of these mountain areas should be placed under public control before they are appropriated by concessions or for private use."

"Papago Park, aside from the buttes, illustrates the second type, the rough bahadas of lesser slope. A considerable part of this has also been included in recreational areas. On the whole, the bahada slopes around the mountains should, I think, be considered of the greatest potential value for attractive spacious, suburban residential districts. The soil is too thin and stony for agricultural use and the lifting of irrigation water is not profitable, considering the fact that there is plenty of lower lands available awaiting only a water supply. For public recreational use, there is plenty of still rougher land available. Hence no better use can be found for these areas than as choice residence tracts, such as have already been developed at Arcadia at the foot of Camelback Mountain, and at Sunny-slope. The elevation, with the superb view and the air drainage making the temperatures equable, will soon invite similar development on the slopes at the foot of South Mountain."

"The detrital lands may also be subdivided as to use. Beginning with the river channel, it too is not suitable for

productive use. Now since the Verde River, as well as the Salt, has been dammed, the river channel will remain dry and will tend to become brush or thicket land, and either this land will become a nuisance, or it may be utilized for recreational developments.

"Bordering the river channel are the lower flatter lands. They appear quite level, but as seen from an elevation, the detritus was not spread with perfect evenness, and shallow swales are poorly drained and are naturally alkaline. At present these lands are mostly low grade farm lands or are untilled. With experimentation, they may be either improved or utilized for alkaline resistant crops.

"Next below the behada lands, are the most desirable of the agricultural lands, except that in some cases the water has to be lifted in order to irrigate them. These are our citrus belts, chiefly because, like the bahada slopes, they have good air drainage, and are therefore relatively frost free. During the night, the air cools and becomes more dense. Therefore it flows down off the higher slopes and settles over the valley flats. Thus it invariably remains warmer throughout the nights on these sloping lands. The soil tends to be lighter; that is, sandier; and they are therefore suitable for other specialty crops, such as grapes,



J. WENGER HOOVER

berries, orchard fruits and certain vegetables. Since we have five mountain areas bordering, or adjacent to the valley, we also have five important citrus belts. The first to be developed was that on the gentle slopes near Camelback and North Phoenix Mountains. The next to develop was along the slopes from the South Phoenix Mountains. The third lies east of the White Tank Mountains, and fourth which had to await irrigation developments, is the district between Mesa and the Superstition mountains. The fifth area is Chandler Heights on the north side of the Santan Mountains.

"As far as the use of the remaining lands is related to natural conditions, it is chiefly a matter of soil types and suitability of different crops to them. Of course some of this land is urban, and an increasing amount of it will inevitably be given to urban occupation. So too, situation of farm lands with regard to urban centers must be taken into consideration in deciding the best use for any given locality."

### III. FORESTS

Arizona has eight national forests spread over some 18,000 square miles or 11,400,850 acres. At least a portion of a national forest is to be found in 13 of Arizona's 14 counties. Lumbering is the major industry of Arizona's

huge forest areas. Permits issued for timberland and grazing and mining in these areas amount to some half million dollars annually which is divided amongst the counties relative to the exact proportion of the national forest land within their respective borders.

Tonto forest, covering 2,410,636 acres and spread over four counties, is the largest of the eight national forests.



Arizona has the Largest Forest of Ponderosa Pine in the United States

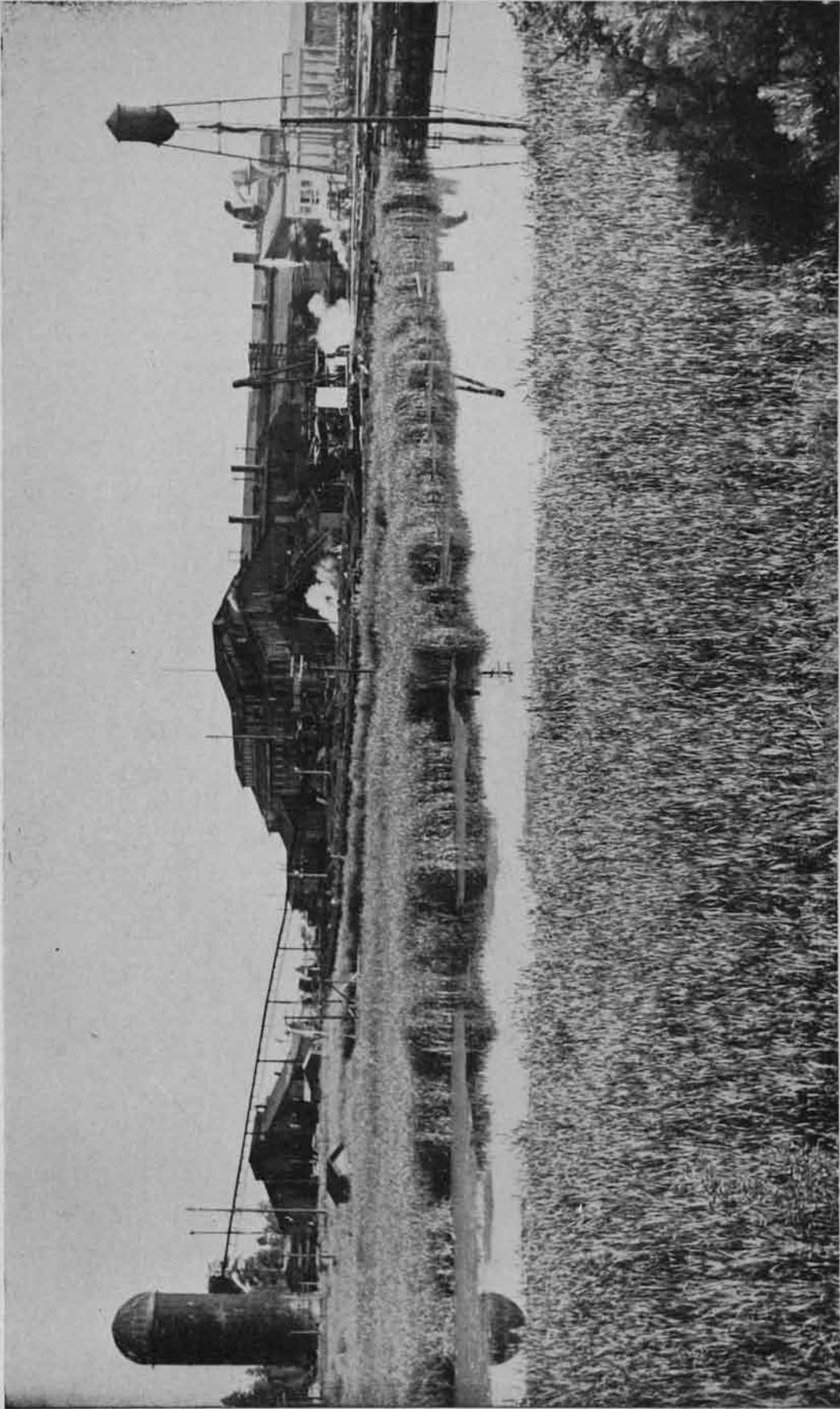
Kaibab is second. Following is a list of forests, and area of forest land: Apache, 679,432 Coconino, 1,730,420; Coronado, 1,137,616; Crook, 1,422,777; Kaibab, 1,772,529; Prescott, 1,265,714; Sitgreaves, 801,735; Tonto, 2,410,636; making a total of 11,400,859 acres.

Arizona timberlands represent a lumber wealth of \$50,000,000. Saw mills of the state annually cut tens of millions of board feet of which by far the largest percentage is *Pinus Ponderosa* and Douglas fir. Much spruce and white fir are also found. About 100 million board feet of lumber are cut annually in Arizona.

The forests of Arizona, with saw timber estimated at 14,500,000 feet (14) would sustain a cut of 20,000,000 feet annually for 100 years.

New trees are planted annually to replenish the supply. Arizona has about three per cent of the U. S. National Forests in terms of standing timber. Forests in Arizona are well protected from fire by the organization of forest rangers and the strategic location of CCC camps. A practically

(14) There are some 550 billion board feet of lumber standing in the U. S. at present.



Lumber Mill at McNary

continuous Ponderosa (or yellow) pine forest runs for 700 miles, beginning in Utah, extending across Arizona and into New Mexico.

Concerning Arizona's timber resources, John L. Gust, Phoenix attorney, states: (15)

"In the higher regions of Arizona are vast forests of virgin timber. Only a small part of this has been touched. The decrease in timber lands in the country generally will make it necessary to rely on the more inaccessible forests of Arizona. The construction of roads and improved methods of transportation make this practicable."

The federal government carefully observes all logging and saw-mill operation on U. S. land. The U. S. Forest Service likewise closely supervises the marketing of the state's lumber. (16).

#### IV. OIL

Although the state is not a producer of oil at the present, many recent geological surveys in widely separated sections of the state have revealed desirable potentialities. The northern portion of the state seems to have brighter hopes than the other sections.

Four wells are being drilled at the present time. In several parts of the Salt River Valley near Phoenix, seepages of a high grade petroleum have been discovered.

Progress has practically stopped in the drilling of an exploratory oil well east of the state hospital on the Tempe road, between Phoenix and Tempe. L. P. Newcomb, president of the People's Gas and Oil Company, in charge of operations, stated that on December 1, 1939, the well was down 910 feet; and that the last 400 of which were drilled through shale formation. Some 600 feet of 12½-inch pipe have spudded in. Drilling is being done by steam equipment and a wooden derrick.

#### V. MINERALS

Arizona's greatest asset is her mineral wealth. Arizona ranked sixteenth in the United States in value of its mineral products in 1936, with a production totaling \$60,312,000. (17). Figure VI graphically portrays the development of leading minerals in Arizona from 1858 to 1937. The following table shows Arizona's metal production from 1858 to 1937: (18)

TABLE IV—ARIZONA'S METAL PRODUCTION 1858-1937

	Cash Value	Amount
Copper	\$2,602,637,292	16,721,008,454 Pounds
Gold	204,643,521	9,139,693 Ounces
Silver	177,595,506	237,144,005 Ounces
Lead	27,476,972	467,429,246 Pounds
Zinc	13,511,927	163,636,497 Pounds

TABLE V—ARIZONA'S MINERAL PRODUCTION OF COPPER, GOLD, SILVER, LEAD AND ZINC — 1933-1940

Mineral production for 1933 reached the total of \$10,307,794	Mineral production for 1937 reached the total of \$90,855,462
Mineral production for 1934 reached the total of \$23,292,150	Mineral production for 1938 reached the total of \$58,358,401
Mineral production for 1935 reached the total of \$37,190,809	Mineral production for 1939 reached the total of \$72,616,408
Mineral production for 1936 reached the total of \$57,006,073	Mineral production for 1940 reached the total of \$81,509,300

(15) Talk over KTAR in conjunction with this Survey on May 15, 1939.

(16) The Manistee Lumber Company, at Williams, operates throughout the year with an annual payroll of \$250,000.

(17) U. S. Bureau of Mines for 1936.

(18) "Arizona's Metal Production," Arizona Bureau of Mines Bulletin 140, by Elsing and Heineman.

(19) Arizona Bureau of Mines.

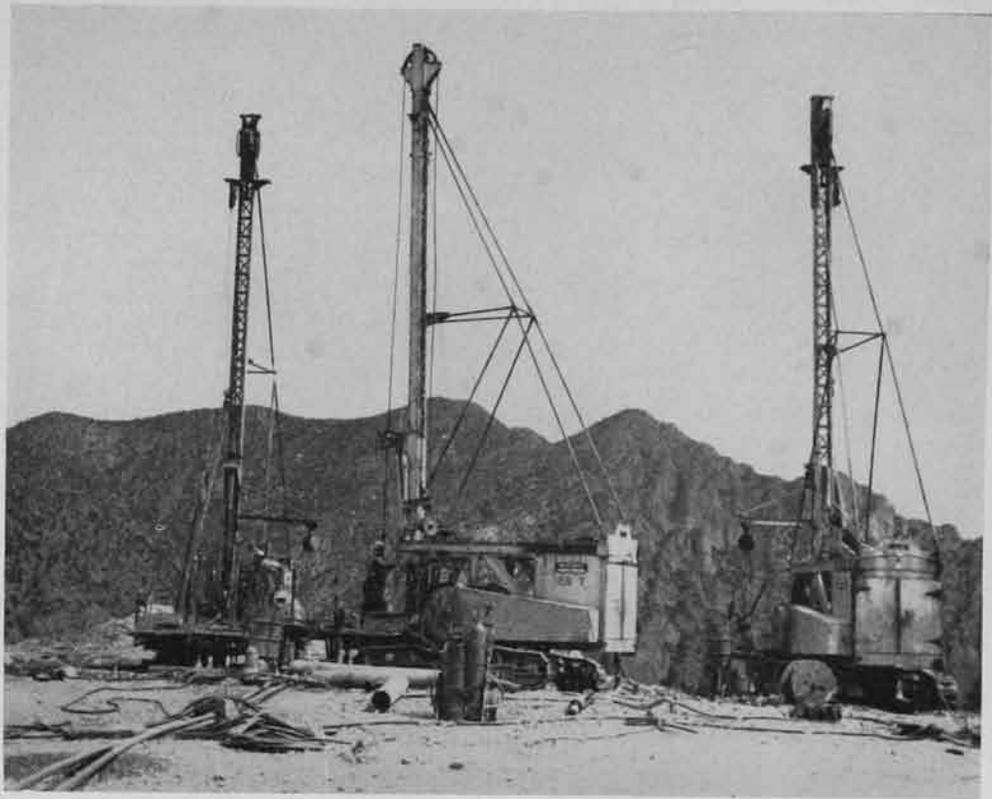
(20) Arizona has mined 8,577,198 tons of copper from 1860-1938 inclusive. This is nearly one-half of the estimated amount available in one mine—Morenci—owned by Phelps Dodge Corporation.

(21) Arizona School of Mines, 1938. Since 1860 Arizona has produced 8,577,198 tons of copper sufficient to meet world demand for four years of normal consumption.

(22) U. S. Department of Interior, Bureau of Mines report, pp. 1-3, January 10, 1941.

"Arizona ores and gravels in 1940 yielded gold, silver, copper, lead and zinc valued at \$81,509,300, in increase of 12% over 1939, according to the Salt Lake City Office of the Bureau of Mines, United States Department of the Interior. Higher output of copper, lead and zinc, as well as moderate increases in prices of silver and the base metals, caused the increase, for both gold and silver decreased from 1939. Production in 1940 (in terms of recoverable metals) was 292,500 fine ounces of gold, 6,948,000 fine ounces of silver, 558,000,000 pounds of copper, 25,500,000 pounds of lead, and 30,800,000 pounds of zinc. These figures compare with an output in 1939 of 316,453 ounces of gold, 7,824,004 ounces of silver, 524,224,000 pounds of copper, 21,542,000 pounds of lead, and 13,422,000 pounds of zinc, indicating decreases in 1940 of 23,953 ounces in gold (8%) and 876,004 ounces in silver (11%); and increases of 33,776,000 pounds in copper (6%), 3,958,000 pounds in lead (18%), and 17,378,000 pounds in zinc (129%).

"At the following average prices used by the Bureau of Mines, the gross calculated value of the output of these metals in Arizona in 1940, with comparative figures for 1939 in parentheses, was Gold, \$10,237,500 (\$11,075,855); silver, \$4,940,800 (\$5,310,839); copper, \$63,054,000 (\$54,519,296); lead, \$1,275,000 (\$1,012,474); and zinc, \$2,002,000, (\$697,944)—a total of \$81,509,300 in 1940 compared with \$72,616,408 in 1939.



Gigantic Derricks are Used by the Phelps Dodge Corporation in Modern Mining Operations

"The price of gold fixed by the United States Government remained at \$35 per ounce throughout 1940; the price of domestic silver was \$0.711 compared with \$0.678- in 1939. The average weighted yearly price of copper advanced from \$0.104 in 1939 to \$0.113 in 1940, lead from \$0.047 to \$0.052 and zinc from \$0.052 to \$0.065.



The Industrial Revolution Came to Arizona in the Form of Mechanized Mining Equipment

"About 44 percent of the gold and 66 percent of the silver produced in Arizona in 1940 were recovered from copper ore mined at Bisbee, Jerome, Ajo, and Superior. The rest of the gold came largely from siliceous gold ore from mines in the San Francisco (Oatman, Gold Road, Katherine), Old Hat, Weaver, and Black Canyon districts. Most of the remaining silver came from zinc-lead ore from the Harshaw, Big Bug, Oro Blanco, and Wallapai districts; silver ore and zinc-copper ore from the Pioneer district; and gold ore and gold-silver ore from the Wallapai, Black Canyon, Eureka, and Tombstone districts," Mr. Sayers said.

"Gold from lode mines totaled about 285,800 ounces in 1940 compared with 310,044 ounces in 1939, and that from placers about 6,700 compared with 6,409 ounces. The decrease in output of gold from lode mines resulted chiefly from the decline in output of copper ore from the United Verde mine, the closing in May 1940 of the Montana mine, and the decrease in output of siliceous gold ore from mines at Oatman. Nearly 67 percent of the gold produced from placers in 1940 was recovered by dragline plants on Big Bug and Lynx Creeks in Yavapai County and by drift mining at the Arizona Drift property near Quartzsite in Yuma County. A new 2½-yard dragline and floating washing plant started operations in September at the Hill property near Mayer on Big Bug Creek, and a new ¾-yard dragline portable washing plant started operations in June at the Peach and Brown property on Lynx Creek. The largest producers of gold in Arizona in 1940 were the Copper Queen, New Cornelia, Gold Road, Mammoth-St. Anthony, and United Verde mines; these five properties produced 55 percent of the State total. Other large producers (each yielding more than 5,000 ounces) were the Gold Standard, Octave, Denn, Magma, Iron King, Alvarado, Pilgrim, and Congress properties. The Warren (Bisbee) district produced 62,900 ounces of gold in 1940, an increase of 5,306 ounces over 1939; the San Francisco district, Mohave County, ranked second with 42,000 ounces, a decrease of 2,757 ounces; the Ajo district was third with 33,030 ounces, an increase of 967 ounces; that Old Hat (Mammoth) district was fourth with 27,500 ounces (a decrease of 973 ounces); and the Verde district was fifth with 24,150 ounces, a decrease of 16,162 ounces," according to Sayers.

"The decrease of 11 percent in output of silver in Arizona in 1940 resulted largely from a decline in production of silver from the Montana, Copper Queen, United Verde, Ash Peak, and Arizona Magma properties. About 55 percent of the State silver output in 1940 came from the Copper Queen and United Verde mines of the Phelps Dodge Corporation and the Magma mine; other large producers were the New Cornelia, Denn, Reymert, Trench, Iron King, and Eagle-Picher (Montana) properties. The output of silver from the Warren district decreased from 2,590,335 ounces in 1939 to about 2,410,000 ounces in 1940; the Verde district from 1,327,472 to 1,124,000 ounces; the Oro Blanco district from 515,566 to 170,000 ounces; the Ash Peak district from 279,653 to 50,000 ounces; the Wallapai district from 451,325 to 250,000 ounces; and the Ajo district from 365,500 to 360,000 ounces. The output from the Pioneer district, Pinal County, increased from 868,513 to 995,000 ounces," Sayer emphasized.

"Arizona continued as the largest copper-producing State, and its output increased to 558,000,000 pounds, or 6 percent over 1939. During the war period (1914-18) Arizona produced a yearly average of 610,369,126 pounds and during the period 1923 to 1929, inclusive, a yearly average of 711,203,937 pounds; the record year was 1929 when 830,628,411 pounds were produced. The New Cornelia mine of the Phelps Dodge Corporation at Ajo was again the largest producer of copper in Arizona, followed by the Copper Queen, Inspiration, United Verde, Miami, Nevada Consolidated, Magma, Morenci, and Denn properties; these nine mines accounted for about 551,000,000 pounds, or 99 percent of the State total.

"The Globe (Inspiration-Miami) was again the chief copper-producing district in Arizona, its output increasing

from 124,800,154 pounds in 1939 to about 139,800,000 pounds in 1940; the Warren district was second with an increase from 109,233,952 to 109,750,000 pounds; the Ajo district ranked third with an increase of 3,900,000 pounds; and the Verde district ranked fourth, but with a decrease from 75,430,241 to about 72,500,000 pounds. The output from the Pioneer (Superior) district increased from 35,904, 673 to 36,400,000 pounds and that from the Mineral Creek (Ray) district from 43,165,663 to 63,500,000 pounds, but the output from the Copper Mountain (Morenci) district fell from 31,755,933 to 26,850,000 pounds.

"The copper smelters at Douglas, Clarkdale, Miami, Hayden, and Superior were active throughout the year, and receipts of crude ore and concentrates were considerably more than in 1939.

"The increase in production of lead in Arizona in 1940 was due chiefly to steady operations at the Trench and Tennessee-Schuylkill mines and to the large output of zinc-lead ore from the Flux, Denn, and Duquesne properties. The American Smelting & Refining Co. operated the Trench mine and its 200-ton concentration mill near Patagonia throughout the year; the Tennessee-Schuylkill group and flotation plant at Chloride were also operated continuously; the old lead concentration plant at the Denn mine near Bisbee was remodeled early in the year to treat zinc-lead ore, and it started operating in March; and the Callahan Zinc-Lead Co. completed in April the construction of a 100-ton flotation plant at the Duquesne group near Patagonia to treat zinc-lead ore. About 75 percent of the lead output in 1940 was recovered from zinc-lead ore and the rest largely from gold ore and lead ore. The Trench mine was the largest producer of lead in Arizona in 1940; it was followed by the Tennessee-Schuylkill, Mammoth-St. Anthony, Flux, Montana, Iron King, Duquesne, Denn, and Hillside properties. The 20-ton lead smelter at Mammoth, owned by Mammoth-St. Anthony, Ltd., was operated continuously in 1940 on concentrates (containing gold, silver, lead, molybdenum, and vanadium) produced from Mammoth-St. Anthony and New Year-Mohawk ores.

"The Eagle-Picher Mining and Smelting Co., largest producer of lead and zinc in Arizona from 1934 to 1939, closed its Montana mine and mill at Ruby, in May 1940, owing to exhaustion of commercial ore.

"The output (30,800,000 pounds) of zinc in Arizona in 1940 was the largest in the history of the State. This record output was due chiefly to the increase in price of zinc, which resulted in increased activity at mines producing zinc-lead ore. Nearly all the zinc produced in the State in 1940 came from nine properties."

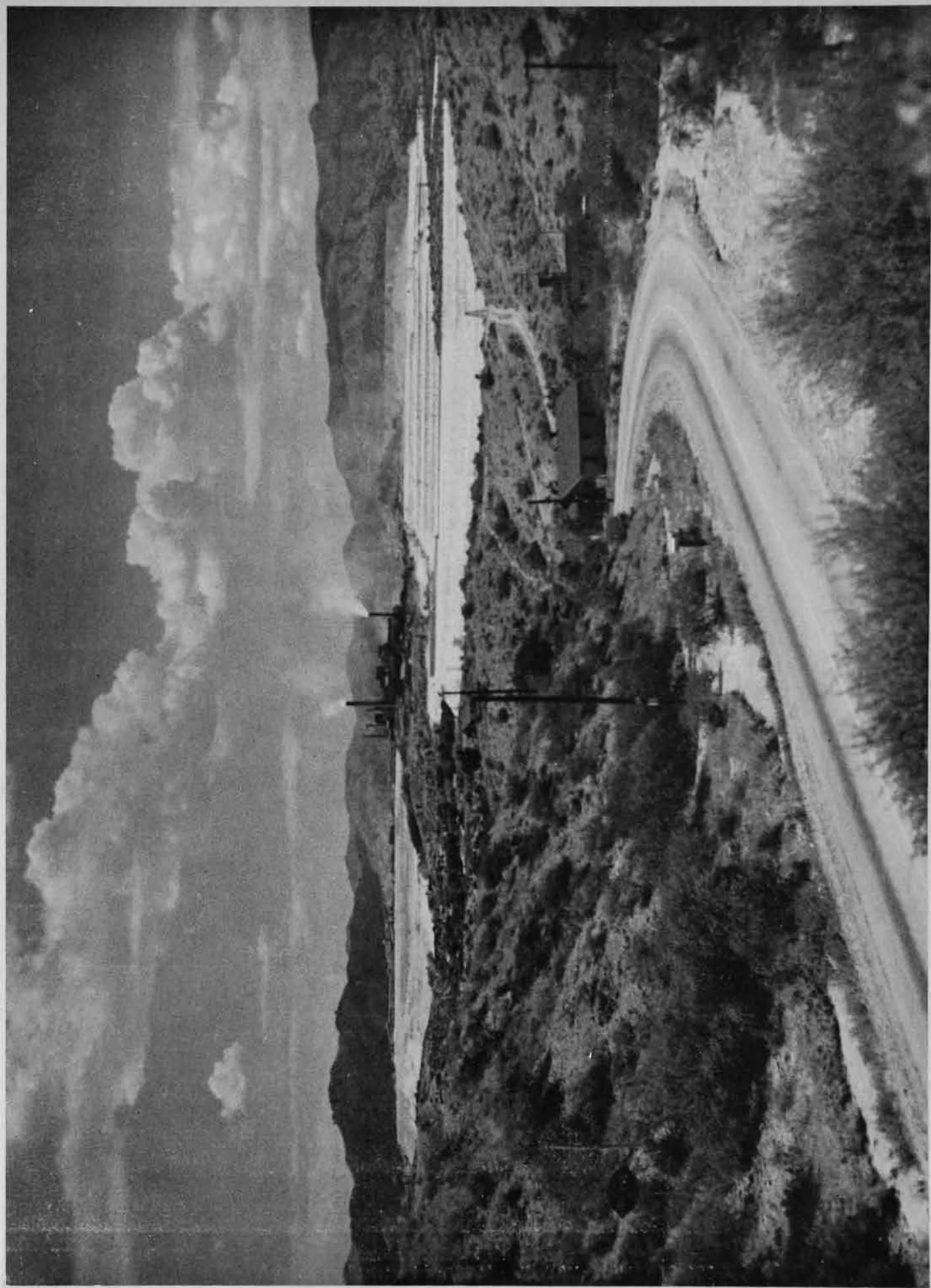
The importance of mining to Arizona was brought out by Mr. Charles F. Willis, Editor of the Mining Journal, Phoenix, Arizona, in a recent RADIO-ARIZONA STATE TEACHERS COLLEGE FORUM.

The discussion follows:

"To what extent is Arizona's greatest asset in her mining wealth?"

Mr. Willis: "The foundation upon which Arizona industry has been built is mining. It was a search for gold and silver that brought the Spanish explorers centuries ago. It was the mineral wealth that brought about all the earlier development of the state. Agricultural development started as a means of providing food for those who were working in the mines. Long before there were any railroads, the richest ores had to be selected because they moved by mule back to the Colorado River, thence by boat to the Gulf of California, and around South America to European ports.

"The production of the mines today constitutes the greatest proportion of new wealth that is created in the State of Arizona. All states and countries derive their prosperity from the new wealth which they create. There are four major forms of basic production of new wealth;



Miami Smelter is Working at Full Speed in 1941

the mines, the farms, fisheries and forests. The last three are absolutely essential, but are consumed within a short time after being produced. The wealth which comes from the mines remains in permanent circulation and contributes toward the total wealth of the world and is the foundation upon which business and credit is built. Therefore, it is of the greatest economic importance and Arizona is indeed fortunate that such a large proportion of its basic production is from the mines.

"The metals and minerals which go into the marts of trade and industry have a pyramiding value which is not true of the wealth that is consumed.

"Arizona's basic production of new wealth in 1939 was \$137,616,000 of which \$72,616,000, or 53 percent, came from the mines. Agricultural crops were valued at \$37,800,000, or 27 percent of the state's basic production, while livestock and animal products amounted to \$27,200,000, or 20 percent.

"The mines are the greatest of the state's economic assets because they account for the support of almost half of the state's population. They furnish 86 percent of the tonnage of freight originating on railroads within Arizona; they are the sole support of many cities like Jerome, Clarkdale, Ajo, Bisbee, Miami, Ray, Superior, and others; they furnish the largest market for Arizona agricultural products, and power; they employ thousands of men at a higher average wage than any other industry.

"They likewise are by far the largest contributors to the support of the state. While mining furnishes 53 percent of the state's basic production, it pays 78 percent of the taxes coming from the basic producers. Agriculture, furnishing 27 percent of the production, pays 13 percent of the taxes, and livestock, furnishing 20 percent of the production, pays 10 percent of the taxes.

"The added importance to the economic welfare of the state from mining, as compared with other basic industries, is indicated by the fact that the mines in 1939 contributed to the support of the state \$320 for each \$10,000 produced, while agriculture contributed \$88 and livestock \$94.

"What is the value of Arizona mineral products?"

"Arizona has produced a total value of minerals since 1877 in excess of three billion dollars. It has been the first state in the union in the production of copper since 1911, and there is no other state now that even threatens its supremacy.

"While Arizona is first in copper, it ranks high in the other metals, being fifth among the states in silver production and sixth in gold. It likewise is the high state in the total value of the nonferrous metal production.

"Many people think of Arizona as having five or six large mines, but that is not the case. The government figures recently reported show that in 1939 there were 1,174 metal producers in Arizona. Instead of the five or six copper mines, as the public thinks of them, there were 136 copper producers, 682 producers of gold from lode mines, 86 producers of silver, 114 producers of lead, 14 mines pro-

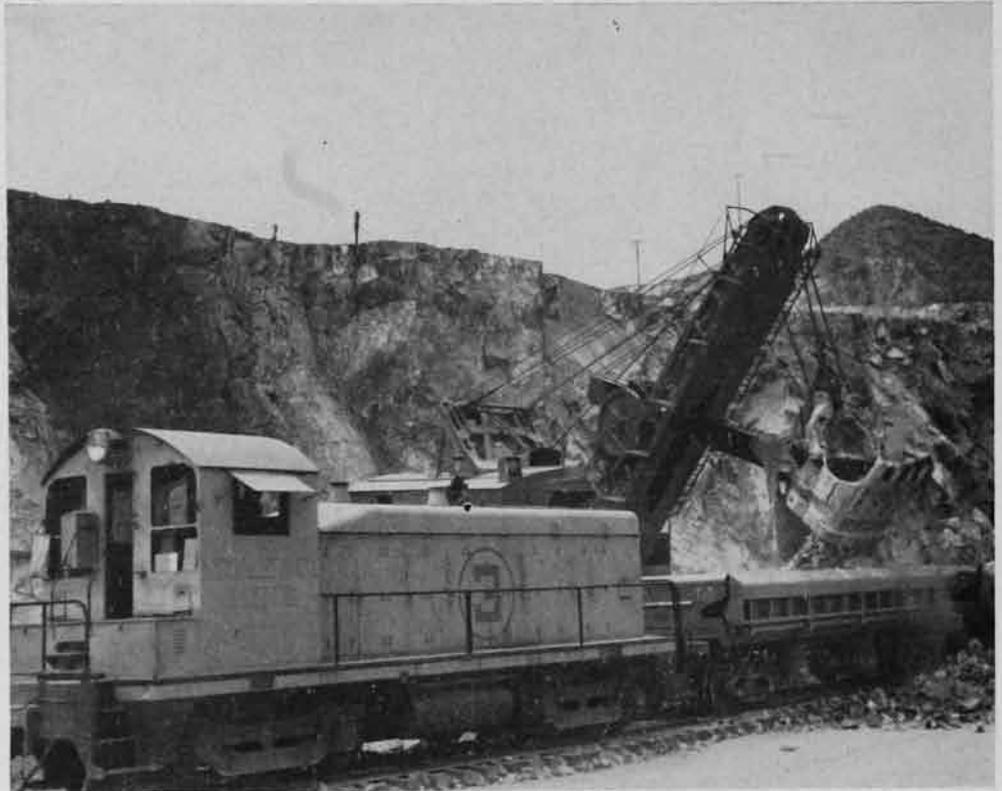
ducing zinc and 142 gold placer operations. The 1,168 smaller producers have great importance in the state's economic picture."

"Why is the Clifton-Morenci project so important to mining?"

Mr. Willis: "I am glad you asked that question, Dr. Horton, because the Morenci project of the Phelps-Dodge Corporation is the first new large low-grade copper project which we have had developed in Arizona since the coming in of Ajo in 1915, and it has many things to mark it in its importance to the state and to the world.

"These large low-grade coppers are not mining enterprises in the sense of the public understanding; they are industrial enterprises. There are two broad classifications of that which we call mines in Arizona. We have, first, the several thousand so-called small mines, many of which are quite important. Then we have the half-dozen as typified by Ajo, Ray Inspiration, Miami and the newer developments at Morenci which have to be created as commercially economic structures by the application of huge capital investments.

"They are working a type of rock, which if it was not handled on an economically large scale, with huge plants, most careful management, large capital aggregations, sound technical structures, etc., would not be operated at all. They create values where no value previously existed; because of their vision, management, and above all,



Coordinated Scientific Technology in Terms of Streamlined Mining Power Machinery

their willingness to risk millions of dollars on the future of the state.

"The Morenci ore body was known 50 or more years ago, but it was not until the past few years that anybody had nerve to tackle it. It required the moving of ground at a cost less than it ever was moved before; it required a larger original investment before a dollar could be taken out than had ever before been made in an American mine; it required research to solve new metallurgical problems; and it required a gamble on the copper market conditions for the next 25 years.

"On the Morenci project the Phelps-Dodge Corporation is making an original investment in excess of \$30,000,000 for the purpose of getting at 230,000,000 tons of rock containing 1.06% copper or about 20 pounds of copper to the ton. However, before they can get at that ore they have to move an equal amount, 230,000,000 tons more, of waste rock and dispose of it, and most of this waste rock has to be taken off the top of the deposit before they can even begin to get at the ore which contains the copper.

"If this project is successful, that is, not strangled by costs, it means much to Arizona. The total copper production of Arizona to date is less than 2,000,000,000 pounds—yet this one project proposes to take out 5,000,000,000 pounds of ore in the next 30 years, but that is dependent upon what can be done during the next 30 years in reducing costs.

"It has been estimated by a competent authority that there are over a billion tons of copper bearing rocks in Arizona that are within \$.50 a ton of being commercial possibilities. That means that if methods can be found, to reduce the cost of .50 for each ton handled, they will become assets. These large, low-grade producers create values where none existed previously."

"What is Arizona's annual income from mining?"

Mr. Willis: "There are no authoritative figures available on Arizona's annual income from mining. We know, of course, the value of Arizona's production which was \$72,000,000 in 1939 and which will be approximately \$90,000,000 this year, and more next year if the present rate of production is maintained—but in addition to that which comes from the minerals produced, there are enormous sums spent in the search for and development of new mining properties, building for the future of Arizona mining.

"The contribution of the mining industry to the state in providing employment, furnishing freight for the railroads, purchasing supplies and foodstuffs, and so on, is far greater and more important than its direct contribution to the support of the state. Payroll's are of vital importance for they furnish the dollars which are moving and keep moving fast in local trade.

"The thing that most people do not appreciate regarding Arizona mining is that only a very small percentage goes to the people who put up the capital and take the risk, and if anything is done to jeopardize or remove that 2 or 3 percent, the other 97 or 98 percent disappears completely and the social value to the state from payrolls and business is entirely lost.

"Unemployment compensation commission figures for the first nine months of 1940 showed that there was an average of 13,606 employees in the mining industry in Arizona which is 24.55 per cent of those coming within the unemployment compensation insurance law.

"While the mining industry had 24.55 per cent of the employees covered it had 30.73 per cent of the total wages reported. The average monthly wage for those employed in mining and smelting was \$135 as against the state average of \$114.

"The importance of the mining industry from the point of view of the employment is not measured, however, by those directly working in the mines. Mines are located in remote places and it is of course almost necessary to build and support cities around them. The indirect employment of the people who

serve those who work in the mines and their families reaches up to large figures.

"The bulk of the money received for Arizona mineral production is spent within the state. Wages alone take up about 35 per cent. It is probable that fully half as much as is produced is spent on the making of new mines and that the total contribution to the state's economic set-up is close to \$150,000,000 annually.

"For instance, a city having a mine employing 1,000 men and having no other means of support or reason for existence will be a community that shows on the census reports as 7,000. In addition to the families of the men employed, there are teachers, doctors, nurses, storekeepers and thousands of other classifications that go to make up a city. Then there are those outside the city who are furnishing that which the 7,000 require and in bringing it to them.

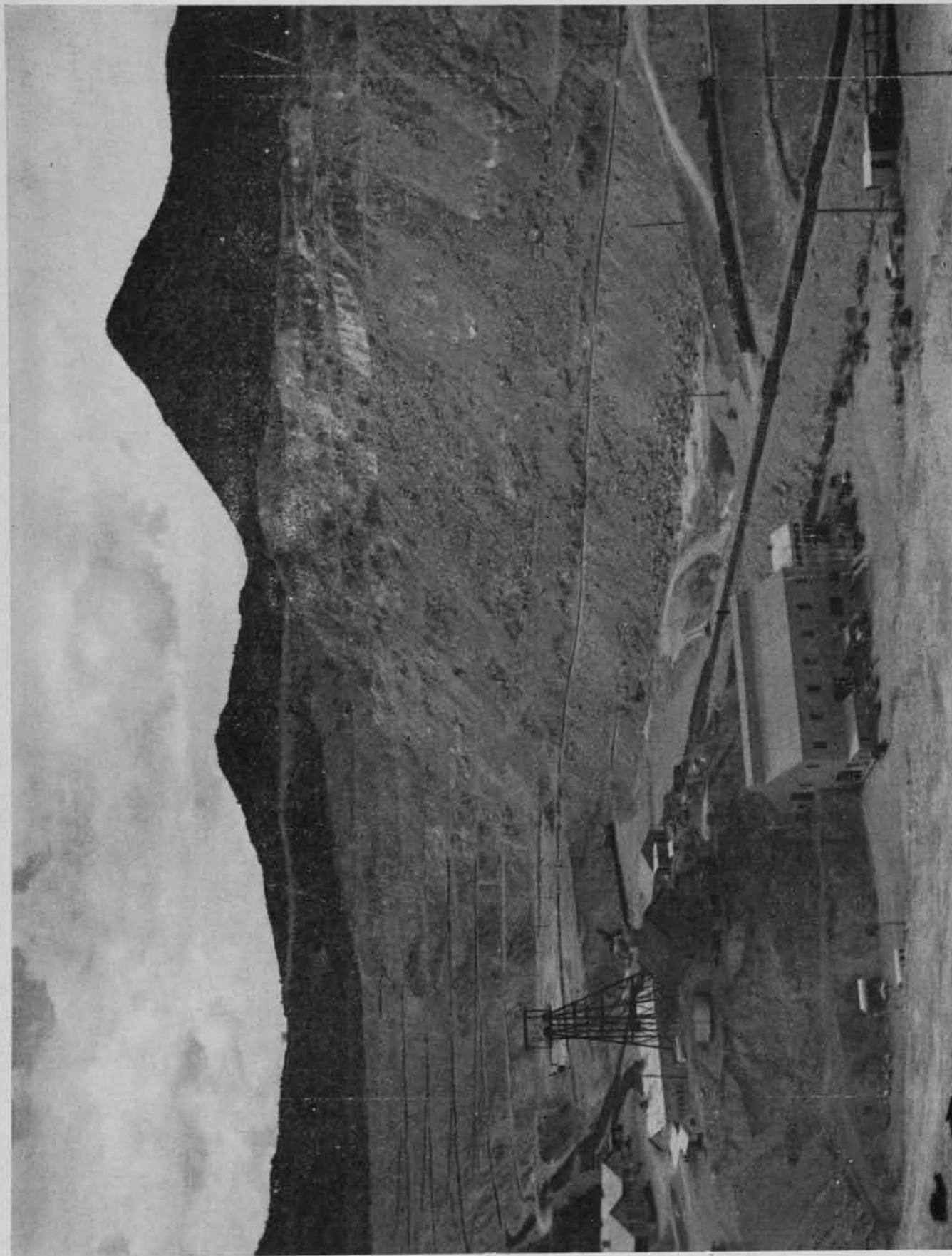
"The survey made on this subject shows that for every person employed in the mines there are 14 directly and indirectly, but fully dependent upon his work for support. Based upon this survey, 13,000 employees in the mines are responsible for 162,000 of Arizona's population."

"What is the future of mining in Arizona?"

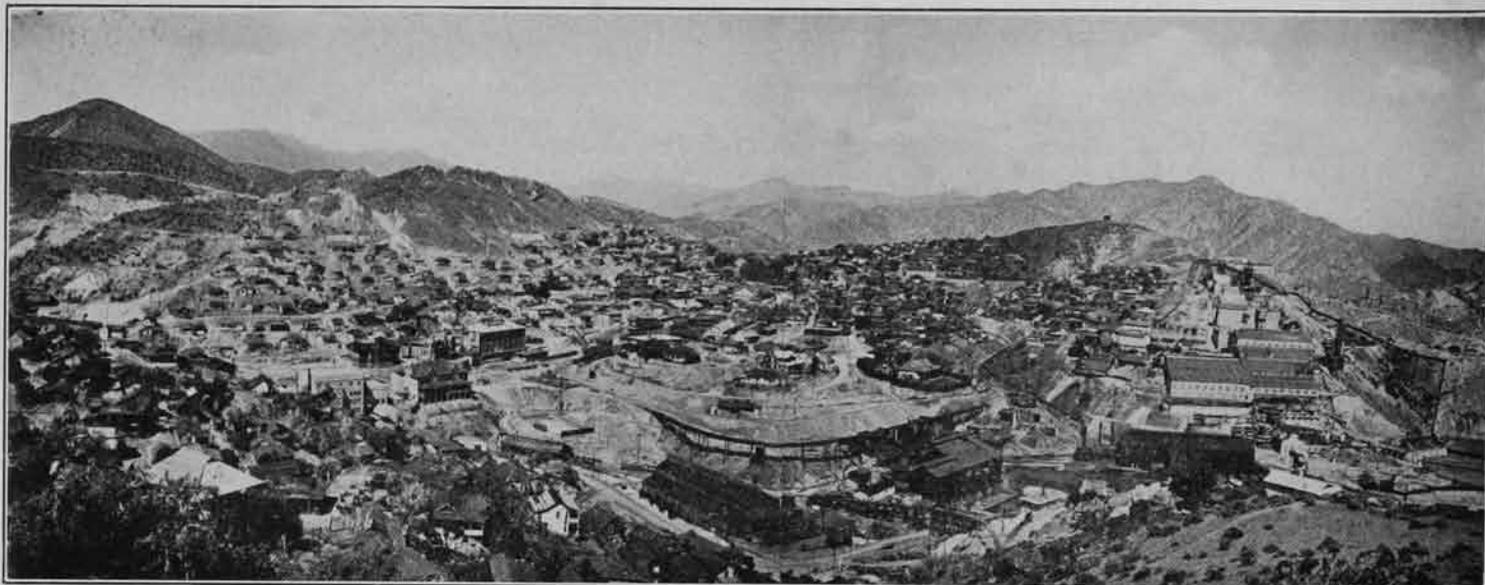
Mr. Willis: "That is a hard question. If my answer is to be based upon the opportunities that exist in the ground for the future, I would say that Arizona is merely on the threshold of its mineral development. There are ample minerals and metals still in the ground. There are enormous undeveloped opportunities particularly in the less common metals, such as tungsten, vanadium, moly-



The Phelps-Dodge Company is spending millions of dollars in developing Arizona mining property at Morenci, whose total production to date is 1,800,000,000 pounds of copper.



The Morenci Open Pit Mine, a part of the Phelps-Dodge Corporation at Morenci, Arizona, is perhaps the greatest mining development in the world today. It represents a colossal achievement which is scheduled to produce 5,000,000,000 pounds of copper in the next fifty years. Giant electric shovels, huge trucks and trains will remove a mountain of 230,000,000 tons of waste in order to clear more than 200,000,000 tons of 1.06% copper ore.



Morenci is a Foremost Mining Center Because of its Clay-ore Deposits

denum, quicksilver, and others that are being eagerly sought at the present time for the national defense program. There are likewise huge opportunities in the non-metallies which are as yet unscratched.

"With the development of the lowest hydro-electric power, there is an opportunity for the development of industries dependent upon Arizona's mineral resources as a source of supply for raw materials. Arizona has huge potentialities in manganese.

"However, the future of Arizona mining is far more dependent upon the attitude of the people of the state toward the mining industry than upon the resources in the ground. Arizona is rich in mineral wealth, but is not so rich that it can stand abuse. There is a risk in the developing of new mines and many losses as those who have bought mining stocks can testify, and to compensate for the losses there must be permitted somewhat greater profits for those who do make good.

"The future of Arizona mining depends upon the encouraging of outside capital to come in and develop the resources of the state, but outside capital is cautious and more exacting now than ever before, and its watching carefully how the state treats the capital that has already come here. Outside capital is not going to venture into a place where it is afraid that it will be badly treated and shown to be unwelcome by actions, and yet we must have it.

"It should be remembered that the future of Arizona, or any other state, is dependent upon the expansion of its basic industries. Arizona very definitely has limitations for its agriculture and livestock because of the limited rainfall, ability to store water and the cost of doing so. There are many who believe that we already have more acres under cultivation than the rainfall can care for. Therefore, while the agricultural industry will always be large and mightily important and should be encouraged, it cannot be depended upon as a material factor for the expansion of the state's activities.

"The frontiers of Arizona upon which the state must develop, if it is going to expand its productive activity, at all, will be downward into the ground, making mines, producing metals and minerals, and contributing more largely to the world's stores of an indestructible wealth.

"It is up to the people of Arizona in their expression and attitude toward those who bring capital from outside for the development of mineral wealth and the making of

thousands of small mines into large ones as to what the future of Arizona mining is to be. It is within their power to make it or break it. Arizona mining has long since reached the place where it can stand unjust burdens piled upon it, but it has a future far greater than its past if its problems are understood and appreciated.

"The future of Arizona mining depends upon the willingness of the people of the state to "live and let live" than upon the minerals contained in the ground. With this view properly expressed on the part of the people, Arizona mining in the future can surpass any previous records. Destructive public opinion has depleted more ore bodies than the actual extraction of ore."

A brief review of the lesser minerals should be made in light of national defense.

#### MOLYBDENUM AND TUNGSTEN

Mining for Molybdenum and Tungsten are usually done on a small scale and intermittently, due to great variation in price and very limited demand. During the war the unusual prices and demands for these two metals stimulated their exploitation, and a number of deposits were actively worked. Since the end of the war, a little mining has been done and few deposits newly developed.

Tungsten reserves estimated at 5,800,000 to 7,800,000 pounds underlie Arizona's terrain.

The Johnson district of Cochise County has 2,000,000 to 4,000,000 pounds, while the Huachuca Mountains in the same county have 2,300,000 pounds. The Wallapai Mountains in Mohave County have reserves of 1,500,000 pounds.

#### VANADIUM

Vanadium ore is produced in sizeable quantities in Arizona by two properties, both near Mammoth in Pinal County. There are the Molybdenum Gold Mining Corporation and Mammoth St. Anthony, Ltd. The ores treated are complex, and contain, in addition to vanadium, recoverable values in gold, silver, lead and molybdenum. Arizona vanadium mines are among the few in the United States.

Other properties are in Colorado and Utah. Arizona's annual vanadium production is approximately 75,000 tons of ore, containing about 86,817 pounds of the metal.

#### MANGANESE

Manganese has been discovered at the Boulder Dam station, and also the Artillery Peak deposit has been located in the southeastern corner of Mohave County, according to R. S. Dean, chief metallurgist of the U. S. Bureau of Mines. In addition to the Artillery Peak deposit, manganese has been found in Arizona in several places. They are in Santa Cruz County, near the Mexican border, Northern Yuma County, Northern Maricopa County near Morristown, Yavapai County, Gila County near Globe, and in the vicinity of Kelvin, and in Greenlee County. The chief usage of manganese is in the machine tool industry.

#### FELDSPAR

The only deposit of feldspar actively exploited is situated in the Cerbat Mountains, near the town of Kingman. The deposit consists of nearly pure orthoclase (potassium-aluminum silicate) occurring in a pegmatite dike in precambrian gneiss. The product is mined and shipped without treatment to ceramic plants in California. About 2,100 tons was produced in 1927. The deposits are operated by the Gold Cliff Central Company, George B. McDevitt of Kingman, manager.

#### GYPSUM

Impure gypsum is mined from a playa deposit east of the town of Douglas, in the Sulphur Springs Valley. Mining is done by scrapers and the product trucked to Douglas where it is burned to form plaster, and marketed as Douglas Plaster. The deposits are worked intermittently.

#### ASBESTOS

Arizona is the leading state in the Union in the amount of asbestos mined. The value of the deposits lies chiefly in the excellent grades of the material available. The variety of asbestos is "chrysotile," the fibrous form of the material serpentine. There are two localities in which form the mineral or good grade deposits occur, one of which, in the bottom of the Grand Canyon, cannot be mined due to transportation difficulties.

#### THE SALT RIVER BASIN DEPOSITS

The Salt River Basin Deposits now being mined and several others undeveloped lie in the very much dissected plateau through which the Salt River and its tributaries have cut their channel, northeast of Roosevelt Lake. The deposits are far from the railroad, necessitating careful sorting and milling to make them commercial. There are three producing mines, those owned by the Arizona Asbestos Association at Chrysotile, the Regal Asbestos Company Mines and the Accident group, owned by R. M. Anderson. Several other deposits are located.

#### ONYX MINING

Two deposits of onyx occur in the state and both have been actively exploited. One occurs at Mayer, 15 miles southeast of Prescott, and was formed by extinct hot springs. The deposits are quarried extensively and steady shipments made of fine ornamental stone. The deposits

at Cave Creek north of Phoenix have been developed, but only small shipments made. There are also extinct springs deposits.

#### LIMESTONE QUARRYING

Limestone is quarried extensively in two localities: at Cedar Glade between Prescott and Ashfork, and at Forest Station, between Douglas and Bisbee. At Cedar Glade, the formation quarried is Carboniferous limestone. Mining is done in open pits, and the broken limestone is trammed into kilns where it is burned and shipped as lime. At Forest Station, an outcrop of Cretaceous limestone is quarried by cutting a bank into the formation. The broken limestone is loaded into railroad cars and shipped to the smelters at Douglas. A little is also used as road material.

#### COAL MINING

Coal beds are found in three localities in the state in upper Cretaceous formations. The most extensive exposures are in the Black Mesa Reservations. Some mining is done there to supply local needs at the Indian agencies at Tuba City and Keam's Canyon. Coal is mined from the Man Mancos Shale and Mesaverde formations.

#### MICA AND KAOLIN

Mica is produced in small quantities in Arizona, being mined near Buckeye.

Arizona's production is not large enough to find its way into the United States Bureau of Mines statistics except under miscellaneous production, but it places the state in the class of 10 other states as a producer.

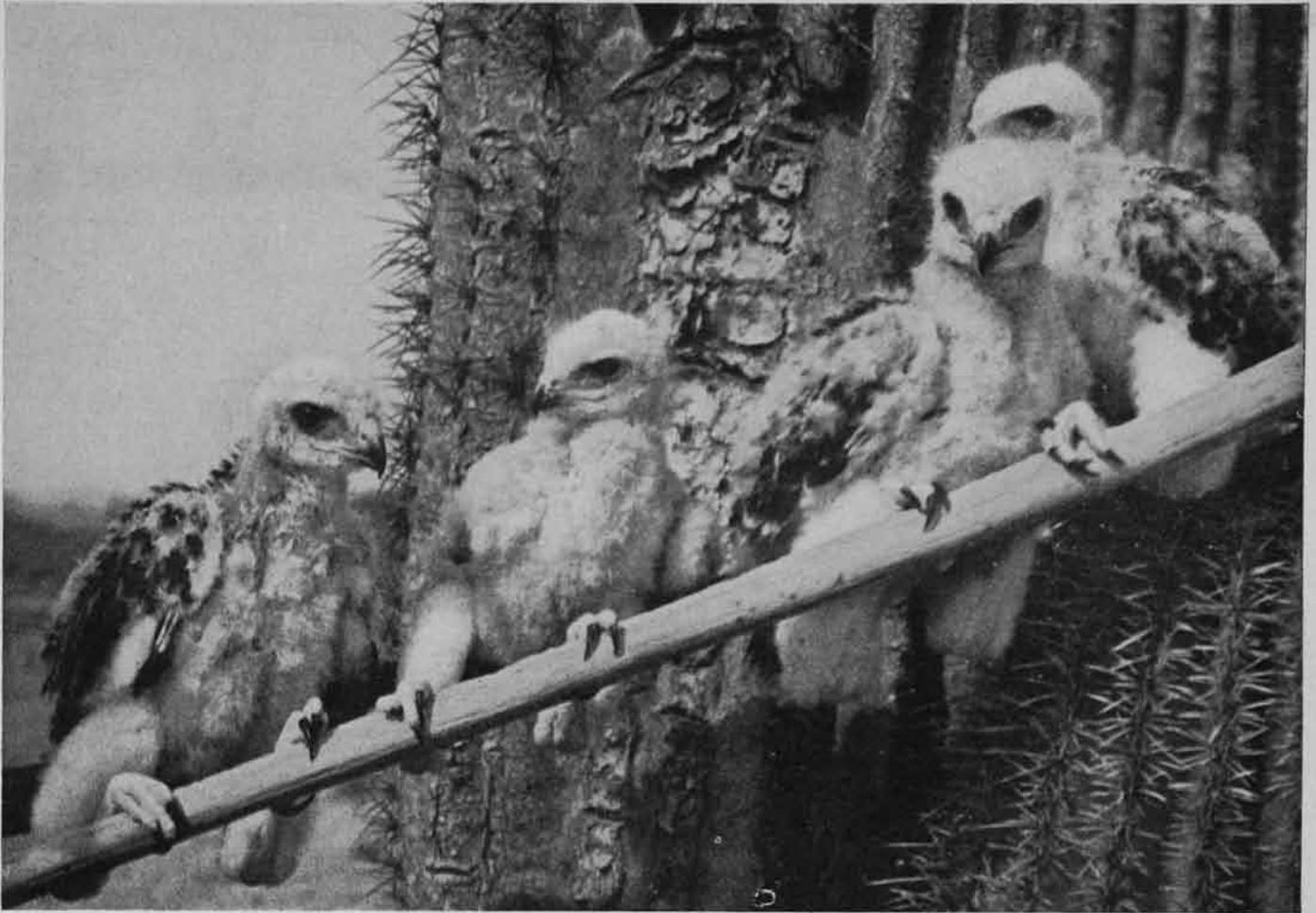
Arizona mica is principally ground before being sold.

#### VI. WILD LIFE

Arizona is a real oasis for wild life—it is a veritable hunting ground for wild animals, fish, and birds. The Arizona game refuge survey of 1939 compiled by the Arizona Game and Fish Commission indicated that there was 76 game refuges in Arizona scattered throughout the state. In addition to these, the National Parks and National Monuments are game refuges, where wild life is preserved. Some 11,376,341 acres or 15.5 per cent of Arizona consists of National Forests and 659,429 acres or 0.9 per cent is in the form of National Parks and monuments. Less than 2 per cent is under cultivation, which means that Arizona is a settled state in terms of game preservation and a happy hunting ground. It is carefully supervised under the direction of K. C. Kartchner, state game warden.

The reclamation program has greatly helped to provide water for the Arizona wild life. Some 476 ranchers have conducted range improvements on 9,346,668 acres of land not controlled or owned by the federal government. For the past 20 years the wild life conservation program has been in effect in Arizona. From 1935 on the Agricultural Adjustment Act and the United States Soil Conservation Bureau have cooperated.

Antelope and buffalo, deer and elk, bear and big horn sheep abound in the verdant vales and wooded mountain ranges. The mountain streams and creeks abound in bass and trout and there are numerable ducks and geese and some wild turkey. During the regular season there are lots



Four Baby Hawks on a Saguaro

of small game animals which include deer, antelope, muskrats, ring-tail cats, otters, mink, martens, beavers, badgers, tree squirrel, rabbits and wild turkey. For the big game hunters there are elk, buffalo, mountain sheep, wild hogs and bear. In addition to these, many hunters seek the predatory animals such as mountain lions, coyotes, wolves, jaguars, foxes, skunks, weasels, ocelots, bob cats and linxs. Among the upland game birds are quail, partridge, wild turkey, grouse and pheasant. During the winter season, migratory game birds, which include brant, wild ducks, geese, crains, swans, sandhills, whooping crains, coots, mourning doves, oyster catchers, sandpipers, pigeons, etc., fly in from the north lands.

An analysis of the wild life in Arizona follows:

(1) **FISH**—The Arizona Fish and Game Commission says there is an abundance of trout in Arizona's streams. There are some 1,000 miles of fine trout streams in the state, and half dozen or more lakes which contain bass, crappie, perch, cat fish and some salmon. In 1937, 2,250,000 fish were planted. Some of the trout meccas are in the White Mountains, colorful Oak Creek, Little Colorado River and the Colorado itself. Lake Mead is a natural fishing paradise for Arizonans and out-of-state fishermen. During 1939 the Arizona Fish and Game Department planted 1,-

287,232 trout and 203,388 bass and perch in Arizona's 45 lakes, streams, and reservoirs. Warm water fish planted included 2,918 small mouth bass, 8,320 crappie, and the remainder were large bass and blue gill perch.

(2) **ANTELOPE**—As late as the 1880's there were approximately 40,000,000 antelope in the United States, by 1920 there were but a few thousand. The conservationist got busy. Anderson Mesa near Winslow has Arizona's most famous herd—it contained about 100 antelope in 1922 and by 1930 it had increased to about 6,000. Severe winters, over-grazing and predatory animals reduced the herd to 2,000 in 1940. There are between 7,000 and 8,000 antelope in Arizona today. The pronghorn antelope is one of Arizona's most valuable game animals. It is the fastest animal in America. The State Game Department is attempting to locate the heredity range of the antelope and restock the old ranges and to determine the percentage of prime and past prime bucks.

(3) **QUAIL**—The State Game Commission is attempting to survey the entire range of scaled and gamble quail and to ascertain the actual number of birds, extent of range, their preferred food and cover plants. Quail are trapped in farm land areas where they damage cultivated crops. Some 16,045 quail were trapped and released on



**Elk Are Still Plentiful in Arizona**

game refuges. The birds were banded and six records kept. There is a heavy concentration of quail in irrigated or cultivated areas. The quail hunting season consists of three to four week-ends.

(4) **ELK**—Were introduced to Arizona in March, 1913, when a herd of 65 cows and 15 bulls were shipped to the Winslow area from Yellowstone National Park. There were approximately 4,500 head of elk in Arizona in 1940.

(5) **DEER**—The white tail deer in Southern Arizona has been constantly studied for six years. The four main destructive factors in regard to deers are: (a) predators; (b) disease; (c) illegal hunting; (d) legal hunting. The mountain lions rank first, destroying, on the average, a

deer a day. It is necessary to keep the deer from growing too fast, as they destroy the range. Hence a careful balance between the mountain lions and deer is maintained by the bounty system which goes up when the mountain lions are too numerous and down when they are too few. Coyotes are steadily increasing as a major factor. Rabbits and other rodents are at low ebb, which causes the coyote to turn more and more to the killing of deer. A water-formed organism developed in stagnant water causes casualty amongst the deer. There are some 35,000 to 36,000 white tail deer and about 110,000 mule deer in the state.

(6) **BEAR**—The United States Biological Survey has determined that there were 1,897 black bear in Arizona.



Yucca

The Biological Survey is attempting to determine their harmfulness as predatory, and their value as game animals.

(7) **EAGLE AND VULTURE**—Are both protected by law in Arizona because of their value as scavengers.

(8) **SQUIRREL**—Kaibab or white bushy tail squirrel is found only on the north rim of the Grand Canyon and the Kaibab forest.

(9) **BUFFALO**—Arizona has one of the few buffalo herds in the United States, which numbered 254 head during 1940, 50 buffalo having been killed by sportsmen in January of that year. The herd is estimated at 250 as of January 1, 1941.

Arizona has an estimated wild life resource amounting to \$22,000,000 annually. Wild life is one of the state's important resources.

Conservation of Arizona's wild life and flora will preserve a sportsman's paradise in Arizona.

#### SUMMARY:

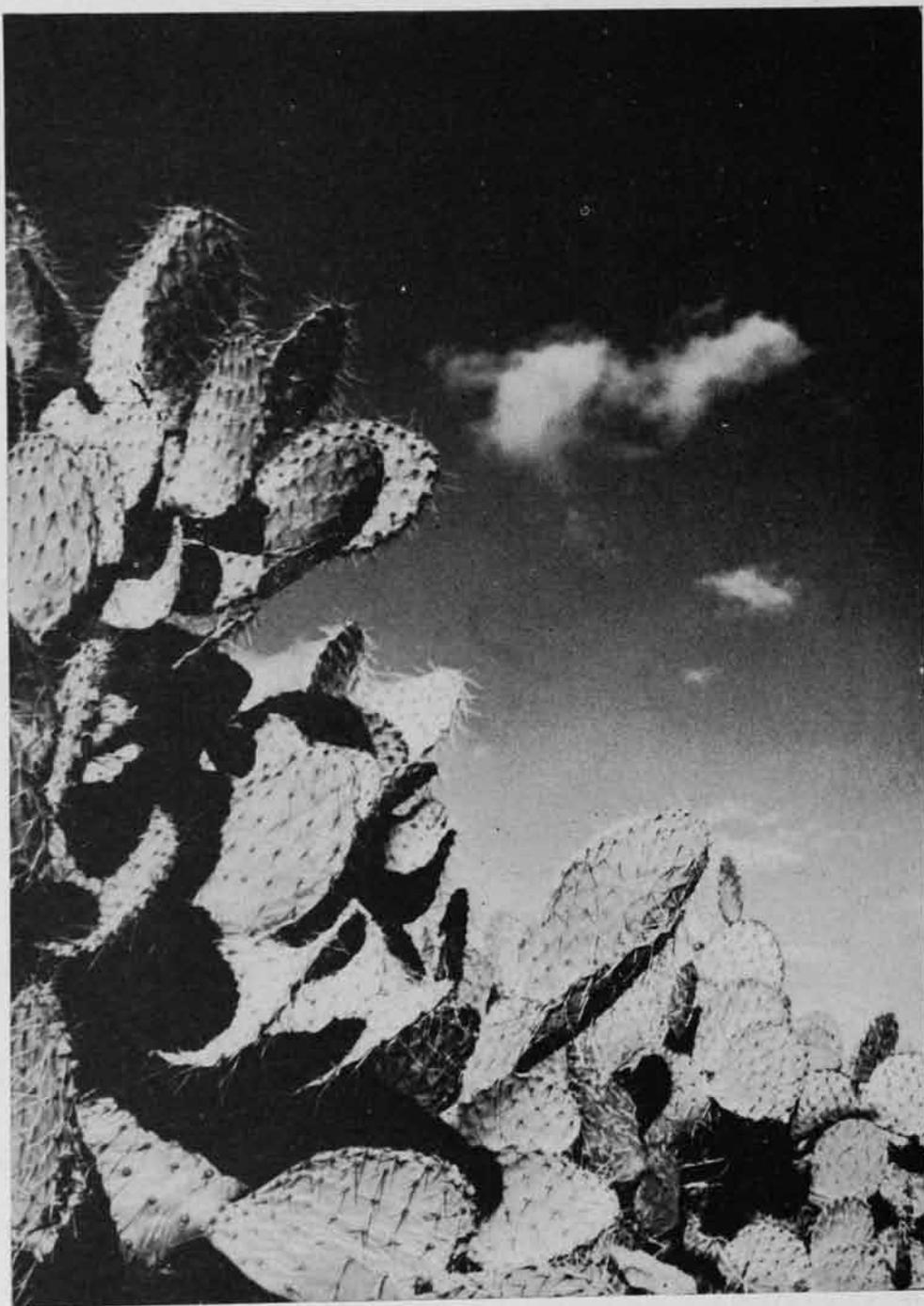
Arizona's natural resources, such as climate, land, forests, oil, mining, flora and wild life, should be properly used, organized and conserved. The climate itself should be carefully analyzed as to its effect on both well and sick people and then properly advertised. Arizona, like the nation, has gone through an era of waste in terms of its land, water and mineral resources.

Soil erosion has taken a heavy toll in Arizona. However, careful soil surveys like those which have been made by the Arizona-Colorado River Commission in 1930-31, and the Soil Survey of the Salt River Area, Arizona, by the University of Arizona and the Department of Agriculture, give a basis for proper soil usage. Arizona and Montana are the only two states in the Union which have not passed enabling acts permitting state planning. Extreme waste has taken place in its timber and mineral resources.

This tragedy of waste should not be permitted to continue. Arizona has one of the richest heritages in the Union in terms of climate, land areas, quality of soil, potential and realized water resources and agricultural possibilities.



Deer Are Plentiful in Kaibab Forest



A Study in Prickly Pear Cactus

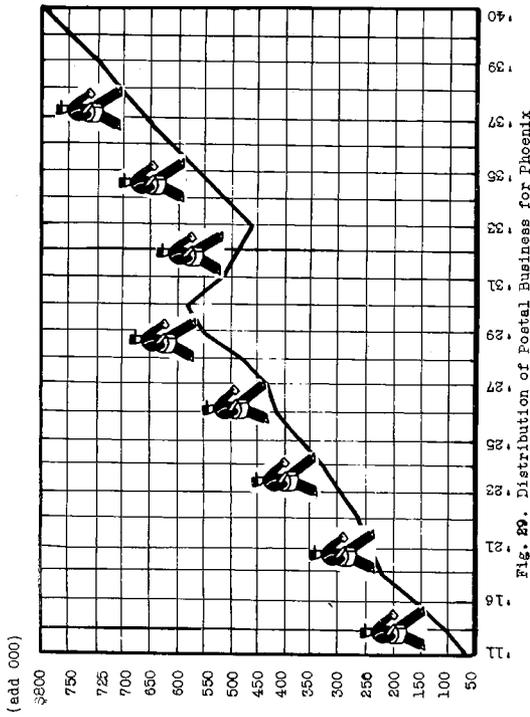


Fig. 29. Distribution of Postal Business for Phoenix 1911 - 1940

SOURCE: Phoenix United States Postoffice, 1940.

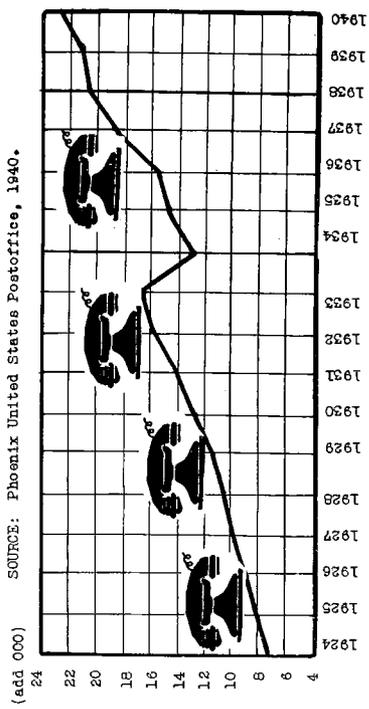


Fig. 30 Number of Telephones in Phoenix, 1922 - 1938

SOURCE: Mountain States Telephone and Telegraph Co., 1940

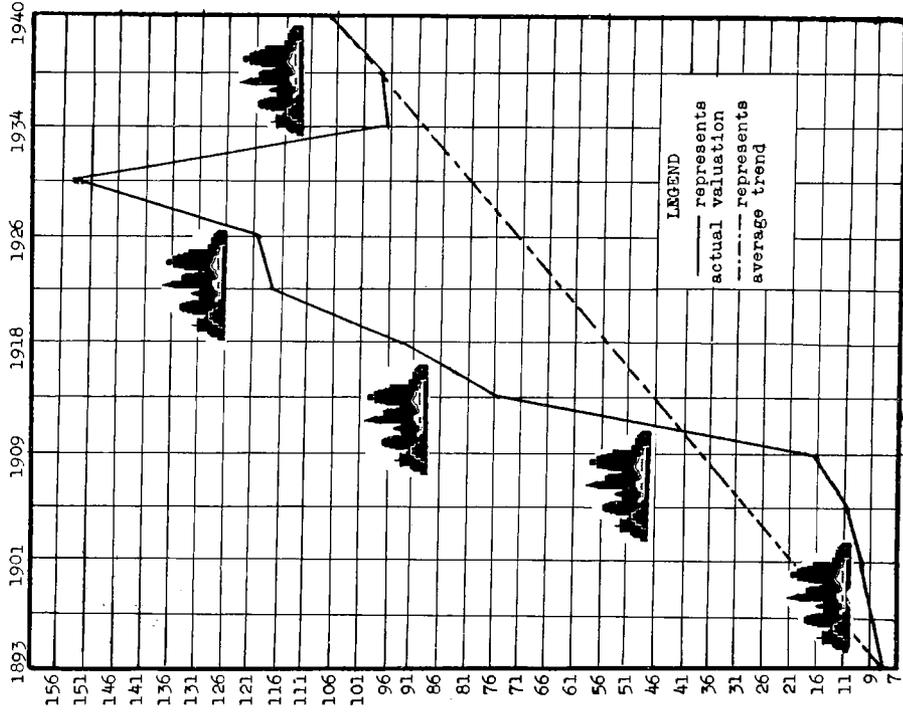


Fig. 28 Phoenix Assessed Valuations 1893-1940

SOURCE: Annual Report Clerk of Board of Supervisors, 1939, p. 10

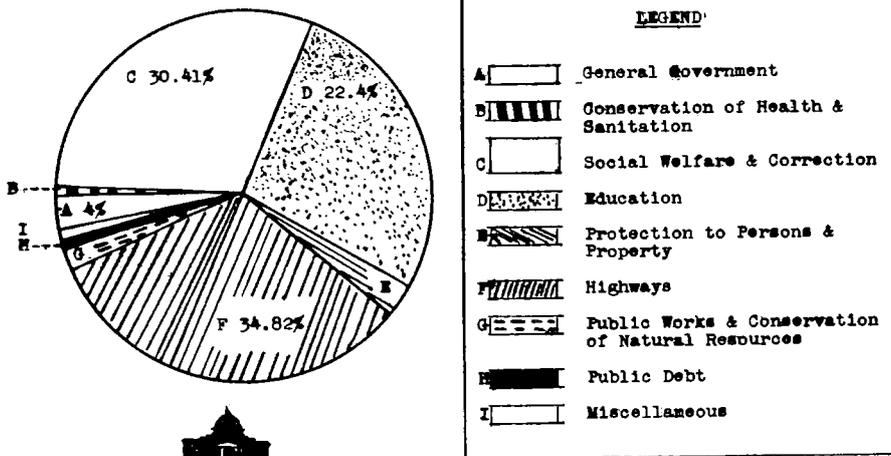


Fig. 31. State Expenditures for Arizona, 1939  
Source: State Auditor's Annual Report, 1940

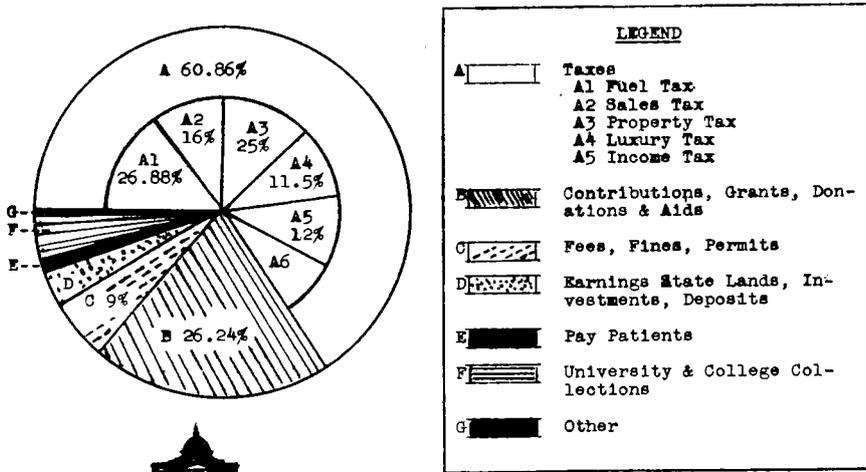
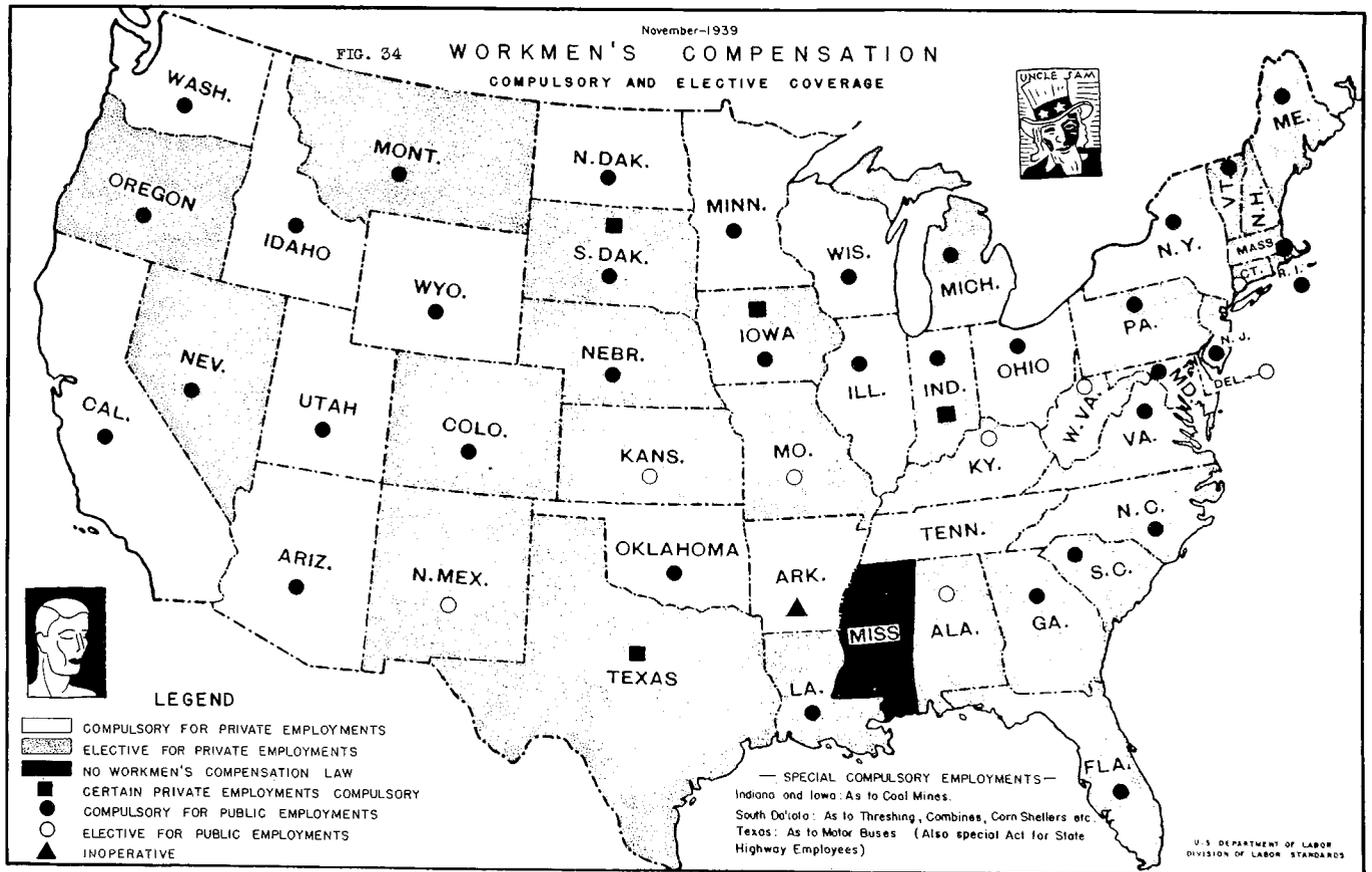
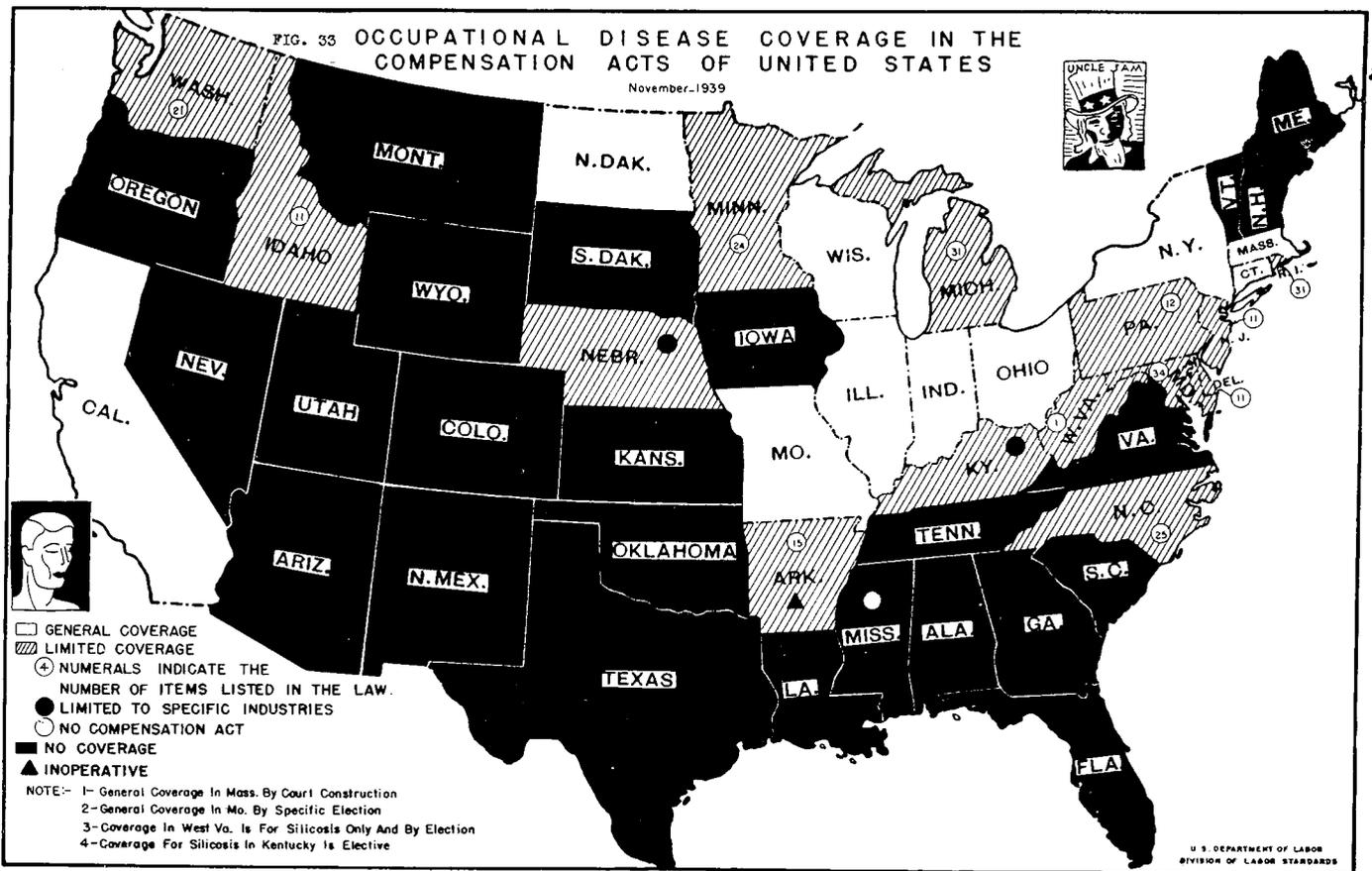


Fig. 32. State Revenues for Arizona, 1939  
Source: State Auditor's Annual Report, 1940



CHART

# FRED COLTER'S

40 YEAR INVISIOND AND ACCOMPLIHED PLAN

and RECLAIMER of  
HUMAN AND NATURAL RESOURCES  
FROM

GREED, MONOPOLY AND INTER STATE COMPACTS  
WARS, PANICS AND EROSION  
TO MAINTAIN AN

AMERICAN PEOPLES DEMOCRACY AND  
PROSPERITY WHICH CAN BE DONE  
ONLY THRU

UNIVERSAL SUFFRAGE AND TEACHING  
YOUTH

SPIRITUALITY  
ORIGINALITY  
AND  
INITIATIVE

LIFE'S  
TWO  
MASTER  
WHEELS

POLITICAL  
AND  
INDUSTRIAL  
DEMOCRACY

AND

UNION OF WELFARE ORGANIZATIONS

OF

AGRICULTURE  
RECLAMATION

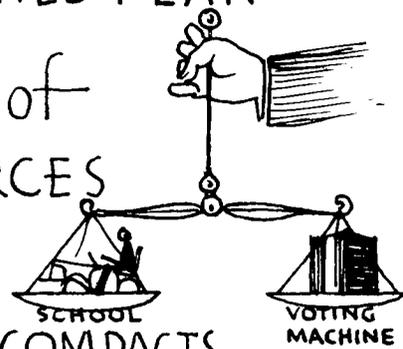
INDEPENDENT  
BUSINESS  
AND  
INDUSTRIALIST

LABOR

VETERANS  
OLD AGED  
AFFLICTED

TEACHERS  
AND  
PROFESSION

HOMES OWNED AND TAX EXEMPTED



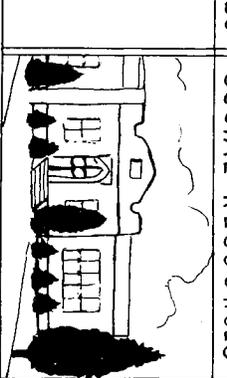
# FRED COLTER'S PLAN FOR ARIZONA'S FUTURE



NATURAL RESOURCES



HUMAN RESOURCES



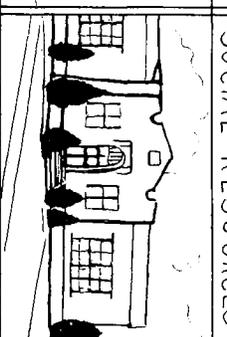
SOCIAL RESOURCES



NATURAL RESOURCES

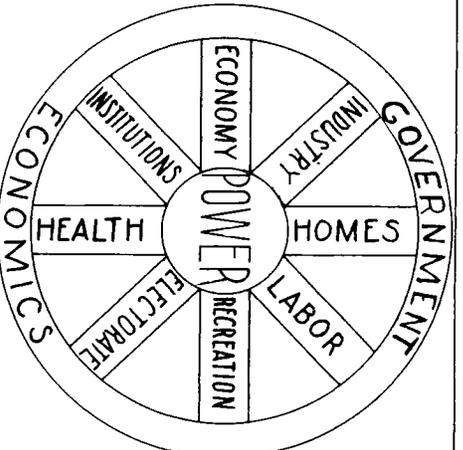
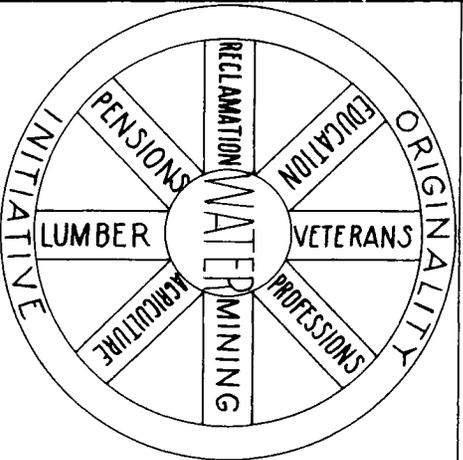


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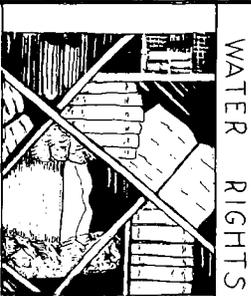
ARIZONA'S RESOURCES BELONG TO ARIZONANS



LIFE'S TWO MASTER WHEELS



COLORADO RIVER



WATER RIGHTS

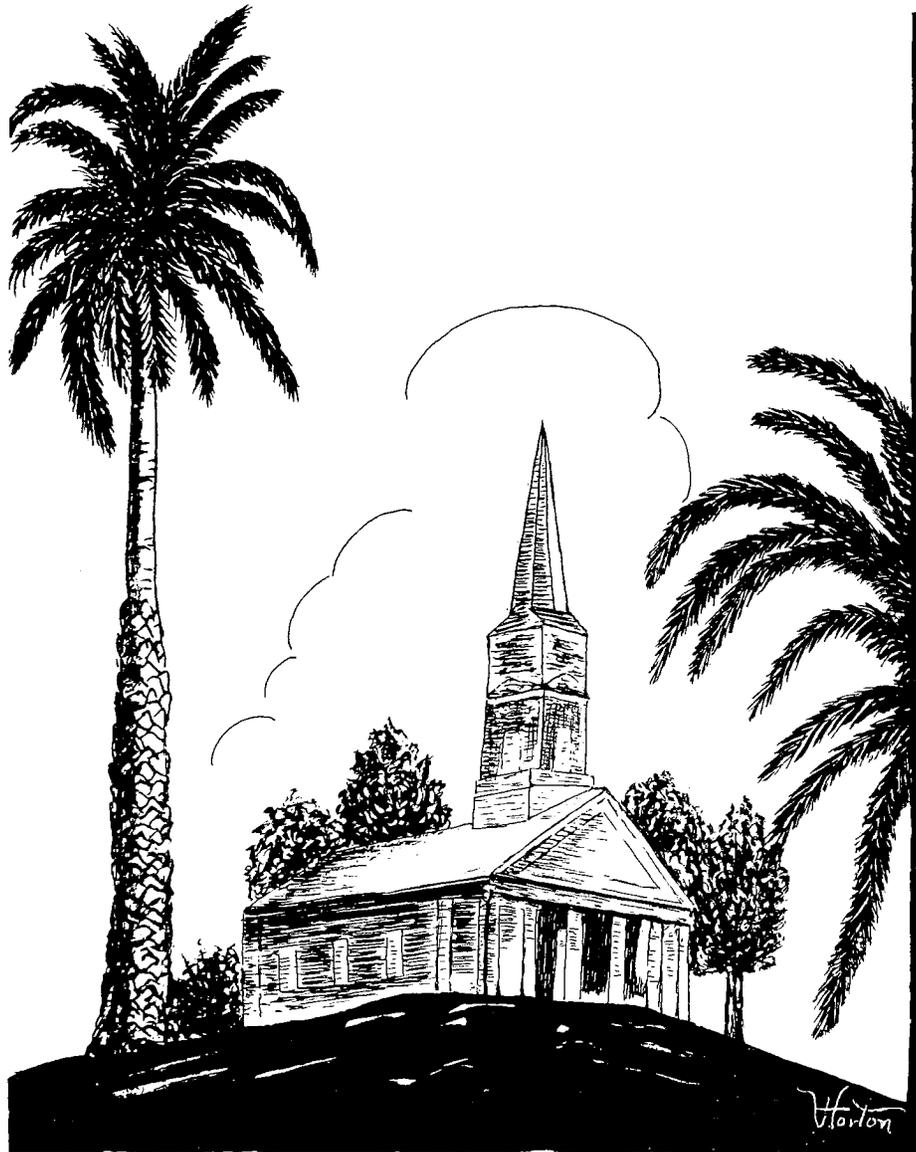
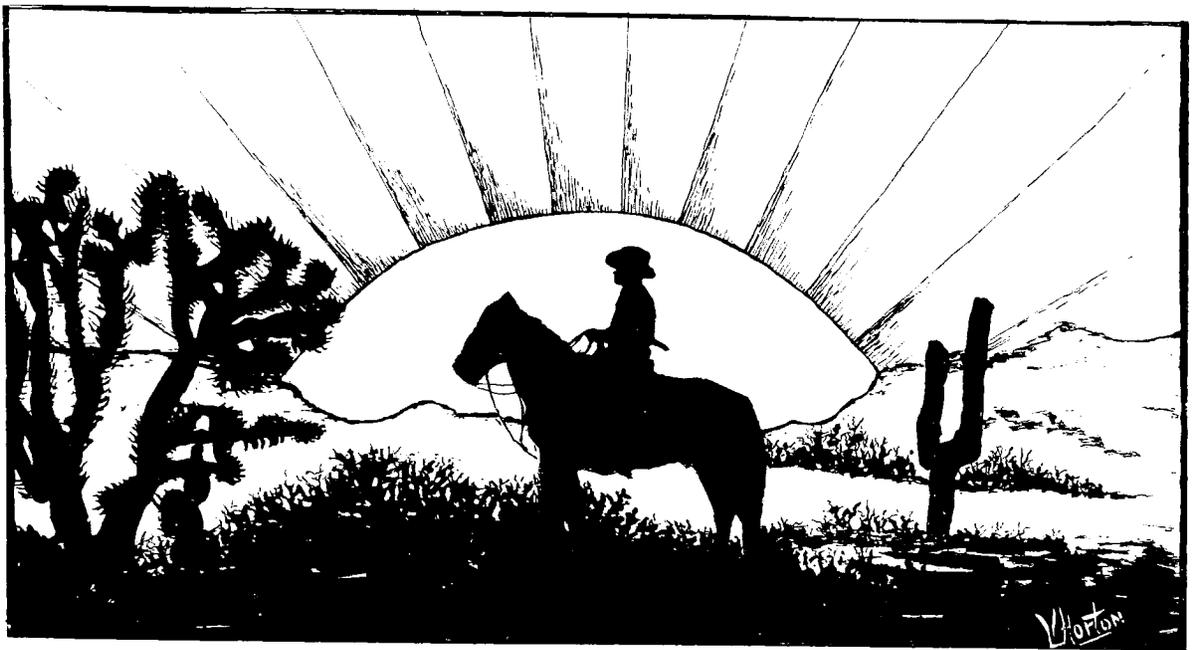


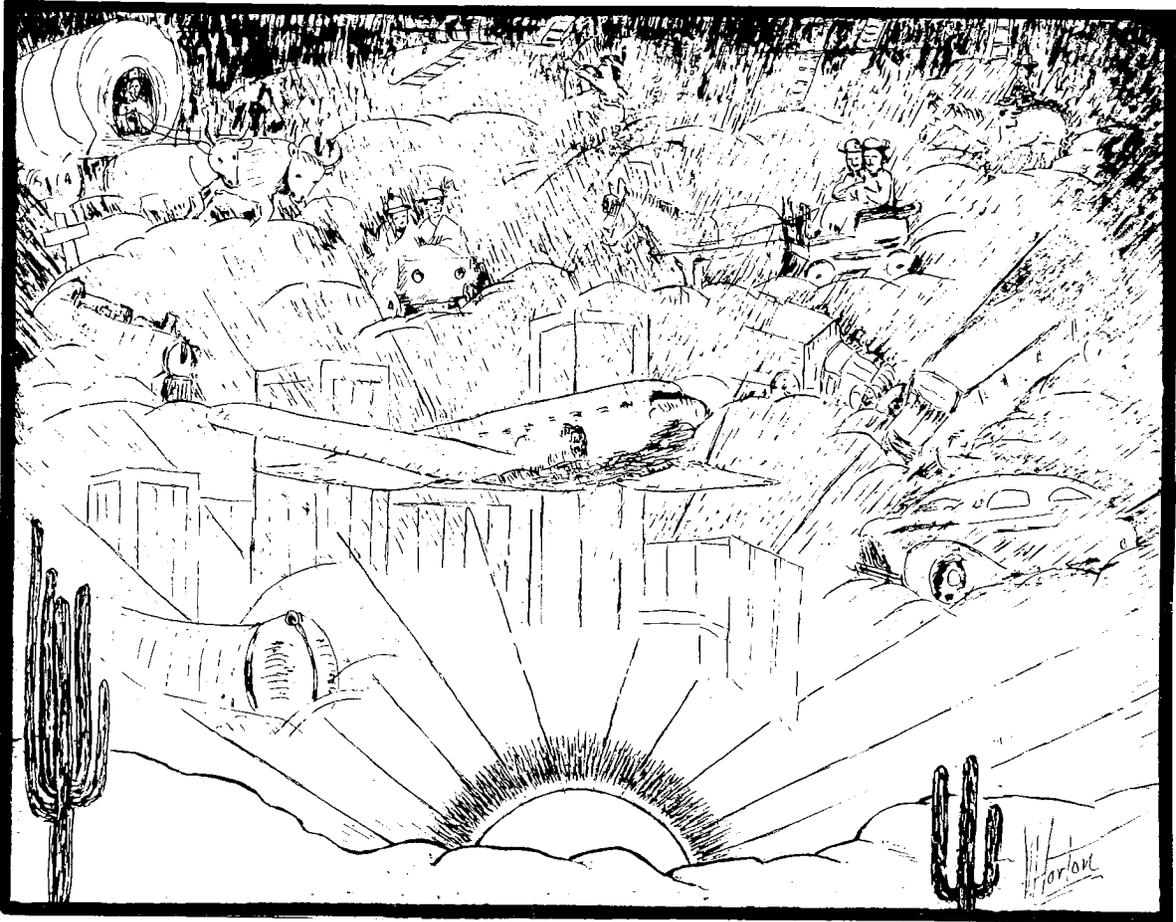
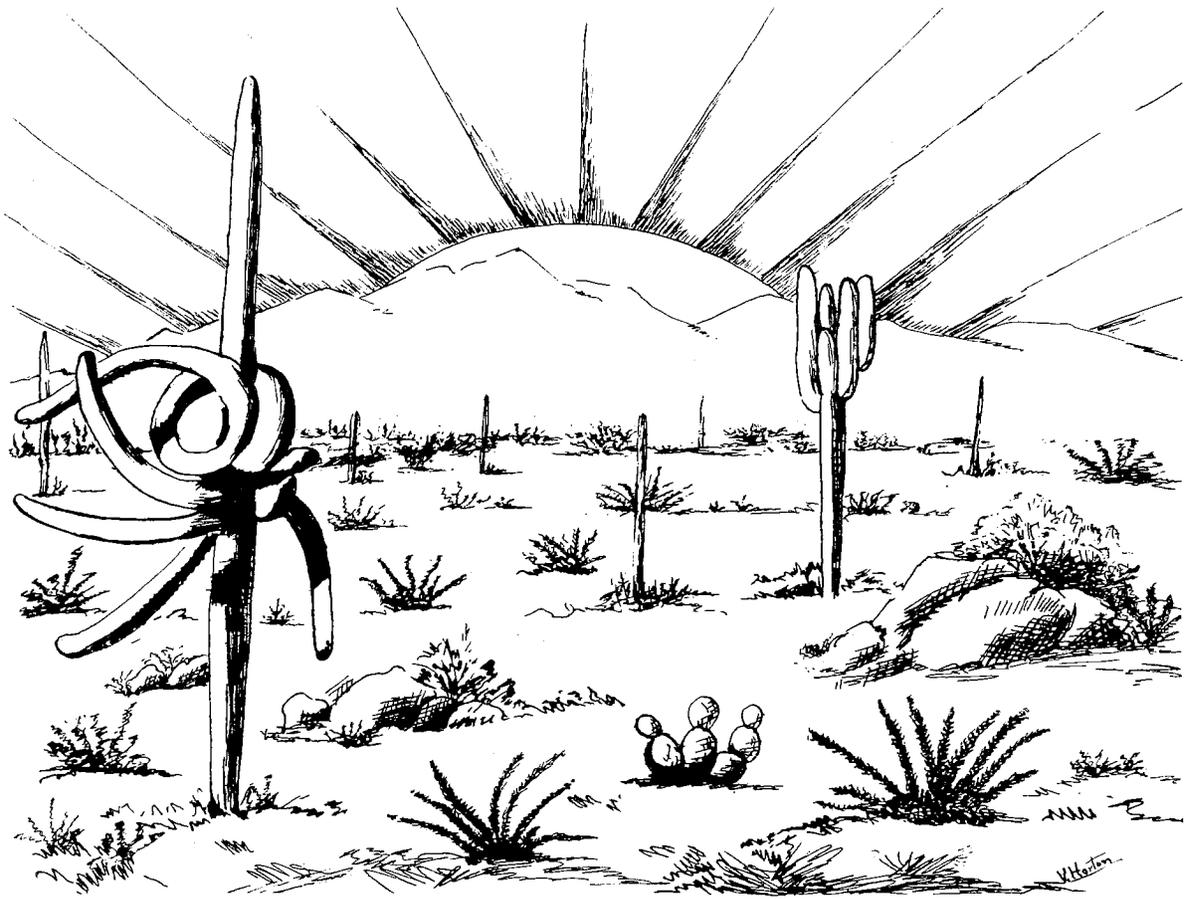
SUPREME COURT DECISIONS

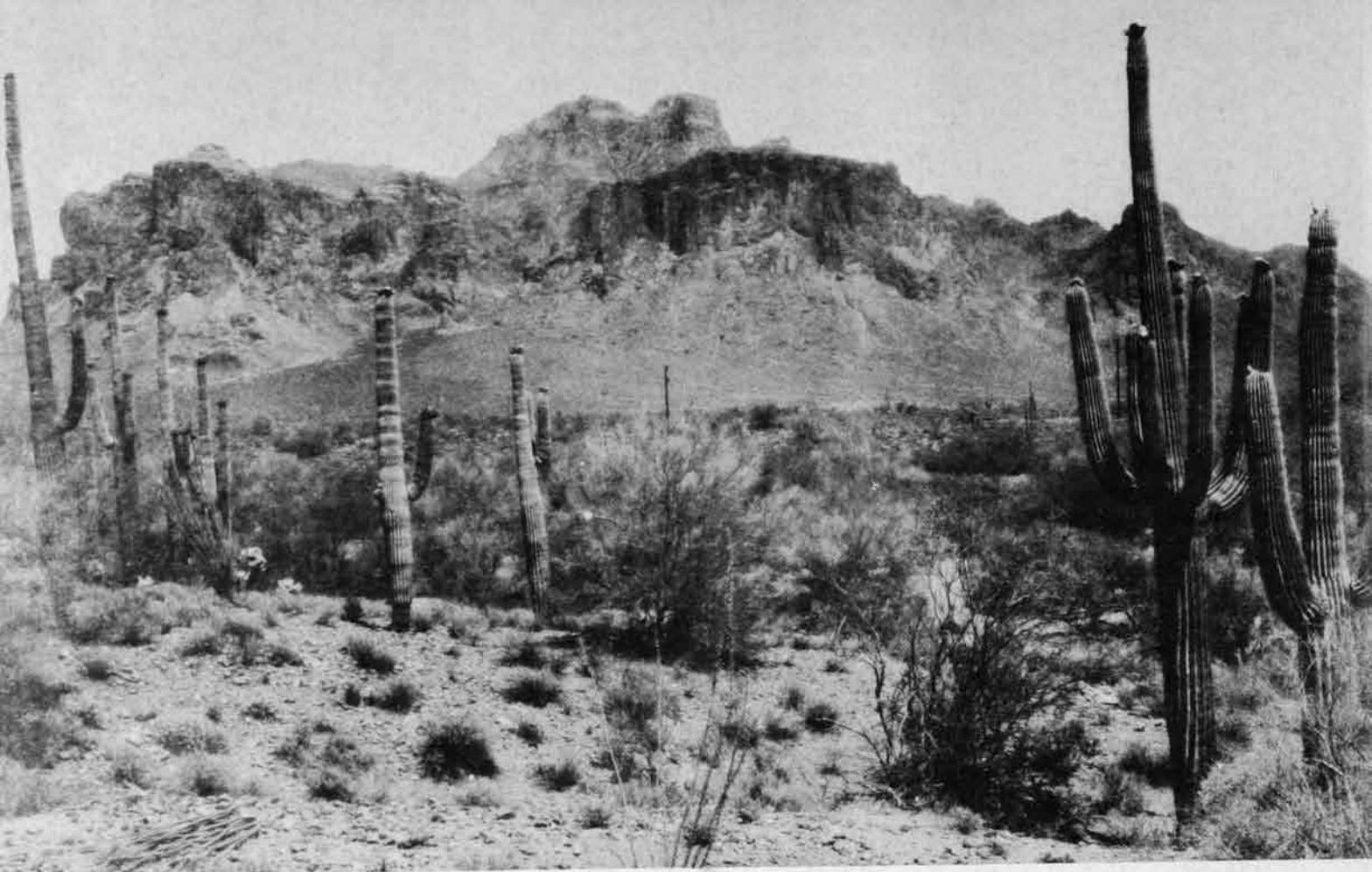


MAINTENANCE OF FILINGS

COLTER'S  
RECLAIMER







Superstition  
Mountain and  
Blooming Saguaro  
Cactii, above;  
Dude Ranching  
Near Wickenburg,  
below.



# Salt River Project

(Identical with Salt River Project Agricultural Improvement and Power District)

## Arizona

Operated by the

Salt River Valley Water Users' Association



### ROOSEVELT DAM

Built 1905-11, Add'ns. 1923-24 - Spillways lowered 1937

Elev. Coping .....	2,146	Max. Thickness, base, ft.	184	Lake Cap'y. Jan. 1939, ac.-ft.	1,400,000
Normal High water elev....	2,136	Thickness at top, ft. . .	16	Lake Area, acres .....	17,800
Spillway crest elev. ....	2,120.25	Cu. Yds. Masonry .....	343,750	Lake Length, miles .....	23
Length, dam proper, ft. . .	723	Drainage Area, sq. mi. . .	5,830	Head on turbines, ft. ....	112-222.
Ht. bedrock to roadway, ft.	280	Spillway Cap'y., sec.-ft.	150,000	Generating Cap'y., H.P. ....	24,000
		Cost, dam and power plant .....			\$5,560,000

### DESCRIPTION OF PROJECT

**GENERAL DESCRIPTION.** The Salt River Project, under the Roosevelt dam, is one of the first major irrigation projects undertaken by the U. S. Reclamation Service (now Bureau of Reclamation) under the National Reclamation Act. It covers parts of three counties in south central Arizona and includes Phoenix (80,000, the state capital,) and other valley cities with a population in excess of 15,000. It comprises 240,000 acres (net) of highly developed farm land and furnishes a partial irrigation supply for 95,000 acres of non-project land. The Salt river passes through the valley from east to west and picturesque mountains rise abruptly from the plain on all sides.

The investment in irrigation, power and other works is around \$43,000,000. Besides the seven large dams pictured and described here, there are two major diversion dams, 1,400 miles of canals and laterals with over 10,000 structures, 1,500 miles of electric power lines with 20 large sub-stations, 550 miles of telephone lines, 2 large warehouses, 2 office buildings, over 100 residences and 170 pumping plants. The normal operating force varies from 600 to 800 employees. The eight hydro-electric power plants and the 10,000 KW Diesel plant have a combined generating capacity of 130,000 H.P. This system, with power now available from the Colorado river, assures an ample supply of low-priced electricity indefinitely.

The 10,000 farms of the Salt River Valley Water Users' Association are all served with electric power - half directly from the project system and half indirectly through municipalities and utility compan-

ies. There are 900 miles of surfaced highways within the project boundaries (not counting towns and cities) half of which are concrete or other hard paving. Farming is carried on throughout the entire 12 months and directly or indirectly supports a population in and adjacent to the project of nearly 200,000. Pioneer days here are long past and all lands, homes and Communities are highly developed. The outstanding advantages offered to visitors and others are the resort features of climate and surroundings, pleasant living conditions (particularly for winter tourists and home seekers) and adaptability to citrus and other high-class horticulture likely to appeal to people of means.

**HISTORY OF PROJECT.** A large part of this area was cultivated in prehistoric times but abandoned long before the coming of white men. Many interesting remains of ancient villages and canals still exist. Modern irrigation began about 1867. The river flow is erratic, varying from a small stream to enormous floods. This supply at low river stage was inadequate for all the land attempted to be cultivated, while all flows in excess of immediate needs or canal capacities were wasted due to lack of storage facilities. In 1902 Congress passed the Reclamation Act and under it the Government financed and built Roosevelt dam, which enabled these flood waters to be stored and held over for use as needed. The dam was put in service in 1910, being finally completed in 1911. To efficiently divert the water from the river into the canals and to distribute it to the lands required a permanent diversion dam and a complete system of canals and laterals. These were also included in the Government work and a supplemental water supply made available from pumping plants to utilize



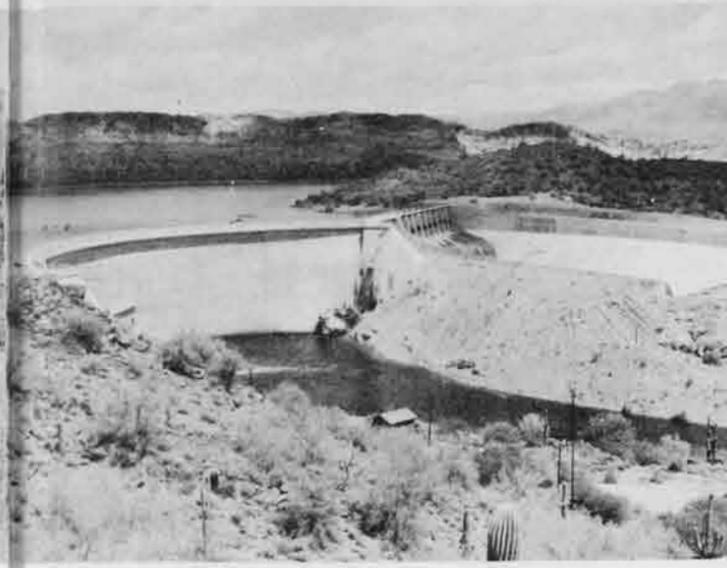
**HORSE MESA DAM - ON SALT RIVER**  
Built 1924-27. Add'ns. to Spillways 1936-37

Elev. Coping, .....	1,920	Drainage Area, sq. mi...	5,940
Normal High Water elev...	1,914	Spillway Cap'y. sec.-ft.	150,000
Spillway crest elev. ....	1869.5-1891	Lake Cap'y. ac.-ft. ....	245,000
Length, dam proper, ft...	660	Lake Area, acres .....	2,600
Ht. bedrock to deck, ft..	300	Lake Length, miles .....	17
Arch thickness, base, ft.	57	Head on turbines, ft. ..	253.5
Arch thickness, top, ft..	8	Generating Cap'y. H.P...	43,000
Cu. Yds. Concrete .....	159,000	Cost, dam & power plant	\$5,248,000



**MORMON FLAT DAM - ON SALT RIVER**  
Built 1923-25. Spillway Altered 1936-38

Elev. Coping, .....	1,671	Drainage Area, sq. mi...	6,100
Normal High Water elev...	1,660.5	Spillway Cap'y. sec.-ft.	150,000
Spillway crest, elev. ...	1,610.5	Lake Cap'y. ac.-ft. ....	57,800
Length, dam proper, ft...	380	Lake Area, acres .....	945
Ht., bedrock to deck, ft.	224	Lake Length, miles .....	10
Arch thickness, base, ft.	20	Head on turbine .....	131.5
Arch thickness, top, ft..	8	Generating Cap'y. H.P...	10,000
Ju. Yds. Concrete .....	59,200	Cost, dam & power plant	\$2,497,000



**STEWART MOUNTAIN DAM - ON SALT RIVER**  
Built 1928-30. Add'n. to Spillway Channel 1936-37

Elev. Coping, .....	1,535	Drainage Area, sq. mi...	6,200
Normal High Water elev...	1,529	Spillway Cap'y. sec.-ft.	150,000
Spillway crest elev. ....	1,506	Lake Cap'y. ac.-ft. ....	70,000
Length, dam proper, ft...	1,260	Lake Area, acres .....	1,300
Ht., bedrock to deck, ft.	207	Lake Length, miles .....	10
Arch thickness, base, ft.	33	Head on turbine .....	116
Arch thickness, top, ft..	8	Generating Cap'y. H.P...	17,500
Cu. Yds. Concrete .....	131,730	Cost, dam & power plant	\$2,839,000



**BARTLETT DAM - ON VERDE RIVER**  
Built 1936-1939

Elev. Coping, .....	1,803	Cu. Yds. Concrete .....	165,000
Normal High Water elev...	1,798	Drainage Area, sq. mi...	5,500
Spillway crest elev. ....	1,748	Spillway Cap'y. sec.-ft.	175,000
Length, dam proper, ft...	800	Lake Cap'y. ac.-ft. ....	200,000
Max. Ht. bedrock to deck, ft.	283	Lake Area, acres .....	4,000
Arch thickness, base, ft..	7	Lake Length, miles .....	12
Arch thickness, top, ft..	2.34	Cost, (Am't. charged to Project)	
		exclusive of am't. charged to Indian lands .....	\$4,000,000



**GRAND CANAL - SALT RIVER PROJECT**

underground water. A hydro-electric generating plant at Roosevelt dam and four others at drops in main canals, together with the necessary transmission lines, were provided to supply cheap power for pumping and other project operations. In November, 1917 the project was turned over as a going concern to the farmers, subject to payment of the unpaid balance on construction costs. From 1922 to 1930 the Water Users' Association built the Horse Mesa, Mormon Flat and Stewart Mountain dams and power plants on the Salt river below Roosevelt, and the Cave Creek Flood Control dam. In 1925-29 additional Reclamation Act improvements, including the Bartlett dam and spillway improvements on the four Salt river storage dams, were made by the United States. In 1937-38 the water Users' Association built a 10,000-KW Diesel power plant to supplement its generating facilities. In 1940 power from Boulder became available through the construction by the Bureau of a 140-mile high tension power line from Parker dam to Phoenix. The first changes from 25 to 60-cycle power were made in 1940 to utilize power from this source.

Of the total \$21,000,000 capital investment by the United States to June 1939, \$12,000,000 has been repaid. The balance is payable under the Reclamation Act in small long-time installments. The remaining \$22,000,000 of capital investment has been financed by the farmers without Government aid, and carried out independently during the period 1917-1940. The outstanding features of these improvements have already been mentioned and are shown and described in the views and accompanying tabulations.

**PROJECT LANDS.** The Salt River Valley is roughly 20 miles wide and 50 miles long, the horizon being limited by a fringe of mountains on all



(above)

**GRANITE REEF DIVERSION DAM ON SALT RIVER**  
Built 1906-08

Elev. Crest, .....	1,310
Elev. top, abutments, ....	1,325
Length of Weir, ft. ....	1,000
Ht., crest to top of cut-off, ft.	29
Cu. Yds. Concrete .....	40,000
Drainage Area, sq. mi. ....	12,950
Cost .....	\$627,000

sides. The surface is nearly level and the soil extends to great depths. Land values range from as low as \$150 up to \$1,500 per acre, depending on location, crop and improvements. It is all in private ownership and highly developed.

**WATER SUPPLY.** The main water supply is furnished by the Salt and Verde rivers, draining 13,000 square miles of mountain watershed. The four storage reservoirs on the Salt form a continuous chain of lakes nearly 60 miles long and with Bartlett reservoir on the Verde, will hold 1,972,000 ac.-ft. of stored flood waters. An important supplemental supply is obtained from 170 pumping plants for utilizing underground water. As an emergency, up to a third of the water delivered to the farms has been obtained from this source in years of extreme drouth.

The net cost to the farmer for water varies from around \$2.50 to \$8.00 per acre per season, depending on the crop and amount of water used, the average being about \$4.00 per acre. This includes all operation, maintenance, and annual payments on construction costs.

**POWER SYSTEM.** Advantage is taken of the entire 723 ft. fall from high water level at Roosevelt to tail water below Stewart Mountain dam to develop power. Horse Mesa, Mormon Flat and Stewart Mountain are primarily power dams. However, they add 373,000 ac.-ft. to storage which, when needed, is available for irrigation. Irrigation storage is the fundamental purpose of Roosevelt although it develops 24,000 H.P. Four other hydro-electric plants on the canal system in the valley utilize 200 ft. total head for power. The 13,500 H.P. Diesel plant furnishes



(left)

**CAVE CREEK FLOOD CONTROL DAM ON CAVE CREEK**  
Built 1922-23

Elev. Coping, .....	1,642
Length, ft. ....	1,648
Max. Ht., ft. ....	109
Cu. Yds. Concrete .....	19,575
Lake Cap'y. ac.-ft. ....	14,000
Lake Area, acres .....	750
Lake Length, miles .....	1 1/2
Drainage Area, sq. mi. ....	162
Cost .....	\$556,000

standby power, in addition to steam and other power available from local power companies, mines, etc., and hydro power now available from Boulder. The comparatively low cost of irrigation water, considering the large quantity used and the large amount of pumping, is due in large part to the availability of power from the project system and revenues realized from the sale of surplus power.

**CLIMATE.** Every variety of climate, from sub-tropical in the valley to cool temperate in the pine-cled mountains, may be found within two hours drive of Phoenix. The annual rainfall varies from 3 to 20 inches, with an average of 7. The percentage of sunshine is 84. Summer days are hot but nights are pleasant and the dry air adds greatly to comfort during the day. Practically all residences and business buildings are air-cooled. Low humidity makes this possible with inexpensive evaporative-type coolers operated at low cost by cheap power.

The mild winters afford a 12-months growing season and permit double-cropping of much of the project, favoring the cultivation of citrus, winter vegetables, etc.

**TOWNS AND CITIES.** Phoenix (80,000 - 65,000 by 1940 census within corporate limits and 15,000 suburban) is a typically up-to-date American city with thoroughly modern schools, churches, hospitals, parks, banks, theatres, business houses and other institutions. There are 11 other cities and towns within the project.

**TRANSPORTATION.** The project is served by the Southern Pacific and Santa



**Unreclaimed Desert Land.**

Fe railroads and by numerous fast truck and bus lines. Phoenix owns its own airport and has daily air mail and passenger service.

**CROP ACREAGE - 1939**

Barley, Oats, Wheat & Sorghums.	44,893	Cantaloupes .....	7,029
Seed, Alfalfa & Beets .....	7,645	Lettuce .....	24,601
Hay, incl. Alfalfa, Alfalfa-grain & Alfalfa after Grain ..	105,850	Garden, Truck & Miscel.	7,303
Sudan Grass .....	5,497	Fruit, Citrus .....	12,467
Pasture, Grain, Alfalfa, etc...	105,594	Fruit, Deciduous & Small	1,453
Pasture, Bermuda .....	12,447	Cotton, Long & Short....	52,889
Corn, Ensilage .....	1,460	Cotton, Seed .....	52,889
		Fallow .....	8,000
		Gross Area Cropped 1939 .....	450,217
		Less Areas Double-cropped .....	223,058
		Net Area Cropped 1939 .....	227,159
		Yards, Highways, Rights-of-way, etc.	15,711
		Gross Project Farm Area .....	242,870

Average Gross Crop Value per Year for the 5 Years ending 1939, \$18,534,746.

**LIVESTOCK - 1939**

Average Value, 5 Years ending 1939 .....

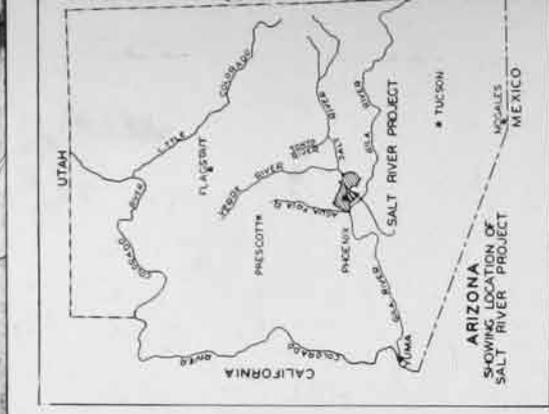


## Salt River Project, Arizona

**SUMMARY, STATISTICAL DATA**

Area project farms irrigated, acres	240,000	Concrete or other hard paving, miles, .....	450
Area non-project land furnished part supply .....	95,000	Surfaced (gravel, etc.) .....	450
Number project holdings - 1 acre and over, 1940 .....	10,000	Owned by project .....	900
Number towns (seven incorporated), Area in towns and cities, acres ..	10,000	Area watershed, sq. mi. ....	13,000
Elev. Valley above Sea, ft. ....	900-1275	Dams .....	6
Precipitation - average inches per year .....	7	Diversion .....	2
Temperature - max. & min. degrees F ..	25-115	Storage Cap'y, ac.-ft. ....	1,972,000
POPULATION, 1940, Rural .....	58,000	Canals and Ditches, miles .....	1,400
Towns and Cities .....	163,000	Cap'y. main canals, sec.-ft. ....	4,000
Schools, number, 1940 .....	91	Pumping plants .....	170
Churches, number, 1940 .....	152	POWER SYSTEM	
Banks - number (including branches)	7	Power Plants - Hydro-electric ...	8
Deposits, 1940 .....	\$64,000,000	Diesel .....	1
Hotels, 1940 (exclusive of auto courts)	65	Total Generating Cap'y. H.P. ....	130,000
Hospitals (exclusive of sanitoria).	7	Total head utilized, feet,	4 Salt River Plants .....
Highways, Federal, State & County,	7	4 Valley Plants .....	723

Transmission Lines, miles .....	1,500	Value farm land per acre, 1940,	\$150-\$1500
Sub-stations .....	20	Cost of irrigation and power system .....	\$45,000,000
Buildings owned by Project		Cost of water to users, per acre per year (including all operation, maintenance and debt service) .....	\$2.50 to \$8.00
Warehouses .....	2	Crop value - average 5 years ending 1939 .....	\$18,534,700
Office Buildings .....	2	Livestock - average value 5 years ending 1939 .....	\$ 3,453,654
Residences .....	100		
Pump houses .....	170		
Power houses .....	9		
Miscellaneous .....	30		
Roads operated by Project, miles	310		
Employees - Normal operating force	600-800		



ARIZONA  
SHOWING LOCATION OF  
SALT RIVER PROJECT

### CHAPTER III.

# DEVELOPMENT AND FUTURE OF ARIZONA'S WATER SUPPLY

The development of Arizona is more dependent upon water than any other factor. This has always been true. Major J. W. Powell of the Bureau of Ethnology in 1893, when in the Valley of the Sun, stated:

"Before us lies one of the greatest pre-historic systems in the world and I am sufficiently convinced that these cities and towns are contemporaneous with the canals and that they were built a thousand years ago." (1).

Irrigation was first practiced in this region by ancient people. In the valleys of the Little Colorado, Salt and Gila Rivers and along the Verde River and smaller tributaries are found unmistakable remains of canals and reservoirs, together with cliff dwellings and houses which show they were occupied long before the Spanish explorers arrived. The character of these remains indicate that the ancient Indians possessed great skill in the art of irrigation. Their canals were finished with hard linings of burnt or tamped clay, to prevent seepage, and in one known instance a main canal was cut through solid rock. The ancient canals of the Salt River Valley were over 300 miles long and carried enough water to irrigate over 250,000 acres of land. G. A. Garlick found some 300 miles of pre-historic irrigation ditches and canals. The ancient system of irrigation was perhaps more extensive than that of today. Some 450,000 acres were under cultivation in the Salt River Valley. Many archaeologists have confirmed Garlick's findings. The Salt River Valley in those days was probably larger than it is today. George A. Ballam in an article, "Dry Ditches" pointed out that General James E. Rusling made scientific explorations of prehistoric ruins of canals in 1876.

Odd Halseth (2) contends that the Ho-Ho-Kam Village, or the restored Pueblo Grande, between Phoenix and Tempe is one of Arizona's oldest villages, originating somewhere between 700 and 1400 A.D. It is a relic of Arizona's prehistoric canal systems of the Salt River Valley. Herbert R. Patrick investigated these and found that there were about 135 miles of main canals irrigating some 140,000 acres. (3). One canal alone was 12 miles long and its branches formed another 28 miles.

About four centuries ago the Spanish conquistadores of Cortez explored this region and found the Pima and Maricopa Indians irrigating the Salt River Valley in the vicinity of Mesa. The Mormon people were the first to develop and use the old Indian canals. Succeeding waves of pioneers and immigrants followed the example of the

Mormon people. Notwithstanding the small amount of land farmed, there was a shortage of water in dry seasons (4) which led to the inevitable disputes and law suits concerning rights to use the water. Former Judges Richard E. Sloan and J. E. Kibbey, widely known water experts, rendered many of the decisions in these cases. The tenor of these decisions, which have become the foundation of irrigation law for Arizona, was: first come, first served; that the water was appurtenant to the land and not to individuals; that a water right consisted in the physical efforts of diversion and application to continuous and beneficial use.

Irrigation in the Salt River Valley began in 1867 when Jack Swilling organized the Swilling Ditch Company in Wickenburg for the purpose of digging a ditch from a point near Hayden's Ferry to the Salt River Valley.

Work was started on a canal from the Salt River opposite the present site of Tempe, but was later abandoned. The ditch diggers moved along the Salt River to a new canal site four miles east of what is now Phoenix. This time success favored them and two years later the first crops were produced. The undertaking cost \$400. In 1868 the Salt River Valley Canal was built north of Phoenix by Bill Osborne and Tom Barnum. The Tempe Canal was built in 1870 and in the following year the San Francisco Canal was completed. An important event occurred in 1872 when John Lee secured the rights of the ferry bearing his name. Dolbarth sold his water rights on the Little Colorado River to the Mormon people under the leadership of Amos Tenney and David K. Udall in 1877. The Utah Canal was then dug while the Mesa and Grand Canals were finished in 1878. The famous Arizona Canal was built in 1885.

The canals constructed in Maricopa County in 1886 totaled 240 miles and irrigated some 306,240 acres. Flood control had not been adequately provided, however, and in February, 1881, a bad flood occurred in Phoenix. This flood lifted the Tempe railroad bridge from its piers. By the beginning of the twentieth century six completed canals had been consolidated. Hardy pioneers, however, discovered that their crops required more water than the unregulated flow of the rivers could supply and that there was also danger of severe drought. They sought government aid in the construction of a storage and flood control dam higher up the Salt River at the head of the canyon. Roosevelt Dam was the result of this aid. Former Presi-

(1) Quoted from "Dry Ditches," by George A. Ballam, 1939, p. 4.

(2) Director of Archeology at Pueblo Grande National Monument.

(3) This irrigated land supported about 20,000 Indian families with a population of about 100,000. These ancient people either perished in an extreme drought or migrated to a more favorable land.

(4) There has been but little change in climatic conditions for the last thousand years in this "land of little rainfall." Dr. Douglas of the University of Arizona says, "There are signs of strong pulsations or cycles. In each hundred years there has been a noticeable drought. Every third of a century has seen a great drought such as those of 1880 and 1904."

dent Theodore Roosevelt was instrumental in forcing the Reclamation Act of 1902 through congress.

The Salt River Valley Water User's Association was formed on February 2, 1903. It purchased the Hudson Reservoir and Canal Company's sites and water filings made in 1901 and 1903 for the Roosevelt Reservoir.

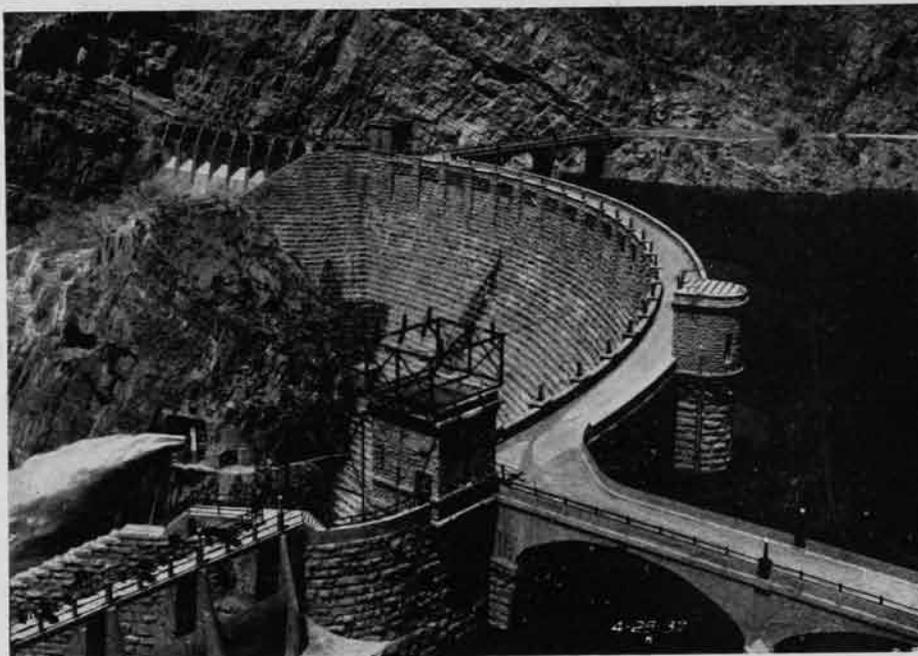
The Salt River Project, located in Maricopa County, was the first major irrigation project undertaken under the Reclamation Act of 1902. (5). It comprises 242,000 acres (about 380 square miles) of irrigable land on both sides of the Salt River with the Agua Fria River as the western boundary, exclusive of irrigated townsites. A partial supply is also furnished to approximately 90,000 acres of adjacent non-project land. The key and cornerstone of the whole project is the Roosevelt Dam and Reservoir. The dam and reservoir store 1,420,000 acre feet of water, while the power plant has a 24,000 horsepower capacity. The Roosevelt Dam is 65 miles from Mesa and 35 miles from Globe, Arizona. The dam is located in a narrow canyon about 200 feet in width at the water level with nearly vertical cliffs rising on both sides.

Roosevelt Dam is of the arch-gravity type. The horizontal arch has a radius of 410 feet. It was designed as a gravity structure and the arch plan was added to give greater stability. Masonry in the dam totals 343,000 cubic yards. It is constructed of cyclopean rubble masonry, the large stones being set in Portland cement mortar and the vertical joints filled with concrete and spalls. Six Stoney gates, arranged in pairs, are located in the diversion tunnel (6) at the upstream face of the dam. Water can also be drawn from the dam through an outlet located on the north side. There are two spillways, one on either side of the dam, with a total initial length of 402 feet and a total capacity of 150,000 second feet. A sixteen-foot highway crosses the dam with a three-span, concrete arch bridge over each spillway. In 1910 the Roosevelt Dam was completed, and the lands pledged to the cost of construction began to receive a regulated supply of water. Former President Theodore Roosevelt dedicated the dam named in his honor on March 18, 1911.

The original cost of the construction of Roosevelt, rehabilitation of canals and extension was \$10,166,000, which

was to be paid in ten annual installments. This arrangement was finally changed to adjust the annual payments. Both arrangements for payment were without interest. The Association has kept faith with the government and has never defaulted on a payment. It has had several extensions and also the advantage of a statutory moratorium which has been extended to all irrigation projects. Of the original \$10,000,000, today about \$7,000,000 has been paid—probably the best record made by any government project.

The crude brush diversion dams used to divert water into canal headings were washed out by the floods, hence it became necessary for the government to build the Granite Reef Diversion Dam. The dam was completed in 1906. It was the first permanent dam, either storage or diversion on either the Verde or Salt River. The government also purchased and improved several independent canal systems. In 1917 the project was turned over to the Salt River Valley Water User's Association for operation and maintenance. In 1922 the Association started a building program to provide additional storage and water. Three dams with power plants—Horse Mesa, Mormon Flat and Stewart

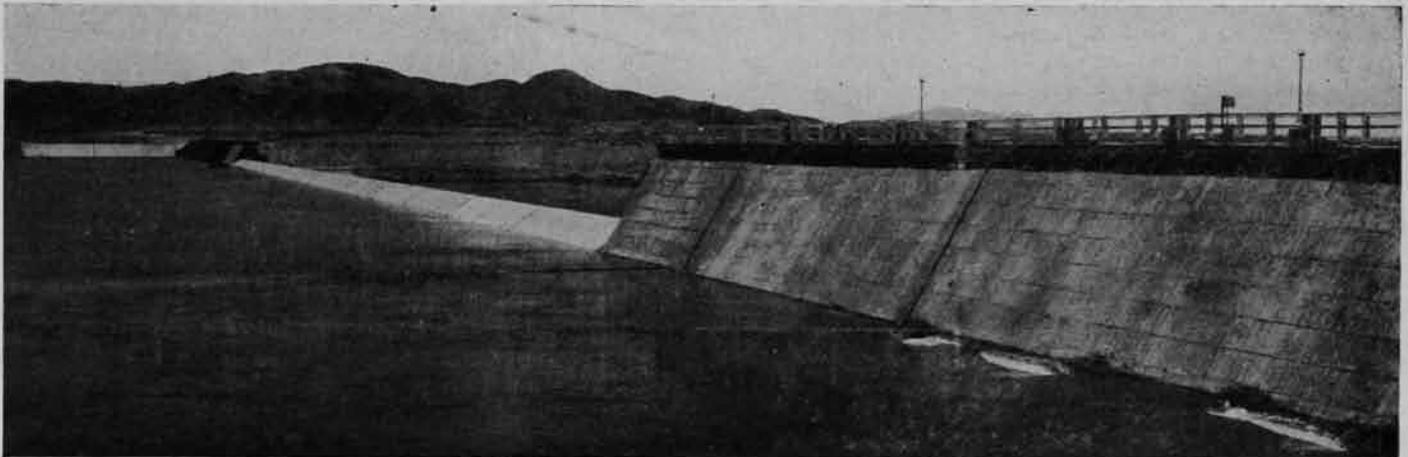


**ROOSEVELT DAM—Key to the Irrigation and Power System of the Salt River Valley**

Mountain—were constructed on the Salt River between Roosevelt and Granite Reef Dams. (8). The Cave Creek Flood Control Dam, on Cave Creek, was completed in 1922.

The water supply comes from the Salt River and Verde Rivers, supplemented by 170 pumping plants for utilizing underground water. The two rivers drain a watershed of

- (5) Source: John C. Page, Commissioner, Bureau of Reclamation, Department of the Interior, May 1, 1939.  
 (6) Diversion of the Salt River was accomplished through a tunnel which was 12 feet wide, 10 feet high and 480 feet in length, with a capacity of nearly 1300 second feet. This tunnel was driven beneath the south abutment of the river.  
 (7) The Bureau of Reclamation aided the S. R. V. W. U. A. in the enlargement and completion of spillways on the Roosevelt, Horse Mesa, Mormon Flat and Stewart Mountain Dams, above Superstition Mountain, which impound the water so necessary for irrigation in the Salt River Valley.  
 (8) See section on the Salt River Project.



### Arizona Dams are Used for Irrigation, Flood Control and Power

approximately 12,000 square miles, about evenly divided between them. They unite four miles above the Granite Reef Diversion Dam.

**TABLE VI—RESERVOIRS ON THE SALT AND VERDE RIVER PROJECTS.**

Roosevelt .....	1,412,000 acre feet
Horse Mesa .....	285,000 acre feet
Mormon Flat .....	63,000 acre feet
Stewart Mountain .....	70,000 acre feet
Bartlett .....	132,000 acre feet
Total Storage Capacity .....	1,972,000 acre feet

The canal and lateral system is about 1400 miles in length. Over 30 miles of major canals are lined with concrete. The main canals on the north and south sides of the river have capacities at their heads of approximately 2,000 second feet each.

In January, 1940, the storage dams, with a capacity of 1,972,000 acre feet, had only 1,000,372 acre feet available for water users. Many diesel pumps were put into operation. By April, 1940, total storage was 169,676 acre feet. The water problem was very critical during 1940, although December rains alleviated the water shortage somewhat. On January 1, 1941, total storage on the Salt and Verde River was estimated at 500,000 acre feet. By February 1, 1941, total storage had increased to 750,000 acre feet and Bartlett Dam was filled to the brim.

Lin B. Orme, president of the Salt River Valley Water User's Association, submitted for this survey the following analysis of the water situation in the Salt River Valley:

"The Salt River Valley is a valley of homes. The Salt River Valley Water Users' Association is the force which, more than any other human agency, has made these homes possible. Through its instrumentality, where forty years

ago there was one family, there now are ten. The same proportion holds true for increase in the material wealth of the Community, now approaching 200,000 souls, with a prosperity and assured future growth founded on the solid basic natural resources of soil, water and friendly climate. What men could not do singly they did collectively by organizing this Association and directing their combined efforts and resources toward the same end. Together they have put to work the force of natural elements which were formerly wasted through the powerlessness of individuals working separately to control them. Economists measure these material accomplishments in terms of the ten to one increase in population and wealth of farms, towns and cities, the security of our daily bread and the stability of resources inviting future growth. Engineers view with pride the works by which they have converted to the use of man, almost to the last drop, the water which once ran wastefully to the sea. These things can be told in terms of the hundreds of thousands of acres of green gardens, the number and magnitude of great storage dams, the hundreds of miles of man-made streams, and the power (equal to that of hundreds of thousands of horses) made available by the control of falling water. But the marshalling of cold orderly rows and tabulations of figures expressing finite values does not wholly measure the accomplishments achieved by the Salt River Valley Water Users' Association. These are but the physical instrumentalities created to serve their needs by and for the thousands of individual members of an agricultural community. The creation of homes based on security and plenty has been and remains the material goal of this farm union, but its success in reaching this goal is equalled by the less material aspect of the organization as an outstanding example of democratic institutions."

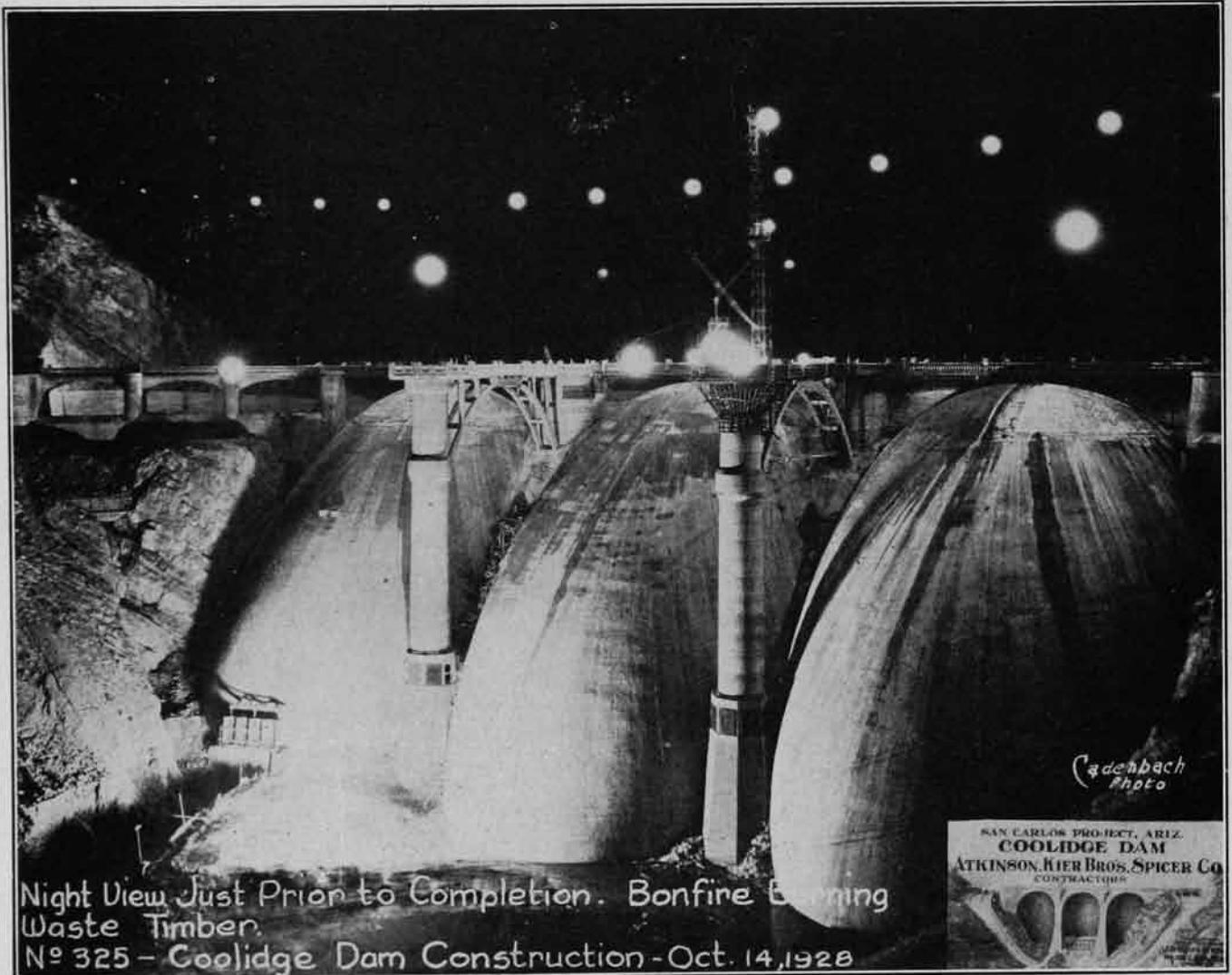
In addition to the S. R. V. W. U. A. project, which includes 242,000 acres, there are 22 other irrigation projects in Maricopa County. (10). The entire irrigation empire in the Salt River Valley amounts to 352,459 acres.

- (9) The S. R. V. W. U. A. has raised its shareholders assessments for 1941 to \$3.30 per acre, an increase of \$1.00 above the 1940 figure.
- (10) The 22 additional irrigation districts in Maricopa County are: the Roosevelt Water Conservation District, to the east, with 25,453 acres; the Roosevelt Irrigation District, on the west, with 19,040 acres; Buckeye Irrigation Company, 16,000 acres; Maricopa County Municipal Water District No. 1, 11,000 acres; Gillispie Land and Irrigation Company, 9,000 acres; Southwest Cotton Company at Litchfield, 8,750 acres; Cave Creek Irrigation District, 7,500 acres; Pettid-Manush-Dendora Valley, 367 acres; Gila Land and Cattle Company, 630 acres; Empire Ranch (Tovrea), 950 acres; Arlington Canal Company, 4,600 acres; West Agua Fria Project (pump), 4,000 acres; New River (pump), 300 acres; Southwest Cotton Company at Marinette, 4,300 acres; St. Johns Irrigation District, 1,300 acres; Peninsular Water Company, 400 acres; Arcadia Water Company 640 acres; Broadacres Farm, Fowler, 1,350 acres; Lone Butte Farm, 1,400 acres; Southwest Cotton Company at Goodyear, 5,300 acres; Electric District No. 5, 1,340 acres; and Chandler Heights Irrigation District, (pump), 810 acres.

Since the construction by the government of Roosevelt Dam, the S. R. V. W. U. A. has borrowed money and constructed three power plants on the Salt River and has expended several million dollars in electrifying the valley. The Association develops some 117,000 turbine h.p., or 70,000 kilowatt hours annually. The S. R. V. W. U. A. and the Central Arizona Light and Power Company have contracted with the Secretary of the Interior and the Metropolitan Water District of California for power from Parker Dam.

The four major power plants produce a total of 94,500

watershed of Northern Arizona flow into two storage reservoirs east of the city. One reservoir has a capacity of 20,000,000 gallons and the other 15,000,000 gallons. These reservoirs are connected to a concrete pipe line which has a carrying capacity of 30,000,000 gallons per day. There are two essential sources for the pipe line flow to Phoenix: One is an infiltration system which has been constructed far under the Verde River bed; the second consists of a number of large electric-turbine pumps. These sources are augmented by several huge pumping plants. Additional wells are being contemplated which will augment the pres-



Coolidge Dam

horsepower. Four other hydro-electric plants located on the project canals have an installed capacity of 20,500 h. p. There are 1,365 miles of power transmission lines connected with the project.

The source of the Phoenix water supply is the Verde River, some 22 miles away. Melted snow from the large

ent supply to about 50,000,000 gallons per day. (11).

But as the population grew in the valley, increasing storage and irrigation dams were needed. The Coolidge Dam was the first multiple-dome-type dam ever constructed. It was built on the Gila River as a major irrigation project. It was completed in 1928 at a cost of \$4,500,000.

(11) See Chapter—"Public Administration of Phoenix."



Bartlett Dam on the Verde River—Was Filled to the Brim During the January, 1941, Rains

The dam is 249 feet high and has a capacity of 391,000 gallons of water. This multiple-dome-type dam has three egg-shaped domes supported by intermediate buttresses and the walls of the canyon. The dam serves the San Carlos Irrigation and Drainage District. It was built to serve both Indian and white lands. Coolidge Dam was dedicated by Calvin Coolidge on March 4, 1924. Will Rogers attended the ceremony.

Bartlett Dam and Reservoir, providing for the first water storage on the Verde River, were completed in May, 1939, at a cost of \$5,200,000. Bartlett is the highest multiple-arch dam in the world, (12) and is a veritable monument of Arizona's inland agricultural empire. It is 286½ feet high and 300 yards long. The dam was under construction for two and one-half years. It added 65,000,000 gallons of water storage capacity, or approximately 200,000 acre feet, to the water reserves of the Salt River Valley. Both the Verde and the Salt Rivers are effectively harnessed for constructive use. Construction of the dam necessitated the removal of 430,000 cubic yards of earth and rock and required 180,000 cubic yards of concrete, 3,500 tons of structural steel, 1,250 tons of gates and hoists and 750 tons of outlet machinery.

Boulder Dam, (13) the highest dam in the world, is located in Black Canyon on the Colorado River, where the river forms the boundary between Arizona and Nevada, about 25 miles southeast of Las Vegas, Nevada. It was created for the purpose of flood control, irrigation and power at a cost of \$76,500,000. The reservoir has a capacity of ten trillion (10,000,000,000,000) gallons. The Reclamation Bureau is now concerned with four major operations in Boulder Dam; (1) operation of the dam itself including outlets, spillways, etc.; (2) operation of the power houses where the turbines and generators are installed; (3) operation of Boulder City, the permanent camp and a community of 5,000 to 6,000 people; and (4) the operation of Lake Mead, principally for recreation purposes.

Boulder Dam rises 727 feet above bedrock and is capable of raising the level of the Colorado River 584 feet. Its length along the crest is 1,282 feet. It is 660 feet wide at the base and 45 feet wide at the rim. Some 4,000,000 cubic yards of concrete were used in the construction of the dam and power houses. The federal government retains title to all features of the project including the dam, power houses, equipment and Boulder City. The dam and its outlets are operated by the Bureau of Reclamation. The Boulder Dam power houses are operated by the City of Los Angeles and the Southern California Edison Company. The storage reservoir behind the dam is called Lake Mead. It is named after Dr. Elwood Mead, former commissioner of Reclamation. Lake Mead is the world's largest artificial lake, having a capacity of 30,500,000 acre feet of water. It is 115 miles long and 8 miles in maximum width. It is operated by the National Park Service for recreational purposes.

Parker Dam, also on the Colorado River, is the deepest dam in the world. More than 200 feet of bedrock were ex-

cavated before construction could begin. The base is further below the river bed than the rim is above it. Some 675,000 acres of previously uncultivated land in the Gila Valley will be irrigated when the Gila Project is complete. Excavation on the Gila Valley Project has amounted to about 7,000,000 cubic yards, of which 360,000 cubic yards have been in bedrock. The Laguna Mountains form a natural obstacle between the Colorado and the Gila Rivers. Two concrete lined tunnels, each 20 feet in diameter, have been made through these mountains. The combined length of these tunnels is 5,865 feet. A 19½ foot reinforced concrete siphon was built at a cost of \$350,000.

In Arizona today there are some 78 storage dams, together with 268 diversion dams and canals, totaling 4,000 miles in length. There are 1,271 irrigation enterprises in the state, which represent an investment of \$75,000,000. Reclamation has served some 15,507 farms in 1938. (14).

Arizona's main objection to Boulder Dam is that its location, while excellent from California standpoint, is very poor from that of Arizona's. The Colorado River has an elevation of 645.5 feet at Boulder Dam. Most of Central Arizona is between 1,300 and 1,500 feet above sea level. The Glenn Canyon Dam site at 3,200 feet would have been much better for Arizona.

The Parker Dam Project is another much-discussed possibility. Its purpose is to reclaim some 600,000 acres of land by irrigation in the Gila and Yuma Valleys. Water will flow from Parker Dam into Central Arizona at a speed of 186 miles per second. It is planned to bring 1,000,000 acre feet of water per year from the Colorado River, making possible extensive, additional cultivation. The originator is James B. Girand, pioneer Arizona engineer, and his son, James G. Girand, jr., former Phoenix city engineer. Lake Havasu created by Parker Dam is 450 feet above sea level. The water will be taken out of Bill William's Canyon by successive pump lifts and delivered to a canal of an elevation of 1,450 feet. According to the Girand outline, this canal will flow east, having its terminus at Granite Reef Dam, so that its water can be put into the Salt River Valley main canals at Granite Reef, thereby serving both sides of the river. It will bring supplemental water, according to Mr. Girand, to some 500,000 acres of Maricopa County farm lands.

This project can also place water at a reasonable price on Casa Grande Valley lands. To do this, a 275-foot pump lift at Granite Reef is necessary, raising the water to the 1,500 foot contour, from which point it will flow by gravity into the Casa Grande Valley canal system.

The Girands further estimate the cost of delivering water in Salt River Valley will be \$2.20 an acre foot, counting amortization of the \$15,000,000 cost over 40 years. Their estimates are based on one-mill power for pumping, on 10 cents a square yard for very thin concrete lining to prevent seepage and other costs subject to check. Cost surveys are now being made. E. W. Hudson is executive chairman of the organization committee.

(12) This is the first construction of the multiple arch type to be undertaken by the Bureau of Reclamation.

(13) The dam was completed on March 1, 1936 some four years after the work was started.

(14) William Alberts, State Land Commissioner, Phoenix, Arizona, 1938 pamphlet.



Aerial View of Boulder Dam and Lake Mead

"This project could be completed within two years of start of construction," says James B. Girard. (15). "With a vigorous approach, it should be possible to place Colorado River water on Central Arizona lands before the summer of 1943. To accomplish this will require the perfect co-ordination of many diverse groups."

It is also a power project in which a power house with four generators each of 40,000 capacity will produce 190,000 kilowatts of electricity. The power line route to Phoenix is 140 miles. It is being built by the United States Bureau of Reclamation.

The reclamation, irrigation, and power development of

the Salt River Valley, Paradise Valley, etc., by means of Roosevelt, Coolidge, Bartlett, Parker Dams, et al., along the tributaries of the Colorado River have met the fundamental water needs up until the present time. Now, however, the water line level from the tributaries of the Colorado River has been reached in terms of both irrigation and power. This means that Arizona's growth has ended in terms of both population growth and development of natural resources unless Arizona's great natural heritage in the main stream of the Colorado River at the higher elevations where it enters Arizona shall be tapped for irrigation and power.

(15) Arizona Farmer, Issue of August 31, 1940, pp. 1, 21.

(16) Arizona v. California, California, Colorado, Nevada, New Mexico, Utah and Wyoming in U. S. Supreme Court, October, 1935, pp. 3, 70.

Arizona has inherent water rights to some 42 per cent of the irrigation water and 92 per cent of the potential power of the Colorado River because Arizona embraces such a large amount of its drainage system, her only water supply. The Colorado River has some 25,000,000 acre feet of water. (16).

The turbulent Colorado River offers Arizona its future development in terms of an almost inexhaustible water supply.

From 1912 to 1923 the State of Arizona expended \$197,000 on water gauging, engineering, data, surveys of resources, and studies of the Colorado River and its tributaries. These surveys were made by individuals, engineers, landholders, reclamation experts, et. al., to bring water from the main Colorado River through an Arizona Highline Canal to millions of acres of land to Central and Southern Arizona for the irrigation thereof. Some \$200,000 was expended in time, labor, and capital by multitudes of Arizona citizens in initiating said water rights and maintaining diligence on them from 1916 up to the present time.

The drainage basin on the Colorado River in the United States has a total area of 240,000 square miles and the comparative drainage areas in the seven basin states thereof are as follows:

**TABLE VII—STATES IN COLORADO RIVER DRAINAGE SYSTEM (18)**

Colorado	39,000 Square miles	16.3%
New Mexico	23,000 Square miles	9.7%
Utah	40,000 Square miles	16.7%
Wyoming	19,000 Square miles	7.9%
Arizona	103,000 Square miles	42.7%
California	4,000 Square miles	1.7%
Nevada	12,000 Square miles	5.0%

A relative comparison of the so-called lower basin states, in regard to the extent in which they are in the



**SHOOTING THE RAPIDS—Colorado River Water Represents Future Irrigation And Power for Arizona**

Colorado River drainage system is as follows:

**TABLE VIII—LOWER BASIN STATES IN COLORADO RIVER DRAINAGE SYSTEM (19)**

Arizona	103,000 Square miles	86%
Nevada	12,000 Square miles	10%
California	4,000 Square miles	4%

The above tables indicate that Arizona has a right to a goodly portion of the Colorado River water on the basis of being so largely in its drainage basin. Water experts and court decisions hold that the inherent water rights of states are synonymous with the amount of the drainage system of a given river within its boundaries.

Several United States Supreme Court decisions have upheld Arizona's present and future water rights, regardless of the Boulder Canyon Act because of Arizona's abnegation of the Santa Fe Compact. Expert engineering surveys such as the Strutevant-Stam, Trott, LaRue surveys and engineers of the past Arizona Colorado River Commissions, such as Donald Scott, et. al., have suggested feasible plans for the development and diversion of Arizona's inherent water and power resources thus giving a future

(17) The Colorado River lies in Colorado and flows in that state for 245 miles, then in Utah for 285 miles, in Arizona for 292 miles and thence on the boundary of Arizona and Nevada for a distance of 145 miles, thence on the boundary between Arizona and California for 235 miles, then on the boundary between Arizona and California for 16 miles and in Mexico for 75 miles where it enters the Gulf of California.

(18) United States Supreme Court Brief—Arizona v. California, et. al pp. 5, October term, 1935.

(19) Ibid, 6, 5.

to the mining, lumbering, and agricultural industries; insuring the future population growth and wealth of the state; and resulting in major tax reductions.

The United States has made many geological and reclamation surveys. Governor G. W. P. Hunt authorized the Sturtevant-Stam survey. (20). Arizona's water trustee, Fred T. Colter, made the original filings on this in 1923 for the State of Arizona.

On September 18, 1923, the Sturtevant-Stam Survey Report was submitted in the form of a letter to the governor and Senator Fred T. Colter, president of the Arizona Highline Reclamation Association. After a detailed statement of the route followed and data accumulated, the report concluded:

"We find the proposed Arizona Highline Canal Irrigation and Power Project entirely feasible and practical.

"The construction of a Colorado River Dam below Spencer Canyon to divert water at the 2000 foot elevation, including over 500 miles of high line canal and 155 miles of lateral canals reaching to centers of distribution to 3,500,000 acres of desert lands in Arizona will be \$290,000,000.

"A diversion dam located in the lower canyon of the Colorado River, five miles below Spencer Canyon, constructed to divert water at the 200 foot level as a gravity type monolithic concrete dam, and including electrically operated headgate system 30 miles of railroad with equipment, cement plant, all necessary housing, cables, hoists, machinery, tools, equipment and labor, will cost \$46,340,000.

"A Highline Canal, all concrete lined, 548 miles total length, with a capacity of 15,000 cubic feet for over 250 miles, and reduced in capacity for the remainder of its mileage, including 27 miles of cement-lined tunnels (all short in length) including power operated headgates at all lateral canal systems, will cost \$206,116,000.

"One hundred fifty-five miles of main lateral canals, all concrete-lined and leading to distribution centers for water supply to 3,500,000 acres, will cost \$37,544,000.

"Total cost, \$290,000,000.

"This does not include credit from government for flood control nor the power developed on the Arizona Highline Canal that will eventually pay for cost of entire project.

"(Signed) Geo. W. Strutevant,

Engineer in Charge of the Arizona State Survey Party."

Plans have been conceived of how to divert water from the main Colorado River into Central and Southern Arizona since 1916. Since 1923 five official surveys by the State of Arizona have been provided. A great deal of data collected indicates that Arizona could successfully get millions of acre feet of water from the Colorado River with tremendous potentialities of power from the same source.

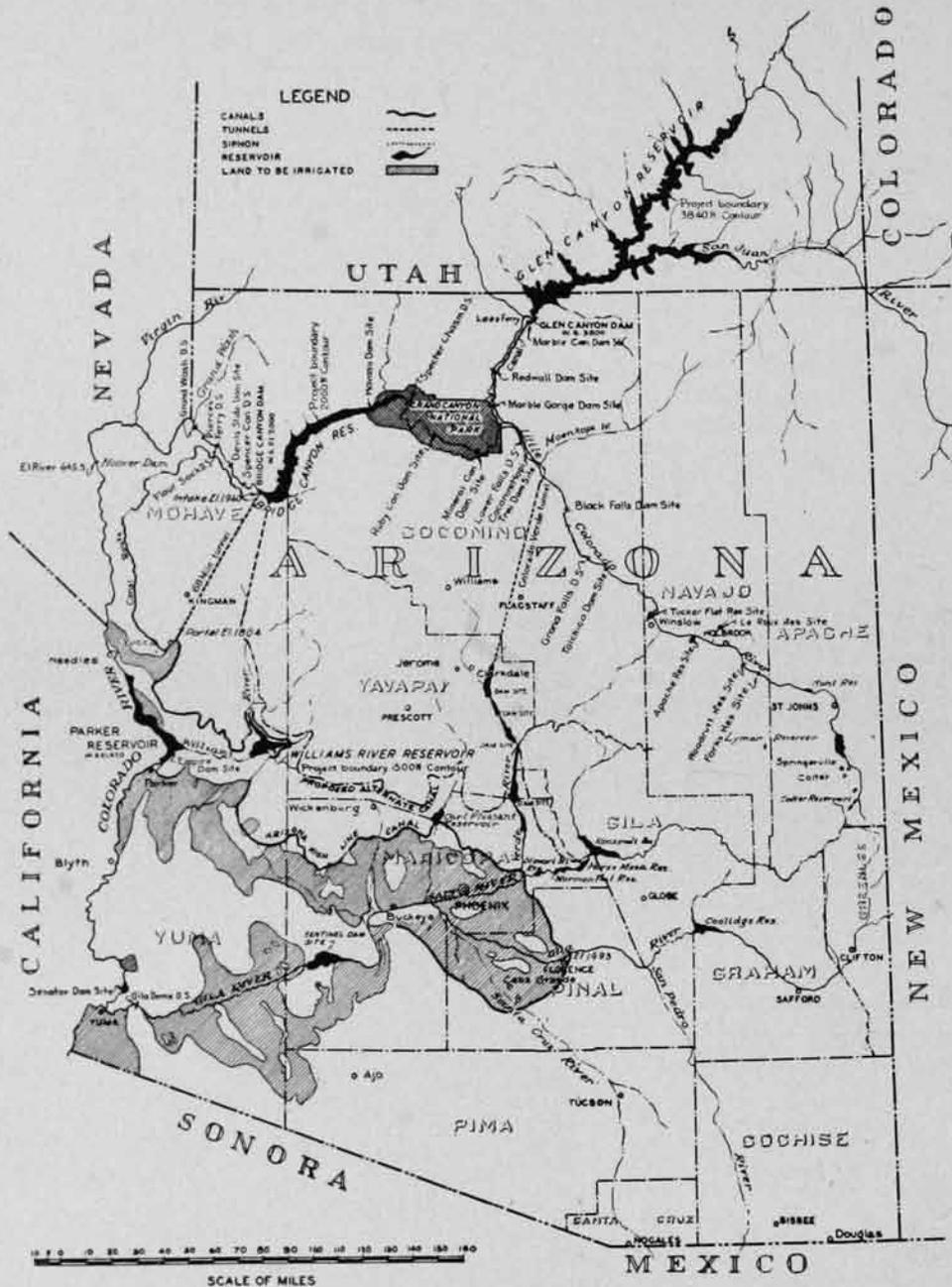
The Arizona Engineering Commission of which E. C. LaRue was chairman, made the finding that Arizona could irrigate 700,000 acres in Southern Arizona from the main river and an additional 2,000,000 acres in Central Arizona through the Highline Canal from a point above Boulder Dam, known as Lee's Ferry at Glenn Canyon.



FRED T. COLTER

Has Made Some Forty Water Filings on Strategic Dam and Power Sites on the Colorado River and its Tributaries

(20) Arizona Colorado River Commission Report, 1931-2, copy of letter.



Map showing dam and canal sites filed on by Fred T. Colter with the Arizona Water Commission and the Federal Power Commission for Arizona and Water Users under said projects. First filings made in 1923. Projects to develop 5,000,000 electrical horse power and irrigate 4,455,000 Acres of land.

On September 18, 1923 the Sturtevant-Stam Highline Canal survey proposed to the governor that the Arizona all-gravity canal was entirely feasible and recommended its construction to irrigate 3,500,000 acres. Senator Fred T. Colter was authorized to make water filings for the state on the basis of the Sturtevant-Stam Highline survey. The Spencer-Bridge-Canyon Diversion Dam site survey was made in 1923. The United States Geological Survey was made in collaboration with the University of Arizona in 1925. The Trott-Parker survey was also made in 1925. All of these predicted the construction of the Glenn Canyon Dam, which would provide storage for 50,000,000 acre feet of water to be used for power and irrigation. This would develop some 700,000 electrical horsepower at the proposed Glenn Canyon Dam and Bridge-Canyon Dam. It was estimated that the Glenn Bridge Highline project would irrigate 4,455,000 acres.

Water filings have been made on some forty strategic dam and canal sites on the Colorado River and its tributaries throughout Arizona since 1923 by Fred T. Colter, Arizona's water trustee, and president of Arizona Highline Reclamation Association and the Glen-Bridge-Verde Highline Irrigation and Power Association. Water rights and diligence have been maintained by Mr. Colter up to 1941.

When asked for a statement on Arizona's future supply of water, Mr. Colter said:

"Practically all of Arizona lies within the watershed of the Colorado River. We have no other water supply. Arizona contains 92% of the electrical horse-power, nearly one-half of the drainage area and over half of the irrigable land of the river system. Arizona is the trunk and body of this remarkable stream, the fastest falling river in the world having steep and close-walled canyons for economical diversion and storage dam sites. Near these cities and from 500 to 2000 feet below them are millions of acres in Arizona to which the water combined with power can be economically conveyed and developed."

Since 1923 Mr. Fred T. Colter has spent practically all of his time and fortune in behalf of the Glenn-Bridge-Verde Highline. This, he contends, will develop 5,000,000 acres of irrigation. He epitomized the plan in these words:

"Arizona is the body and the backbone of Arizona's rivers with 42% of its irrigation, and 92% of its power potentially within its boundaries. All water rights and projects of Arizona on the Colorado River and its tributaries are guarded, through the water filings on 40 major dam sites, for the people of Arizona. The key to the whole Colorado River situation is through more economic projects in reclamation. The future of Arizona is completely dependent upon the Colorado River's development. The Glenn-Bridge-Verde Highline Canal would decrease the taxes of Arizona some ten times; it would irrigate 10,000,000 acres; it would develop 5,000,000 horse power besides this irrigation. This project would help provide power for the railroads, mines, and manufacturing. It would be financed by municipal irrigation bonds. The total costs of the Glen-Bridge-Verde-Highline if modern, scientific engineering methods were used would be about \$150,000,000, the approximate cost of the Parker Dam Project. However, the Glen-Bridge-Verde Highline would bring some ten times the water and six times the power to Central Arizona than would be possible in the Girand Parker Dam proposal."

Arizona's right to Colorado River water has been protected by five Supreme Court decisions. The first and basic decision, Arizona vs. California, handed down March

10, 1931, held in essence that Arizona is not bound by the Santa Fe Compact, the Boulder Canyon project or by Boulder Dam itself, and that Arizona can take water out above Boulder Dam or elsewhere in the state.

The water filings including supplemental water from the Colorado River above Boulder Dam and throughout the state for the projects already completed, were made for Arizona in order to guarantee water to protect existing farms, homes, business, property values, cities, towns, and guarantee their growth and future. The already completed projects throughout Arizona will be the greatest gainers from such water filings and highline projects, as they will have more opportunity for becoming population centers than the undeveloped desert lands. Water from the upper main Colorado River will replenish the natural and pumped out underground water tables throughout Arizona, besides supplying old and new projects. This especially applies to the Paradise-Verde Project and other storage and pumping projects throughout the state.

Future and present pumping and storage projects can profit by clear titles maintained and receive cheap, gravity water and power. Present pump equipment could be kept for emergency water demands. Also large areas of shallow water can be brought under irrigation immediately by pumping, pending the arrival of gravity water through the Highline projects, according to Mr. Colter.

The Glenn-Bridge-Verde-Highline Project is based primarily on the Sturtevant-Stam and E. C. LaRues' surveys. When completed, Mr. Colter stated the taxable wealth and population of Arizona will increase many times, and taxes will be reduced greatly. Some 200,000 people will become employed through this reclamation development.

The Colorado River and tributaries have the most rapid and steepest descent of any rivers in the United States; and contain the narrowest and deepest canyons in America. Nearby are situated millions of acres of lands thousands of feet below the water which could be economically developed by this all-gravity irrigation and power project. Official surveys of said project bear out this statement. But how could it be financed? It is frequently true that the larger a project is when started, the easier it is to finance. This could be financed through private capital, irrigation districts, non-taxable bonds, through state or government, or the combination of one or more of these avenues.

Reclamation districts are being completed under these projects in order to issue and sell bonds for construction. When the districts are completed, assessments can be made to keep up the water filings and rights, obligations, etc.

Is there a market for the power which will be required to pay cost of development? This market could be brought about through the development of new land, new industry, cities, new and old mines, railroads, pumping stations, etc., within the state. If power were allowed to be sold outside of Arizona, then in a short time all of the power would be consumed.

When the Roosevelt Dam was built there was some doubt of finding a market for the power. Since its com-

ELEVATION IN FEET ABOVE SEA LEVEL

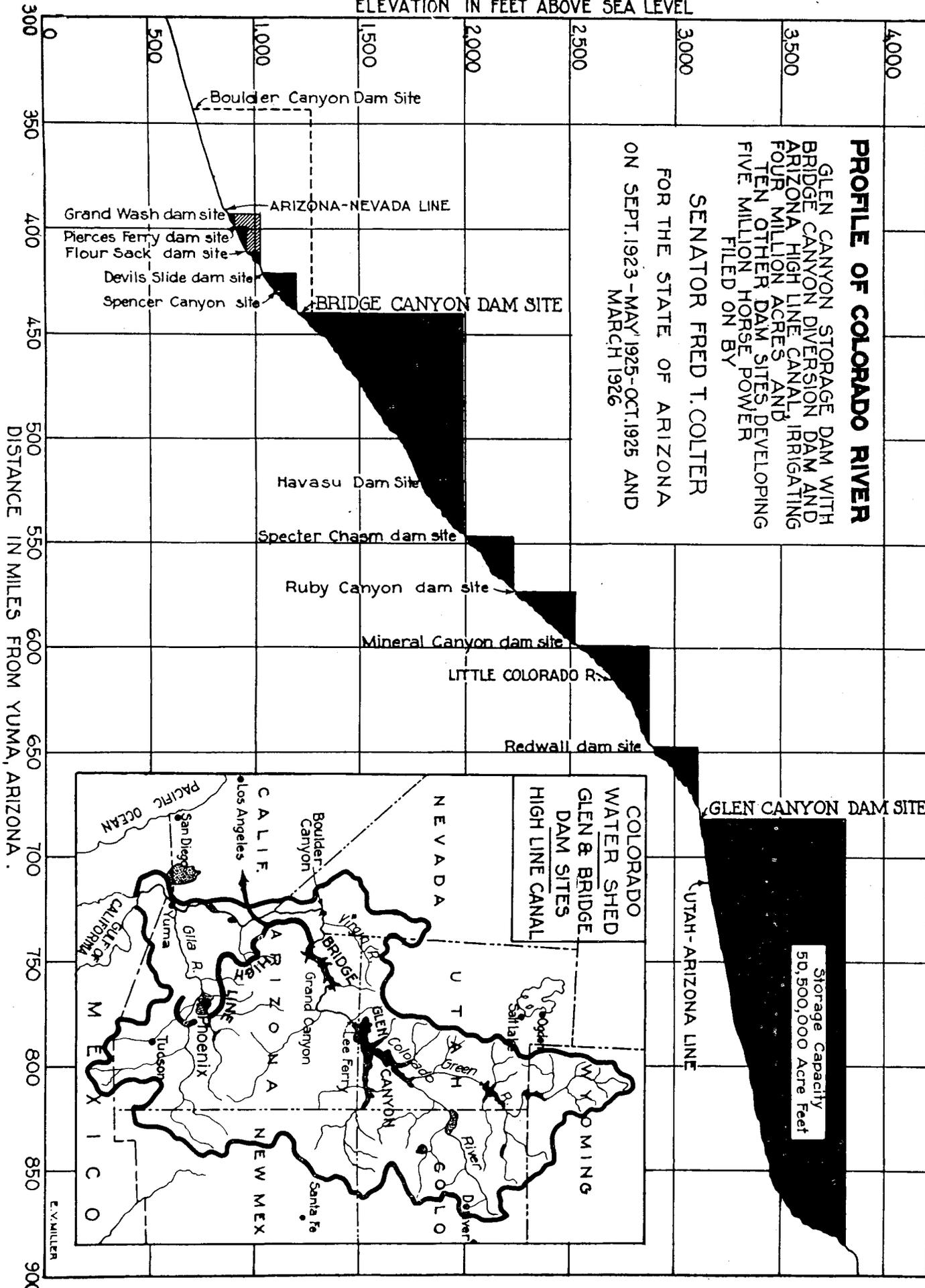
**PROFILE OF COLORADO RIVER**

GLEN CANYON STORAGE DAM WITH BRIDGE CANYON DIVERSION DAM AND ARIZONA HIGH LINE CANAL IRRIGATING FOUR MILLION ACRES AND TEN OTHER DAM SITES DEVELOPING FIVE MILLION HORSE POWER FILED ON BY

SENATOR FRED T. COLTER

FOR THE STATE OF ARIZONA  
ON SEPT. 1923 - MAY OCT. 1925 AND  
MARCH 1926

Storage Capacity  
50,500,000 Acre Feet



DISTANCE IN MILES FROM YUMA, ARIZONA .

E. V. MILLER

pletion many other power dams have been built in Arizona, with all the power consumed, and in addition, power from a 2,000-mile gas pipe line to Douglas, then to Phoenix and other Arizona points, a \$12,000,000 steam plant for power near Phoenix, a new power plant on the cross-cut canal near Tempe, etc., and now a \$9,000,000 project bringing power to the Salt River Valley from Parker and Boulder Dam.

The market for the products coming from the development of these projects will be found in Arizona and throughout the nation. Most of such products will be in demand in the east and elsewhere, especially at certain periods of the year. Around eight per cent of the same kinds of products that are grown in Arizona are shipped in from other states. Freight reductions and other marketing privileges would result when large irrigated areas could make possible mass handling, packing and classification of products produced.

The Santa Fe Compact made between the seven basin states for the division of Colorado River water was never ratified by Arizona until the Fourteenth Legislature so voted. Fortunately, California and Nevada did not approve of certain phases of the action taken by the Arizona Legislature. The question is very moot. The theory which has kept Arizona from signing is that she is not given her just share of Colorado River water or power by the compact. Someone has said that signing the compact by Arizona would be like signing her own death warrant. The western coast and most of the United States are practically developed to the limit. Also some 150,000,000 acres is eroding in the dust bowl of the Middle West. Arizona has about a third of the potential reclamation lands left in the United States, assuming development of the upper Colorado River.

Arizona's water rights have been protected and kept up. Business and financial interests are awakening to the fact that there will be a vast amount of wealth created in land development. People are teeming into Arizona to obtain homes, lands, etc., and to take advantage of this great opportunity, of which Phoenix and the Salt River Valley are the hub.

Property values, growth and good business are based upon future possibilities. In the arid and semi-arid states WATER spells FUTURE. This water must be guaranteed for many centuries ahead. When a state comes to its water limit its business and property values disintegrate. Water is indispensable to all human, animal, vegetable and mineral life. Water circulates in a river system just like blood in the body or sap in a tree, first from the head down and circulating over and over. Water does not grow, multiply, increase or propagate as does other life and is very limited, especially in the arid and semi-arid western states such as Arizona where the climate and health conditions are so delightful.

The Arizona Constitution does not uphold riparian (or property) rights to water. It does recognize prior appropriation, however, assuming that diligence has been maintained in the right to the use or eventual use thereof, and

as growth requires in terms of the maximum beneficial, economical, and continued use of the water combined with, and superior to, the power and attached to the land. Among other things, this requires the proper application of water to the land and the proper cultivation thereof. The proposed Glenn-Bridge-Verde-Highline Project would serve the maximum development of the entire Colorado River system for Arizona. Arizona's only water lies in the Colorado River and its tributaries. Major developments of the tributaries such as on the Salt and Verde Rivers have taken place. Plans are officially under way to bring both power and water from Parker Dam. But the real future of Arizona lies in the upper reaches of the Colorado River, according to the LaRue and Sturtevant-Stam surveys.

Five United States Supreme Court decisions, based on Fred T. Colter's water rights and his maintenance of diligence on them, have upheld Arizona's fundamental and inherent right to some 42 per cent of the Colorado River water. Arizona's basic heritage and future growth are irrevocably tied up in the main Colorado River. The following editorial (21) in *The Arizona Builder and Contractor* for August, 1940, is typical of this viewpoint:

"Arizona is far more wealthy in all the necessary natural resources for a tremendous expansion than almost any other state in the union. We have a great unlimited abundance of minerals, timber, amazingly fertile and productive soil, and varied abundance of natural scenic beauty and wonders, and lastly and most important of all, a great and unlimited supply of water. Water that can be had for the asking and that can be easily diverted to the fertile lands of central, southern and southwestern Arizona to develop in a few years the world's greatest, most productive and wealthy irrigation empire. Water . . . that would not only abundantly satisfy the thirst of millions of acres of fertile land, but would also create enough cheap power to attract hundreds and hundreds of factories and industries of all types to flock to Phoenix, the Salt River Valley and central Arizona, with millions for investment accompanied by a great horde of people, so that hundreds of thousands of families from all over the United States and especially from the run-down districts would flock to this amazingly wealthy and productive country.

"It cost over \$225,000,000 to build the Los Angeles aqueduct from Parker Dam to Los Angeles which will prove tremendously expensive to operate as they have to pump the water up grade over 1500 feet in order to get it to Los Angeles. It is definitely known by honest and unbiased local engineers who are not controlled by out of state interests that a dam can be constructed at Glen Canyon near Lee's Ferry (at any time Arizona wishes, according to a decision of the Supreme Court of the United States) for \$30,000,000, a dam that would furnish Central Arizona with over 7,000,000 acre feet of water per year.

"Because of its elevation, the water could be taken by gravity from the dam through tunnels and emptied into the head of the Verde River near Jerome for about \$75,000,000.

"Enough power could be generated by the water drops on the Verde to furnish a great and vast abundance of cheap power for our mines and thousands of factories and industries at the same time give our power companies here a good profit.

"When it is realized that water can be taken from the upper Colorado River at a cost of about \$110,000,000, one wonders what in the name of heaven is holding us back. This is the plan of Fred T. Colter, Arizona's water trustee, who has battled for over twenty years.

"Old Mother Nature has stepped in finally and has created a devastating, critical drouth making it necessary for Arizonans to wake up and do something quickly before it is too late.

"The proposed Glen-Canyon-Dam-Verde River project could be very easily financed by a bond issue backed up by the state of Arizona with the bonds being bought by private individuals, the state of Arizona, and the federal government, as was done to build the Los Angeles aqueduct.

"This project would furnish a great supply of water and cheap power, which would attract hundreds of thousands of people to Arizona quickly, which would in turn require a vast expansion in our building and construction industry in Arizona. Therefore, it is obvious that the building and construction industry, for its own good and Arizona's, should join hands to help force this issue and take the opportunity that nature offers us without any further delay."

Through the efforts of Senator Henry Ashurst and Carl Hayden, Judge Ernest McFarland, Representative John R. Murdock and many others, Colonel M. E. Bunger and 25 expert United States engineers under the direction of the Bureau of Reclamation (22) have come to Arizona to investigate Arizona's water resources. According to Colonel Bunger, three basic projects to be investigated are (1) the Girand plan for getting water from Parker Dam; (2) the Bridge Canyon Power development proposal of Alma Davis of the Arizona Colorado River Commission; and (3) the Glenn-Bridge-Verde-Highline proposal, of Fred T. Colter. In addition to these three fundamental projects, Colonel Bunger states that there are six secondary projects to be investigated, namely: (a) bring supplemental water for about 700,000 acres to Central Arizona; (b) 25,000 acre feet project along the Colorado River east of the Needles between Bullshead and Topock; (c) Arizona Water Conservator project on the Hassayampa embracing 20,000 acres; (d) the development of the project on the Showlow and Silver Creeks near Snowflake involving some 6,000 acres; (e) development of 25,000 acres of land north and east of Winslow; (f) Bullshead Dam site on the Colorado 35 miles above Needles, California, for power.

Colonel M. E. Bunger, head of 1940-41 reclamation surveys in Arizona prepared the following statement for the survey on "Bureau of Reclamation Investigations of Arizona." (23).

"Under the authority provided in Section 11 of the Boulder Canyon Act, the Secretary authorized the bureau of Reclamation to proceed with the investigations and in November, 1931, land classification parties were put in the field to determine the arable land in an area containing over a million acres. This area extended from the Colora-

do River on the west to the 600 foot contour on the north and east and the Republic of Mexico on the south.

"Within this area, 585,000 acres were found to be arable and 150,000 of the above was set aside as the first unit for development. In 1934 surveys were made and plans and construction estimates prepared for an irrigation system to serve the first unit. In 1935 this unit was authorized for construction and is now being built. It is now known as the Gila Project.

"Under Section 15 of the Boulder Canyon Act, the following additional investigations have been carried on:

"1. Land classification has been made of the Hassayampa Project, officially known as the Arizona Water Conservation District. Surveys have also been made to provide an irrigation system for about 15,000 acres near Wittmann, Arizona, and a report as to plans and feasibility is in process of completion in the Phoenix office of the Bureau.

"2. Land classification was made of the irrigated and irrigable lands under several canals located in the Little Colorado River drainage basin and the land classification for a project of around 25,000 acres in the Winslow area is being carried on during the fall and winter of 1940. Surveys are also being made to determine plan and cost estimates for this proposed project.

"3. Surveys are also being made on a plan to make use of all surplus water of Showlow and Silver creeks for supplemental water for areas now irrigated near Snowflake, Showlow and Lakeside.

"4. Some 23,000 acres of land have been classified along the Colorado River in Arizona, extending from Bulls Head dam site, about 30 miles above Needles, California to Topock, Arizona, and plans are under way to make surveys and cost estimates of an irrigation project in this area.

"5. Owing to the prolonged drought in the irrigated areas of Central Arizona, the Bureau of Reclamation is investigating the possibility of routes for bringing Colorado River water into that area to supplement the present deficient water supply. There are about 700,000 acres of irrigated or partly irrigated land in this area in need of supplemental water.

"Several survey parties are now at work on the route between Parker Dam on the Colorado River and Granite Reef, the diversion point on the Salt River for the Salt River Valley Water Users' Association canals.

"It is planned before the investigations are completed that every possibility for using any of the waters of the Colorado or its tributaries in Arizona will have been investigated."

Water is the life blood of Arizona, the sufficiency of which in the future is necessary for its continued growth. The Malthusian doctrine for Arizona would probably substitute water for food as the limiting factor on its population growth. The future of Arizona will depend to a major extent on the way in which it develops its inherent water and power resources.

(22) The activities of the Bureau of Reclamation are under the supervision of Mr. John C. Page, Commissioner at Washington; Mr. S. C. Harper, Chief Engineer in the Denver office; Mr. E. B. Debler, Hydraulic Engineer, in charge of investigations, and Mills E. Bunger, in charge of investigations, in Arizona.

(23) Submitted December 26, 1940.

## CHAPTER IV.

# AGRICULTURE IN ARIZONA AND THE SALT RIVER VALLEY

Agriculture is increasing as an important resource in Arizona year by year. Crop values in Arizona amounted to \$32,128,000 for 1940, as compared to \$31,326,000 in 1939 and \$27,655,000 in 1938, according to the United States Agricultural Marketing Service. King Cotton maintained its position of first place with a value of \$11,310,000, as compared with \$11,200,000 in 1939, and \$9,118,000 in 1938. Some 160,000 bales of short staple cotton were produced in 1940, as compared with 174,000 bales in 1939 and 175,000 in 1938. However, the price of lint was 11.60 cents a pound as contrasted with 11.1 cents in 1939 and 9.31 cents in '38. Arizona Egyptian cotton was up to 35,000 bales, as compared with 28,000 in 1939 and 21,000 in '38. Arizona has practically a monopoly on the Egyptian cotton so much in demand for national defense.

Cotton seed was valued at \$1,705,000 in 1940, as compared with \$2,076,000 in 1939 and \$1,829,000 in 1938. Arizona short staple cotton, while reduced to 491 pounds per acre in 1940, is still nearly double the national average.

Commercial truck crop including melons, lettuce and vegetables were second only to cotton with \$9,570,000 as an increase over \$8,784,000 in 1939 and \$8,110,000 in 1938.

Arizona farmers grew some \$4,005,000 worth of tame hay, as compared to slightly less than \$4,018,000 in 1939 and \$3,953,000 the year before. Tame hay brought \$9.00 a ton, as compared to \$8.20 and \$8.10 for the two previous years. The citrus crop was considerably down. Grapefruit brought \$797,000 for 1940, \$870,000 for 1939, and \$621,000 for 1938. Oranges were valued at \$570,000 for 1940, \$629,000 for 1939, and \$365,000 for 1938. Grapefruit brought 31 cents a box in 1940, as compared to 30 cents and 23 cents for 1939 and 1938. Oranges brought 95 cents per box in 1940, as contrasted with \$1.21 and 85 cents in the two previous years.

Alfalfa brought \$878,000 in 1940, a major drop from \$1,148,000 in 1939 and \$931,000 in 1938, this being due primarily to the annual water shortage. However, the price of alfalfa seed was down to \$7.20 per bushel in 1940, \$8.20 in 1939, and \$8.70 in 1938. The 1940 crops follow: Potatoes, \$262,000; corn, \$304,000; wheat, \$663,000; oats, \$131,000; barley, \$651,000; all grain sorghum, \$546,000; flax seed, \$408,000; dry edible beans, \$212,000; peaches, \$62,000; pears, \$10,000; and grapes, \$44,000.

Short staple cotton production had an acreage of 156,000 in 1940, 147,000 in 1939, and 150,000 in 1938. The production, however, was 160,000 bales in 1940, 174,000 in 1939, and 175,000 in 1938. Arizona's Egyptian long staple cotton had an acreage of 65,000 in 1940, as compared to 41,000 in 1939 and

44,000 in 1938. The production of long staple cotton was also increased to 35,000 bales, as compared with 28,000 and 21,000 for the two previous years.

Acreage and production for 1940 for other leading crops follow: Tame hay, 218,000 acres and 445,000 tons; alfalfa seed, 38,000 acres and 122,000 bushels; cotton seed, 87,000 tons; grapefruit, 2,570,000 boxes; oranges, 600,000 boxes; potatoes, 2,400 acres and 276,000 bushels; corn, 25,000 acres and 362,000 bushels; wheat, 39,000 acres and 819,000 bushels; oats, 11,000 acres and 297,000 bushels; and barley, 37,000 acres and 1,184,000 bushels. All grain sorghum, 32,000 acres and 880,000 bushels; flax seed, 13,000 acres and 240,000 bushels; dry edible beans, 14,000 acres and 63,000 bags of 100 pounds each; peaches, 50,000 bushels; grapes, 740 tons; and pears, 7,000 bushels.

The Salt River Valley is in the heart of the agricultural section of Arizona. It has been called the Nile Valley of America. Almost everything will grow where there is sufficient water for irrigation because of the soil and climate. The value of Maricopa County farm land (1) for 1940 was set at \$16,986,665 by the Maricopa County Board of Supervisors. The value of crops grown on the Salt River Project in 1939 was about \$15,935,708. In addition to this, livestock and livestock products sold for some \$3,000,000.

Agriculture is gradually becoming one of the major sources of income to Phoenix and the Valley of the Sun. In 1939 the short and long staple cotton produced in Maricopa County had an estimated value of \$5,750,000. (2). Cotton is the cash crop of the Valley. In Maricopa County are to be found 93,200 acres of short staple cotton and 24,300 acres of long staple cotton. Alfalfa is another major crop in the Salt River Valley, bringing an income of \$2,500,000 in 1939. More than 100,000 acres of alfalfa are raised annually in Maricopa County, of which the Salt River Valley Water Users Association, alone, accounts for 73,000. Between January 1 and April 15, 1940, some 6,681 carloads of lettuce were shipped to the nation from the valley, having a value of \$2,500,000. The 1939-40 meat packing revenue in the Phoenix vicinity amounted to more than \$8,000,000. Cantaloupes in the Salt River Valley brought an additional \$1,000,000 during the 1940 season.

The Valley of the Sun has developed into one of the richest agricultural sections in the world due to the tremendous reclamation development embracing 567,342 acres of land of which about 62 per cent or 352,844 acres have been under cultivation, producing splendid crops. Dairy business in Maricopa County alone amounts to \$4,000,000.

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(1) This includes 215,507 acres of pump-irrigated land, which the assessors valued at \$14.36 per acre and 240,533 acres of gravity irrigated lands, valued at \$54.11 per acre (average figures). In addition, for desert pasture and dry land farming, 763,128 acres are listed and given an assessment value of \$1.15 per acre.

(2) Federal payments increased the income of Maricopa cotton raisers to some \$9,000,000.

The surface is nearly level and the soil is deep. The Salt River Valley Water User's Association provides irrigation through Roosevelt, Horse Mesa, Mormon Flat, Stewart Mountain, Granite Reef, and the Bartlett Dams. The S. R. V. W. U. A., with a reclamation investment of \$43,000,000 accounted for some 240,000 acres of irrigated land.

The cash income from Arizona ranch and farm production in 1939 amounted to \$54,000,000 (3) as contrasted with \$50,000,000 in 1938 and the 1930 to 1939 average of \$41,200,000. (4).

The farmer is now greatly concerned with the price he receives for agricultural products in Arizona. An analysis of the prices for agricultural commodity products has been made every December by the University of Arizona since 1930. (5).

### COTTON

In 1939 Maricopa County produced a cotton crop of some \$5,750,000, consisting of 113,512 running bales of long and short staple cotton. In 1939 Maricopa had 81,000 acres of short staple cotton, as compared with 5,000 for Pinal; 11,000 for Graham; 5,700 for Pima; and 5,100 for Yuma. (6). More than half of 59.86 per cent of the short staple cotton acreage in Arizona in 1939 was grown in Maricopa County. The importance of cotton is indicated by the fact that it provided more than 12.5 million dollars in 1939 or more than 23 per cent of the total cash income of Arizona ranch and farm production. (7). The cost of producing short staple cotton in Maricopa County in 1939, excluding management, was about \$30 per acre. (8). If the net cost were set at \$40 per acre, Arizona cotton could be produced at 8 cents per pound. Inasmuch as the price was 9 cents a pound in 1939, the managerial profit was approximately 1 cent per pound. (9). The decrease in prices has necessitated lower costs. Labor charges have been reduced some 2.3 cents per pound cotton lint, (7) since 1937.

American-Egyptian cotton, which is not restricted by the adjustment program, was increased from 19,000 acres in 1937 to 41,000 in 1939. However, the drastic reduction of 140,000 acres (taken out of short staple cotton in Arizona since 1937), was only partially met by the American-

Egyptian cotton increase and an increase of some 40,000 acres of alfalfa 1937 to 1939. In 1938 Pima cotton averaged a net profit of \$12.88 per acre in which year 23,000 bales of long staple cotton was produced from the 40,000 acres. Some 23,000 bales of long staple cotton was produced from the 40,000 acres. Some 23,000 bales of long staple cotton was the estimated production for 1938.

There is approximately \$3,000,000 invested in Arizona's 50 cotton gins which have a capacity of some 2,500 bales daily. Maricopa County alone is served by 40 cotton gins, having a combined daily capacity of 2,000 bales. Arizona has two compresses, both of which are in Phoenix. (10). The fertility of Arizona's soil, together with her climate, gave Arizona an average production of 405 pounds per acre, as contrasted to 184.2 pounds for the national average in 1937. In 1937, some 309,795 bales were harvested from 299,000 acres. Arizona cotton growers believe that good cotton is not a matter of chance but a matter of intelligent selection. Maricopa County growers developed a high quality of seed through the Pure Cotton Seed Association, which is sponsored by the University of Arizona extension and United States agricultural experts. As a result 99 per cent of Arizona cotton is of sufficient merit to warrant government loans.

The United States government has made an attempt to increase agricultural income and has taken a hand in the maintenance of soil fertility. This has been accomplished through the Agricultural Adjustment Act, the Soil Conservation and Domestic Allotment Act, and the Federal Crop Insurance Program. (11). These programs are far-reaching in effect but we shall consider only their effect on cotton.

Arizona cotton industry represents an investment of around \$25,000,000. It furnishes about 80 per cent of cotton land settled by persons who either own or are purchasing their land, and it furnishes employment for many others.

It is the largest industry of the Salt River Valley. It is also the biggest cash crop in Arizona's agriculture. Picking starts in August and continues into the Christmas holidays. The 1939 crop was estimated at about \$10,000,000, when some 250,000 acres were planted in cotton.

(3) Later Bureau of Agriculture figures revised farm income to be \$57,000,000 for 1939.

(4) Barr and Baker, "Arizona Agricultural Situation: 1940," University of Arizona, 1940.

(5) Barr and Baker: "Arizona Agricultural Situation: 1940," University of Arizona. Arizona No. 1, baled, at the ranch in the Salt River Valley. Prices on fifteenth of month, as furnished by the Agricultural Marketing Service. Top fat steers at Phoenix, from Arizona Cattle Growers' Association weekly reports and from Central Arizona Cattle Feeders Association. Fat in churn cream delivered to creamery in Salt River Valley. Prices for fat in whole milk for manufacture, on a delivered basis, were as follows: December, 1939, 37 cents; December, 1938, 34 cents; and price for fat in Grade A milk (blend price) was 46 cents in December, 1939, compared with 49 cents in December, 1938.

(6) Arizona short-staple cotton acreage in 1939 was 147,000 as compared with the all time peak of 287,000 in 1937 and the low of 91,000 in 1932.

(7) University of Arizona, "Arizona Agricultural Situation, 1940" p. 4. The 1930 to 1939 Arizona cash income average from cotton lint and cotton seed was \$10,000,000.

(8) These costs include the water, taxes, interest on land investment, and short term credit of \$13 to \$17 per acre cultural operations including seed of \$10 to \$19, p. 5.

(9) A. A. A. payments were not included in the 1c per lb. profit. According to the A.A.A. not more than 47 per cent of the land in Maricopa County could be used to plant cotton.

(10) Each represents an investment of more than \$1,000,000, having large warehouse and storage facilities. Cotton is compressed to about one-third size of baled gin cotton.

(11) The cotton marketing quota regulations for 1939-40 are substantially the same as last year. Producers who have no carry-over penalty cotton and who plant within their 1939 cotton acreage allotments will receive white marketing cards and may sell all of their cotton in 1939 without penalty. Those overplanting their allotments will receive red cards, indicating that cotton sales in excess of their quotas will be subject to penalty. Producers having carry-over penalty cotton on hand will receive both red and blue cards. The blue cards will represent the amount of carry-over cotton subject to the two-cent penalty.



The Salt River Valley Has Been Called "The Egypt of the United States. Citrus, Cotton, Vegetables, and Deciduous Fruits are Grown in Abundance

World production of cotton has been so great that the government has stepped in and, with its Agricultural Adjustment Act, has reduced and curtailed cotton production. The general purpose of the A. A. A. is to reduce the surplus of 14,000,000 bales of cotton accumulated in the United States. This was established by setting up a \$5,000,000 revolving fund enabling exporters to ship cotton to foreign countries temporarily short of dollar exchange. The RFC corporation assumes 60 per cent of the risk.

The state's largest crop on record was in 1937 when 310,199 bales were produced. In 1938 Arizona ginned 191,887 bales and prior to December 1, 1939, the amount ginned was 197,000 bales. Arizona's cotton crop in 1939 was larger than in New Mexico, which ginned 97,000 bales and about one-half of California's 450,000 bales. Some 55 per cent of the state's cotton, including both long and short staple, is ginned in Maricopa County; Pinal County is second with 26 per cent; Graham third with 10.1 per cent; Pima fourth with 6.5 per cent; and Yuma fifth with 2.4 per cent. (Figures are given on all cotton ginned prior to December 1, 1939). (12).

Arizona is the only state in the union which produces Egyptian long staple cotton. In 1940 some 35,000 bales were produced as compared to 28,000 bales in 1939 and 21,000 in 1938. Long staple cotton was grown on 41,000 acres in Arizona in six counties in 1939 as follows: Maricopa, 22,000; Pinal, 11,500; Pima, 3,600; Graham, 3,300; Yuma, 340; and Santa Cruz, 150. The acreage of long staple cotton was increased to 65,000 in 1940.

The largest yield ever recorded of American Egyptian cotton in Arizona was 290 pounds per acre in 1939. The United States consumption of American Egyptian cotton was 18,600 bales in the year ending July, 1939, as compared with the average consumption of 14,600 bales during the period of 1930-1937.

American Egyptian cotton, because of its strength, is used for airplane and balloon cloth, typewriter ribbons, and tire fabrics and because of its fine texture is ideal for broadcloth, shirts, voiles, etc.

The production of short staple cotton in Maricopa County in 1939 was 46,523,000 pounds. This was approximately the same as in 1938, and similar to the 1935-1939 average of 46,520,000 pounds. The peak year for raising cotton in Maricopa County was 1937, when 85,268,000 pounds of cotton were produced. The yield in pounds per acre of short staple cotton in Maricopa in 1939 was 526 pounds—an all-time high. The average yield in pounds per acre in short staple cotton per acre in Maricopa County by years is as follows:

**TABLE IX—YIELDS PER ACRE IN SHORT STAPLE COTTON IN MARICOPA COUNTY**

1935 .....	442 lbs.
1936 .....	471 lbs.
1937 .....	509 lbs.
1938 .....	502 lbs.
1939 .....	526 lbs.

The 1935-1939 weighted average was 494 pounds.

Cotton is the king of agricultural crops in the United States. Some 13,500,000 people are dependent upon cotton for a living. Cotton is likewise the most popular fabric in the textile field. It represents 62.5 per cent of the fabrics used in the world.

Arizona is particularly favored as a cotton-producing state in its irrigation districts. The acreage of abandoned land in the Salt River Valley is the lowest in the nation, being only 0.5 of 1 per cent. Texas abandoned 3 per cent; California 1.2 per cent; and New Mexico 3.2 per cent.

Cotton plants in Arizona, according to the United States Department of Agriculture, are almost twice as high as in other cotton sections.

A very valuable by-product of cotton is its seed. In 1939 approximately 300,000,000 pounds of cotton seed were produced, from which the cotton oil was pressed out in the five mills of the state, resulting in a by-product of one-half to three millions of dollars. In squeezing out the oil, extremely fine filters are used and a pressure of 3,500 pounds to the square inch is employed. Maricopa County farmers received some \$750,000 in 1939 from the sale of their cotton seed.

If the producers of cotton comply with the provisions of the A. A. A. program, the government makes payments to them on the basis of their respective allotments and normal yields which are established by the County Committee of each county office. The County Committee consists of three men whose principle income is derived from the farm and who must be elected by the farmers of such county.

Payments for compliance with the cotton program has been divided into two parts. A price adjustment program has been divided into two parts. A price adjustment program which attempts to bring the price of cotton within 75 per cent of the parity price, which is determined on the period 1909-1914; the compliance with the various phases of the program.

Another phase of the program is the marketing of quota provision. If for any year the "total supply" of cotton exceeds the "normal supply" by seven per cent, the Secretary of Agriculture proclaims marketing quotas in effect. The Secretary's proclamation for 1940 said in part:

"That the 'total supply' of cotton as of August 1, 1939, was 25,550,000 running bales;

"That the estimated 'carry-over' of cotton as of August 1, 1940 is 13,550,000 running bales;

"That the national allotment of cotton for the calendar year beginning on January 1, 1940, shall be 10,000,000 standard bales of five hundred pounds gross weight, increased by that number of standard bales of five hundred pounds gross weight equal to the production in the calendar year 1940 of that number of acres required to be allotted for 1940 under the terms of section 344 (e) of said Act."

States which are engaged in the production of cotton must receive an affirmative approval of two-thirds of the producers voting. More than ninety per cent of the farmers who voted favored the marketing quota.

If marketing quotas are in effect, any cotton sold in excess of the marketing quota established for such farm, is subject to a tax of three cents per pound. The marketing quota is so established that any amount of cotton which is produced on a farm on which the planted acreage is not in excess of the allotment, may be sold penalty free.

A third feature of the program is the loan. The Commodity Credit Corporation makes available to producers who have complied with the provisions of the program a loan on cotton, an amount between 52 and 75 per cent of parity price. To those who have not co-operated, the C. C. C. loans 60 per cent of the amount loaned to participants, but only on cotton in excess of the marketing quota. This loan tends to put a bottom under the price of cotton which not only aids in stabilizing the market, but assures the producer of a fair price. A fourth feature of the program is Federal Crop Insurance.

Every year Phoenix has a Cotton Festival, which is sponsored by the Phoenix Chamber of Commerce. All the cotton districts participate in this festival. Then the valley quaffs this toast to the white cotton bolls on 180,000 acres of plants in ten Arizona counties: "Long Live King Cotton!"

#### CITRUS

The history of citrus in Arizona dates back to 1888 when the first grove of oranges was planted by W. J. Murphy. This orchard of some twenty acres was located at what is now Ingleside, northeast of Phoenix. The seed of that stock had its origin in the Bahama Islands. Washington Navels, Saint Michaels, California Sweet Seedlings, and Valencias were the first oranges planted; Duncans, Silver Clusters, and Triumph were among the grapefruit planted. In 1892 W. H. Blaisdell planted the first citrus orchard in the Yuma district on the south side of the city of Yuma. These citrus experiments met with a certain degree of success, and growing and marketing of citrus fruit is now one of the basic Valley of the Sun industries. Years of research by untiring horticulturalists and the combined energy of many growers have brought about the high standard of quality of citrus fruits in the Valley of the Sun.

The majority of citrus fruits consumed in America are produced in Arizona and California. A normal crop consists of approximately 80,000 carloads shipped throughout the United States, Canada, and other foreign markets. The returns of such a crop are in excess of \$100,000,000. The industry in the two states employs approximately 200,000 persons, with an annual payroll of \$30,000,000.

In 1939 a total of 21,632 (13) acres of citrus were grown in Maricopa County. (14). Of this, some 18,038 acres were produced in the Salt River Valley Water User's Association irrigation district. Production of citrus has grown to be an industry of major importance to the Valley of the Sun, where climatic conditions are favorable to the establishment and maintenance of orchards.

The 1939 estimated returns on Arizona's grapefruits, oranges, limes, lemons and tangerines were more than \$3,000,000. In 1938 the state shipped the equivalent of 4,536 carloads of grapefruit, 672 carloads of oranges and 11 carloads of lemons. Arizona's grapefruit finds its way to some



DOROTHY BEALL  
1939 Citrus Queen at Mesa  
Citrus Show

40 states annually, the District of Columbia, Canada, and several foreign countries. Oranges were sold in 29 states, Canada, Mexico, Hawaii, the Philippines, and England. Most of the citrus raised in Arizona is raised in the Valley of the Sun, the rest being raised in the Yuma Valley. Of all the citrus orchards, 64 per cent of them are in grapefruit. The valley has 7,500 acres planted in oranges, of which 60 per cent are of the navel variety and practically all the rest are Valencias.

The quality of the Arizona citrus is maintained through a rigid inspection and grading system set up by the state at the request of the orchard growers several years ago.

The Bureau of Agricultural Economics reported that

(13) John O'Dell, Agriculture Agent, Maricopa County, 1930.

(14) Cost of picking per 100 lb. in 1939 was 90c as contrasted to \$1.50 per 100 lbs. in 1928-1929.

there were some 14,000 to 15,000 acres of grapefruit trees (15) in Arizona in 1939. Heavy plantings of grapefruit trees were made in 1931-32-33. In 1940, of some 21,362 acres planted in citrus in Maricopa County, more than 16,000 acres were in grapefruit.

There are peculiarly favorable climatic conditions connected with producing grapefruit in desert-surrounded valleys that give it a quality superior to any other citrus. The fame of this grapefruit has enabled it to compete with other districts in markets all over the country, regardless of price reductions made by competitors. (16). It commands top prices.

An Arizona grapefruit cannot be placed on sale until it has acquired a certain amount of sugar content and natural coloring to its skin. Arizona grapefruit is of exceptional flavor.

Arizona is the only pest-free citrus district in the nation. The fact that growers here do not have to spend so many dollars per acre trying to control the various scales that infest citrus trees as in other districts makes it one of the lowest-cost production districts in the nation.

The investment in citrus orchards and packing houses has increased through the years, until it represents more than \$25,000,000. Returns from the crop are hard to estimate in advance, due to the fact that national conditions control prices. For example, the citrus failure in 1940 in Florida due to heavy frosts boosted the 1940 citrus price in the Southwest.

Grapefruit: The 1940 grapefruit crop was valued at \$797,000 as compared with \$870,000 in 1939 and \$621,000 in 1938. (17).

Some 3,987 carloads of grapefruit shipped out of Arizona in 1940 were grown in Maricopa County, while the remaining 475 carloads were grown in Yuma County. The 1939 crop of Arizona grapefruit amounted to 2,100,000 boxes or about 68,000 tons in 1939 as contrasted with 81,000 tons in 1938. There has been an amazing increase in production of citrus from 1937 to 1939 of some 230 per cent as contrasted to the five-year (1924-29) average crop. There are approximately 1,500,000 grapefruit trees in Maricopa

and Yuma Counties. Eleven packing plants handle the fruit in season from September through June.

The growing and culture of grapefruit dominates that of oranges in Arizona by a ratio of 2 to 1. Of the total number of citrus trees in the state of Arizona, there are 1,192,267 grapefruit trees; 625,145 orange trees; 5,102 tangerine trees; 2,675 lime trees, and 16,997 lemon trees. At the present time there are about 765 grapefruit growers in the state, with a total of 14,028 acres under cultivation. Arizona's yield of grapefruit per acre of mature trees is far greater than that of any other state. Arizona's average yield is 13 tons per acre, as compared with 8 tons in Florida, 6 tons in California, and about 5 tons in Texas. In 1925-1926 the production in the United States was less than 9 millions of boxes, whereas in 1938-1939, the crop was more than 30 millions of boxes. This great increase in America has been attributed to large acreage increases in all the producing states. Arizona's acreage increased from about 1,000 in 1923 to 14,028 in 1940. This increase, for the most part, took place during 1931-32-33.

The American grapefruit crop, prior to 1920, was almost entirely sold in fresh form. Florida was instrumental in processing grapefruit hearts, and in 1923, 200,000 cases of hearts and juices were canned. In 1937-1938, about 47 per cent of Arizona's crop of grapefruit was packed in boxes for fresh uses, 28 per cent was shipped loose, and 25 per cent was processed. About 20 per cent of the 1940 grapefruit crop was converted into grapefruit juice. (18).

An approximation of 11 pounds of fresh citrus fruits and 7 pounds of processed citrus fruits, or 18 pounds, is the United States consumption per capita.

Due to the increased production of grapefruit in the early thirties, there has been a sharp decline in the price of grapefruit. An approximation of prices received by Arizona producers is: In 1927, \$76 per ton; in 1935, \$20 per ton; and in 1937-38-39, from \$8 to \$6 per ton. These prices do not include the cost of picking and hauling to the point of delivery. These prices received by growers are so low that the returns are not adequate to care for operating ex-

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- (15) Reginald Royste, Agricultural Statistician and H. R. Wells, Associated Agricultural Statistician made a general survey of Arizona citrus trees and acreage survey of 1935, of which a general survey follows: This survey of the Arizona citrus tree and acreage indicated a total of 21,390 acres of grapefruit, oranges, and other citrus fruits in Arizona in March 1935. Of this total, 687 acres were 21 years old and over, 439 acres were 16 to 20 years old, 745 acres were 11 to 15 years old, 3,304 acres were 7 to 10 years, 10,932 acres were 4 to 6 years, and 5,283 acres were less than 4 years old. Apparently, the rate of plantings was not greatly in excess of 100 acres a year 20 years ago, but increased to 400 or 500 acres a year 10 years later, and reached a peak of more than 5,000 acres in 1931. Since 1931, plantings have declined and 1934 less than 800 acres were planted. At present only about half of the trees are old enough to produce fruit in commercial quantities, and only about 9 per cent are classified as trees at or near full bearing capacity. With average weather conditions, production may be expected to increase rapidly as more trees reach bearing age and as the bearing trees increase in size.
- (16) The long growing season and the negligible amount of damage give the citrus grower a decided marketing advantage in producing quality products at a low cost in a normal out of season market. The total fruit production in 1937-38-39 was about 50 per cent greater than in 1919, 1929-31.
- (17) P. J. Greer, Agricultural Statistician, December 21, 1940, Grapefruit trees require from seven to eight years to arrive at a commercially productive stage. They usually begin bearing in their fourth year and reach full production in sixteen to twenty years. Yields on mature properly cared for trees range from twelve to twenty field boxes of fruit. The average Naval orange tree yields from two to seven boxes of fruit and the Valencia and Sweet Seedling varieties, from four to twelve, according to age. All this fruit is washed, culled and packed before it is ready for shipment to distribution centers. Only the finest quality of fruit is shipped to the customer markets.
- (18) The Desert Citrus Products Association of Tempe, a subsidiary of the Arizona, Mesa and Yuma Citrus Growers utilized some 20 per cent of Arizona's 1940 grapefruit crop. About 225,000 cases of No. 2 cans of grapefruit juice were sent out to the nation's market. Some 1123 carloads of 1940 grapefruit were juiced.

penses without regard to any returns on capital investment.

Oranges: The Arizona orange crop brought \$570,000 in 1940; \$629,000 in 1939; and \$365,000 in 1938.

Navels and Valencias are the two most common varieties of oranges in Arizona. The navel is seedless, has fine eating qualities, is high in color, and has a smooth rind. The Valencia, delicious and heavily-juiced, is oblong in shape, and lighter in color. Valencias do not ripen until a year or so after the trees have blossomed. In the spring, ripe fruit and blossoms appear side by side on Valencia trees. The latest census of the Arizona orange industry shows the following facts:

Variety	No. of Acres	No. of Trees
Navels .....	2,896 .....	257,458
Valencia .....	2,880 .....	252,643
Fall Seedlings .....	1,299 .....	115,044
<b>TOTAL .....</b>	<b>7,075 .....</b>	<b>625,145</b>

The total number of all citrus trees in the state of Arizona is 1,842,206. Arizona shipped some 837 carloads of oranges during the 1939-40 season, as compared with 668 carloads in 1938-40—an increase of about 100 per cent over the shipments of 1934-1935.

However, the average price was only about one-third of the 1924-29 average return. Some 7,000 acres of oranges were grown in Arizona in 1939, of these Navels and Valencias each constituted about 3,000 acres each. The great plantings of orange trees occurred in 1930, 1931, and 1932. The orange production for 1939-40 has been estimated by the Agriculture Marketing Service at 460,000 boxes, compared with 430,000 in 1938; 350,000 in 1937, and 220,000 in 1936. In the citrus district there are six major packing houses and several smaller ones, together with three large juice extracting plants in which large numbers of grapefruit and oranges are canned. Arizona's citrus industry has developed a valuable side-line in "juicing" of grapefruit and oranges. Last season the equivalent of 472 carloads of grapefruit was converted into juice which was canned and sold. The juice industry relieved the fresh fruit market of considerable competition from second grade fruit. Practically all oranges in Arizona are grown in Maricopa County, which has some 5,000 acres planted in oranges, lemons, limes, and tangerines.

Lemons, Limes, and Tangerines: The Ponderosa, Varigated, Eureka, and Lisbon are the varieties of lemons grown in the citrus regions of Arizona, comprising a total of 16,997 trees. Fancy and Algerian tangerines have a combined total of 5,102 trees in Arizona. Mexican, Persian, and Red Limes are the varieties of limes grown, with a total of 2,675 trees. The Dumas ranch near Tempe has in its orchards nearly every known variety of citrus grown.

The United States government through the Federal Surplus Commodity Corporation has purchased much grapefruit in Arizona to relieve the ruinous prices caused by over-production.

Mesa has an annual citrus show every spring which is widely attended by people from Yuma and the Valley of the Sun. Mesa also has an annual Arizona Citrus Week, the purpose of which, according to Walter R. Bimson, general chairman in 1939, was "... to bring into fine focus the excellence of this year's crop."

CANTALOUPE

Cantaloupes brought more than \$1,000,000 to the Salt River Valley in 1940 with a record shipment of 2800 cars, plus an additional 863 carloads from the Yuma district.

The Salt River Valley Sweet-Eating cantaloupes are known throughout the world because of their choice quality. Some 7,039 acres in Maricopa County were devoted to the raising of cantaloupes in 1939. (19). Some 3,600 carloads of cantaloupes were shipped from Arizona in 1940 as compared to 3,000 in 1929. Imperial Valley in California shipped 2,893 carloads of cantaloupes in 1940. About 35,000,000 cantaloupes are raised every year in the Salt River Valley. The 1939 cantaloupe crop comprised 8,500 acres of which 6,200 were in the Salt River Valley and 2,300 at Yuma. The distribution was nation-wide.

TRUCK-FARMING

More than 4,500 acres in the Salt River Valley was planted in vegetables in 1940, about half of which were of the normal garden variety of vegetables such as asparagus, carrots, and strawberries.

In the Salt River Valley in 1939 some 576 cars of honey dew melons were raised from 11,000 acres. They were carefully picked, graded, and packed, usually nine in a box, before being shipped east. Production of other vegetables in Arizona for the year ending August 31, 1939 (20) included 1450 cars of carrots, 320 cars of cauliflower, 127 cars of broccoli.

In 1940 some of the small truck farm acreages included 31 acres devoted to asparagus, 500 acres of beans, and 1,000 acres of potatoes.

LETTUCE

Lettuce production in the Salt River Valley between January 1 and April 15, 1940, on some 13,400 acres of land brought in an estimated gross return of \$2,500,000. In addition, some 3,500 to 4,500 more carloads of fall lettuce will be shipped between November 15 and December 25.

The Salt River Valley entered into the production of lettuce in 1916, when it had a total shipment of 16 carloads. In 1938 some 200,000,000 heads of lettuce were shipped to the east. Within a 25-year period it had achieved national recognition for its high quality lettuce. In 1940 as in 1938 some 13,000 carloads were shipped out of Arizona during the winter season. (21). More than a million dollars is paid out in wages to thousands of workers annually. Some 24,800 acres were devoted to the raising of lettuce in Maricopa County in 1939; (22) 9,155 acres were in fall lettuce and 15,646 in spring lettuce. The 1939 year was rather disastrous because the unusual September rains brought the crop to maturity too quickly when the market

(19) John O'Dell, County Agent of Mericopa, July 1, 1939.  
 (20) The statistics compiled by fruit and vegetable standardization service.  
 (21) This about the average annual shipment since 1926.  
 (22) Some 15,000 acres of this are in the Salt River Valley.



Arizona Steers

was gutted. Consequent plowing under of lettuce crops to reduce the supply caused great loss in this crop. Some 1,500,000 to 2,000,000 lettuce crates were nailed together annually to pack the lettuce for shipment. During the normal lettuce season some 40 to 60 carloads of lettuce are loaded daily, bringing the cash income per day to Maricopa County of \$100,000. In 1938 there were approximately 3,000 cars loaded out from Maricopa County. Hundreds of trucks are needed to help move the crop to the packing sheds. There are some 23 packing and shipping plants in the Salt River Valley. (23). From 35 to 50 buyers come to Phoenix each season. Normally there are three lettuce crops a year, maturing respectively in the fall, mid-winter and spring. Lettuce normally brings to the Phoenix and Yuma areas some five to ten million dollars annually.

#### WATERMELONS

More than 15,000 tons of watermelons were grown in Maricopa County on 1,635 acres of land in 1939.

#### DATES

Nearly half of the United States' crop harvest of dates is raised in Arizona; approximately 350,000 pounds are produced annually in the Salt River Valley and Yuma. A tree count in 1939 revealed that there were some 18,000 date palms of the usual varieties in addition to some 33,000 seedling dates. Some 354 acres were devoted to date grow-

ing in Maricopa County. It is nationally known for its fresh dates.

#### HONEY

Honey is also quite a crop in the Salt River Valley and some 3,000,000 to 5,000,000 pounds are annually produced from more than 20,000 stands of bees throughout Arizona. Practically all of the honey is extracted and sold in bulk, much of which is shipped to Europe.

#### VINEYARDS

Arizona normally has a rich yield from its vineyards, exporting to other parts of the nation some 250 carloads of table grapes per season. Maricopa County had some 289 acres in vineyards in 1939. Grapes brought \$35 a ton in 1940; \$44 in 1939; and \$50 in 1938. Grape production in Arizona amounted to \$44,000 in 1940 as contrasted with \$51,000 in 1939 and \$36,000 in 1938.

#### SUGAR BEET SEED

The Salt River Valley is the largest of the six sugar beet seed producing districts in the nation. The Salt River Valley produced 8,287,000 pounds of sugar beet seed in 1940, valued at \$700,000. About 4,321 acres are planted in sugar beets in Maricopa County. The previous record of production was in 1937 with 7,600,000 pounds. The average yield per acre in 1939 was 1,917 pounds.

(23) Lettuce sheds of the big shipping firms of the Salt River Valley total \$850,000.

GRAIN AND ALFALFA

The importance of alfalfa hay as a big farm crop is suggested by its addition of \$2,500,000 to the Salt River Valley in 1939. Arizona had some 180,000 acres of alfalfa on January 1, 1940. Of this Maricopa County had 101,000 acres; Pinal, 35,000 acres; Yuma, 33,000 acres; and Graham, 7,000 acres. The 1939 acreage was about 30 per cent greater than in 1937. Alfalfa is definitely dependent upon a constant source of water supply. Perhaps no other major crop is so affected by the changing water supply as is alfalfa. Some 8.6 million pounds of alfalfa seed was produced in Arizona in 1939, compared with 6.4 million pounds in 1938 and 5.2 million pounds, (1929-38) average.

Arizona produces about one-tenth of the total American crop. (24). Stores of alfalfa seed were larger January 1, 1940, than previously. Alfalfa seed netted Arizona \$878,000 in 1940; \$1,148,000 in 1939; and \$931,000 in 1938.

About 400,000 tons of alfalfa hay is raised annually. Arizona alfalfa carries a higher protein content than can be obtained in other producing sections, analysis made by the United States Department of Agriculture show. Maricopa County in 1939 had 64,821 acres of alfalfa in addition to 44,315 in alfalfa and grain. Its excellent quality insures it a premium price. Tame hay brought \$4,005,000 to Arizona in 1940; \$4,018,000 in 1939; and \$3,953,000 in 1938.

Some 39,000 acres of wheat in Arizona produced 819,000 bushels selling at 81 cents a bushel for \$663,000 in 1940. The 1939 wheat acreage was 35,000 which produced 805,000 bushels. Some 21,379 acres in Maricopa County were planted in wheat or 61 per cent of the state's total acreage. (25).

Barley acreage for 1940 was 37,000 acres which produced 1,184,000 bushels which were valued at \$651,000. In 1939 some 34,000 acres of barley in Arizona produced 1,156,000 bushels, valued at \$555,000. Maricopa County in 1939 had some 19,696 acres in barley.

Flax seed was first grown in Arizona in 1939, when 5,000 acres produced 110,000 bushels valued at \$100,000. Greatly encouraged, the Arizona farmers planted 13,000 acres in flax which produced 240,000 bushels valued at \$408,000 in 1940.

Arizona on the average produces 1½ tons of hegari. Hegari is excellent for fattening beef for market. Arizona normally has about 40,000 acres of grain sorghums which normally yield some 25 bushels per acre as contrasted with the United States annual yield for sorghums of 10 bushels per acre. Grain sorghums brought \$546,000 to Arizona in 1940.

LIVESTOCK

Beef Cattle: Some \$2,000,000 worth of beef cattle will be processed in 1940 from Maricopa and Pinal Counties.

On December 15, 1939, there were approximately 143,000 cattle on pasture and in feed lots in Maricopa, Yuma, and Pinal Counties. This figure compares with 104,000 head in 1938 and 126,000 on the same date in 1937. Cattle on feed in Maricopa County totaled 98,000 head, with ap-

proximately 56,000 head on pasture and 42,000 head in the feed lot. Pinal County, with a 100 per cent increase in number on feed, had 14,900 head on pasture and approximately 2,000 head in feed lots on the above date. Yuma County likewise doubled the number of cattle on feed with 28,000 head, 15,000 of which were on pasture and the remainder in feed lots on December 15, 1939. Most of these cattle are first placed on pasture, and a large percentage later are finished in feed lots.

E. V. Graham of the Tovrea Packing Company made the following statement concerning the quality of beef in the valley for this survey:

"This quality improvement has come about because the owners of range cattle have spent large sums to improve the breed of cattle in their herds and because Central Arizona offers an ideal place to put a 'finish' on the animals prior to marketing. To understand how this finishing business has grown in the last decade, remember that our cattle population in Arizona is 750,000 head. We ship out 350,000 head each year. Of course, at least 150,000 are placed on feed in the Salt River Valley before being sold."

Some 898,000 cattle chewed their cud in Arizona in 1940 as compared to 855,000 in 1939. They represent a farm value of \$32,716,000.

DAIRYING

Dairying is one of the major industries of the Salt River Valley. It brought \$4,000,000 to Maricopa County in



Agricultural Land is Interspersed with Rocky Protrusions such as this Natural Bridge Rock Formation

(24) The Arizona Agricultural Situation, Ibid., pp. 11-13.

(25) John O'dell, Maricopa County Agricultural Agent. In addition there are 349 acres in corn, 310 in flax, 441 in sudan, and 2,310 in oats.

1939. This one county produces some 70 per cent of all of Arizona's milk and butter supply. (26). There are more than 30 retail dairies in Phoenix and Maricopa County. They produce 2,548 pounds of creamery butter, 515,000 pounds of cheese, 656,000 pounds of skim-milk cheese, 9,625,000 pounds of evaporated milk, 235,000 pounds of bulk condensed milk, 253,000 pounds of casein, and 421,000 gallons of factory ice cream.

There were approximately 49,000 milk cows in Arizona as of January 1, 1940, compared with 47,000 in 1939. The fluid milk market utilizes about 60 per cent of Arizona's total production.

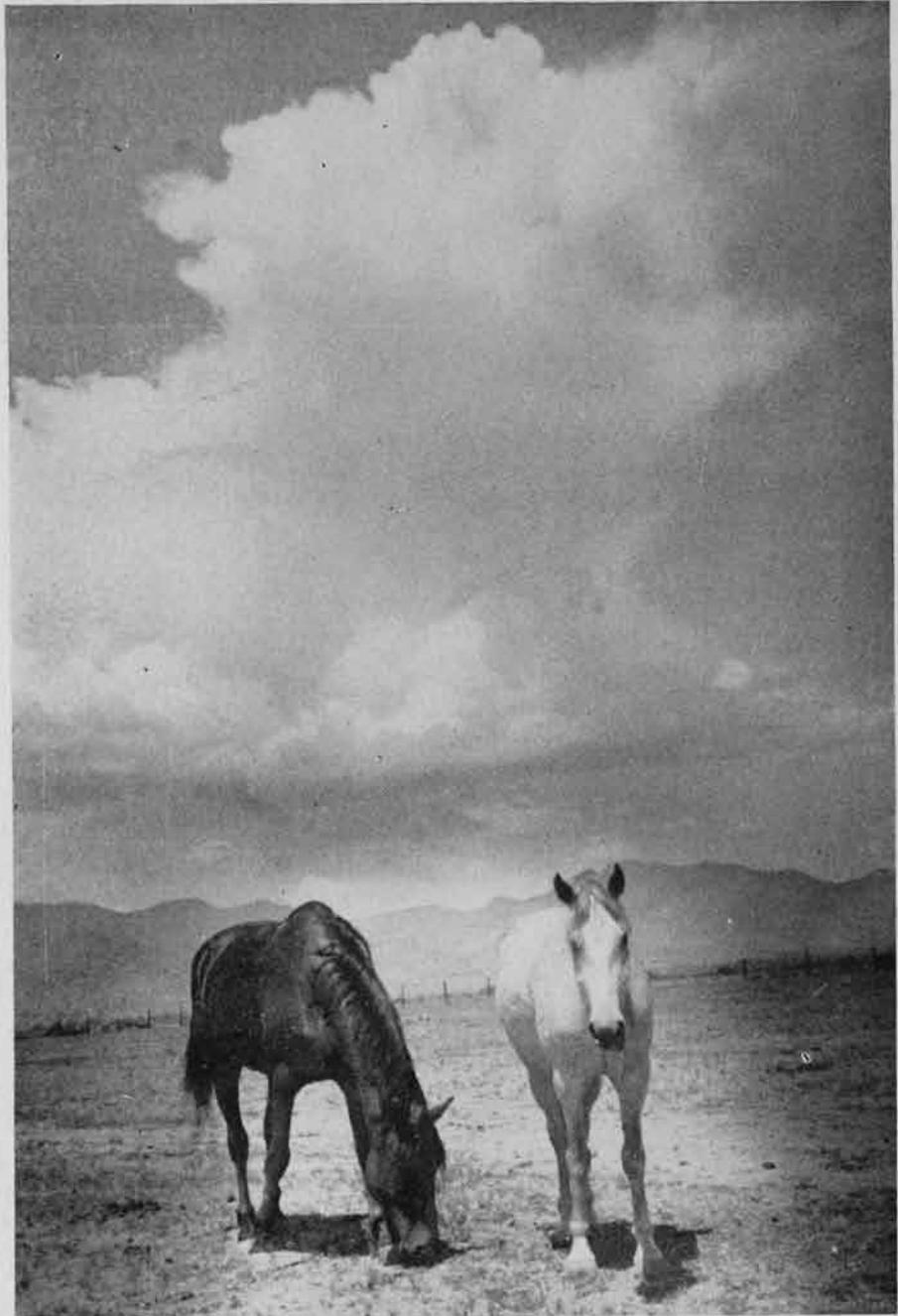
In 1935 Arizona produced 200,000,000 pounds of milk, 1,944,000 pounds of butter fat, and 55,000,000 eggs.

Butter fat prices were slightly lower in 1939 than in 1938, although the butter consumption was larger in 1939. Margarine consumption reached its peak in 1937 but has dropped off considerably. Cheese consumption, however, has doubled during the last 25 years. Storage holdings of butter, cheese, etc., were greatly reduced as over the holdings for the previous year. (28).

In 1939 and 1940 the Dairy Products Association was authorized to purchase 25 million pounds of butter for the Federal Surplus Commodities Corporation.

**Sheep and Wool:** In 1940 there were about 798,000 sheep in Arizona, a reduction of some 35,000 from the 1939 figure of 833,000. (29). Wool produced in Arizona in 1939 amounted to 5,300,000 pounds, this according to the Wool Growers Association, one of the oldest livestock associations in the west. About 60 per cent of Arizona's wool production was in the Salt River Valley. Of this wool, 3,600,000 pounds came from 3,870,000 head of sheep listed as domestic; while 1,700,000 pounds from 454,000 head were classed as Indian. The average price of wool in 1939 was 20¼ cents per pound for domestic and 19 cents for Indian.

Sheep and wool together formulate a \$2,000,000 indus-



Vast Areas of Arizona are Devoted to Grazing Land

try. In 1937 the wool crop amounted to \$1,500,000 not counting \$300,000 to \$400,000 which it brought to the Navajo Indians. About 75,000 to 90,000 lambs are sold each spring to the butcher.

Pen feeding is a major industry of the Salt River Val-

(26) Arizona Livestock reports, January 1, 1940, P. J. Greer and M. R. Wells.

(27) A. M. Creighton, president of Arizona Milk Producers Association.

(28) Barr, G. W. and Shinn, L. B., University of Arizona Bulletin, pp. 14-15. Federal Surplus Commodities Corporation Relief Agencies would hold about six million pounds of butter.

(29) Source: P. J. Greer and M. R. Wells, Agricultural Statisticians.



Grazing Sheep

ley. The Tovrea Packing Company claims to have the largest pen-feeding system in the United States.

Some 800,000 sheep are pastured in the Valley of the Sun each year. Shipments of spring lambs run to nearly 300,000 lambs annually. The price varies from 19 to 20 cents. About 25 to 30 buyers come to Phoenix each spring. The Arizona farm value of sheep as of January 1, 1940, was \$4,109,000. (30).

The raising and fattening of swine is an important industry in the Salt River Valley (31). There were some 38,000 hogs in Arizona in 1940 as compared with 32,000 in 1939.

**Poultry:** The largest Federal Poultry testing station is at Glendale, Arizona. It was established in 1920, covers a 20-acre lot, and represents an investment of \$60,000. It was originally an ostrich farm. The mild climate of Arizona is favorable for keeping poultry. Each year the University of Arizona has an egg-laying contest accepting 20 pen entries of 30 birds each. Arizona grows unusually fine turkeys. Maricopa, Pinal, and Graham Counties have the largest production. There were some 26,000 turkeys in Arizona as compared to 22,000 in 1939. (32).

The 1940 census in Arizona totaled 553,000 as contrasted to 572,000 in 1939 and the 1929-38 average of 662,000 although slightly lower than the 27,000 average of 1929-38. There was a heavy egg production in the last months of 1939, resulting in a general decline in the price of eggs. The general price of eggs in 1939 was 26 cents as compared with 29 cents in 1938. The temperatures are so mild in Central Arizona and especially in the Salt River Valley that the commercial poultrymen seldom have to provide a

shelter over the roosts of their flocks. In 1937 there were some 350,000 dressed turkeys shipped from Arizona. Arizona seldom produces a sufficient supply of turkeys for her own consumption; prices on December 23, 1939, were 23 per cent larger than a year earlier and 25 per cent above the 10-year average. The 1940 census of chickens numbered some 553,000 as compared with 572,000 for 1939. The 1929-38 average was 662,000.



**DR. IRA B. JUDD**  
 Head of the Department of  
 Agriculture  
 Arizona State Teachers College  
 At Tempe

(30) There were 920,000 sheep in Arizona in 1935. There are approximately 500,000 sheep belonging to Indians not counted in the above figure.

(31) The United States Census reported that Arizona had in 1935, 77,000 horses; 771,000 cattle; 931,000 sheep; and 22,000 swine.

(32) Arizona Livestock report, January 1, 1940, P. J. Greer and M. R. Wells, Agricultural Statisticians.

Each year a 4-H Fair is held on the campus of Arizona State Teachers College at Tempe under the direction of Dr. Ira B. Judd and Professor F. E. Ostrander. In the spring of 1940 more than 4,500 exhibits were entered by some 1,325 club members.

The exhibits included livestock and poultry of all kinds; baking, sewing and all sorts of home economics; judging contests, crops and vegetables—in all, 19 departments.

Some 48 volunteer assistants in various schools served as leaders of 4-H clubs. Most of these are teachers, although persons outside of the teaching system are used also.

The main interests of the girls' clubs center in home economics projects, such as baking, dressmaking, home management and flower raising. The boys go in for beef and dairy projects, swine, horses, poultry, gardening, farm management, camping and similar activities.

The federal government is now co-operating with Arizona more than ever before through its many agencies such as Agricultural Marketing Service, Bureau of Entomology and Plant Quarantine, Farm Security Administration, Bureau of Plant Industry, Weather Bureau, etc., all functioning under the Department of Agriculture. John O'Dell, Maricopa County Agent, prepares annual statistics on crop acreage and production, while P. J. Creer and M. R. Wells, agricultural statisticians, prepare a monthly livestock report. The University of Arizona prints an annual pamphlet, "Arizona Agricultural Situation," assembled by George W. Barr and Lloyd B. Shinn. Alfred Knight, retired industrialist, is president of the Agricultural Coordinating Council of the Salt River Valley. Both the University of Arizona and A. S. T. C. at Tempe have agricultural departments under competent direction.

The older psychology of pitting the Agricultural West and Southwest against the Industrial East is definitely a thing of the past. Close co-operation between agriculture, science and industry is the new order of the day. The farm is still the foundation of society. The industrial era has advanced at a much faster pace than that of agriculture. Now by means of Farm Chemurgy a new union of agriculture and industry is possible in the Salt River Valley.

Why? Because in the Industrial Revolution, starting in 1763, with the invention of the steam engine by Isaac Watts, the raw materials were minerals and essentially iron and steel. In the Farm Chemurgic development in this twentieth century, farm products will form the raw materials of industry.

This chapter might well close with a statement by M. F. Wharton, soil expert, on "Soil Chemistry of Maricopa County Soils." It follows:

"The soils of the Salt River Valley have been laid down through the ages by water from the mountains surrounding this area. These soils come from rocks naturally basic, or alkaline, in nature. The resulting soil, therefore, is definitely of alkaline reaction with Ph values from 7.5 to 9.0. This basicity can be modified but not overcome

completely through culture and chemical treatments. However, the range of Ph is still within the adaptability of most crops and does not prevent commercial production, excepting in those crops which definitely require an acid soil.

"The soils of this area possess a native fertility that is only in favorable balance for crop production over a limited period of time. Of the major nutritional elements, potassium is present in large amounts and little need will be evidenced for this nutrient over a long period of time. Phosphate, on the other hand, is very limited in amount and most soils require addition of this nutrient after a few years' production. Phosphate is present in an unavailable form and, due to the alkalinity of the soil, any phosphate added to it gradually becomes unavailable to plants through chemical reaction. Nitrogen is present in our irrigation waters in a limited amount and must be added to the soil under constant production. The main need for addition of this nutrient is brought about by lack of control of it in the soil. Being water soluble, the movement of the water leaches it from the soil and capillary movement of water leaves it on the surface in the form of a salt residue. In both instances nitrogen becomes unavailable to plant use and additional amounts must be furnished to replace it. Many chemical elements are needed, in very small amounts, by plants other than those mentioned above. These trace elements are present in most Salt River Valley soils with the exception of manganese, iron and zinc which may be added to meet the requirements of crop production.

"The most important chemical consideration of Salt River Valley soils lies in the salt content. The valley is properly named since salt springs on the upper Salt River furnish significant amounts of common salt, sodium chloride. The accumulation of this salt, as well as sodium sulphate, carbonate, and other sodium compounds, brings about a definite problem. These sodium compounds form further complex chemical associations in the soil which bring about a freezing action, rendering the soil of poor physical structure, preventing adequate penetration of water and air required by crops. Fortunately, this problem is cheaply overcome through the addition of gypsum rock, calcium sulphate, that is mined within 50 miles of Phoenix. This calcium sulphate interchanges with the sodium salts, causing them to obtain a form readily leachable from the soil. When this has been accomplished, the soil becomes open, loose, and generally of a structure favorable for plant growth.

"In general, the chemical make-up of Salt River Valley soils is favorable to crop production under normal farm management. Rotation of crops, the use of manure and commercial chemicals in fertilization, and the proper handling of these soils under irrigation, assures a long life of increasing productivity."

## CHAPTER V.

# AGRICULTURE AND FARM CHEMURGICS

Arizona and particularly the Salt River Valley will always have an important part to play in the production of the nation's food, in both peace and war time. But with progressive efficiency in agricultural production and world over-production occurring at an astounding rate, what is the future for agriculture in the Southwest, and especially in Arizona? The answer seems to lie in the field of Farm Chemurgics. By farm chemurgy is meant the chemical treatment of agricultural products so that they may be transformed into industrial products of commercial value.

The Farm Chemurgical Council has for its purpose: "To advance the industrial use of American farm products through applied science." The Farm Chemurgic Council and the Chemical Foundation, Inc., have jointly sponsored the Dearborn Conferences. The Second Dearborn Conference of Agriculture, Industry and Sciences met at Dearborn, Michigan, May 12-14, 1936. The purposes of the Conference, as stated by its Secretary, V. H. Schoffelmayer, Agricultural Editor of the Dallas News, were as follows:

"To survey the variety of farm products which through applied Science can be transformed into raw materials usable to Industry.

To define the Scientific Research problems essential thereto.

To stimulate appropriate Research in public and in private institutions.

To Activate American Industry to apply the fruits of Research.

To encourage the joint cooperation of Agriculture, Industry, and Science in promoting this significant development nationally.

"The Commendable Hope is Entertained that such Cooperation will:

Result in the gradual absorption of much of the domestic farm surplus by domestic Industry.

Put the idle acres to work profitably.

Increase the purchasing power of the American Farmer on a stable and more permanent basis, and thereby, increase the demand for manufactured products; and thus, restore American Labor to productive enterprise; and relieve the economic distress of the Nation."

The older psychology of pitting the Agricultural Southwest against the Industrial East is definitely a thing of the past. Close cooperation between agriculture, science and industry is the new order of the day. The farm is still the foundation of society. The industrial era has advanced at a much faster pace than that of agriculture. Now by means of Farm Chemurgy a new union of agriculture and industry is possible.

Why? Because in the Industrial Revolution, starting in 1763 with the invention of the steam engine by Isaac Watts, the raw materials were minerals and essentially iron and steel. In the Farm Chemurgic development in this twentieth century, farm products will form the raw materials of industry.

Industrial technology has resulted in more than 800,000 inventions, discoveries and patents in the United States during the decade 1919-29. (2). In the first third of the twentieth century some 1,330,000 patents were issued in the United States. Professor W. F. Ogburn of the University of Chicago estimates even more in the second third of the century.

Technology has indeed helped agriculture. The physical volume of agricultural production was 48 per cent greater in 1929 than in 1899. But physical volume in manufacture has increased 210 per cent during the same period; transportation in railroad ton-miles some 228 per cent; mining production, 286 per cent; and horsepower equipment, including all automobiles, some 2,510 per cent.

The difference in potentialities is too great between the increase in agriculture production and other areas of life. The farmer is producing more and more and apparently getting less and less for it. In 1918 and 1919, agriculture contributed 20.5 per cent of the nation's income. In the early 1920's it averaged slightly more than 12 per cent; after 1925 it declined, and in 1932 reached a low of 7.5 per cent. It rose to 10.6 per cent in 1935. Application of industrial technology all over the world has resulted in tremendous over-production internationally in agricultural products, including livestock.

Scientific technology in terms of iron and steel implements will and must continue in these days of national defense.

However, the farmer, face-to-face with tremendous over-production, needs the aid of science and industry to help him find new uses for agricultural products.

The answer seems to lie in the Farm Chemurgic movement. This movement in brief is to unite agriculture, science and industry. Their aim is to advance the industrial usage of American farm products through applied science.

William J. Hale in his book, "The Farm Chemurgic," places the farm once more in the center of the industrial picture. He states:

"The farm holds the key to human happiness. These false gods are but vassals in the chemurgical hands of nature. Production and consumption of worldly goods must be in strict accordance with nature's living output; on such principles we can build and manufacture to our heart's content and fear no evil. Enlightenment dawns; Elysian fields lie before us; prosperity beckons. The road is the road of Chemurgy, the hand maiden of nature. If we falter and forsake her, chaos awaits us."

It has overlooked the fact that within the soil is a colossal storehouse of living and inanimate matter. The inorganic matter consists of carbonates, sulphates, oxides and silicates of various metals and silicon dioxide. But the living organisms within the soil constitute a world of ac-

(1) Proceedings of Second Dearborn Conference, Chap. II, p. 7, Dearborn, Michigan, July, 1936.

(2) "Recent Social Trends in the United States," Hoover Commission, McGraw-Hill Book Co., 1933, pp. 122-126.

(3) Stratford Company, preface, p. 3, Boston, 1934.

tivity by themselves. Organic chemistry in terms of farm chemurgy marks the dawn of a new day. Chemurgy signifies an intelligent working with and for chemicals. Chemical commodities from agricultural products can be potentially multiplied a thousand fold. Inventions, discoveries and patents are occurring in iron and steel at the rate of 90,000 per year—essentially in mass production technology. Farm Chemurgy cannot hope to equal and overtake the iron and steel two-century development since the Industrial Revolution at once. But it has already established itself.



Dr. George M. Bateman  
of A.S.T.C., Tempe

Dr. George M. Bateman of Tempe states that Farm Chemurgics gives the key to prosperity for Arizona's productive problem. He says:

"Increased co-operation of science, industry and agriculture in many phases of our national life is becoming apparent of late. The soy bean industry is being expanded to meet a multitude of uses. King Cotton may again be enthroned because of the uses of this fiber and its seed appear to be almost endless. Oat hulls are more valuable than the kernels, while straw and corn stalks may become sources of liquid fuel as well as, building materials in the future. Rapidly growing northern spruce is a source of paper. This new use of farm land has already added billions of dollars to the southern farmer's income. As our metals become scarce, plastics manufactured from farm produce will replace them. The expanding horizon of the use of agricultural products as sources of food, clothing, building materials and other requirements of modern society is almost beyond our imagination. The true era of plenty can only come from a wider and more efficient use of our agricultural resources."

Cellulose nitrates first gave gun-cotton in 1847; smokeless powder followed in 1863-86; celluloid in 1869; blasting gelatin, 1875; artificial leather, 1882; and rayon, 1885. Certain Xanthate and acetates produce other forms of rayon. Cellulose is a farm product. Farms can form raw material for countless human needs. Dissolved cellulose yield plastics and quick-drying, colorful varnishes as a result of a chemical discovery in 1924.

A du Pont factory (4) might be induced to come to Phoenix.

Innumerable new types of plastics and varnishes from other types of agricultural products than cellulose may be developed. Plastics are used in camera films, drawing instruments, toys, phonograph records, buttons, electric apparatus for insulation, soaps of all descriptions, noiseless gears, shatterproof glass, billiard balls, fountain pens, plastic wood, eyeglass frames, hardwood substitutes, cellophane, etc. The future of agriculture seems assured if the surplus products over and above those needed for food can be transformed into industrial usage at a profit.

Farmers in Arizona are eagerly seeking a way out of the seemingly hopeless future for agriculture. Farm Chemurgy harnesses both education and industry to aid agriculture. Soy beans have successfully produced industrial alcohol. The Farm Chemurgic idea is gradually taking hold in the valley among educational, agricultural and industrial circles.

The average farmer of Arizona, little realized that in his crops there is a veritable gold mine. This asset is, of course, not in the form of raw materials, but in the form of the products discovered by the chemurgist such as: Plastics, new foods, road materials, and new material for wearing apparel. The farmer must realize that through his labors, the world can be a better place to live in.

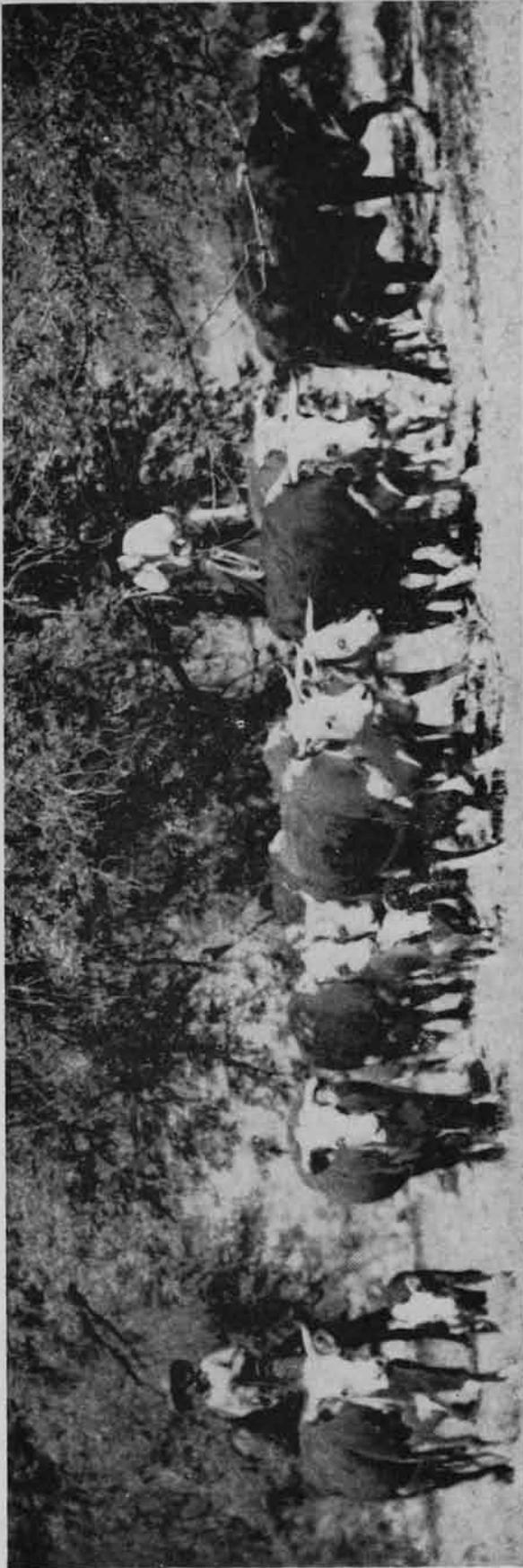
The problem of over-production is ever an increasing burden on the farmer. Cotton once ruled supreme in the field of agriculture. Today it is just a headache to the government and a drain on the farmer's pocketbook. Arizona is one of the leading states in the Southwest in the production of lint cotton, but the ever-mounting over-supply is fast lowering the price until it is no longer profitable for the farmer to raise this important staple.

The production of Pima cotton has been aided somewhat by the increasing demand for broadcloth made of this kind of cotton. This particular brand of cotton is exceptional in quality. The long fibers are much stronger and much more durable than the ordinary cotton raised by the Arizona farmer. This type of cotton would be very profitable to raise in Arizona because of its ever-increasing demand and also for the fact that only a small portion of Arizona climate is suitable for its growth.

The chemist has at last turned his agile, scientific mind to the problem of finding adequate fertilization for the soil on the farm. Rotation of crops helps considerably in rejuvenating worn-out soil; but rotation alone cannot give sufficient plant food from year to year. It is, therefore, apparent that some form of artificial fertilization for the fields is a drastic need.

Much work has been done upon organo-phosphates as fertilizers. The organo-phosphates have been recognized as one of the leading potential fertilizers by the chemurgist. They are composed of decomposed bone and other animal matter such as: manure, blood and parts of the organs. Therefore, the soluble phosphates will penetrate

(4) There are seventy in the United States.



An Endless Number of By-Products are Possible from Cattle

deeper into the soil, and will spread evenly in the soil, allowing each plant root to come in contact with the fertilized ground.

The experimenters have also found that if the hydrogen atom in decalcium phosphate is replaced with an organic radical containing a hydroxide, the resulting compound will become soluble in water. Calcium-glucophosphate, very soluble in water, retains its water solubility in contact with the various soil constituents, thus enables it to penetrate the soil to a great depth.

These fertilizers, which penetrate deeply into the soil are of a great benefit to the Arizona citrus grower, since the roots of the citrus trees bury themselves far under the surface of the soil and a fertilizer which penetrates to a depth of only a few inches would be practically worthless except for the very few surface roots to be found on the citrus tree. Alfalfa roots are sometimes 12 feet deep.

There is now in Phoenix, Arizona, a chemurgical fertilizer reducing plant. It has a large enough capacity to produce several hundred thousand tons of fertilizer per annum. The main constituents of this product is goat and sheep manure, cattle corral rakings and bone. Some natural calcium phosphate is used but the majority of its phosphates are made from the animal matter, which is gathered from different portions in the state.

Nitrogen fixations (1900-1903) has freed the United States from dependence on Chilean nitrates. Farm Chemurgy is in its infancy and can greatly influence the development of mechanical refrigeration, the nitrogen industries, dyes, formation of new colors, perfumes and many new kinds of useful drugs. Aspirin was invented in 1899, then came the barbitol group of sedatives in 1903, anaesthetics, disinfectants, and synthetic substitutes for glandular extracts such as adrenalin.

Farm Chemurgy is foremost in aiding the development of fungicides and insecticides. Cheap oils can be made from products for usage in cooking, soaps and candles. Farm products such as cornstalks, corn cobs, wheat stalks and oat hulls can be utilized to make furfural, (1921), artificial boards, (1929). Corn stalks are a necessary ingredient in production of methane gas, which in turn can be used in small gas and electric plants on farms. Even cars in the future will probably be made from synthetic farm products, having the durability of steel.

One of the major developments since the war has been in the so-called plastics. Celluloid and Bakelite are good examples of new materials that can be made as a result of chemical research. Soy beans is one of the farm products which form the cellulose acetate plastics from which synthetic rubber and acids may be developed. Camphor made by man is purer than from the camphor trees. Surplus cows' milk will make billiard balls, ivory keys, piano keys and multitudinous trinkets which adorn the five and ten cent stores as well as the department stores. The du Pont company buys 36,000,000 bushels of corn annually from the farmer for industrial purposes.

Chemurgics is the way out of the agricultural dilemma.

From the standpoint of business organization and administration the fundamental steps are obviously: (1) scientific investigation; (2) production research; and (3) merchandising research. Three factors then become necessary: (1) availability of raw materials; (2) adequate trade territory and distribution; (3) capital which can be invested at a profit.

Agricultural products in the Southwest form an almost inexhaustible source of raw materials. Phoenix is one of the foremost cities in retail consumption and wholesale distribution. It has plenty of power in terms of water and electricity. Unlimited power is to be had from the Colorado River and its tributaries.

Intelligent cognizance of the importance of Farm Chemurgics would advance the industrial usage of Arizona farm products through applied science. Five fundamental forces in the development of the Farm Chemurgic program are: agriculture, chemistry, manufacture, transportation and education. Education has a fundamental part to play. Education must be harnessed to the industrial machine. And so also must agriculture. The significance of the new chemurgical trend is that agricultural crops either independent of or in conjunction with minerals, become the new raw materials for industrial production. This whole survey, representing two solid years of investigation of fundamental economic, social and political factors in Phoenix area, points to Farm Chemurgics. Arizona has farm experimental equipment and educational institutions which could be harnessed or drafted to better serve agriculture. Government aid along this line would be very beneficial.

Cotton is Arizona's cash crop, but the world-over production seems to be a limited factor as to its future. Cotton must be used for the raw materials for cotton cloth and textiles. Howard E. Coffin, chairman of board of the Southwestern Cottons, Incorporated, stated before the Second Year Dearborn Conference of Agriculture, Industry and Science (5) "that the United States government was spending \$1,300,000 to demonstrate the practicability of cotton in the construction of highways. Nineteen states cooperated with the federal government, receiving some 75,835 cotton mats upon which concrete pavements were to be laid. The cotton re-enforcements is not a substitute for the concrete highway but rather as an enforcing agent that makes more durable and economical surface. From eight to ten bales of cotton per mile would be used. An estimated 5,000,000 to 6,000,000 bales of cotton could be used immediately on the improved roads of the nation.

Whole cotton can also be used as a source of oil and alpha-cellulose, according to Dr. Frank Cameron of University of Carolina (6). Whole cotton would be harvested instead of removing the lint first. It would be mowed to recover the oil from the seeds. The purpose would be to produce cellulose which is a valuable synthetic product. The innumerable uses in building, construction and even in

(5) Proceedings of Second Dearborn Conference, held in Dearborn, Michigan, May 12-16, 1936. p. 67.  
 (6) Proceedings of Second Dearborn Conference, *Ibid.*, pp. 184-192.



Mesa Annually Sponsors the Arizona Citrus Show

automobile and airplane construction represents major markets for this product. Plastics come from cellulose. Plastic industries have greatly expanded. Continuous experimental work is being conducted in the plastic field by the United States government, by educational institutions and by private industry. The Henry Ford Motor Co. and E. I. du Pont de Nemours have especially taken the leadership in the field. The du Pont Company buys annually some 16,500,000 pounds of cotton, 700,000 pounds of cotton seed and 36,000,000 pounds of cotton linters from the farmer.

Soy beans contain 4 per cent protein, 18 per cent fat, these two commodities are suitable for use in industry. Soy bean and tung oil are utilized in the varnish and paints.

Some 20 per cent of the Arizona grapefruit crop has the juice removed. Some 225,000 cases of the No. 2 can basis were shipped out by the Desert Citrus Products Association of Tempe in 1940. This leaves the grapefruit hulls to be disposed of advantageously. These hulls contain a great deal of cellulose from which plastics could be made. It is not inconceivable that citrus hulls if properly treated could not be made into plastics with the necessary ingredients to harden it so it could be used in house structures, automobile bodies, airplane frames and other items. This is not out of line with the Farm Chemurgic achieve-

ments to date. The great need in Salt River Valley is for a major chemurgic factory, for experimental purposes. It could be operated either by the Arizona State Teachers College at Tempe, by private industry, such as the Ford factory or the Goodyear people at Litchfield Park, or by the United States government.

The United States government operates four major Farm Chemurgics plants throughout the United States. It is not inconceivable that the government could be induced to build a Farm Chemurgic plant in the Valley of the Sun.

Alcohol distillation is an important industry in this country. There are two ways of manufacture of alcohol in which both ethyl and methyl alcohols are produced. One method is by bacteriological technique in which cultures of certain yeast or fungi are put in together with wet grain and a media of nutritious salts. These yeasts of fungi produce certain enzymes which break down the carbohydrates content of the grain and transform it into ethyl alcohol. The second way is not nearly so complicated. It is done by distilling wood, generally pine, in making charcoal and wood alcohol, a mixture of ethyl and methyl alcohol, as a by-product. There is much progress being made on the various ways of extracting alcohol from the waste products from the farm such as corn stalks, straw, baggasse (black molasses) and other waste products.

Various oils are used in industry. Some of these are: olive oil, palm oil, cocoanut oil, peanut oil, castor oil, soy bean, of which castor oil and soy bean oil are the most important; cattle feeds are by-products of these industries. The extraction of these oils is by crushing. Some of these oils are losing their importance in Farm Chemurgy because they are being made synthetically or are being replaced by similar oils.

Formaldehyde is a product of distillation from corn cobs. When the formaldehyde is mixed with finely ground corn cob it forms a plastic; which certain trade names such as "Bakelite" as the commercial products are used.

Paper is being made from rice straw, flax straw, wheat straw, sugar cane stalks, sorghum stalks, corn stalks, and wood. Paper is the largest industry based on farm chemistry. Wood is a farm product of agriculture more than of a mine as it was formerly thought of because modern methods tend to conserve the United States timber supply and is actually a farm product on many farms today.

Many organic compounds are made from farm products. Although many of these can be made synthetically, many of these sources of supply are wholly dependent upon agricultural products partly because they cannot be synthesized profitably and also many cannot be synthesized at all today.

Corn is also important among the farm crops. Considerable weight should be given to its starch and starch derivative product; namely, corn sugar. Corn starch finds its major outlet as a food, with rather limited industrial usages as yet. The field for commercial and industrial

usage of corn starch can be extensively increased on basis of laboratory experimentation for new foods, textile, paper, automotive, fuel and plastic industries for direct consumption. It could be used for binders, filling agents, coatings, sizings, etc. The major hydrolysis product of corn starch is corn sugar. Many types of acids can be made from it as the base. Commercial development of processes for converting farm products into a large variety of solvents offers a new future for the agricultural Southwest.

Certain crops are needed more than crops grown at the present time. The soy bean and tung are crops in question, each producing a valuable oil. The farm is a factory. It has a great variety of possibilities in terms of what can and what cannot be produced. The farmer must use his intelligence in the full utilization of that factory. Soil must be conserved and not depleted. There must be a well-planned crop diversification. The principle of mechanization must be extended as completely to the farm as to industry.

Also cheap electrical power represents thousands of horsepower needed in efficient mass production of products. Farming is a business and must be treated as such. Social progress along with scientific progress affects both urban and rural life. The farm and the city are now closely inter-related as results of auto, radio, movie, electric power and industrial technology. More than ever must rural and urban areas become aware of the need for close cooperation in the development of Farm Chemurgics which seems to hold the destiny of the Southwest and especially of the Salt River Valley in its grip.



CHAPTER VI.

POPULATION PROBLEMS

I. GROWTH OF PHOENIX AND ARIZONA

The 1940 population in Arizona was listed as 500,446, which was an increase of 64,973 over the 1930 census, a gain of 14.9 per cent. The 1930 population of 435,573 was increased by 101,411 or 30.3 per cent. The average density or number of inhabitants per square mile in Arizona in 1940 was 4.42 per cent, as compared with 44.0 per cent for the United States. Arizona was only about one-tenth as populous as the average state in the United States. Strangely enough, the density of the U. S. population in 1790 was 4.5 per cent persons per square mile.

resources in the northern portion, valuable for lumbering, (3) the reclamation program of dams, canals, and ditches—making possible a large irrigation area, (4) the unusual climate which made Arizona a favorite state as a health resort, and (5) its unusual scenic features such as the Grand Canyon, etc.

Of the 14 counties in Arizona, 9 increased in population while 5 decreased in the decade 1930-1940. The greatest increase was noticed in Mohave which was 53.5 per cent.

It is to be noted in the following table that Maricopa County's population of 185,000 represents 37.18 per cent of Arizona's total population as compared to 34.66 per cent in 1930. The population of Maricopa County was 150,970 in 1930.

According to the 1930 census there were some 79,082 males and 71,882 females in Maricopa County. Males seem to predominate among all classes. There were 50,751 native white males compared with 49,744 native white females. The foreign born whites consisted of 2,744 males and 2,045 females. Among the negroes there were 2,526 males and 2,359 females. Some 15,903 were over 5 years of age, among which there were 120 more boys than girls.

TABLE X—GROWTH IN ARIZONA 1870-1940 (1)

Census Year	Population	Increase over preceding census	
		Number	Per Cent
1940	500,446	64,973	14.9
1930	435,573	101,411	30.3
1920	334,162	129,808	63.5
1910	204,354	81,423	66.2
1900	122,931	34,688	39.3
1890	88,243	47,803	118.2
1880	40,440	30,782	318.7
1870	9,658		

Some of the reasons for the remarkable growth were (1) the mineral wealth of the state, (2) the large timber

TABLE XI—POPULATION CHANGES IN ARIZONA COUNTIES 1930-40 (2)

County	Population		Increase 1930-1940	Per Cent of Increase	
	1940	1930		1930-1940	1929-1930
State total	497,789	435,573	62,216	14.3	30.3
Counties:					
Apache	24,076	17,765	6,311	35.5	34.6
Cochise	34,540	40,998	-6,458	-15.8	-11.8
Coconino	18,507	14,064	4,443	31.6	40.9
Gila	23,924	31,016	-7,092	-22.9	20.8
Graham	12,154	10,373	1,781	17.2	2.2
Greenlee	8,716	9,886	-1,170	-11.8	-35.6
Maricopa	185,356	150,970	34,386	22.8	68.5
Mohave	8,552	5,572	2,980	53.5	6.0
Navajo	25,173	21,202	3,971	18.7	31.9
Pima	72,932	55,676	17,256	31.0	60.5
Pinal	28,825	22,081	6,744	30.5	36.9
Santa Cruz	9,541	9,684	-143	1.5	-23.7
Yavapai	26,266	28,470	-2,204	-7.7	18.5
Yuma	19,227	17,816	1,411	7.9	19.5

The following table compares the cities of Phoenix and Tucson on the basis of the 1940 United States census fig-

ures, showing the increase between 1930 and 1940 by a percentage increase during the last decade.

TABLE XII—COMPARISON OF POPULATION OF PHOENIX AND TUCSON, 1930-40 (3)

City	Population		Increase 1930 1940	Per Cent of Increase	
	1940	1930		1930	1940
Phoenix	65,434	48,118	17,316	36.0	65.6
Tucson	36,763	32,506	4,257	13.1	60.2

(1) Based on the sixteenth census of the United States, 1940. See note (9).  
 (2) Sixteenth United States Census, 1940, preliminary reports.  
 (3) Ibid, 1940.

The following table gives a comparative analysis in the population growth of Phoenix and Tucson by decades from 1890 to 1940.

**TABLE XIII—POPULATION GROWTH IN PHOENIX AND TUCSON 1890-1940 (4)**

City and Census Year	Population	Increase over preceding census Number	Per Cent
<b>Phoenix</b>			
1940 .....	65,434	17,316	36.0
1930 .....	48,118	19,065	65.6
1920 .....	29,053	17,919	160.9
1910 .....	11,134	5,590	100.8
1900 .....	5,544	2,392	75.9
1890 .....	3,152		
<b>Tucson:</b>			
1940 .....	36,763	4,257	13.1
1930 .....	32,506	12,214	60.2
1920 .....	20,292	7,099	53.8
1910 .....	13,193	5,662	75.2
1900 .....	7,531	2,381	46.2
1890 .....	5,150		

**Growth in Phoenix and its Metropolitan Area.**

Phoenix gained 35.2 per cent in population between 1930 and 1940. The 65,056 (5) inhabitants within the capitol city limits represented a gain of 16,938 people over the 48,118 figure of the 1930 census.

**TABLE XIV—GROWTH IN POPULATION OF PHOENIX, MARICOPA COUNTY, AND ARIZONA (6).**

Year	Phoenix	Maricopa County	Arizona
1870	300	5,000*	9,658
1880	1,708	10,986	41,580
1890	3,152	20,457	88,243
1900	5,544	34,488	122,931
1910	11,134	89,576	204,354
1920	29,053	150,970	334,162
1930	48,118	186,051	435,573
1940	65,056		500,446

The Phoenix metropolitan population in 1940 was estimated at 125,000 by J. Kelly Turner, director of 1940 Arizona census. This represented a gain of some 55,000 over the estimated 70,000 metropolitan enumeration of 1930. This growth of 78.57 per cent in the metropolitan population of Phoenix during the decade 1930-40 was probably due to location, climate, water, and agriculture. The population within the city limits of Phoenix represents only slightly more than 50 per cent of the metropolitan population of Phoenix.

About one-third of the population of Maricopa County lived within the city limits of Phoenix in 1930. To be exact some 31.87 per cent. In 1940 some 34.97 per cent of Maricopa County's population lived within the city limits. It

is significant that Phoenix proper in the decade (1930-40) not only held its own in the growth and population with Maricopa County, but there was an increase of 3.1 per cent of Maricopa County's population living within the city limits of Phoenix.

Some 46.36 per cent of the population of Maricopa County in 1940 was in metropolitan Phoenix. This was a gain of almost 21 per cent (20.84%). This is of much greater importance than the significant increase in the population of Phoenix proper.

How does the growth of Phoenix compare with the increase of population in Maricopa County? In August, 1940, the population of Maricopa County was set at 186,051. This was a gain (7) of 31,081 individuals or 23.24 per cent over 1930. Phoenix proper grew in population as contrasted with Maricopa County at a rate of 3-2. (8).

The metropolitan area of Phoenix increased 78.57 per cent as compared to the growth of Maricopa County with 23.24 per cent during the decade of 1930-40 in the ratio of 3.38 to 1. According to W. C. Joiner, census supervisor for Maricopa and Yuma counties, the increase of population in Maricopa County was centered in the metropolitan districts such as Phoenix, Mesa, Tempe, Wickenburg, Tolleson, Chandler, etc. "This does not indicate," he said, "that there had not been a movement away from the valley farms, but rather that the new residents preferred the city." It also indicates that there was no more Maricopa land on which to file.

Phoenix proper grew some 2.36 times as fast as the State of Arizona during the 1930-40 decade. Arizona's population was established by the 1940 decennial census at

(4) Ibid, 1940.

(5) Preliminary census report for Phoenix population was set at 64,434 by Kelly Turner. A check-up by the Arizona Republic and Phoenix Gazette added 622 uncounted individuals to make the new total of 65,056 persons within the city limits.

(6) Data from the census bureau reports except items starred, in which case estimates were made by the political science division of the Arizona State Teachers College.  
\*Figure for 1880 estimated by Social Science Department.

(7) On June 15, 1940, the population of Maricopa County was announced at 185,225 persons. A check made by newspapers in Maricopa County indicated that some 826 individuals were missed.

(8) Growth of Phoenix during the decade of 1930-40 was 35.2 per cent as compared to the growth of Maricopa County which was 23.24 per cent.

500,446 (9), representing a gain of 64,873 persons, or 14.89 per cent over the 435,573 population of 1930. Due to the depression and drouth resulting in heavy emigration from less favorable areas in Arizona, the population of the state was reputedly as low as 380,000 in 1933. Since then, there has been a steady growth.

According to the 1940 census, some 37.18 per cent of Arizona's population were living in Maricopa County.

## II. RACIAL STRAINS IN THE VALLEY

### A. Indians.

One of the major population problems in Arizona concerns the Indian inhabitants. In 1940 there were some 50,000 Indians in Arizona, as contrasted to nearly 44,000 in 1930; 33,000 in 1920; and 30,000 in 1910. Some 4,000 now reside in Maricopa County as contrasted to 3,845 in 1930; 2,642 in 1920; and 3,099 in 1910. There are only about 325 living in Phoenix at the present time. The Indians were the earliest inhabitants of Arizona, and the cliff dwellers at Montezuma, Pueblo Grande, the Grand Canyon, Casa Grande, Tonto Ruins, etc., were their ancestors. The cliff dwellers pointed out the irrigation possibilities of Arizona. When Coronado visited what is now Tucson in 1540 he found an Indian village there. The so-called Seven Cities of Cibola, the desired goal of Marcos de Niza in 1539, when he first set foot on Arizona soil, were Zuni Indian villages located in New Mexico. Coronado also discovered in 1540 some 66 villages along the Colorado with a population of some 20,000 Indians.

Indian trouble in Arizona has a long history. For example, Father Parras, Spanish priest, was poisoned in 1628 by the Indians in revenge because the friars had made the Indians carry long timbers for the chapel from the far-distant San Francisco Mountains. The Pueblo Indians revolted against the Spaniards in 1680, but the Pueblos were subdued.

In 1695, the Indians murdered Father Saeta at Cabora and in 1781 the Pima Indians revolted in Primera Alta. In the nineteenth century, the Indians were constantly on the war path because of the encroachments of the whites on their property. In 1854 the Navajo Indians massacred a party of 50 New Mexicans led by Jose Chavez in the Canon de Chelly.

When gold was discovered in California, many cavalcades of covered wagons passed through Arizona on the Santa Fe Trail. The Indians were shot

down like coyotes and consequently they were frequently on the war path. Inez Gonzales was captured by the Apaches in 1850. In February, 1851, the Oatman Massacre occurred. In that year, Fort Yuma was established. The U. S. government began to take a hand. In 1857, Manges Colorado, chief of the Mimbres Apaches, led a massacre.

John Townsend in 1871 led an expedition against the Apaches who had stolen stock from the Bowers ranch near Prescott. Shortly thereafter, the Apaches raided the settlement at San Xavier, murdered a mail carrier, and drove off cattle and horses. In that year Vincent Collier was sent out by the War and Interior departments as peace commissioner.



Natchez, Son of Cochise

(9) Preliminary census of Arizona for 1940 revealed a population of 498,520. Under the leadership of the Arizona Republic and Phoenix Gazette, papers throughout the state took up the challenge to find sufficient uncounted Arizonans to give Arizona a population of 500,000. Some 1926 names were reported and added to the census roster.

Also in 1871 the Camp Grant Massacre occurred and the White River Indian reservation was established. In 1872 Major General Howard arrived at Yuma as the new head of Indian and Freedman Management, to settle the Southwestern Indian affairs. In 1873, the Apaches and the Mohaves went on the war path on the Hassayampa below Wickenburg. In the same year "The Fight of the Caves" occurred in the Salt River Canyon when the Fifth Cavalry killed the Superstition Mountain Apaches. The Apache chief, Del Shay, and his band were captured by Captain Randall. New Fort Lowell was established in 1873. Two years later the Apaches were herded upon the San Carlos, Chiricahua and Mimbres reservations. In 1880 the Havasupai Reservation was established. Geronimo, Cochise, the Apache Kid, et al., led their hostile bands of redskins in forays time and again against the whites.

What is the Indian problem? How should Indians be treated—as independent citizens or as wards of the government?



Indian Study

Governor T. A. Trittle in his report made to the Secretary of the Interior on October 20, 1885, said:

"The Indian is generally an inferior being, incapable of civilization, and untamable, except by methods impracticable and barren of commensurate results. The lesson has been written with the blood of pioneer frontiersmen upon every page of our country's history, yet there are meddlesome cranks in the country who still believe in the mythical "noble man," as typified in the fiction of Copper, and who seek to influence the policy of Government. . . . The conclusion that is now pretty generally accepted is that the Indians, especially those of the Far

West, are either diseased and filthy non-producing vagabonds or cruel and treacherous beasts of prey in human form, a drawback to civilization, and a constant menace to the lives and property of pioneer settlers. Civilization kills but does not convert them." (10)

Contrast the above with the report of Governor Joseph H. Kibby to the Secretary of the Interior made on August 25, 1905. "Indian outbreaks in Arizona belong to the past. All of the tribes are peaceful and anxious to remain so. The Apaches, so long considered incorrigibles, are content to remain on their reservations in peace, and many of them are proving to be good laborers on railroads and other public works.

"It is seldom that an Indian commits a felony, and there are but few Indians in the Territorial Prison. The strongest civilization influences are railroads and Indian Schools. From year to year there is a gratifying change in the attitude of the older Indians toward the schools. It is scarcely possible to exaggerate the good that is being accomplished by the Indian Schools in breaking down the opposition of the Indians to the ways of civilization." (11).

These two conflicting views represented the different philosophies regarding the Indian problem, the one considered the Indian as a criminal who would be punished severely, if not eliminated from the scene, the other considered the Indian as a problem in population adjustment that must be solved intelligently. The latter point of view is the cause for an educational approach in helping the Indian adjust into the American picture.

Inasmuch as Indian troubles were very definitely a part of the Southwest picture at the time of the end of the Mexican war, which culminated with the signing of the Treaty of Guadalupe Hidalgo in 1848, it was the federal government which had to first face the problems. In February of 1851 came the Oatman Massacre which aroused sentiment about the problem. However, the federal government gave Arizona a very little consideration in pre-territorial days when it was considered a part of New Mexico. At that time the only really settled portion was along the Santa Cruz River, including Tucson and Tubac, where the residents had very little demand for government.

Nevertheless, in 1859 the Pima Reservation of 110 square leagues of land was established. That was the year of Navajo uprising. In 1860 the Navajos made a serious attack on Fort Defiance. In 1861 the Apaches again went on the war path. Camp Bowie was established in Apache Pass in 1862. Military intervention was the answer of the United States after Arizona had become an independent territory in 1863. Fort McDowell, near Phoenix, was es-

(10) "Report of the Governor of Arizona to the Secretary of the Interior," 1885, Washington, Government Printing office, 1885.

(11) Report, *Ibid*, 1905, p. 65.

tablished in 1865. Company C of Pima Indians were mustered in with J. Brown of San Francisco as captain, but instead of frightening the turbulent Apaches into a peaceful submission, they again went on the war path in 1866. So Fort Apache was established in 1869 with Major John Green as commander.

On March 3, 1865, congress passed a resolution for a joint committee to inquire into the condition of the Indian tribes and their treatment by the civil and military authorities. This commission took a mass of testimony, and in 1867 reported in part as follows:

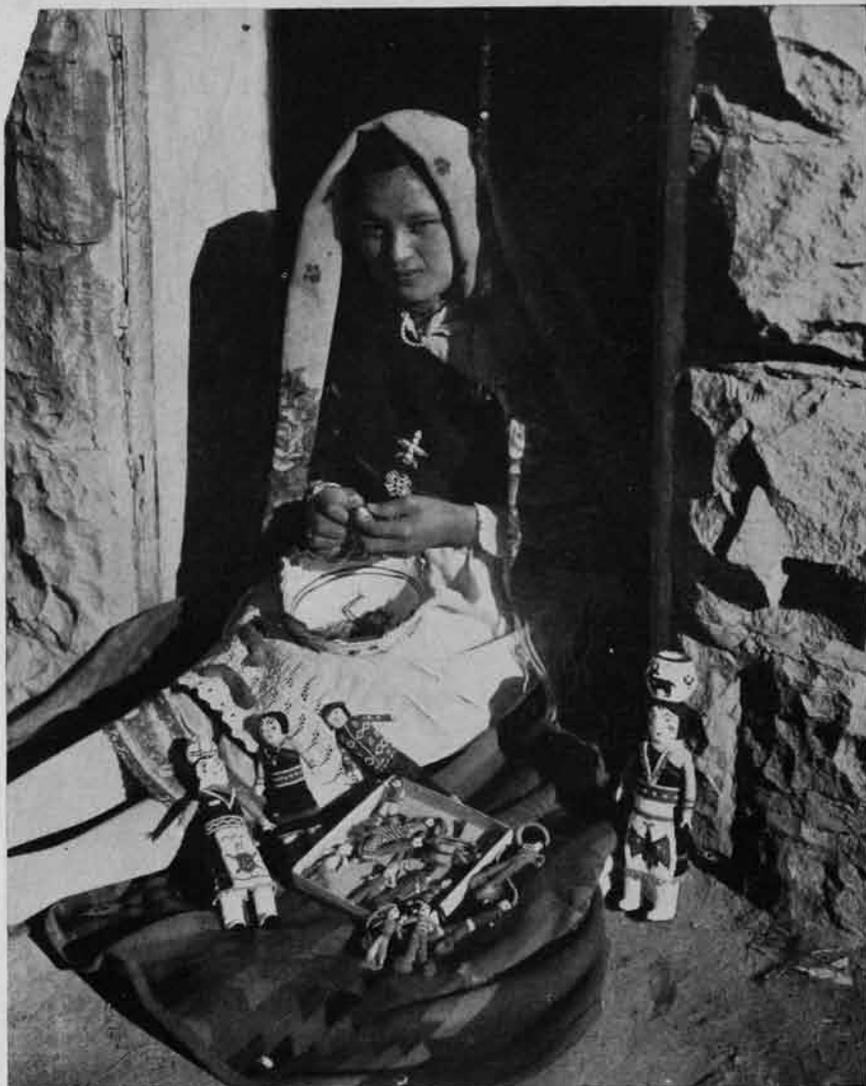
"First: The Indians everywhere, with the exception of the tribe within the Indian Territory, are rapidly decreasing in numbers from various causes: by disease; by intemperance; by wars, among themselves and with the whites; by the steady and resistless emigration of white men in the territories of the west, which, confining the Indians to still narrower limits, destroys the game which, in their normal state, constitutes their principal means of subsistence; and by the irrepressible conflict between a superior and inferior race when brought in presence of each other.

"Second: The committee are of an opinion that in a large majority of cases Indian wars are to be traced to the aggressions of lawless white men, a ways to be found upon the frontier, or boundary line between savage and civilized life. Such is the statement of the most experienced officers of the army, and of all of those who have been long conversant with Indian affairs.

"Third: Another potent cause of their decay is to be found in the loss of their hunting grounds, and in the destruction of that game upon which the Indian subsists . . .

"Fourth: The question whether the Indian Bureau should be placed under the War Department or restrained in the Department of the Interior is one of considerable importance, and both sides have very warm advocates.

"Fifth: In our Indian system, beyond all doubt, there are evils, growing out of the nature of the case itself, which can never be remedied until the Indian race is civilized or shall entirely disappear."



A Navajo Maiden



Indian Youth

The Indians were the original owners of the continent, but through no volition of their own, and due to the economic and political forces over which they had no control, they are encompassed by a social, economic and political system for which they had no preparation—so the United States regarded it as a debt due them to give them sufficient instruction in letters and useful arts to enable them to cope with the conditions of modern life.

The Indians being child-like and ignorant of the simple principles of business, the government felt it to be its duty to protect the Indian in possession of his property. The Indian became the ward of the government. The United States also felt obligated to look after the Indians because their tribal land and allotments held in trust were exempt from state and local taxes.

The government then began to follow the policy of segregating Indians on reservations. The first Indian reservation in Arizona in territorial history was at San Carlos, which was created for the Apaches. The famous Fight of the Caves in Salt River Canyon followed in 1875. A squadron of Fifth Cavalry soldiers assisted by Apache, Pima, and Maricopa scouts killed scores of Superstition Mountain Apaches who refused to surrender. Also the Apaches, Mohaves, went on the war path on the Hassayampa below Wickenburg. The Apache chief, Del-Shay, and his band were captured by Captail Randall. The Havasupai Reservation (people of the blue water) was established in 1880 in the bottom of Cataract Creek, but the Indians were continually ensighted to engage in war-like activity by pugnacious pioneers who were styled Indian fighters and who considered most Indians as outlaws who were better dead than alive. Certain copper captialists also attempted to exploit the Indians, especially the Apaches, who as a result of broken promises and mismanagement again went on the war path in 1881 under the able leadership of Geronimo.

Apache Indian massacre in Arizona history occurred when San Carlos and White River Apaches broke from their reservations and went on the war path and killed all before them. Victorio and Geronimo with some 350 warriors, after great devastation to the ranchers and miners in the White Mountain area, crossed New Mexico annihilating about 150 at Cooney Mining Camp, only two escaping to James E. Colter ranch at Alma, New Mexico where they spread the alarm. Victorio and Geronimo then led their band on Arizona and New Mexico border line where all the ranchers of the area gathered for a two-day fight. Battle of Big Dry Wash in southern Coconino was fought July 17, 1882.



Primitive Apache Housing

The same year Fort Maroni was established seven miles northeast of Flagstaff by the segregation policy. On January 4, 1853 the Hualpai of Yuman stock were granted a reservation of 78,200 from Peach Springs to the Colorado River. Military men, ranchers, and miners all breathed a sigh of relief when Geronimo surrendered to General Nelson Miles supposedly ending the Apache wars. Clatto and Geronimo were returned to the San Carlos reservation. Indian Chief Cayento was sent to Alcatraz for instigation of an out-break but escaped and during the next two years was at the very height of his power. Editorials appeared in nearly every newspaper inciting and inflaming the citizens passions in the fight against the Indians. Finally in 1886 Geronimo, with his band, surrendered and was imprisoned at Ft. Perkins, Florida.

The government then conceived of the educational approach towards the Indians which took the form of establishing an Indian Industrial School at Ft. McDowell in 1890. Even this was not a cure-all. In the same year Colonel H. C. Corbin, then assistant adjutant general of the military department of Arizona was sent to Oraibi to quell disturbances, but the additional approach seemed to have merit and in 1892 the Indian Industrial School was relocated in Phoenix and the name changed to the Phoenix Industrial School. But many Indians were stubborn, they refused to be educated on one hand, and to move to the reservation on the other. The Hopi Indians in 1892 refused to move to a more fertile valley. Also there was a criminal element among the Indians as well as among the whites, that the best of social conditional could not rectify it. For example, in 1892, Lot Smith a prominent leader among the Mormons, was killed by the Navajos. Another obstacle in the path of re-adjusting the Indians

to the white customs and traditions was liquor. Alcohol seemed to have a peculiar effect on the Indians, bringing out the Indian's war-like activities. In 1894 one of the last of the 'Tizwin' (12) debauches was held at Gila Crossing.

Also the Indians did not see the value of health regulation which the whites forced upon them and in 1899 Lieutenant McNamee was sent with a detachment of the fifth cavalry to enforce health regulations in the Indian villages in the vicinity of Oraibi. Some of the Indians said that they would rather die than to clean up. So the troopers used rodeo tactics, in terms of roping and bulldogging, in order to give them a bath.

The last Apache foray took place in 1900 when a Mormon settlement was established in the vicinity of Chihuahua.

The United States seemed to take considerable pride in the Indian School located three miles north of what was then Phoenix. It consisted of thirty buildings with an enrollment of 700. Three years later the enrollment of the Indian School was 825. Additions to the school included a brick cottage, a hospital, dairy barn, an addition to the dining hall, and a large dormitory for boys. In 1904 the enrollment was 872 and the improvements that year included the laying of 600 square yards of concrete wall, the digging of two wells, and the construction of an ice plant with daily capacity of four tons of ice.

Since 1900 Indian children have been educated in government schools, mission schools, and in one state boarding school, and in the public schools. Illiteracy among Indians in Arizona for 1910 for those years and over was 72.9 per cent, while in 1920 it was reduced to 67.8 per cent. In Arizona the Indian children not in schools total 8975, but this is being taken care of.

In Arizona because of the climate and physical features of the region the Indians are largely sheep raisers and lead a nomadic existence, making the problem of proper schooling a difficult one. Some 8,975 children at the present time are not attending schools.

Among the 500 students in Phoenix Indian School in 1940 some 21 different tribes were represented.

With the change from the nomadic life to the more sedentary life of the reservations the health problem of the Indian population became more acute. When the Indian led a roving life the lack of sanitation was to a large degree counteracted by the frequent changes of camp site. After he was restricted to the bounds of the reservation and settled down in one place, dirt and refuse rapidly accumulated around his habitation, the water supply was not as pure, and he was unacquainted with the proper methods of preparing many of the rations issued to him. The medical problems of Arizona are taken care of by the state; the appropriations were for relieving distress and prevention of diseases; asylum for insane Indians; board-

ing schools; Indian school support, agency buildings, reservations needs; support and civilization; and tribal funds. Indian hospitals in Arizona are located at Ft. Apache, Ft. Mohave, Hopi, Leupp, Navajo, Phoenix, Pima, Rice Station, Sells, Theodore Roosevelt, Truxton Canyon and Western Navajo.

The total population of the Indians in the United States in 1920 was 349,876 declining in 1930 to 340,541, but in 1940 was estimated at 351,878. The population of Indians in Arizona in 1920 was 32,989 and increased in 1930 to 44,729. In 1940 the Indian population in Arizona was estimated at 50,000. (13)

Some 50,000 Indians and their flocks of sheep and goats, and herds of horses, totaling in 1937 about 1,000,000 head, range reservations embracing fifteen million acres of land in Arizona. The Indians wander as far west as the Colorado, and as far east as the Rio Grande. Most of the tribes are decreasing. The Navajos, however have doubled in their population. The Navajos are mostly pure blood while the other tribes such as the Apaches, Pima, and Hopis are a mixture with other races, mostly white and Mexican. Some 44,729 Indians were surveyed as to the extent of Purity of Indians. Some 20,111 or 45 per cent were minors. Some 39,212 were listed as full-blooded or 88 per cent.

#### SECTION IV— CONCLUSIONS

From this study of the Indian problem in Arizona a number of interesting conclusions have been reached.

1. The Indian is indeed the original American. In Oraibi, Arizona, settled 1200 A. D., one finds the oldest continuously inhabited village in the United States. The Indian preceded the Mexican and the Spaniard. Ho-Ho-Kam ruins at Pueblo Grande, between Phoenix and Tempe go back to 1400 A. D. The early canals developed by these aborigines gave later white citizens the clue to present reclamation possibilities of the Salt River Valley. An elaborate study of the Navajo Ruins National Monument indicates the kind of Indian civilization once existing in a by-gone era.

2. Perhaps the most interesting finding was concerning the philosophical approach to the Indian problem. As one governor looked at the Indian, he considered him as a bad person; a devil or animal who should be hunted down and exterminated if whites were ever to live in peace.

Another governor took this modern approach, that the Indian was neither wholly bad, nor wholly good; but a combination of both. The Indian had been conditioned to be a warrior and needed reconditioning. The Indian would probably respond to the way in which he was treated. While there were bad Indians like "Geronimo" and the "Apache Kid" so also there were bad Whites, such as "Baron Reavis" an "One" Johnson. (14).

(12) 'Tizwin' was the Indian bootleg type of liquor which was brewed from mescal and fruit.

(13) The only state which exceeds Arizona in Indian population is Oklahoma, 99,394.

(14) In 1838 "One" Johnson was reputed to have shot a cannon loaded with nails, glass, etc., into a peaceful band of Apaches.

3. Three major techniques have been used by the federal government in handling Indians: (1) by military means—warring on the Indian hoping to permanently exterminate or subdue the Indian, (2) by segregation of the Indians on the reservations, and (3) by education as at the Indian School in Phoenix. The Indian wars have been over in Arizona since 1900; the Indians have been segregated on some nine major reservations, and educational programs are well under way.

4. In 1940 there were 50,000 Indians in Arizona. One out of every ten inhabitants was an Indian.

5. Indian Reservations in 1940 amounted to 19,566,339 acres or 26.8 per cent of the total area of the state.

6. The policy of segregation—preparing the Indian to go back on the reservation after his regular education is over—is followed in Arizona.

7. The Indian in Arizona is largely the ward of the government.

8. The Indians add a uniqueness to Arizona's culture with their jewelry, weaving rugs, basketry, pottery, beadwork, dances, rodeos, etc. The annual Pow-Wow about July 4 each year at Flagstaff is one of the finest exhibitions of Indian ceremonials, rodeos, arts and crafts, etc., in the nation.

9. The Indians have had a great influence on Arizona's history. They were the first Arizonans. When Arizona became a territory in 1863, it named its four original counties after Indians.

#### THE MEXICAN PROBLEM

In the early 'seventies, the Mexican population was large and the feeling between "greaser" and "gringo" was far from friendly. Bad feelings between Mexicans and Americans was brought to a dramatic issue by the violence of a drunken Mexican. Horse racing was a favorite holiday diversion, and one Sunday as the greater part of the population was lined up along Washington Street waiting for the race to begin this solitary drunken horseman came careening down the course, swinging a cavalry saber right and left among the crowd and shouting, "Muerte a los Gringos!" (Death to the Americans). Before the people could get their wits together he had cut through the line, viciously wounding several onlookers. He then made for the border and Mexico. He was pursued into Sonora, was captured, and put into jail. With a mesquite club for a weapon, he tried to escape, but the jailer and a lawyer, in self-defense killed him. The baser sort of Mexicans made this the excuse for an

armed demonstration, so messengers were hurriedly sent on horseback through the valley to call together the vigilantes—most of whom were farmers. The following account based on records of Colonel McClintock, then State Historian.

"Next morning, bright and early, Mexicans assembled around the plaza, hundreds of their ponies tied to the huge cottonwoods that shaded the block. A little later the white vigilantes rode in; all were armed with rifles and revolvers. The gathering place was Washington Street. Around Montezuma (first street) into Washington swung the column of over a hundred determined men and broke into the jail. Dragging out two white murderers, the vigilantes marched to the plaza. Cottonwoods on Montezuma Street were chosen as gibbets. As soon as the white men had bravely met their punishment, two cowering figures were seen in the wagon. They were Mexican merchants who had for several days been preaching a crusade against the Gringos. The captain of the vigilantes then got up,



Navajo Woman in Sunday Dress

and in good Spanish made himself quite plain. Pointing to the swinging white bodies, he warned the shrinking Mexicans that such would be their fate if another incendiary word were to cross their lips. The merchant partisans were demoralized, the Mexicans released, and the Mexican insurrection a thing of the past."

In 1940 there were about 120,000 Mexicans, who formed 24 per cent of Arizona's population. One out of every four individuals in Arizona are Mexicans. In the 1930 census indicated that there were 114,173 Mexicans in Arizona representing 26 per cent of the total population. Some 38,000 or about 20.6 per cent of Maricopa County population are Mexicans. In 1940 as contrasted with 23,494 or 21.5 per cent in 1930.

Prior to 1930, Mexicans were classed as foreign born whites or as native whites of foreign or mixed parentage. Since 1930 all persons born in Mexico or having parents born in Mexico, who are not definitely white, Negro, Indian, Japanese or Chinese are classified as Mexican.

Inasmuch as Arizona, together with New Mexico, Utah, Colorado, California and Nevada, belonged to Mexico for more than 100 years prior to the Mexican war of 1846 to 1848 it is quite natural that the Southwest should be saturated with Mexican customs and traditions. The Mexican language is as close to the Spanish as the American is to the English, with innumerable provincialities by local expression. In 1863 when Arizona became an independent territory its population was overwhelmingly Mexican and Indian. Today the Mexicans and the Indians comprise about one-third of the state's population. Mexicans are as much at home in Arizona as are the Anglo-Saxons that are a fundamental part of Arizona history and heritage. Their influence has been great in terms of architecture, food, music, fiesta's colloquial expressions, patriotic and religious celebrations, as well as an endless amount of folk-lore.

#### NEGRO

There were about 12,600 negroes in Arizona in 1940, an increase of 15 per cent over the 1,749 in 1930. During the decade 1920-1930 there was 34.3 per cent increase in the population which numbered 8,005 in 1920. The negroes in Arizona account for only 2.5 per cent of its population as contrasted with the United States where the negroes comprise about 9.8 per cent of the population. There is no problem of race conflict between the negro and white population. In 1940 there were some 6,200 negroes in Maricopa County as contrasted with 4,879 in 1930. In 1940 there were some 1,750 negroes, in Phoenix as contrasted with 1,118 in 1930.

The negro, as a group, follows the same pattern of life's activities as the white except on a lesser economic cycle.

Father Emmett McLaughlin, through his mission, has done a great deal to provide an all-round program of wholesome recreation for the negro youth. It includes basketball, softball and baseball, volley ball, boxing, and dancing. The mission conducts a pre-school nursery, weekly movies, vocational training and social events. Juvenile delinquency in the vicinity of Father Emmett's mission decreased 55 per cent. There are four colored

churches, two methodist and two baptist, administering to negro life.

There are two negro elementary schools in addition to the Phoenix Union colored high school. Racial differentiation between the white and colored races seems to be an accepted fact in Phoenix. Special swimming pools provided for the negroes and special sections are reserved in the theatres. This extends to sleeping quarters, restaurants and soda fountains. The negroes are engaged in varied occupations and excell as entertainers. They have their own girls and boys organizations including two boy scout troops. There are several greek letter organizations for the girls in Phoenix and there is an A. F. colored Women's Club. In short, it might be said that Phoenix is practically free from racial conflicts and that Americanism is the integrating factor which unites all racial and national groups into a cooperative group of citizens.

#### CHINESE CONTRIBUTIONS TO PHOENIX AND THE VALLEY OF THE SUN

The Chinese first came to the Valley about 60 years ago when the Southern Pacific Railroad was being constructed. The exact number of them was unknown because of the lack of recording, but most of them were working for the railroad and some came as miners.

Because the valley was not yet well cultivated and water scarce, the Chinese railroad workers were apt to be thirsty, particularly in the time of hot summer. They could only get water out of the cactus. Due to the small amount they perspired more than what they drank. In consequence a great number of Chinese died of thirst—rather than of hard labor. So was the case in mines. In the second place, as the valley was being cultivated, disease was prevalent. In spite of this hardship the Chinese worked for the railroad until it was finished. The Chinese have prospered along with the city of Phoenix and the Valley of the Sun.

After the railroad was built, the Chinese scattered throughout the valley. Most of them stayed in Phoenix. They engaged in farming and mining. With the advance of machinery the Chinese were driven out of the mines and for the same reason they deserted their farms. They have engaged essentially in produce.

With the advance of the city, the Chinese laborers became businessmen. They mostly ran grocery stores, with a small number of restaurants and laundry shops. They first sold the vegetable as peddlers. Next, they ran stores to trade with either negroes or Mexicans. Then, they had some bigger stores to trade with every race of people. Now, they have some which can run an advertisement in newspapers, of a full page, and everybody can hear the radio announcing the Chinese grocery store.

It cannot be denied that Americans and Mexicans discriminate against one another and in the middle are the Chinese to calm their differences. The Chinese mostly sell on credit. So customers can have food before they get their pay and they can still keep the pot boiling even when out of a job. In time of prosperity customers can be clear of debt but in time of depression they are in arrears.

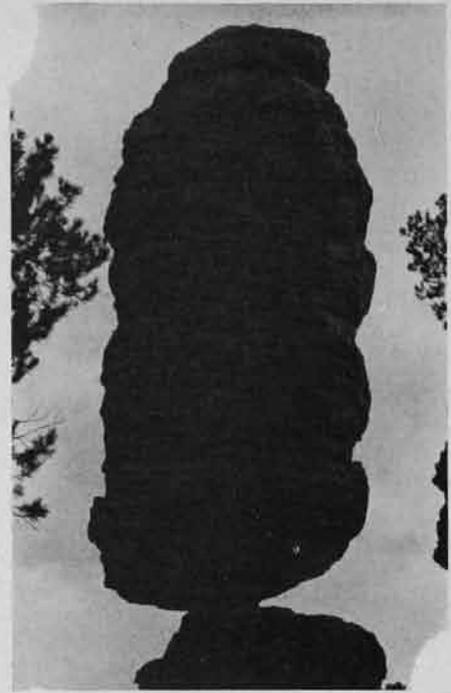
There are about 600 Chinese in the valley, but about 400 of them are women and children and about 400 have American citizenship.

Americanism in metropolitan Phoenix and Maricopa County could be briefly summarized as follows: "185,000 citizens-Americans All." In that brief statement is summed up the loyalty of the American people to Uncle Sam. Young men and women are eager and willing to devote their lives to their country in both peace and war times. Without the fan fare of trumpets and marching parades the majority of Arizonans in a true spirit of humility, demonstrate the same zeal for patriotism.

True Americanism is taught in the schools, preached from the pulpits and exemplified by fraternal, civic, labor and service groups.

The Democratic process is best adapted to meet the needs of the United States and must be preserved. The Constitutional form of government and fundamental human rights and liberties are worth fighting, living and dying for, if need be.

The conclusion is obvious: 185,000 citizens in Maricopa County—Americans All! 500,000 citizens in Arizona—Americans All!



Balancing Rock in Wonderland of Rocks



Smoki Dance at Prescott

## CHAPTER VII.

# FAMILY LIFE

Mr. and Mrs. "Lum" Gray and Mr. and Mrs. Ben Peterson both arrived in Phoenix in 1868. Mrs. Gray and Mrs. Peterson were probably the first white women living there. Tom Barnum also came at the same time, but his wife did not arrive until a year later when John P. Osborn, Bill Osborn, Alsap, McKinnie and others came. When Tom Farish came in 1869 there were only four white women in the valley. Then "Coho" Young and his family moved in, and Mr. Murray with his seven grown daughters. Family life was thus started in Phoenix.

### FAMILY LIFE IN GENERAL

There are approximately 16,500 families in Phoenix or about one for every four of its population. There are 46,250 families in Maricopa County and 125,000 families in Arizona. This represents the largest sociological unit, larger than the total number of businesses, churches, schools, and clubs put together.

The family is the most important social group in Arizona as well as the basic and universal social group for mankind. No culture or ethnic group is without some form of family organization. It is the earliest, most elementary and most permanent of all primary groups. It can change tremendously and yet its functions are primarily the same. The family is the basic agency for the transmission of group culture. It is the most profound and efficient of all agencies for the creation of human nature and personality. Its fundamental purpose is the propagation of the race.

The family is first of all, a primary group. Interaction in family is based on intimacy and affection. Unity and solidarity arise from spontaneous interaction of family members. Family life may widely diverge from the usual pattern. The family covers every known human relationship in its scope. The characteristics of the family as a primary group include: First: subordination of individuals to family objectives. Second: conscious cooperation of members to realize these objectives. Third: sentimental interdependence of members. Fourth: a consensus of emotional attitudes or the integrity of each individual's life with the family as a whole.

The family as a social institution is made up of familial relations, practices, and attitudes as prescribed and sanctioned in the cultural environment which constitutes the family institution. The family is a culture pattern centering about marriage, parenthood, child-bearing and the home. Communal control over the family is exercised through folkways, lores, taboos, and laws. The institutional family has an objective existence in the habits or behavior of persons.

Institutional functions of the family are classified as: First: basic functions such as unit of biological inheritance,

care and training of children, transmission of the social heritage (culture) and the creation of personality. Secondary: the functions are economic, educational, recreational, religious, and protective. The institutional structure of the family is found in certain functions. Attitudes and behavior patterns are very important, such as love, affection and devotion; parental respect, obedience and submission; protection, mutual aid, and unselfishness. Symbolic cultural traits are also embodied in the family such as marriage, marriage ring, wedding certificate, coat of arms, heirlooms, family album, wall mottoes, and family portraits. Utilitarian cultural traits of the family include: trousseau, house furniture, home equipment, money, food, clothing, books, automobile, radio, telephone and other conveniences.

R. M. Mac Iver (1) says "that the family is a group defined by a sex relationship sufficiently precise and enduring to provide for the proper upbringing of children."

Five common characteristics of the family everywhere in human society are (1) mating relationship, (2) form of marriage or other institutional arrangement accordance with which the mating relation is established and maintained, (3) a recent system of nomenclature, involving a mode of reckoning descent, (4) Some economic provision shared by the members of the group, but having special reference to the economic needs associated with child bearing and child rearing and generally (5) common habitation, home, or household, which, however, may not belong to the family group.

The institution of the family is found among all nations and races and is well established in all of the historical civilizations. New social movements have greatly affected the family both in the Orient and Occident. In general the arbitrary power of the father the "patrias potestas" which was assumed in older biblical days, Oriental civilization, and even in medieval times. Male dominance has always been assumed down through the ages and woman was mere property. However, many social changes have affected the family, necessitating new adjustments to modern social conditions. Statistics on divorce, juvenile delinquency, desertion and the failure of the husband to support his family indicate a degree of disintegration in the family structure. In the old days of domestic handicraft the family was an economic unit, but with the introduction of the factory system, all this is changed, and goods are manufactured, distributed, and retailed in industrial establishments. The largest rural families were more suited to an agriculture economy with multitudinous chores to be performed by its several members. Modern invention and discoveries such as milking machines, tractors, electric washers, etc., have completely changed the family picture. Another fact is that the status of women has greatly changed. During the past fifty years the woman has been almost completely emancipated from man's dominant con-

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(1) Farr, Rhinehart, 1937, p. 196.

trol. The equality of the sexes has all but been achieved. Women suffrage is now an established fact in the United States, England and Germany; but not so in France and Italy. Women have more opportunity for careers today, especially since the World War, in both Europe and America. Also birthrates have been rapidly declining.

Today because of over-population in many countries, and population saturation in many others, the institution of family is not considered by experts in the area of social study as important as it used to be.

The United States birthrate in 1915 exceeded 25 babies per 1,000 population. It dropped to 17 in 1917. Despite a great increase in total population, the actual baby crop dropped from over 2,621,000 in 1921 to 2,203,000 in 1937. During the eight year period from 1921 to 1928 inclusive, 2,200,000 more babies were born than in the following eight years, ending with 1936. In 1880 children under five years of age constituted 13.8 per cent of our country's population. Fifty years later in 1930, some 17,587,354 families—58.7 per cent of total families—had no children under 10 years of age; and 11,593,871 or 38.8 per cent had none under 21.

The birth rate in Arizona in 1940 was about 20 per 1,000 persons as in New Mexico, Alabama, Georgia, Idaho, Louisiana, Mississippi, North Carolina, South Carolina, Utah, and West Virginia. However, it was less than 15 in such states as New York, Connecticut, Illinois, Massachusetts, Missouri, and New Jersey. Birth rates have suffered most in the large cities. The larger cities are unable to sustain themselves and are dependent on excessive migration from the rural areas.

Regardless of social change there has been practically no biological change in man during the past several hundred years. The family still remains the fundamental unit in human relationships. The family is normally made up of the parents and children, although death may overtake either of the principals. Divorce is another modern factor which attempts to dissolve unsuccessful marriages. One out of every seven marriages in United States ends in a divorce. The east and old, or southern states have the fewest divorces. The mountain and southwestern states have the largest number with Nevada leading the procession, and Arizona being sixth in number of divorces.

Many social reformers advocate certain changes in the marriage laws. They advocate the abolition of common law marriage which is merely public recognition given by a man and woman that they are living together as man and wife. (2) The common law marriage age is 14 years for

males and 12 years for females. In Arizona it is 18 for males and 16 for females.

Illegitimacy is one of the most tremendous problems of society though not one of great frequency. The child of an unmarried mother is practically an outcast. (3) Family life throughout the nation is going through a tremendous social change. It will continue as the fundamental social unit. The family is reaching a higher plain where personality plays a dominant role. Education and religion and such organizations as the Y. M. C. A. and Y. W. C. A. have a tremendous responsibility in this painful readjustment. Women, while legally on the same basis as men, are discriminated against in many different ways. But women are making inroads into even the most sacred and traditional of masculine positions. Under President Franklin D. Roosevelt we have a female, Mrs. Francis Perkins, on the cabinet. Women are entering into political life. There is not a state in the union where women are entitled to a salary for work done in their home. In most states when a married woman is injured her husband recovers damages for loss of her services. In Arizona, as in Georgia, Louis-



A Navajo Family

iana, Indiana and Maryland the father can will away the custody of the child, born or unborn, from the mother. In less than fifteen states prostitution is a crime for the male as well as a female. About one half of the states do not permit women to serve on juries. A widow's share in community property is less than a widower's share. The father has more rights than the mother over a legitimate child and usually places the responsibility of an illegitimate child on the mother. In Virginia, Idaho, and Texas the unmarried mother cannot legally receive aid from the father for the support of the child. The wife is usually held to chastity whereas the husband is not usually held accountable along this line.

Women teachers are usually paid less than men for the same work and frequently marriage debars a woman from teaching, especially if her husband is teaching. In in-

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- (2) In England they have been forbidden by statute for more than 150 years because they do not protect either party or their children and encourage immorality.
- (3) Illegitimacy as defined by law is the birth of a child out of wedlock. This raises the question of the right of a woman to have a child out of the relation.

numerable ways woman is discriminated against, legally, politically and economically upon the unproved assumption that women are inferior and consequently should be discriminated against, solely on account of sex.

THE FAMILY BUDGET

According to government statistics for families receiving an income from \$100 to \$300 per month for an average family of four, 20 per cent should go for shelter, 25 per cent for food, 20 per cent for operating expenses, 15 per cent for clothing, 10 per cent for amusements, and 10 per cent for saving.

TABLE XV—A BUDGET FOR A FAMILY OF FOUR ADJUSTED FOR SALARY (4)

Income	Shelter	Food	Operat.	Cloth.	Amuse.	Saving
100%	20%	25%	20%	15%	10%	10%
\$100.00	20.00	25.00	20.00	15.00	10.00	10.00
125.00	25.00	31.25	25.00	18.75	12.50	12.50
140.00	28.00	35.00	28.00	21.00	14.00	14.00
150.00	30.00	37.50	30.00	22.50	15.00	15.00
160.00	32.00	40.00	32.00	24.00	16.00	16.00
175.00	35.00	43.75	35.00	26.00	17.00	17.50
200.00	40.00	50.00	40.00	30.00	20.00	20.00
225.00	45.00	56.25	45.00	33.75	22.50	22.50
250.00	50.00	62.50	50.00	37.00	25.00	25.00
275.00	55.00	68.75	55.00	41.25	27.25	27.50
300.00	60.00	75.00	60.00	45.00	30.00	30.00

Dr. Samuel Burkhard, head of the Educational Department of A. S. T. C., Tempe, feels that "The Family Is An Educational Institution," he says:

"The family is the oldest of all institutions in modern life. Like other institutions it has undergone evolutionary changes in order that it might meet the conditions of life at a given time. The long persistence of the family as a social institution is due to a number of reasons, chief among which is the desire for survival and continuity of life.

"The continuity of social life is a matter that takes into account more than merely biological reproduction. The new-born infant needs the assistance of adults if it is to survive. Proper food, sanitation, medical care and physical comfort are all necessary for the survival of the infant. Adults are necessary for getting all these things done so that infants may survive.

"In the very nature of things, children cannot escape living with adults. Parents are important factors in the education of children because they are the first adults with whom infants make vital contacts. It is from parents that children get their first lessons in language, table manners, in standards of morality, and in religious attitudes. Because of the close association infants have with their mothers, they easily become the



Dr. Samuel Burkhard

child's first model of imitation. At a later time, the father also becomes a person worthy of imitation. In any event, the patterns of life which are set up in the family group become important factors in molding the character of the child.

"The family does not occupy the same position today that it held formerly with respect to the education of youth. In the early days of our American history we lived in what we may call a family-centered agricultural economy. Under the conditions of such an economy it was possible for youth to acquire much of their education by participating with parents and neighbors in carrying on the arts that were essential to social continuity.

"In modern times such direct cooperation between parents and children is no longer possible. The factory

system has brought with it an economy in which many of the old-time arts have been taken away from the home and are now carried on in places where youth may no longer participate with adults in doing the work of the world. This is not to say that we ought to reinstate the old conditions of life; but, it does indicate that significant changes in modern life have placed the family in a position where it no longer serves in the education of children as it once did.

"We need not say whether the results of this transition are either good or bad; but we do know that because of this transition from an agricultural to an industrial economy youth occupies a status in the social order which is unique in the history of human affairs. Youth under a family-centered agricultural economy were assets to parents, whereas in modern life they have become an economic liability. Parents now must pay to keep them in school until they can be profitably employed in industry; and, by the time youth are ready to take their place in industry, it turns out that they are either near or have already advanced beyond the age when they no longer have any legal responsibility to their parents.

"The family is still a very important social institution even though our times have changed. Children need good parents with whom to live and to get their early start. Without committing ourselves as to the relative merits of heredity and environment, the fact is that those children are fortunate who have a good biological heritage and who also have the privilege of living with parents who have the means and good sense to provide a stimulating environment in which their offspring may work and play. All this is necessary to give children a good start on the road to desirable citizenship.

"Contacts with parents as representatives of adult society are full of social significance for growing youth. It is in these contacts that they get their first lessons in either high or low standards of morality. It is there that they see either responsible or irresponsible civic attitudes in operation. It is there that they make contacts with either sincere or hypocritical religious attitudes. It is there that they get their first lessons in either respecting or disrespecting property rights.

(4) Social Studies Department, Arizona State Teachers College, Tempe.

"In any fundamental analysis, it appears that the family is an educational institution of first rank in importance. Any society, which in its social-economic arrangements interferes with the proper functioning of the family, will be called upon to pay for its lack of insight concerning the significance of the family as a social, educational institution. We need, at all times, to remember that youth and adults must "go it together" and also that youth acquire their attitudes toward life from living with both young and old. It is for this reason that the family is potentially the most significant educational institution in our society. What is needed is parents who understand what education is and who have insight into the responsibility of parents for character development.

"Education in the broad sense begins in the family: it is continued in the school, and also in the community. It is a case of youth and adults continuously having "to go it together." Modern life, by cutting youth off from participation in the affairs of adult society, has made it difficult for the educative social process between young and old to go on in a normal manner. But somewhere and somehow it is incumbent on society to set up conditions whereby youth may become equipped to carry on. All this calls for a fundamental reconsideration of the family, the school, and other community agencies to the end that youth may have unhampered opportunities for equipping themselves for effective service to society."

#### DOMESTIC PROBLEMS IN PHOENIX

There are approximately 10,000 people in Phoenix on relief. The unemployed list registered in the census of 1939 numbers some 21,585 of which 13,069 were totally unemployed.

The minimum age for marriage in Arizona except in case of pregnancy, is eighteen years and over for males, and sixteen years and over for females. Until they reach the ages of twenty-one years and eighteen years respectively, the parents consent is necessary before a marriage license is issued. The license is obtained from the clerk of the Superior Court of the county in which one of the party is a resident, or in which the marriage is to take place. Common-law marriages are not legally recognized in this state, even though they were valid in another state in which they were contracted. Excepting this one instance, marriage vows recognized as valid in another state, where in they were assumed, are accepted here. Officiating officers and two witnesses are required at every marriage. In Maricopa County alone in 1938 there were 2,851 marriages.

Marriages are prohibited under the following conditions: First, when contracting parties are parents and children, brothers and sisters (one-half as well as whole blood), uncles and nieces, aunts and nephews, and first cousins. Second, when contracting parties are children born out of wedlock or relatives thereof.

Grounds for divorce in the state of Arizona are constituted by commitment of adultery and physical incompetence. In case of felony or imprisonment where one party has not been convicted on the testimony of the other, the later may sue for divorce one year after the conviction. Desertion or habitual intemperance within one year following the marriage, excessive cruelty or personal violence,

and failure to provide the necessities of life through idleness, profligacy, or dissipation are grounds for divorce. Also when either party has been convicted of a crime in another state without the knowledge of the other party, if the wife is pregnant by another man at the time of marriage without the husband's knowledge, in case of insanity and the presence of venereal disease, divorce can be easily secured.

Alimony and provisions for children are settled by the court decision. When the wife is willfully deserted she may sue for separate maintenance for the support of heirs and children. During the years of 1938 there were forty-five non-support cases brought to conviction in the courts of Maricopa county. A sample case follows: John Doe—Failure to provide for minor children, a felony. Pleaded: Guilty.

Charged: 1. Suspended term of five years.

2. Conduct yourself as a law-abiding citizen.

3. Pay the adult Probation Officer the sum of \$30 per month for the support of your minor children, by order of the court.

4. The first payment to be made within thirty days from this day in the way that is most convenient by the week or every two weeks.

5. That you are to report to the Adult Probation officer at least once every two weeks.

Bonnie Lou Doe, 7; Donald Doe, 4.

Unlawfully and feloniously, and without lawful excuse omit and neglect to provide his said minor children with necessary food, clothing, shelter, and medical items.

Complaining witness: Esther Doe.

The Arizona Board of Social Security and Welfare of Phoenix distributes to relief clients surplus commodities furnished by the government, which are donated by local groups, and materials and household equipment made in the W. P. A. workrooms. In 12 months, ending July 1, 1938; 5,053,925 pounds of foodstuffs, valued at \$250,000 were delivered to needy families. 262,846 items of wearing apparel and household articles valued at \$260,000 were doled out.

Some 90.3 per cent of the children coming before the Maricopa Juvenile Court in 1937 came from poor homes or those dependent upon charity. Only 9.7 per cent came from moderate or well-to-do homes.

If a person follows the court proceedings of the city magistrates court, he will eventually become curious about the number of girls that are continually being fined on charges of "vagrancy." Never-the-less this goes into the general fund of Phoenix.

In the later part of the Month of May, 1939 the United States Government through its division of the Federal Bureau of Investigation took a hand at attempting to clean up corruptible element in the politics of the City of



Domestic Science Department of Phoenix Union High School

Phoenix, on the grounds of violation of the Federal "White Slave Act," but the findings were never divulged. (5)

Many Phoenix mothers who are the leaders in the outstanding women's clubs have carried on a crusade against the pardon and parole system of Arizona in the past few years. A large number of the convicts that were paroled had not served the minimum sentence stated at the time of conviction. Last February, 15 men were paroled without having served their minimum sentence. Of this number, four were rape cases. It is hard to get convictions in rape cases because of the lack of witnesses; therefore it is extremely important to homebuilders that if a person is convicted of this crime, he should be punished in full.

#### WHAT THE FAMILY CAN GIVE TO THE COMMUNITY

While a few may feel that they have fulfilled their obligations to the community when they have paid their taxes, most families interpret their responsibilities to the community in much broader terms. Some citizens feel that they should not be expected to pay taxes for the support of schools when they have no children of their own, or for community services in which they have no personal interest. This seems a very selfish view, for these same citizens are probably benefiting directly or indirectly by

such services whether they realize it or not. If each taxpayer chose to support only the services and institution which he thought would benefit him personally at the moment, progress would be sadly retarded.

Citizenship interpreted broadly is more than paying taxes and voting on election day, important as these may be in the maintenance of public institutions and services. Real citizenship also involves an intelligent interest and participation in community affairs.

The services a family can render to the community are not confined to the adult members. Children contribute when for example, they obey the law and when they take good care of public property. The person who is careless in a public toilet, who throws trash on a picnic grounds, who writes on sidewalks and buildings, carves his name on desks, trees, or other inappropriate places, or picks flowers in a park, is certainly not living up to the standards of a good citizen.

Young people can be of service in special community undertakings such as a community chest drive. They may not have money to give, but they can give their time.

Family life may be satisfying to its members and still fail in preparing them to take their places in the world

(5) They succeeded, however, in closing the most obnoxious places, the Jefferson Rooms, Hollywood Hotel, Hayes Rooms, Cozy Rooms, and most of the others. They should be commended generously for they have proven that this condition hasn't a life hold on the city.

outside the home. One way in which the family can prepare its members for this larger participation is to make them aware of community needs and of their part as citizens. Further, since the members are citizens of the state, of the nation, and of the world, the attitude of the family toward these relationships has much to do in shaping the opinion of its members on wider public questions.

Some social conditions reacting upon the family are: The instability of the family; modern industrialism and the family; the immigrant family; mothers who must earn; public aid to mothers and dependent children; prostitution; illegitimacy as a problem in child welfare. These are all problems to be considered in connection with the family.

The problems of family life in the Valley of the Sun are not much different from other sections of the country.



Sentinel in the Desert



Mary Jane Knorpp, Queen of the Fiesta del Sol in Phoenix in 1940, above.

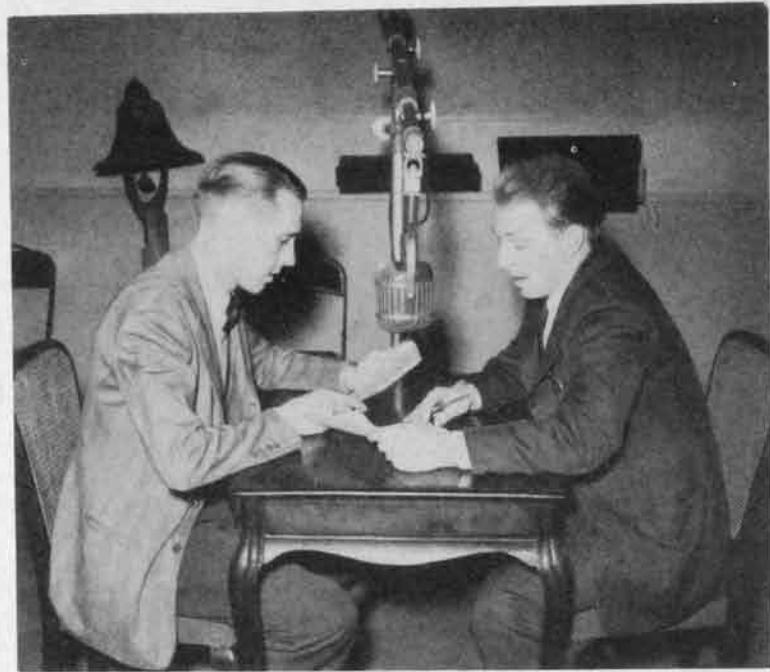


Cotton is Queen at the Phoenix Cotton Festival, above; Crowning the Citrus Queen at the Arizona State Citrus Show at Mesa, below.





KOY Newscasters Paul Masterson, left; and Dan Cubberly.



KOY Manager Fred A. Palmer, left; and Program Director Jack Williams.



KOY Staff Organist Alfred Becker



"Evelyn, the Little Maid," Popular KOY contralto.



"Christy" broadcasts "News and Views for Women" on KOY



KOY's Marlene Ayres "goes Hawaiian"



Arizona's State song was composed by Miss Lucille Walker of Phoenix, now a motion picture actress. She is shown here singing "Arizona" in an Arizona costume and setting, right.



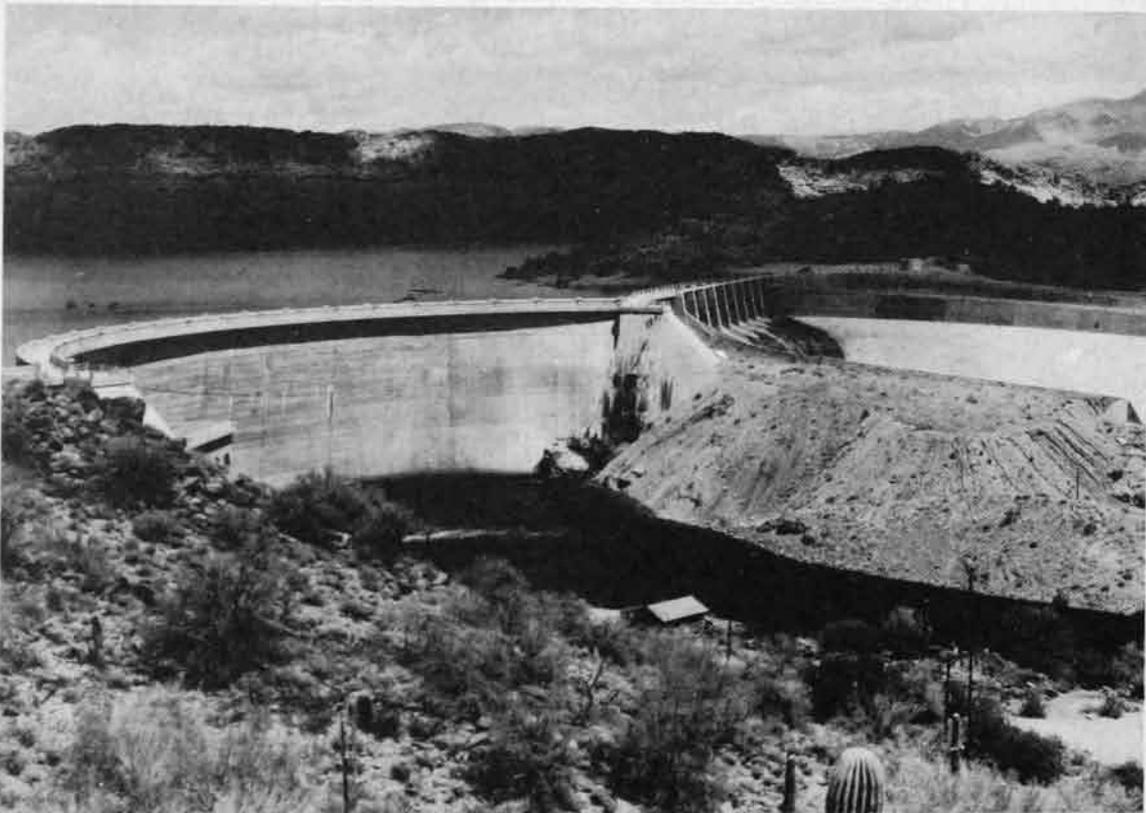
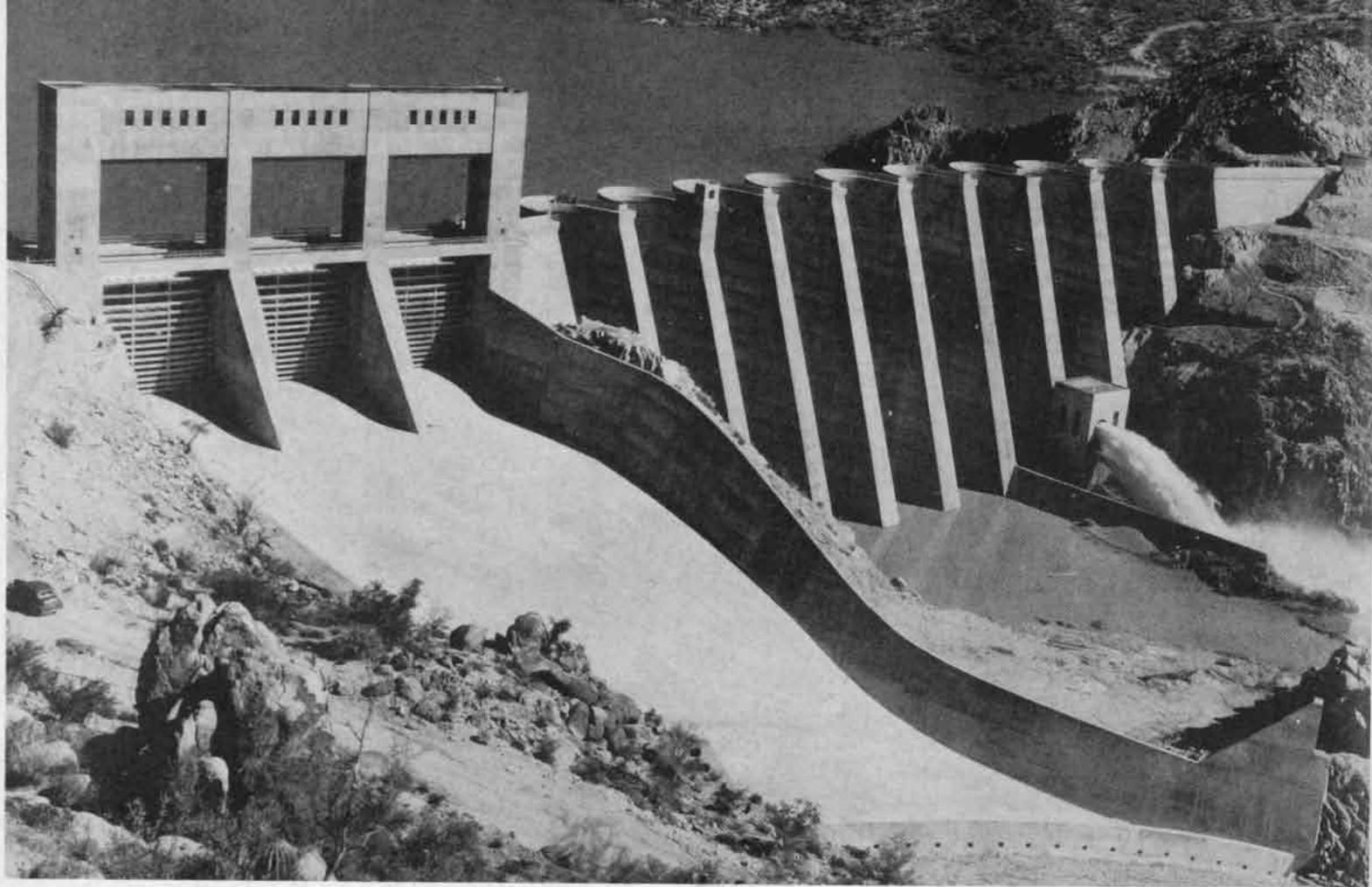
An unparalleled water spectacle occurred when the flood gates at Boulder Dam were thrown open, above; a kaleidoscopic view of Boulder Dam showing the needle valves in operation.





Roosevelt Dam is the Key to the Salt River Valley Irrigation System, above. It makes possible well-irrigated and productive fields, right.





Arizona has the greatest dams in the United States. Bartlett Dam, above; Stewart Mountain Dam, left.



The Mormon Temple in Mesa.



Central Christian Church.



Presbyterian Church.



St. Mary's.



Trinity Cathedral.



New, modern headquarters of the First Federal Savings and Loan Association, left.

The Arizona State Capitol Building in Phoenix, right.



## CHAPTER VIII.

# YOUTH AND YOUTH AGENCIES

The youth of Phoenix comprise 38 per cent of its population. There are some 25,000 individuals under 21 in Phoenix proper; some 50,000 youth in metropolitan Phoenix, 74,000 in Maricopa country, and 200,000 in Arizona. Bringing up these youth is Arizona's greatest problem. Youth presents a continuous series of problems in the process of growing up. The modern theory of human nature generally accepted today concerning youth is that each personality has tendencies in every direction—good and bad. Youth should not be suppressed; the positive tendencies should be encouraged and the negative tendencies redirected in positive channels.

The child's interaction with his organic environment consists of a great complexity of stimuli and responses. The peculiarities of youth's specific contacts with his environment makes him or her an individual.

Science has made certain findings concerning youth which are briefly summarized: The child's world is (1) complete but narrow; (2) consists early of analysis and synthesis; (3) characterized in its mental development by (a) maturation, (b) greater specificity of response, (c) integration of response, (d) widening range of responses; (4) its behavior activity consists of organization of knowledges, uses, enjoyments, together with a certain organic bases of behavior. (1).

Each individual's development goes through certain transitional periods of growth as evidenced from the day dreams of children. These stages are: (1) babyhood (ages 1-3) predominance of nutritional needs; learning of primary orientations and communicable day dreams; (2) childhood (ages 3-10) day dream of the imaginary companion, egocentric character of play, drawing activities, etc.; (3) boyhood or girlhood (ages 10-14) the gang age, competitive games; (4) adolescence (ages 14-18) the romance age, birth of a strong interest in the opposite sex.

At birth, the child has certain instinctive tendencies of fear, rage, and love, a narrow range of emotional life; probably no knowledge equipment; numerous random reflexes; peculiar sensory equipment.

Some of its early developmental achievements are eye and hand coordination; learning to walk, talk, count, and develop motor inhibitions and thought. Thought consists of a primacy of belief over doubt, and abstractions in experience.

The development of its affective life consists of (1) increase in range of emotional responses; (2) sentiments or emotional clusters centering around itself; (3) complexes which are repressed cravings securing indirect expression of its conscious life; (4) attention—the affective focusing of experience; (5) desire—the feeling of lack; (6) volition—action against resistance; (7) thought as an aspect of

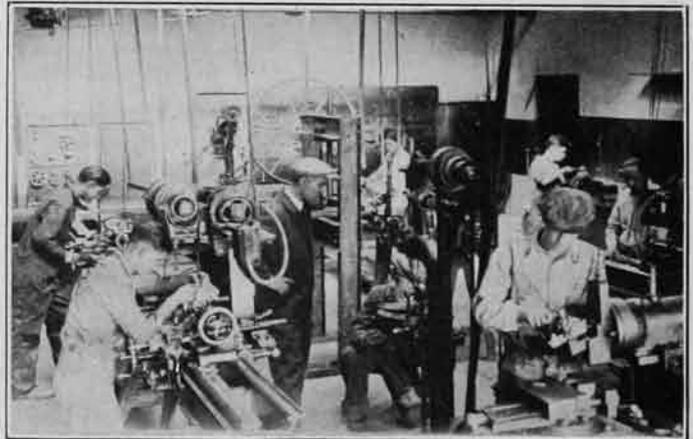
feeling life.

The later years of youth go from adolescence to maturity. The importance of sex in the life of youth is of extreme importance. The biological significance of sex is a natural and important part of his or her development. Several stages appear (1) early auto-eroticism, (2) later importance of mother, (3) interest in one's own sex, (4) heterosexuality at puberty. At this stage there is a great need for refocusing of earlier sexual interests and urges.

There is a need of planned sex education: (1) sound attitudes are more important than information—but both are necessary; (2) Insufficiency of moral maxims; (3) what should be taught? (a) elements of personal hygiene; (b) physical and biological knowledge; (c) formation of healthy attitudes towards oneself, parents, the other sex, and sex relations; (d) information regarding place of sex in personal and social life; (e) subconscious factors in youth's life are also of great importance.

The Youth of Phoenix are taken care of through many organizations especially planned to aid the youth in using their leisure time toward character-building activities. Some of the organizations are: The Y. M. C. A., Y. W. C. A., Boy Scouts, Girl Scouts, Girl Reserves, Hi-Y Clubs, Friendly Clubs for the Mexican and Negro youths, et. al.

The Y. M. C. A. takes care of approximately 1500 boys indirectly. The membership is about 500. In the community they take care of approximately 800. During the summer, there are about 250 boys in and out of the "Y" daily while in the winter, it falls to about 175. The boys can enter almost any activity. Swimming, boxing, gym and all sorts of craftwork are offered, such as: silversmith, model airplane building, soap and leather workings.



Youth are Trained as Expert Machinists at Arizona Vocational School in Phoenix

(1) Social Studies Department, A. S. T. C.



The "Y" supervises many different clubs for different ages of boys. These include: The Pioneer Club for boys from 12 to 15. The "Great Y's" include boys from the ages of 15 to 18. The Junior and Senior Hi-Y Clubs are also under the supervision of the Y. M. C. A.

A convention is held at one of the different Y. M. C. A.'s throughout the state once a year. It is attended by some 150 delegates from the Globe, Miami, Inspiration, Tucson, Douglass, Bisbee, Buckeye, Peoria, and Albuquerque districts.

The Phoenix Y. M. C. A. has a camp in the pines at Groom Creek, near Prescott, Arizona. There are five camp sessions which run from the first week in June to the last week in July. Each covers a ten day period and the total cost including the round trip transportation from Phoenix, is only \$12.50. Boys between the ages of 8-18 have an opportunity of participating in a program which includes swimming, athletics, archery, radio, hiking, campfires, lifesaving, crafts, riflery, photography, horseback riding, dramatics, and many others. Hal Wood, boys work director, serves as camp director. The cabin leaders are from Phoenix Union High School, North Phoenix High, Phoenix Junior College, and the Arizona State Teachers College at Tempe.

In 1938 the camp was used by 342 boys who spent one or more 10-day periods there. It was the first year the new permanent site of 25 acres and 27 buildings had been used.

The camp will accommodate 112 boys per session and it is planned to operate six 10-day sessions. Nearly a full list has signed already for the opening session according to Hal Wood.

The Scout camp is also used for winter outings and according to D. W. Swihart, Y. M. C. A. secretary, it is very popular with Phoenician youth and is used by scouts, Y. M. C. A. Clubs, and other organizations.

The following statement was made by D. W. Swihart, secretary of the Y. M. C. A. for this survey.

"The Phoenix Young Men's Christian Association is a community-wide organization which seeks to administer to the needs of boys and young men by giving them an opportunity for more wholesome development of body, mind, and spirit, and is a Christian movement which in a practical way administers through its program personal help and its equipment to men and boys of all ages and faiths. The Association has kept pace with the growth of Phoenix and the Valley of the Sun, and offers a modern up-to-date program of both physical and non-physical activity. Attendance in all Y. M. C. A. sponsored activities last year amounted to 304,806."

The Y. M. C. A. is essentially a volunteer movement and while it maintains a paid staff the influence and effectiveness of the Association program is due in a large way to over 300 men and boys who last year and in other years have served in many capacities of leadership and service.

A large part of the Y. M. program is carried on with boys: Four strong Hi-Y clubs are functioning in the two high schools of Phoenix. "Gra-Y" clubs are also organized



Y.M.C.A. In Phoenix

in the downtown grade schools. A program of neighborhood boys' clubs and supervised playgrounds has been sponsored by the Phoenix Y. M. C. A. through its Community Relations Committee in cooperation with the service clubs of Phoenix during the past two and a half years. This program has met with hearty approval of many citizens of Phoenix and is to be definitely enlarged during the coming year. The Kiwanis-Y craft room is available to all boys of Phoenix without regard to membership in the "Y". Power equipment for woodwork and hand tools for leather, metal, and other crafts are available. Competent leaders instruct boys in many hobbies and arts. The physical program of the Y. M. C. A. always has a definite appeal to youth. A well-equipped gym, an excellent swimming pool, available both winter and summer, and good shower and locker rooms, are part of the physical equipment for boys. Regular classes throughout the entire year are available to various aged groups.

During the summer the Phoenix Y. M. C. A. maintains a boy's camp in the Bradshaw Mountains near Prescott. It is one of the finest equipped camps in the entire west, and has been made available to the youth of Phoenix and all Arizona. Since its dedication in 1938, fifteen hundred boys have attended the camp sessions and over 4500 individuals have used the camp for conferences and other purposes. Any boy is welcome to attend.

Young men and young people's work has had increasing emphasis over the past five to ten years. Seven young men's and young people's groups with a combined membership of nearly 500 meet regularly under the sponsorship of the Senior Program committee. These clubs are non-physical and meet a real need socially, educationally and spiritually. Membership in the "Y" is not required for fellowship in any of these groups. In addition, the physical program for men and young men involves over 45 sessions a week in health education, individual exercise, leagues and tournaments, swimming and life saving, and many other types of activity. The dormitory of the Association building has a capacity of 65 men, is operated as a service, particularly, to young men away from home. The "Y" building located at 2nd and Monroe is well-equipped, up-to-date, and in excellent condition, and men and boys are always welcome to participate in the various activities sponsored by the Association.



Y. W. C. A. In Phoenix

Dr. Fred G. Holmes is president of the Phoenix "Y" and D. W. Swihart is general secretary.

During the 1939 basketball season some 1,913 young men played in 253 games that were observed by 4,394 spectators. The Y. M. C. A. budget for 1939 was \$36,470.

The purpose of the Y. W. C. A. is briefly stated as follows:

"To build a fellowship of women and girls devoted to the task of realizing in our common life those ideals of personal and social living to which we are committed by our faith as Christians.

"In this endeavor we seek to understand Jesus, to share his love for all people, and to grow in the knowledge and love of God."

Some 600 women use the association headquarters which accommodates 22 residents, 16 transients, with additional quarters in the basement.

Mrs. Margaret Hanover, chairman of the building and ground department, gave the following statistics:

Bed Capacity	42
Nights lodging, permanents	6000
Nights lodging, transients	2490
Outside groups using building	57
Meals served	3000
Nights lodging, no charge	289
Resident girls	60
Transient guests	941

The Y. W. C. A. has some 424 adult members and 671 juniors. Some 79,495 individuals attended "Y" sponsored activities last year. It gave \$1000 worth of free swims to children; enabled 900 girls to enjoy week ends at the lodge. Some 66 girl reserves attended the summer conference. The Y. W. C. A. operates a camp which accommodates 100 girls at Granite Dells, near Prescott. Its activities include swimming, badminton, campfires, costume parties, boating, crafts, hiking, night reading and relaxation. The camp is open from June 15, to August 10, 1940.

The Y. W. C. A. has a lovely pool, which is said to be the safest pool in the city. A new automatic chlorination

has called forth the slogan "swim in drinking water." The pool is cleaned by vacuum daily, sanitary dressing rooms are provided and a health examination required.

For grade school girls the Y. W. C. A. provides assemblies, dancing, crafts, drama, and swimming.

Educational, social, and recreational features for boys and girls are provided. In addition to its camps and conferences, the Y. W. C. A. operates business, industrial, Girl Reserve, health education, world fellowship, and public affairs departments.

There are 17 Girl Reserve clubs which have approximately 671 members all of which are associated with the Y. W. C. A. Some 30 adults help supervise this group. They held some 600 club meetings in 1940.

According to Martha Jane Oliver, secretary of Girl Reserves, Girl Reserve Clubs have given each girls an opportunity to develop new interests, to take responsibilities of leadership, to learn to get along with others, to understand themselves better, to appreciate people of other races and nationalities and to develop new skills and hobbies. Club programs have included discussions, music, handcraft, dramatics, informal talks, worship, hikes, and overnight camping, growing out of the individual and group interests of the girls themselves with the adult leaders acting as guides. By the interchange of responsibilities and interests the girls and club advisers have experienced the satisfaction of working together toward a common goal. An important part of the Girl Reserve Program has been Camp and Conference experience which have pushed back the horizons of their community lives and added richness to their club programs.

Approximately 1,000 girls are trained in citizenship and activity by the Camp Fire Girls of Arizona. The groups consist of from six to twenty girls ranging in ages from 10 years and up. The groups are formed mostly in grammar schools and high schools and in churches of all denominations. Any civic organization is allowed to sponsor a group. A junior organization, the Blue Birds, is maintained for girls under 10 years old.

Glenna Ring is the executive secretary furnished by the executive board at the head of which is W. T. Machan, president. The organization is financed through the Community Chest. Approximately 50 divisions of Camp Fire Girls exists in Phoenix. Summer camps are maintained in Prescott and include two sites.

The 1930 Boy Scout enrollment in Maricopa County was 714. The 1940 enrollment was 1,774, an increase of about 145.6 per cent, as contrasted to an increase of 22.6 per cent in Maricopa County's growth, 1930-40.

In 1930 there were 37 troops; in 1940 there were 67.

In 1930 there were 342 scouters; in 1940 there were about 480.

In addition to this, the cub scout movement got underway here in 1934 with one pack of 39 cubs and 4 cub leaders.

These figures show that even though the growth of Phoenix and the Valley have been great, the growth of scouting has much more than kept pace with it.

Another index of the growth of scouting is the budget figures for the years 1929 and 1939 respectively. In 1929 the budget called for an expenditure of approximately \$8,700.00. The 1939 budget was for somewhere around \$14,000.00 although this last figure is entirely a guess because the unit of administration has been changed from Maricopa County to include eleven of the fourteen counties in Arizona. The name of this unit is Roosevelt Council. In the entire Council at the end of 1939 there were 161 organization units (troops and cub packs), and 3,629 scouts and cubs.

From the City of Phoenix alone during the summer of 1940 about 349 of its 886 scouts are attending summer camp. That is about 33 per cent. In all, the Scouts of Roosevelt Council had a grand total of about 17,000 camper days during the year 1939. All of the money for the support of the local scout administration comes from public donation. About half comes from the Community Chest, and the other half from individual subscriptions. All of the registration fees from the scouts and scouters go to the support of the national scout administration and its extensive service. Scout fees are \$50 per year. Scouter fees are \$1.00 per year.

The Roosevelt Council has considerable property. They have the Heard Scout Pueblo in the edge of the mountains south of Phoenix. Its value is about \$100,000. It provides an excellent place, close to Phoenix, for overnight and week-end hikes; for individuals or whole troops. It is quite extensively used. It is planned along the lines of an Indian Pueblo. It has several sleeping rooms in one unit, a dining room and kitchen, an open air theatre, an office building, and others to make a complete, well equipped recreational and study center for the scouts. There is also a swimming pool in connection with the pueblo.

There are three boy scout councils in Arizona, of which Roosevelt Council is the largest with approximately 3,900 boy scouts and cubs. The Roosevelt Council also has Camp Geronimo, a summer camp area for the scouts and

scouters near Payson, Arizona. Its value is about \$50,000. George F. Miller is scout executive of Roosevelt Council. Boys who join the scouts remain active on an average of thirty months in this area. They are about 20 per cent who drop out each year. The present national objective in scouting is to reach 50 per cent of all boys over twelve years of age, and to keep at least half of these boys for four years. In other words, their objective is that in the future at least 25 per cent of the men of our country will be ex-scouts.

The local Scouts have a camp which they attend every summer. They spend two weeks at the camp. They are now planning a winter camp from December 27 to 31. The camp is situated about 20 miles from Payson, Arizona and is called "Camp Geronimo." During their winter camp, they have planned many interesting hikes, a lion hunt, and horse back riding. Besides having their local camp for boys, a National Jamboree is held each year for the Boy Scouts of America. Several Scouts of each troop get their expenses paid as an outstanding honor. The cost is approximately \$200 for the entire Jamboree. While on this trip, they visit many interesting places such as the White House to see the President as he is an ardent worker in the organization. They also visit the Empire State Building, Home of George Washington at Mt. Vernon, Lincoln Memorial, New York City, and many other places. Besides these many activities, the Scouts take an active part in charity and education. Each year the Scouts hold a Christmas party and dinner for the under-privileged children of the community. The Scouts were in charge of the National Re-Dedication program and carried it through very successfully. To aid with all of these activities are 3,660 enthusiastic Scouts and cubs. On April 9, 1940, Walter H. Hear, President of boy scouts of America arrived in Phoenix and received an Indian head dress as a gift from the Roosevelt Council.

There are some 400 Girl Scouts in the 26 troops in Maricopa County. These are directed by some 14 civic minded women. The troops range in size from 8 to 32 girls, between 10 and 18 years of age. Girls from 7 to 10 years old are called Brownies. There are 10 general fields—arts and crafts, sports and games, music and dancing, outdoors, literature and dramatics, homemaking, health and safety, international friendship, nature and community life. The Maricopa girl scouts are integrated by the Maricopa County girl scout council of which Mrs. W. R. Whelan is commissioner.

4-H Clubs form an important organization for youth in Maricopa County with a membership of 1600. In the spring of 1940 some 1,325 4-H club members presented livestock, poultry, baking, sewing, and other exhibits at the Arizona State Teachers College for a two day display under the direction of Prof. F. E. Ostrander.

The Rainbow Girls are active in Phoenix, and all over the state. This is a Masonic organization, promoted by the Masons and Eastern Star. The organization has an approximate membership of 300 girls. There is a convention or assembly held each year where the girls elect state officers.

Along the same line of organization promoted by the Masons is Demolay, and directly sponsored by the Masons, and serving youth from 16 to 21. It has an all round program of social, religious, athletic, and fraternal activities.

There are many different clubs sponsored for the foreign youth of Phoenix. The Mexican youths are taken care of through the Friendly Clubs. There are several of these clubs in Phoenix such as the Golden Gate and the Friendship Clubs. They have an enormous membership and the youths take a great interest in them, as they are only too glad to be able to widen their activities.

The Progressive Ann Clubs aid the colored youth, and are sponsored by a group of Negro women called the Juliet Derricot organization. They also wish to widen their social activities because they have been forced into limited boundaries for such a long time.

Clubs serving all youth, without restrictions as to color, age or sex, are in the various churches, such as Epworth League of the Methodist Church, Christian Endeavor of the Presbyterian and Congregational groups, Baptist Young People, Union of the Baptist Church, Newman Clubs of the Catholic Church, and Gleaner Clubs for members of the Latter Day Saints. They all aim to build character.

Many organizations for youth are sponsored by different organizations. The Junior Police, of Phoenix, for example, are composed of 275 boys between the ages of 10 and 17, who are under the direction of the Civic Betterment Committee of the Phoenix Chamber of Commerce.

The Kiwanis Club annually sponsors a Hallowe'en party at the Phoenix Union High School stadium that has been tremendously popular. It was attended in 1939 by some 1200 Phoenix youths. It was not held in 1940. The Junior Chamber of Commerce sponsored the Arizona Hobby Fair both in 1939 and in 1940, which event was popularly received and a large number of exhibits were received from all over the state.

For several years county superintendent of schools, E. D. Ring, has conducted a Hobby Fair for elementary schools at the state fair grounds. In 1939 more than 1,000 exhibits were registered.

There are innumerable organizations among the college, high and grade school youth as part of the extra curricular program. These take the form of band, athletic, social, literary, dramatic and many other types.

Hi-Y clubs, which meet at the Y.M.C.A., are popular among the high school youth. The municipal affairs of Phoenix were taken over for a day each year by the Phoenix Hi-Y clubs. Lee Drake, 18-year old high school senior, served as mayor of Phoenix for a day.

The Arizona Republic annually sponsors three picnics for the whites, the Mexicans, and the Negroes, which are looked forward to by the youth of Phoenix.

The Junior Chamber of Commerce annually sponsors a Christmas party in the high school stadium and thousands

of youngsters are given toys, fruit, nuts and candy—one of the major events of the year for youth.

Youths are also interested in politics. The Young Democrats of Arizona have a large membership throughout the state. Dewane M. Kelly is president. The G.O.P. youth of Arizona have also been quite active. An endless number of organizations serve and are served by youth as it endeavors to grow up.

The government has taken a hand in aiding youth in both collegiate, high school and non-school National Youth Administration (N. Y. A.) projects. N. Y. A. has made possible the completion of the educational career of many students and has given occupation to many who would be forced into idleness. N. Y. A. workers have entered into many constructive projects of a civic and community nature.

The federal government has also helped youth with its C. C. C. program, which was enacted by congressional law in 1933. Arizona has 27 C. C. C. camps of approximately 200 men each. The C. C. C. has a dual mission, first the conservation of natural resources, and second, the conservation of youth.

According to Dori Hjalmerson are:

"1. To develop in each man his powers of self expression, self entertainment, and self culture.

"2. To develop pride and satisfaction in cooperative endeavor.

"3. To develop, so far as practicable, an understanding of the prevailing social and economic conditions, to the end that each may cooperate intelligently in improving these conditions.

"4. To preserve and strengthen good habits of health and mental development.

"5. By such vocational training as is feasible, and particularly by vocational counseling and adjustment activities, to assist each man better to meet his employer and his employment problems when he leaves camps.

"6. To develop an appreciation of nature and of country life."

No greater challenge to youths in the Valley of the Sun could be given than the fact that some of the greatest men in history accomplished their greatest achievements while very young. The following quotation is from "America's Young Men, The Official Who's Who Among the Young Men of the Nation. (2)

"The pages of history are filled with the outstanding accomplishments of young men. Alexander the Great had conquered and ruled the then-known world before he was 30. Frederick the Great was 28 when he began his able and strong-minded rule of Prussia. Napoleon was 27 when he was crowned Emperor of the French. William Pitt served as Chancellor of the Exchequer at 23 and as Prime Minister of Great Britain at 24. Daniel Webster's brilliant law career began when he was 21; at 38 he had a post in the Cabinet. Patrick Henry was 27 when he delivered his famous speech against the Stamp Act. Shakespeare had

completed ten of his greatest plays at 32. Sir Isaac Newton was 24 when he formulated the law of gravitation. Robert Louis Stevenson had completed Treasure Island at 33, and Charles Dickens was 25 when he wrote Oliver Twist. Twenty-eight-year-old Gustave Dore made the celebrated illustrations for Dante's Inferno. Mozart was 30 when he composed The Marriage of Figaro. Franz Schubert, who enriched the world with his imperishable musical creations, died before his 32nd birthday.

"Andrew Carnegie introduced the Besemer process when he was 33. John D. Rockefeller was a young man of 26 when he built his first oil refinery. At 40, Louis Pasteur had so many scientific achievements to his credit that the select French Academy of Sciences elected him a member. Great and courageous Father Damien was 33 when he renounced the world for martyrdom.

"American history vividly recalls the activities of young men. George Washington, as a youth of 23, led the Virginia troops against the French and Indians. The

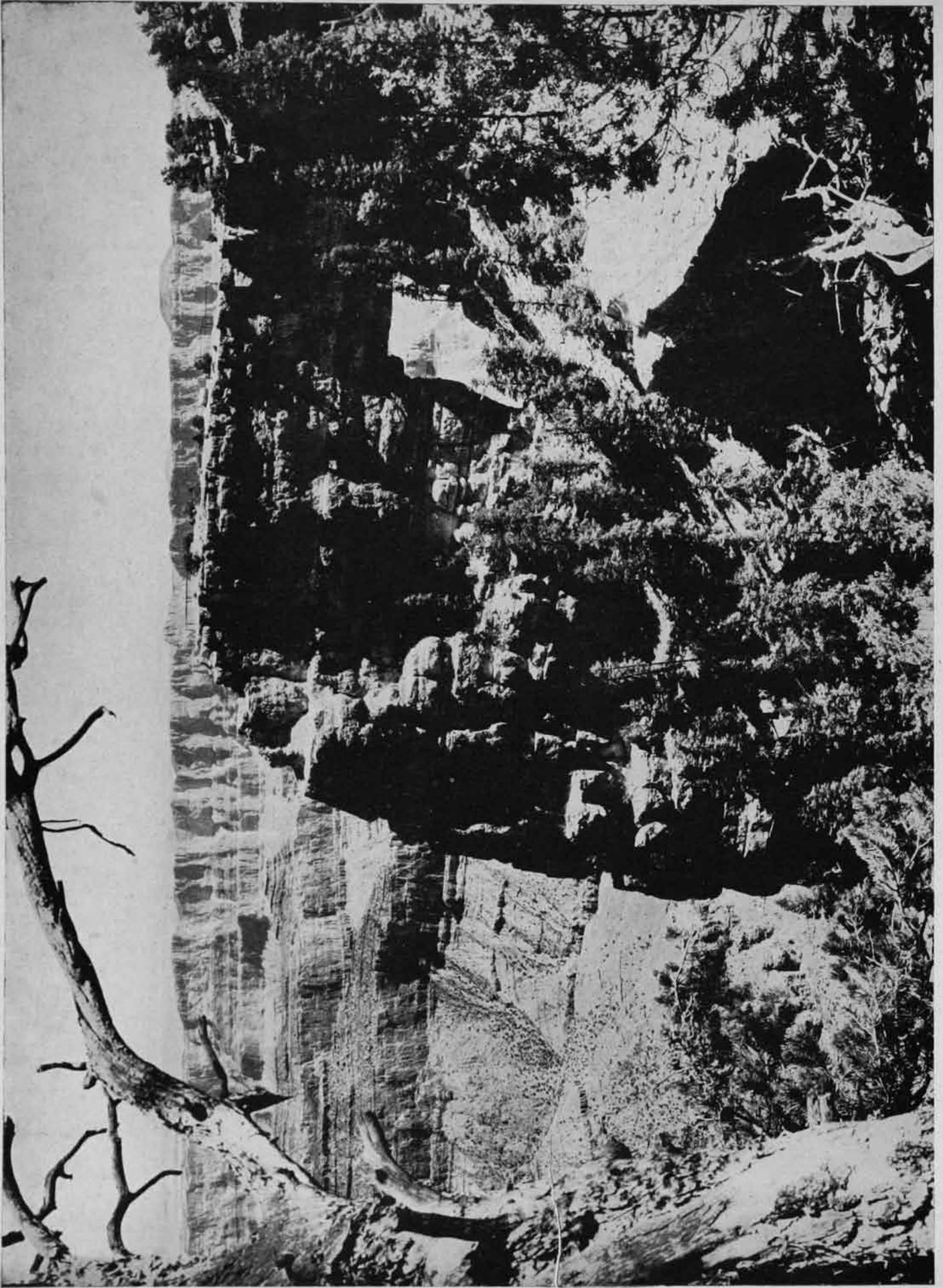
Declaration of Independence was written by Thomas Jefferson when he was 35; John Hancock's famed signature was attached when he was 39. The average age of all the delegates to the Constitutional Convention was 41 years. James Madison, who has been referred to as "the father of the Constitution" was 36 when in attendance at the Constitutional Convention. Alexander Hamilton at 32 was the first Secretary of the Treasury. Abraham Lincoln was 24 when he first campaigned for public office. George B. McClellan, Lincoln's first general, was Commander-in-Chief of the Union Army at 34. John C. Breckenridge of Kentucky, at 36 was the youngest vice-president in our history. Eli Whitney was 29 when he invented the cotton gin. Thomas Edison had given the world the benefit of many of his greatest inventions when he was still a young man. McCormick had invented the reaper, and Westinghouse the air brakes, when each was 23. The Wright brothers had flown the first airplane when they were in their early thirties. Horace Greeley, in his thirties, was the most influential political writer of his day."



Valley Youth are Trained in Music. A. S. T. C. Band



Football forms one of Major Fall Sports for Valley Youth. A. S. T. C. Bulldogs in Action



Arizona's Colossal Grand Canyon

## CHAPTER IX

# ARIZONA'S ATTRACTIONS

Tourists come into Arizona by automobile, bus, train, air, motorcycle and even by foot. When the tourist arrives at the Arizona border he is greeted by a word-carved sign saying: "Arizona Welcomes You." Why do so many visitors come to Arizona? Is it because of her climate which makes it a Mecca for health seekers and also one of the most favorite of the winter resorts of the nation? Or is it her natural wonders such as the Grand Canyon, the Painted Desert, or the Petrified forest? Or is it because she has some of the world's greatest dams and reclamation projects, like Boulder, Parker, Bartlett, Roosevelt and Coolidge Dams? Or is it perhaps because of its archeological possibilities for the study of Indian ruins? Or is it the wild west pageantry in terms of rodeos, Indian ceremonies and Spanish fiestas? Or perhaps it is the opportunity to actively participate in the western outing of real cowboy country? Or is it the lure down South of the Border that brings tourists flocking into Arizona? Most likely it is some combination of these possibilities which proves to be the magnet for its many visitors.

### I. CLIMATE

Undoubtedly the Number One attraction of Arizona for visitors is its exhilarating, mild and delightful climate during the winter months, making it a natural vacation-land for all parts of the United States and Canada.

More tourists come to Arizona in summer because it is the usual vacation season; the favorite months being June, July and August. While the tourist traffic includes individuals of all walks of life, the summer travel is mobile and transitory, consisting usually of tourists in moderate circumstances. The winter tourists represent the upper middle and professional classes together with a number of wealthy vacationists.

The ideal winter climate for Phoenix and the Valley of the Sun is generally accepted. Now that Phoenix has become the "air conditioned" capital of the world—with air-cooling systems in the leading homes, establishments, hotels, and tourist cabins—the desert heat is less formidable.

Health seekers in Arizona find that the summer climate is far better than the winter climate. From the standpoint of health seekers, one summer is equal to two winters. The climate of Arizona is such that Arizona-grown and sun-cured foods, melons and citrus, are produced in sufficient abundance to meet the needs of Arizona winter vacationists.

### II. NATURAL WONDERS

Arizona is the land of endless scenic beauty. It is the land of the majestic Grand Canyon, of the turbulent Colorado River, of the Rainbow Natural Bridge, nature's masterpiece; of America's greatest petrified forest, or the Saguaro and the Painted Desert. It is the home of innumerable ancient Indian ruins. Arizona is the land of romantic adventure.

The Grand Canyon of Arizona has been known to modern man for four centuries. Invincible Coronado, leading his epic march through half a continent, heard of the great gorge from the Indians that his conquistadores encountered. Coronado, a disappointed man because the fabulous Seven Cities of Cibola—reputedly rich beyond dreams of avarice—had turned out to be simple Zuni Indian mud villages, only half believed the tale.

Reluctantly he sent a party of 12 men to investigate. For days they marched across the gently rolling plateaus of Northern Arizona. They searched through dense pine forests. Suddenly the frightening canyon yawned at their feet!

For thirteen miles it stretched to the dim farther rim. Its bottom they could not see, for it is more than a mile down to the thin, torturous channel cut by the Colorado River. The Grand Canyon spreads over some 210 miles. Don Pedro de Tovar, Spanish Conquistadore, reported its width as "de tres o quatro leagues por el ayre." "Three or four leagues across in an airline."

Father Garces and Father Escalante, Spanish priests, led exploring parties there in 1776—the year of American independence—about which they knew nothing. Since that time travelers from all over the world have followed in their footsteps. Millions have stood on the brink of the great gorge.

They have watched mists swim lazily away to reveal a phantom world. They have seen minarets and towers rise through the clouds. They have seen a thousand fantastic forms of temples and spires, of ships and thrones, lavishly strewn through the canyon depths by the whimsical work of nature's hand. Here is an unreal land carved by the hard reality of wind borne sand, by the grinding strength of the continent's roughest river. Here is a land that has been five times under the sea and five times a lofty mountain range. The lower rocks of the Grand Can-

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(1) Some 696,955 cars entered Arizona in 1940 through its nine checking stations, as follows: Benson—55,526; Solomonsville—92,567; Holbrook—171,070; Globe—9,220; Kingman—118,945; Ehrenberg—130,501; Yuma—109,117; and Parker 10,009. More than 400,000 out-of-state cars came to Arizona in 1940 as compared with 390,000 in 1939, and 359,438 cars in 1938. Motor vehicle travel business in Arizona totalled \$ 28,000,000 in 1939 as compared to \$26,772,000 in 1938.

Arizona-bound travelers, some 170,070 crossed into Arizona at Holbrook. The second most popular entrance into Arizona was at Ehrenberg with a total of 130,501 cars. Some 118,945 entered at Kingman and 109,117 came in at Yuma on U. S. Highway 80. Tourist traffic by automobile is usually heaviest during the summer months, regardless of the temperature. In July 1939, 44,852 and in August 44,018 motor cars came into the state. The three high months in 1938 were respectively August, July and June. Assuming that there were four people in each car, some 2,787,820 people came into Arizona in 1939.



### Arizona's Matchless Desert

Phoenix is in the very center of the nation's sunbelt, which extends through all of Central and Southern Arizona, a small portion of California and New Mexico, touching Texas at El Paso.

Phoenix, Tucson and Wickenburg have become extremely popular resort centers because they are the sunniest spots on the continent. Along with the warm, dry and sunny climate there is romance, beauty and majesty in the great variety of desert scenery with its fronded green palms, giant Saguaro cacti, well irrigated citrus groves, vast desert expanses, rugged hilly terrain and glorious colorful sunsets.

Every day is practically a vacation day in Central and Southern Arizona where blizzards and snow-storms are unknown. The weather is almost always clear and fair. Rarely do plans have to be postponed because of rain. The weather man states that rain falls in Phoenix only 39 days out of the 365.



yon are so old that they no longer can be separately identified—and in them there is no sign that life lived on this earth when they were the top of the hill.

Few understand the gorging force of the Colorado. This great river restlessly tears through the gorge with unchecked speed, and every 24 hours carries with it nearly 1,000,000 tons of sand and silt. This is the abrasive that cut through the world's mightiest gorge. The winds, coming after, carving the rocks to fashion the thrones and the temples, the phantom ships in their immobile but gaily painted ocean.

There is color in rocks, for here, too, is color. Every stratum of rock shows a different shade—and the strata are piled to the depth of more than a mile. Through many of them are scattered the shells and fossils of ancient seas—proof that the rocks once lay buried beneath waters that now are no closer than 400 miles or more. One among many who tried to tell the story of the gorge was John Muir, the great naturalist. This is what he said:

"It seems a gigantic statement for even nature to make, all in one mighty stone world. Wilderness so Godful, cosmic, primeval, bestows a new sense of Earth's beauty and size. But the colors, the living, rejoicing colors, chanting, morning and evening in chorus to heaven. Whose brush or pencil, however inspired, can give us these."

This is the despair of the Grand Canyon. That is its eternal wonder.

The Grand Canyon of Arizona, wonder of the world, was viewed during the 1939 season and travel year by

395,940 persons, the largest throng to view the gorge in any year since it was set aside 21 years ago for the perpetual benefit of the people.

Travel for the twelve months ending September 30, 1940, was 17.64 percent greater than the aggregate number of visitors during the 1938 year and that in turn showed an increase of 13 percent over the previous year.

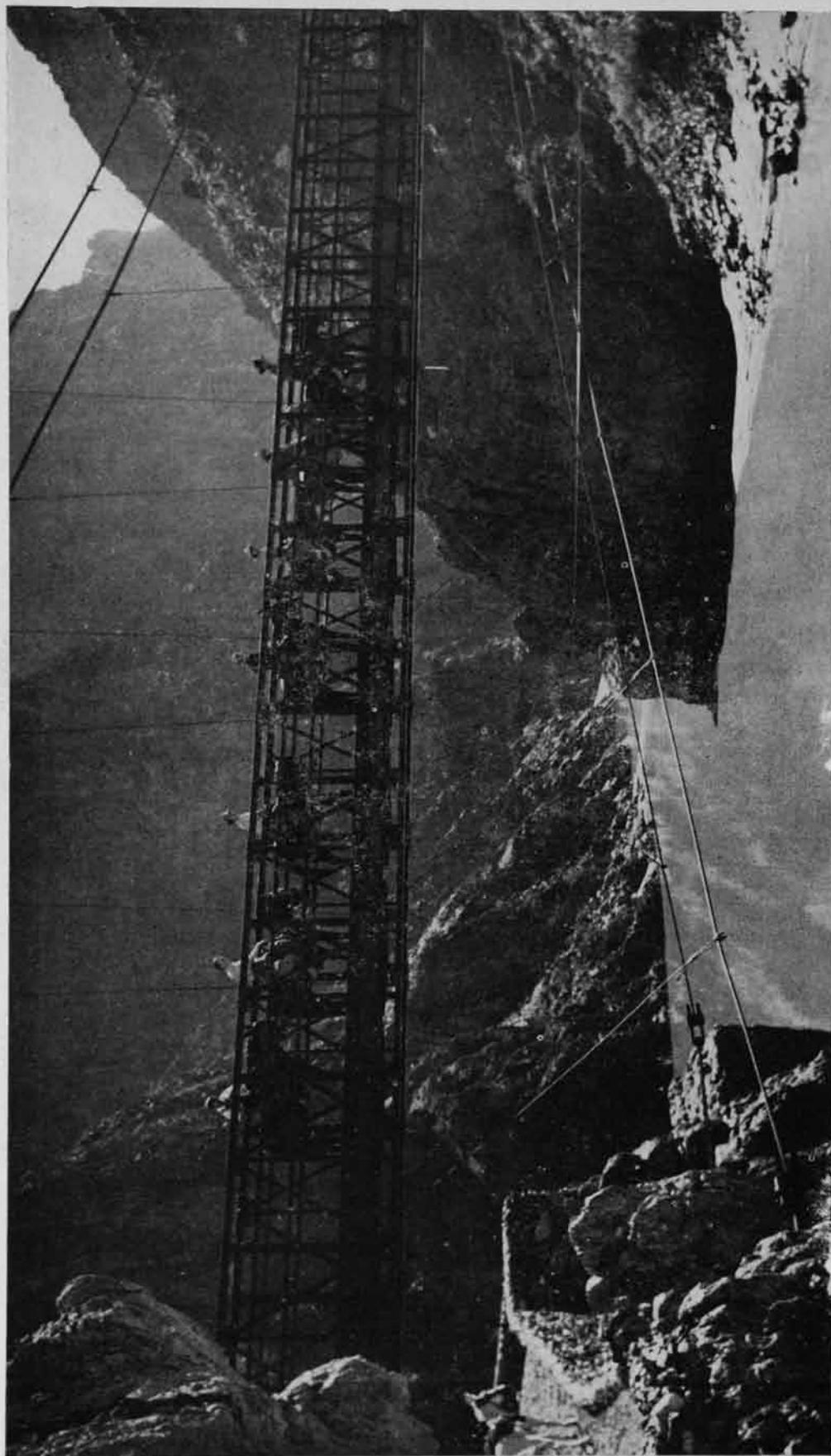
National park service records show that in all 3,457,139 persons have visited the Grand Canyon since the formal establishment of the National Park. While the annual average is 164,625 persons, actually one-third of the visitors have been registered in the past four years as the perfection of high-speed motor roads have made widespread travel the favorite American recreation.

During the 1939 travel year, visitors were registered in the park from all the 48 states, the District of Columbia and all American territories and possessions, and from 24 foreign countries and some as remote as India, South Africa and New Zealand. Despite troubled world conditions, climaxed by formal European war declarations at the start of September, foreign visitors showed an increase of 12 percent, a very favorable gain compared with the all-over gain of 17.64 per cent.

The travel peak of the 1939 year came in August, when an average of 3,002 persons were registered every day, for a total during the month of 93,064. The year's visitors came to spend anywhere from a few hours to long quiet weeks of rest, recreation, study and travel in the 1,009 square miles



Rock Site Vantage Point On Grand Canyon



**Suspension Bridge Across Grand Canyon**

The Grand Canyon is an immense gorge cut by the Colorado River into the high plateau in the Northern part of Arizona. It is a broad, intricately sculptured chasm that contains between its outer walls a multitude of imposing peaks and buttes of canyons within a canyon and of complex ramifying gulches and ravines. It ranges in width from 4 to 18 miles. Its greatest depths lie more than a mile below its rim and extends in a widening course to the head of Marble Gorge, near the northern boundary of Arizona and to Grand Wash Cliffs near the Nevada line, a distance of about 280 miles. Its most impressively beautiful part, 56 miles long, lies within the Grand Canyon National Park. Through it the river winds for 105 miles.

of the park.

Within the boundaries of the Grand Canyon National Park are an infinite variety of things to see, places to go, and quiet pleasures to enjoy. Primarily there is the Grand Canyon itself, mightiest example of erosion on the face of the earth. Through a plateau that forms most of Northern Arizona, the combined action of wind and water cut a gorge that is 217 miles long, 12 miles wide and more than a mile deep. Far in its depths courses the chocolate-colored Colorado River, one of North America's great water courses that probably carries more silt than any other stream known on this continent.

The first white man to behold the Grand Canyon was Garcia Lopez de Cardenas who had been sent from Zuni, New Mexico, to find a river far to the West, the existence of which had been learned from the natives. In 1854 Lieut. A. W. Whipple followed the lower course of the Colorado River as far up as the mouth of Diamond Creek. In 1857 Lieut. J. C. Ives traveled through the gorge of Diamond Creek and eastward to Havine Canyon, the San Francisco Mountains, the little Colorado, and the Country of the Hopi Indians.

On the banks of the Colorado at Moab is found the following inscription by the Utah State Road Commission:

"Major Powell, Colorado River Explorer The first serious attempt to conquer the swirling rapids and precipitous walled canyons of the Colorado was made by Major J. W. Powell, Civil War hero and explorer. Warned by Indians and mountaineers that they would never return alive, Powell and nine companions started from Green River, Wyoming on May 24, 1869 with four boats, instruments for making scientific observations, and provisions to last ten months.

"One man left the company early in the journey, and three others—later killed by Shivwits Indians—deserted near Grand Canyon, Arizona.

"For 97 days Powell and his men battled the elements, enduring tremendous hardship which was increased when the boat carrying food and all their cooking utensils was wrecked in northeastern Utah. Through the rapids of Marble Canyon they dropped 2330 feet in 283 miles, often being walled in between cliffs towering 2,000 feet high. On August 29, 1869 the six remaining men arrived at the junction of the Rio Virgin in southern Nevada, having navigated and charted over 900 miles. Thus was completed one of the most outstanding river expeditions in the history of exploration."

The Grand Canyon is cut in a plateau that stands 5,000 to 9,000 feet above sea level, a region of mesas, buttes, diversified by lava flows, masses in intensive rocks and hills composed of volcanic ash. Only the upper plateaus are covered with forests, but even there are no perennial streams. The rocky slopes are generally bare of soil or of vegetation. In the bottom of the canyon the heat is intense in summer and frost is rare in winter. There is a sparse growth of desert bushes and cacti, of Spanish bayonet and of the century plant.

Parts of upper terraces bear clumps of juniper and gnarled pinon. The Coconino Plateau which borders the canyon on the south at altitudes ranging from 6,000 to 7,000 feet above sea level, receives enough precipitation in snow

and showers to sustain an open forest of juniper and pinon and on its higher parts there are groves of tall straight yellow pines. The Kaibab plateau which stands on the north side of the canyon at altitudes from 8,000 to 9,000 feet above sea level has a mountain climate, snowy and severe in winter and equally cool in summer. It bears majestic forests of yellow pine with which is mixed some Engleman spruce. Scrub oak and cottonwood grow in the bottoms of the shallow dry washes on the plateau and clumps of aspen lie the grassy glades and natural parks in the valleys where thousands of deer, and outside of the national park, herds of cattle find grazing abundant.

For the visitor, the Hopi House opposite the El Tovar entrance is one of the most interesting Indian collections in the world. The Hopi House is a perfect model of a block in the village of Oraibi, one of the seven Hopi pueblos. It is three stories high, and contains many rooms and is supposed to accommodate forty-five families. The old houses were for the purpose of defense against hostile tribes, who were warring with each other. In the Hopi Houses there are Hopis and Navajos and a band of Havasupi from Havasu Canyon.

The Hopi's belong to the people popularly spoken of as Pueblo's, but this name signifies nothing more than town Indians distinguished from Nomad or wandering tribes. They belong to the great Shoshonean family, and are a short, stocky, gentle people, given to agriculture, sheep raising, basketry and pottery and a little weaving and silver work.

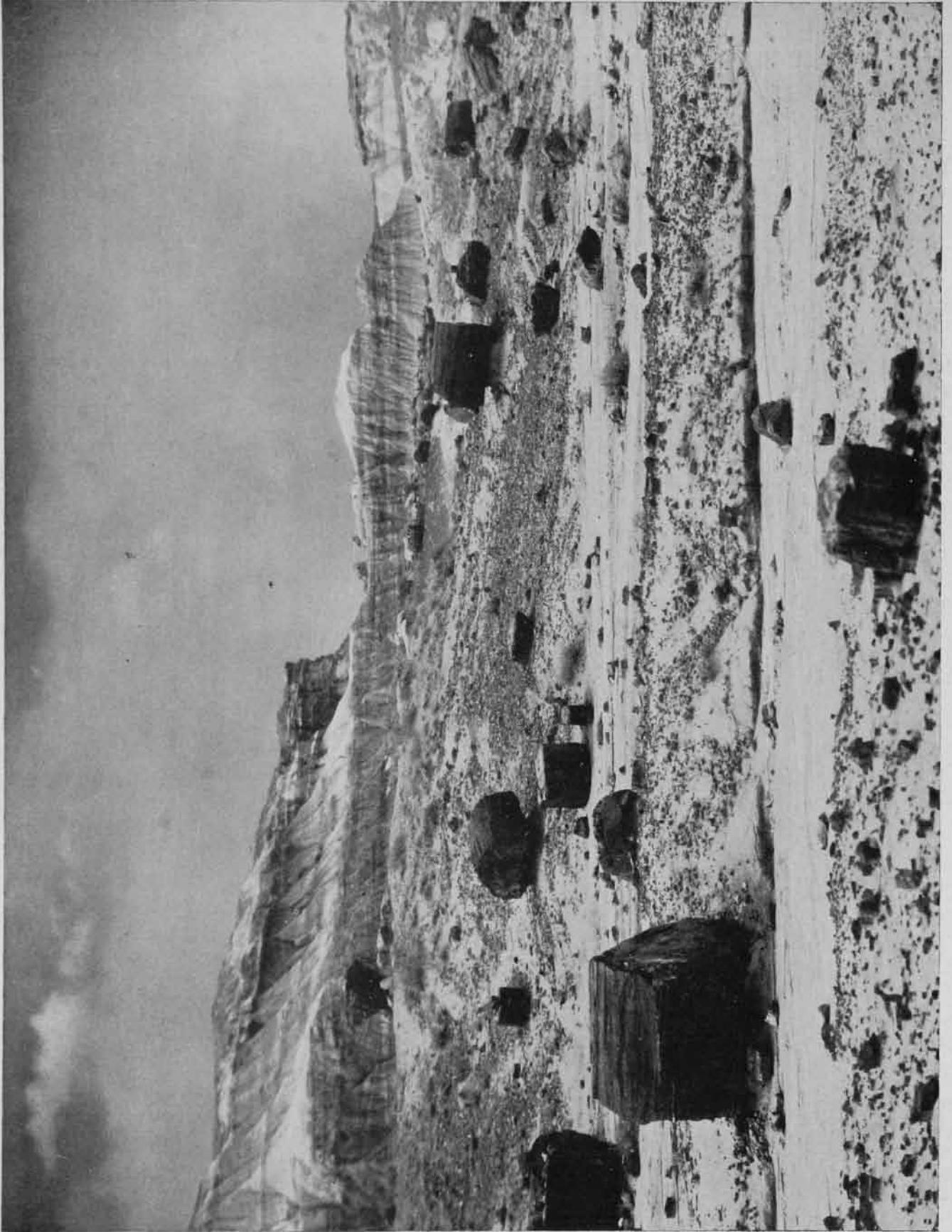
The Navajo race on the other hand are of Athabascan stock, coming from the North, and are blood brothers of the Tinnehs of Alaska, and the fierce and war-like Apaches of Southern Arizona. They are natural horsemen, raising great herds of their wiry, active, hardy ponies as well as herds of their agile sheep and goats. These are the chief industries of their men, and the women are the most skilled blanket-weavers in the world.

The Havasupais belong to the Yuman family and are kin to the Wallapais, the Mohaves, Yumas and Cocapahs of the Colorado River.

There are many canyons, but the Grand Canyon of Arizona is the Mecca of the traveling world, and El Tovar always has the housing of the choice spirits who have run the gamut of tourist delights in other lands. This home-like inn shelters men of letters, scientists, geologists, artists and business men. Any night in the year, on the rim of this wonderland abyss there will be found a miniature city, with its life and sparkle, its fellowship and social conversation, its bustle and abandon, and best of all the simon-pure democracy inherent among traveled men and women. It has there restful and strengthening qualities.

In magical contrast with this human center is the near-by solitude, for one may in a moment step from the companionship of men to the isolation of the desert or mountain. At will one may be one of the crowd or a hermit!

More people visited the Grand Canyon in 1939 than in any other year of its history. Some 316,824 visitors arrived by automobiles, 18,713 by stage, 140 by air and 60,263 by



Logs From Petrified Forest

train, making a total of 395,940 visitors.

Although most visitors view the Grand Canyon from the South Rim there are those of the more robust nature who go down its trails on burros from Bright Angel Trail to the river and perhaps the phantom ranch on the banks of Bright Angel Creek on the bottom of the canyon or view it from the North Rim which is 1200 feet higher than the South.

The Grand Canyon is both a National Monument and a Park and is under the supervision of the federal government.

**Saguaro National Monument** near Tucson, contains 160,000 acres where the giant cactus, whose bloom is the state flower, is being preserved. A Saguaro, so typical of Arizona, takes many forms and shapes and sometimes is to be found in thick forests which are most unreal and unusual.

**The Oregon Pipe Cactus National Monument** is south of Ajo on the Mexican border. The branches on this cactus resemble the pipes of the pipe organ. It sometimes grows to a height of 20 feet.

**The Petrified Forest** is a National Monument. Here the remains of large and small petrified logs are to be found. This agatized wood forms a rainbow-hued color, especially when polished. The Petrified remains of pre-historic trees are found in six separate forests. This is the largest and greatest forest of its kind in the world. It was first discovered in 1851. In 1903 it was set aside as the Petrified Forest National Monument. The trees are very unevenly distributed. They were originally washed down from the mountains by flood. This is a sight that no tourist should miss. In the forest is the famed Agate Bridge, a petrified log four feet in diameter which spans an arroyo 40 feet deep. The forest consists of 25,000 acres. It took between 100,000,000 and 300,000,000 years for the wood to turn to stone.

**The Painted Desert** is found near Holbrook on Highway 66. There is a grand mixture of multi-hued sands, which, under the ultra-violet rays of the torid Arizona sun, forms a kaleidoscope of color which gives ravishing beauty to the vast desert with its mountainous background. The desert is about 100 miles long, and some 20 miles wide. There is but little vegetation. The Painted Desert is no mirage, but rather, an actuality. The Navajo sand-painter probably received his inspiration for more than a hundred blended hues from the Painted Desert.

**Rainbow Bridge**, a National Monument, is located 199 miles North of Flagstaff. While actually situated in Utah it can be approached from the Arizona side. It is a masterpiece of nature's architecture, and one of the most impressive natural phenomena known to man. Its proportions are nearly perfect.

**Arizona has three other major Natural Bridges.** One of these was discovered by the Colorado Expedition in 1940 in which a Phoenician, Barry Goldwater, was the official photographer. This bridge is second only to the Rainbow Bridge mentioned above and will undoubtedly be made a national monument. The Navajo Bridge is seven miles below the historic Lee's Ferry. It is 460 feet in length. The third is the Tonto Natural Bridge which may be reached from the towns of Pine and Payson. It is a limestone formation that has eroded. The Great Arch towers 180 feet over the stream which runs beneath it. It is operated by David and Harry Goodfellow.

**Meteor Mountain** was formed when a meteor flashing through space plowed into Arizona soil making a fantastic shaped mountain. It is 21 miles from Winslow. It left a gigantic scar in the Northern Arizona plains forming a crater nearly a mile across, originally, and some 600 feet across because of erosion. The meteorite has been located under the crater's South Rim. It was originally 900 feet deep. It is estimated to weigh 1,000,000 tons.

**Sunset Crater**, which is a National Monument, is a cone shaped crater of an ancient volcano which has a red colored volcanic crust around the crater. The lake is famed for its reflective power at sunset when the sun seems to sink into the crater.

**The Chiricahua National Monument** is famed for its wonderland of rocks caused by the erosion of wind and sun and rain in one of the most weird and fantastic of Arizona's rock formations. It is built in and along the steep sides. It has been called the Yosemite of Arizona. It was formed by a series of volcanic eruptions millions of years ago in which layer upon layer of lava was twisted into strange rock formations.



**Colossal Cave** is Arizona's nearest approach to Carlsbad Caverns. Here stalactites and stalagmites are to be found in abundance in this magnificent cave full of Nature's beauty. It is 28 miles from Tucson on United States Highway 80.

Arizona's mountainous scenery is suggested by San Francisco Peaks near Flagstaff that tower over the surrounding hills and plateaus at an elevation of 12,600 feet.

Oak Creek Canyon in the eastern part of Yavapai County and the Southern part of Coconino County is full of majestic beauty, deep but wide valleys and unusual coloring which makes it a miniature Grand Canyon.

Fortification Mountain on the Kingman highway is a gigantic mountain of beauty from which an excellent view of Boulder Dam can be had.

Grand Falls, southeast of Cameron on the Little Colorado River, forms a sparkling and vivacious falls and rapids which have great scenic beauty.

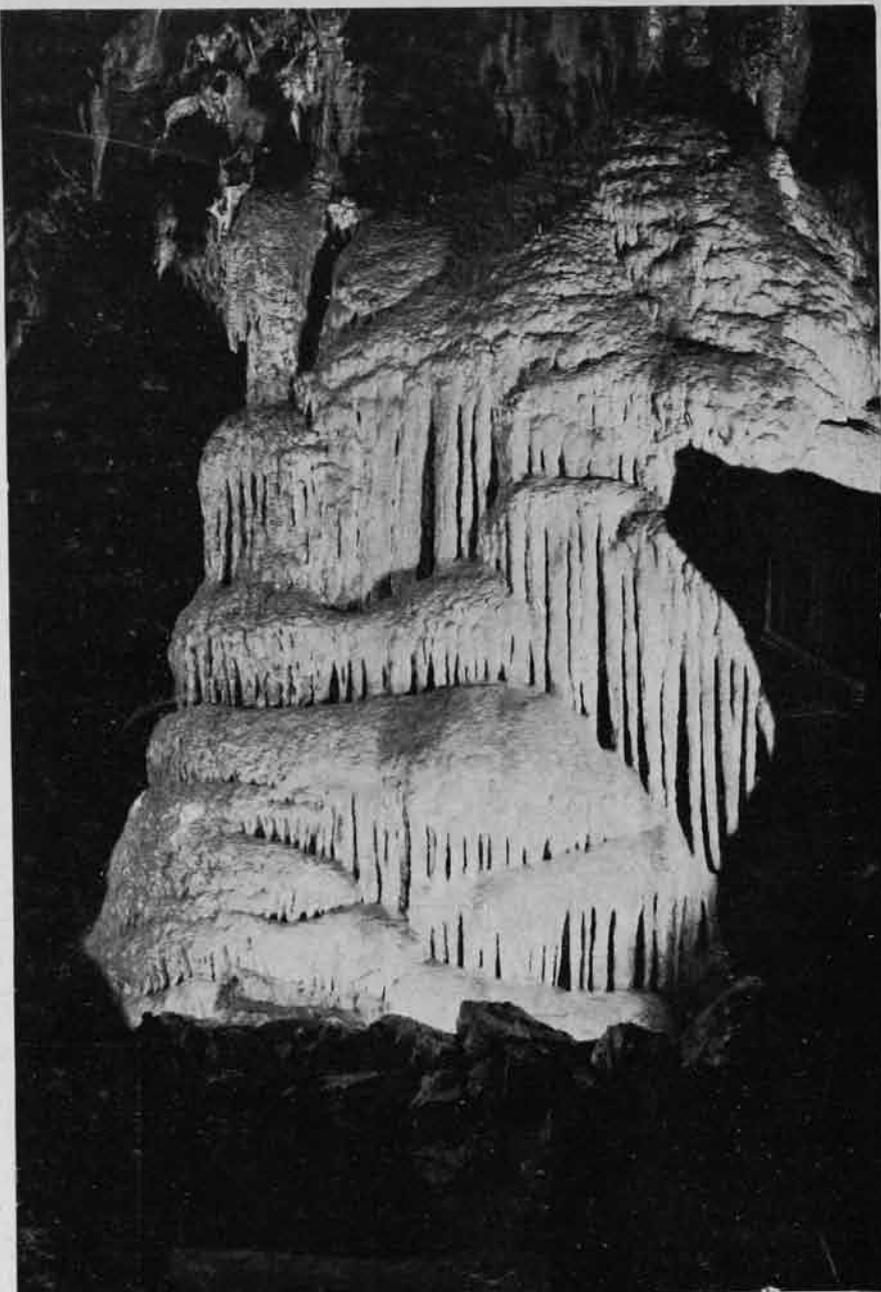
### III. WORLD FAMOUS DAMS

**Boulder Dam** is the largest of all Federal Reclamation projects. It is the highest dam in the world. It is one of the world's major engineering feats. It is 727 feet high, the cost of construction was \$165,000,000. It dams the Colorado River between Arizona and Nevada forming Lake Mead, the largest man-made lake in the world. The reservoir is 115 miles long and covers 227 square miles in area with a storage capacity of 30,500,000 acre feet. The Aqueduct, which spans half a dozen mountain ranges, was privately financed at a cost of \$220,000,000.

In 1937 Boulder Dam attracted visitors from every state in the union, four territories and four foreign countries. The Nevada checking station near Boulder Dam proved the most popular port of entry in the State of Arizona, representing 45,805 individuals or 56.66 per cent of all registrations. According to the United States Bureau of reclamation, there were 42,662 visitors to the Dam power house.

Boulder National Recreation Area promises to become a pleasure area without equal. Motion pictures showing the construction of the Dam are shown daily. Fishing is fine in Lake Mead Scenic views are many. The beaches are usually crowded while boating and yacht cruises are very popular.

**Roosevelt Dam**, built in 1905-1911 was one of the first

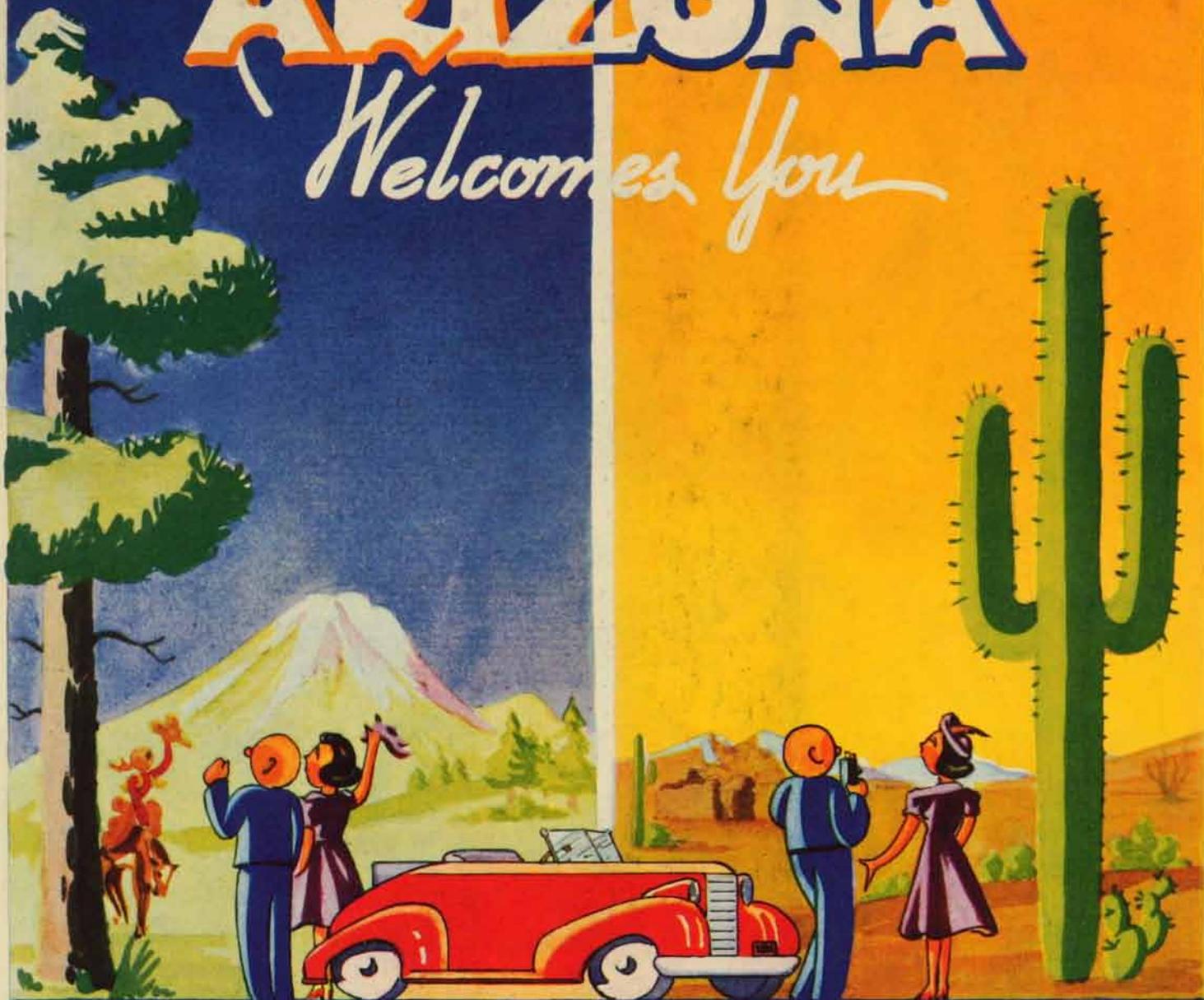


**Stalagmites In Colossal Cave**

reclamation projects in Arizona. It is found following the Apache trail. It is 284 feet high, and forms a lake, when full, 25 miles in length. The spillways were lowered in 1937. The length of the Dam proper is 723 feet. It has a maximum thickness at the base of 124 feet which tapers off to 16 feet at the top. Some 343,750 cubic yards of masonry went into its construction. It has a drainage area of 5,830 square miles and is capable of generating 24,000 horsepower. The cost of the dam and power plant was \$5,560,000. It is the foundation stone of the great agricultural empire in the Salt River Valley and holds the record of being the highest masonry dam in the world.

# ARIZONA

*Welcomes You*



## A FRIENDLY GUIDE FOR THE TRAVELER IN THE LAND OF SUNSHINE AND SCENIC GRANDEUR

The traveler in Arizona will find excellent highways to serve him on his journey through this delightful land of Sunshine and Scenic Grandeur.

The state is crossed east and west by four transcontinental highways — U. S. 60, 66, 70, and 80 — while the Canada to Mexico highway — U. S. 89 — crosses the state north and south. A network of hard-surfaced highways ties all parts of the state together, and so compact and well planned is the Arizona highway system that modern highways lead to the very door of many of the state's famed Scenic Shrines, and others are of easy access.

Arizona's highways are built and maintained to render the greatest amount of service to the traveler. Adequate signing and

striping has been scientifically incorporated into the highway system to insure swift travel with the utmost of safety. The comfort and convenience of the traveler is the first consideration of the Arizona highway department. The traveler into this Empire of the West will find Arizona's highways his constant and good companions.



# ARIZONA

*Welcomes You*

## WITH HER MANY ATTRACTIONS



**THE GRAND CANYON OF ARIZONA**—NATIONAL MONUMENT AND PARK—The world's greatest natural wonder. For two hundred miles the Colorado River flows through this great canyon, appearing a mere thread when viewed from the rim a mile above. No words have been found adequate to describe the breath-taking beauty of this spectacle. Equally impressive from North or South Rims.

**NAVAJO NATIONAL MONUMENT**—Eighty miles from Flagstaff, one of the interesting features of the Navajo Indian reservation. Many prehistoric Indian ruins, ancient coves and cliff-dwellings delight the scientist and historian.

**CANYON DE CHELLY**—NATIONAL MONUMENT—Near the New Mexico border, may be reached by good roads from Winslow, Holbrook and Gallup, N. M.—Chinlee Indian school is at the neck of the canyon.

**WUPATKI**—NATIONAL MONUMENT—Between Flagstaff and Tuba City, the government has set aside 35,865 acres for the preservation of the prehistoric Indian ruins found in this Monument.

**SUNSET CRATER**—NATIONAL MONUMENT—A cone-shaped crater of volcanic cinder, near Flagstaff, gray at the base and tapering to a red tip, which reflects the rays of the sun with gorgeous effect.

**WALNUT CANYON**—NATIONAL MONUMENT—Many cliff-dwellings make this one of the most interesting points in the state, within easy driving distance of Flagstaff.

**PETRIFIED FOREST**—NATIONAL MONUMENT—About 20 miles east of Holbrook, where the Petrified remains of prehistoric trees, some as large as 250 feet in length, blend in gorgeous hues.



**MONTEZUMA CASTLE**—NATIONAL MONUMENT—Its history shrouded in the mist of centuries, it is located 54 miles east of Prescott, in the Verde Valley.

**TONTO NATIONAL MONUMENT**—Prehistoric cliff-dwellings in an excellent state of preservation, located just east of Roosevelt Dam on the Apache Trail.

**SAGUARO NATIONAL MONUMENT**—Near Tucson, where the government has set aside 160,000 acres in order to preserve the Giant Cactus which is typical of Arizona, the bloom of which is the state flower.

**CHIRICAHUA NATIONAL MONUMENT**—Nature has fashioned a weird and silent community through the erosive agency of wind and water. Sometimes called Rhyolite Park or Wonderland of Rocks, this monument is located in Southeastern Arizona and may be reached from Douglas, Bisbee or Tombstone.

**TUMACACORI MISSION**—NATIONAL MONUMENT—Established in 1690 by the Jesuit priest, Father Kino, the ruins of this structure show the Spanish influence characteristic of all missions built throughout the Southwest, and is a mute tribute to the thorough vandalism of the Apache Indian.

**CASA GRANDE RUINS**—NATIONAL MONUMENT—The well-preserved ruins of a four-storied prehistoric community dwelling, with remains of an extensive canal system. The "calendar," and maize found in the walls have excited the scholarly interest and speculation of archaeologists from all parts of the world.

**PIPE SPRINGS**—NATIONAL MONUMENT—One of Arizona's historical and picturesque spots. In the early pioneering days this section was the scene of many struggles between settlers and outlaws.

**ORGAN PIPE CACTUS**—NATIONAL MONUMENT—South of Ajo and bordering on Mexico. This cactus is so named because its branches resemble the pipes of the pipe organ. It grows as much as 20 feet tall and is one of the uncommon species of the cactus family.

**TUZIGOOT NATIONAL MONUMENT**—A pre-Columbian ruin dating about 1500 A. D. two miles east of Clarkdale on the east bank of the Verde River.

**RAINBOW BRIDGE**—NATIONAL MONUMENT—Located 190 miles north of Flagstaff (in Utah). The bridge is 309 feet high and has a span of 278 feet across Bridge Canyon.

**COLOSSAL CAVE**—One of the state's wonders, 28 miles from Tucson and reached via U. S. 80 passing through Vail.



**TOMBSTONE**—One of the most famous mining towns in the West, at the height of its glory it was a city of equal importance with San Francisco. A living reminder of the days of the Old West.

**SAN FRANCISCO PEAKS**—Near Flagstaff, they tower over the surrounding plateau country at an elevation of 12,600 feet above sea level.

**PAINTED DESERT**—Here Nature has swung a reckless brush and painted the sands of the mountain sides to gorgeous hues. This famous scenic attraction may be viewed from Highway 66.

**HOPI INDIAN VILLAGES**—Walpi, Oraibi, Hotevila, Shongopovi, etc., where the annual and world famous snake dance is held late in July and early August. These villages may be reached from Holbrook or Winslow.

**GRAND FALLS**—Southeast of Cameron on the Little Colorado River. Falls and rapids of great scenic beauty.

**COCHISE'S STRONGHOLD**—Seven miles from Highway 666, in the heart of the Dragoon Mountains. For many years the hiding place of the great Apache chief.

**SACRAMENTO PIT**—Located at Bisbee, is one of the largest mines of its kind in the world. More than 20,000,000 tons of copper ore have been taken from this mine.

**OAK CREEK CANYON**—Located in the eastern part of Yavapai County and the southern part of Coconino County, a favorite resort of the angler. Accounted to be second only in beauty and marvelous coloring to the Grand Canyon. Oak Creek Canyon is traversed by Highway 79 and is a delightful vacation center.

**SOUTHWESTERN ARBORETUM**

—Between Florence Junction and Superior the late William Boyce Thompson founded this wonderland of plant life. Ten thousand varieties of plants from every continent are here assembled.

**TONTO NATURAL BRIDGE**—A result of limestone formation worn by erosion, 14 miles north of Payson and three miles from the main highway. A scenic wonder which yearly attracts many tourists.





**MONTEZUMA WELL**—A cup shaped lake, 78 feet below the surrounding terrain, 750 feet in diameter and fed by subterranean waters of which there is no recorded depth.

**METEOR CRATER**—Regarded as one of Arizona's strangest wonders,

formed by the landing of some terrestrial body from the heavens which buried itself deep in the earth's surface. It is 21 miles west of Winslow.

**COCONINO CAVERNS**—A subterraneous cave of great scenic interest north of Peach Springs on Highway 66. Recently discovered, explorations have not yet disclosed the immensity of this scenic wonder.

**DINOSAUR CANYON**—Sixty miles north of Flagstaff, flanked by immense rocks on which are found tracks of the dinosaur.

**NAVAJO BRIDGE**—Seven miles below the historic Lee's Ferry. The bridge floor is 467 feet above the water level of the Colorado River, the span across being 616 feet in length. Highway 89 which crosses the Colorado at this point passes in the very shadow of Echo Cliffs and Vermillion Cliffs and through Houserock Valley from Kaibab Plateau to Cameron.

**FORTIFICATION MOUNTAIN**—A spectacle of unsurpassed beauty, with flaming red base, black sides and flat top near Boulder Dam. An excellent view may be had from Boulder Dam—Kingman Highway.

**BOULDER DAM AND LAKE MEAD**—Located 72 miles north of Kingman, the largest of all federal reclamation projects and one of the greatest engineering feats of all time. Boulder Dam is the highest dam in the world, 727 feet high, reservoir 115 miles long, covering 227 square miles with a storage capacity of 30,500,000 acre feet, at a construction cost of \$165,000,000. Lake Mead, formed by the Colorado River behind Boulder Dam, is the largest man-made lake in the world. A sport center for the fisherman and the sailing enthusiast.

**APACHE TRAIL**—Beginning at Apache Junction, 34 miles east of Phoenix, this world famous trail, once the dark and bloody stalking ground of the Apache, winds through gorgeous mountain scenery to Globe.

**ROOSEVELT DAM**—One of the first Federal reclamation projects, located 79 miles from Phoenix via the Apache Trail. The dam is 273 feet high and forms a lake 25 miles in length. When full the reservoir contains 1,637,000 acre feet of water.

**MORMON FLAT DAM**—Forming Canyon Lake, 47 miles from Phoenix and second in the Salt River Irrigation Project chain of reservoirs below Roosevelt.

**STEWART MOUNTAIN DAM**—The last dam constructed, forming Saguaro Lake. The dam is 1260 feet long and 212 feet in height.

**COOLIDGE DAM**—Its waters are used to irrigate the Casa Grande Valley; it is situated on the Gila River 65 miles from Safford and 26 miles from Globe; height 250 feet; capacity 1,200,000 acre feet; largest multiple dome dam in the world. The highway—U. S. 70—crosses the top of the dam.

**ROCKY POINT IN SONORA**—The Point, 75 miles south of Sonoyta, is a big game fishing port on the Gulf of California, a great winter fishing center for American travelers.

**HERMOSILLO AND GUAYMAS**—In colorful Sonora, the capital city Hermosillo and the fishing port of Guaymas are south of Nogales, Arizona, and are popular attractions for the western traveler.



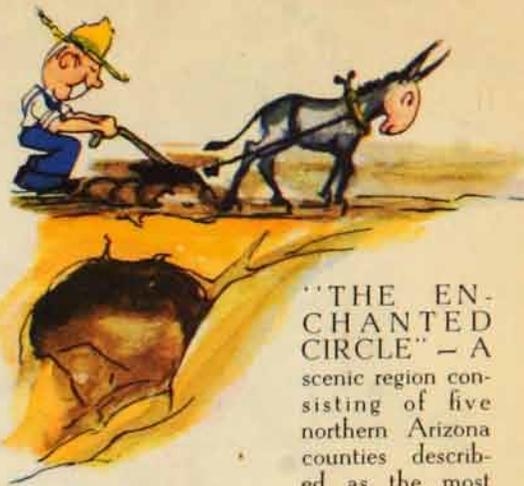
**MISSION SAN XAVIER DEL BAC**—Located nine miles south of Tucson, this mission is conceded to be the most beautiful mission structure in the Southwest. Established in 1700. San Xavier Mission has served the Indians of Southern Arizona down the centuries.

**MONUMENT VALLEY**—A picturesque valley in northeastern Arizona, full of strange and weird rock formations, one of the most unusual regions in the state.

**"LAND OF THE SKY BLUE WATER"**—The home of the Havasupai Indians, 40 miles east of Grand Canyon Village, where a tiny Indian reservation is located in a small canyon, a part of Grand Canyon, whose cliffs rise from the canyon floor 3,000 feet high. A creek of sparkling blue water, forming colorful waterfalls of great beauty lends enchantment to this canyon.

**WHITE MOUNTAINS OF ARIZONA**—Located in eastern Arizona, this mountain range is the trout fishing paradise of the state. Throughout this area are miles of trout streams running through heavy forests.

**CORONADO TRAIL**—One of the beautiful scenic ways of the West, the Trail crosses the White Mountains and the Blue Range from Springerville to Clifton.



**"THE ENCHANTED CIRCLE"**—A scenic region consisting of five northern Arizona counties described as the most

colorful scenic area in the world.

**TERRITORIAL PRISON**—Historical landmark at Yuma, where in early territorial days the badmen of the territory were incarcerated.

**COAL AND BLUE CANYON**—Two beautiful and colorful canyon areas near Tuba City.

**SYCAMORE CANYON**—A great, wild area south of Williams, noted for its game, an area combining stupendous scenery and remoteness.

**BILL WILLIAMS MOUNTAIN**—A landmark at Williams which has directed travelers through northern Arizona for many decades.

**SUPERSTITION MOUNTAIN**—Wild and remote mountainous region 20 miles east of Mesa, where legend has the Lost Dutchman mine, in the search for which a number of people have lost their lives. Scene of annual Dons' Trek.

**HASSAYAMPA RIVER**—This river, flowing through Wickenburg, has certain properties, according to the pioneer residents of the region, that when a newcomer drinks of it he never tells the truth again. "The Wishing Well" at Wickenburg affords all travelers on Highways 60, 70, 80 and 89 a chance to drink of the Hassayampa.

**CAVE CREEK**—A beautiful canyon region on the eastern slopes of the Chiricahua Mountains.

**PICACHO PEAK**—A landmark in Pinal county where the only battle of the Civil War was fought in Arizona.

**"OLD TUCSON"**—Site of the filming of the motion picture "Arizona," in Tucson City Park near Tucson, where the old walled city of Tucson can be seen.

**PARKER DAM**—Above Parker on the Colorado River, built for the water supply of Los Angeles. Lake Havasu, formed by Parker Dam, is becoming a popular fishing center.

**BARTLETT DAM**—Northeast of Phoenix on the Verde River, Bartlett Dam is newest addition to the irrigation system of the Salt River Valley.



# HISTORIC ARIZONA



## PRE-HISTORIC

Throughout the innumerable, sun-lit miles that are Arizona, the traveler finds today countless signs of a lost people whose story is told in ancient ruins. Here history that has never been written speaks in silent tongue. Where did they come from? Where did they go? These ancient ones! The archaeologist seeks after them, digging in ruins that were forsaken centuries ago. Whole villages have been discovered in all parts of the state and it is said that major discoveries are to be made. The visitor in Arizona can himself explore into a pre-historic era and conjure about a race of people who lived and flourished here ages ago.

Some of the most interesting and instructive of these pre-historic ruins have been set aside by the U. S. Government as National Monuments, under the supervision of the National Park Service. Here custodians and park rangers tell the story of the ancient people and conduct visitors through ruins that have been carefully excavated and protected.



## THE SPANISH CONQUEST

The earliest visitors into this land that is now Arizona were the Conquistadores of Spain. In 1539, a pious Franciscan monk, Fray Marcos de Niza, passed this way and the next year came Coronado with his expedition of Conquest. For three hundred years Spanish exploration and colonization was carried on in Arizona, and today the modern traveler can visit two missions, Tumacacori and San Xavier del Bac, which bespeak the days of Old Spain in this state.

With these Spaniards came the Cross of Christianity and the march of civilization. With them came cattle, horses, sheep, and new agriculture for the Indians.

But these Spaniards, seeking gold and silver, found a hard land and a hard life and only the cloaked friars, the kindly fathers, by precept and by teaching left their mark upon the land we live in today.

Yet the music of Spain and of Mexico

can be heard today in the streets and byways of villages and cities of Arizona. Some of the color and enchantment the visitor finds here comes from Old Mexico and Old Spain. Delightful names with the lilt of Castile!

The southern border of Arizona is the northern border of Sonora, one of the Mexico's proud states. Between Arizona and Sonora is a constant passing of people, for pleasure and for trade. The international boundary separates Nogales, Arizona, from Nogales, Sonora, and Douglas, Arizona, from Agua Prieta, Sonora, and yet a few steps across the border and the traveler finds himself in a strange, exotic country, whose color and beauty blends with the color and beauty of Arizona.



## EARLY SETTLERS

Toward the middle of the past century began the western march of American civilization to the new frontier. First came the trappers and hunters like Old Bill Williams and Pauline Weaver. Then came the brave and hardy Mormon pioneers, and the cattleman and the miner.

They not only had to conquer a western wilderness but they had to do so in spite of the dreaded Apache, one of the most fierce and cunning Indians on the North American continent.

They brought the plow that broke the desert and the fertile land on the mesas. They discovered the mineral in our mountains and they built cities. The laws that they made were among the most liberal in the land. They insisted on good schools and they laid the foundation for the future generations who were to come to this Empire of the West.

Today Arizona is still a pioneer land, it is still the frontier. The traveler will not find here a people stifled by tradition or held by the chains of circumstances. Arizona is still a young, growing state and its youth is part of its charm and strength.



## WHEN MEN WERE MEN

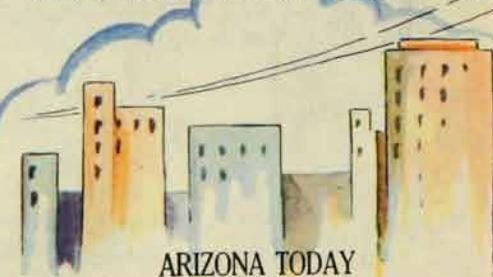
Today Arizona, despite its modernity and its progress, still retains some of the flavor of the old west, for which it was renowned throughout the world during the latter part of the 19th century.

Rich mineral deposits around Tombstone and in other places in Arizona attracted some of the best and some of the worst men who ever lived. Tombstone . . . Charleston . . . Galeyville . . . a few of the most lurid chapters in the story of the west.

These were the days of the desperado and the highwayman . . . of the gambler and his ilk . . . of bad men who lived in a young, rough, boisterous land, where dexterity with a six-gun was the surest kind of insurance and where every man made and enforced his own kind of law — and failing to do so died with his boots on.

Such was the old West. Rowdy . . . hard living . . . dangerous . . . where life was cheap but always exciting. Today Tombstone is a living reminder of that wild, rough-and-tumble chapter in Arizona's history, where the traveler can see bullet-scarred walls and streets which will forever retain the vigorous story of their early life.

Such is another side of this charming land called Arizona. This was the Old West, and that gawdy era will always remain with us in our ghost mining camps and in the cattle towns scattered from border to border.



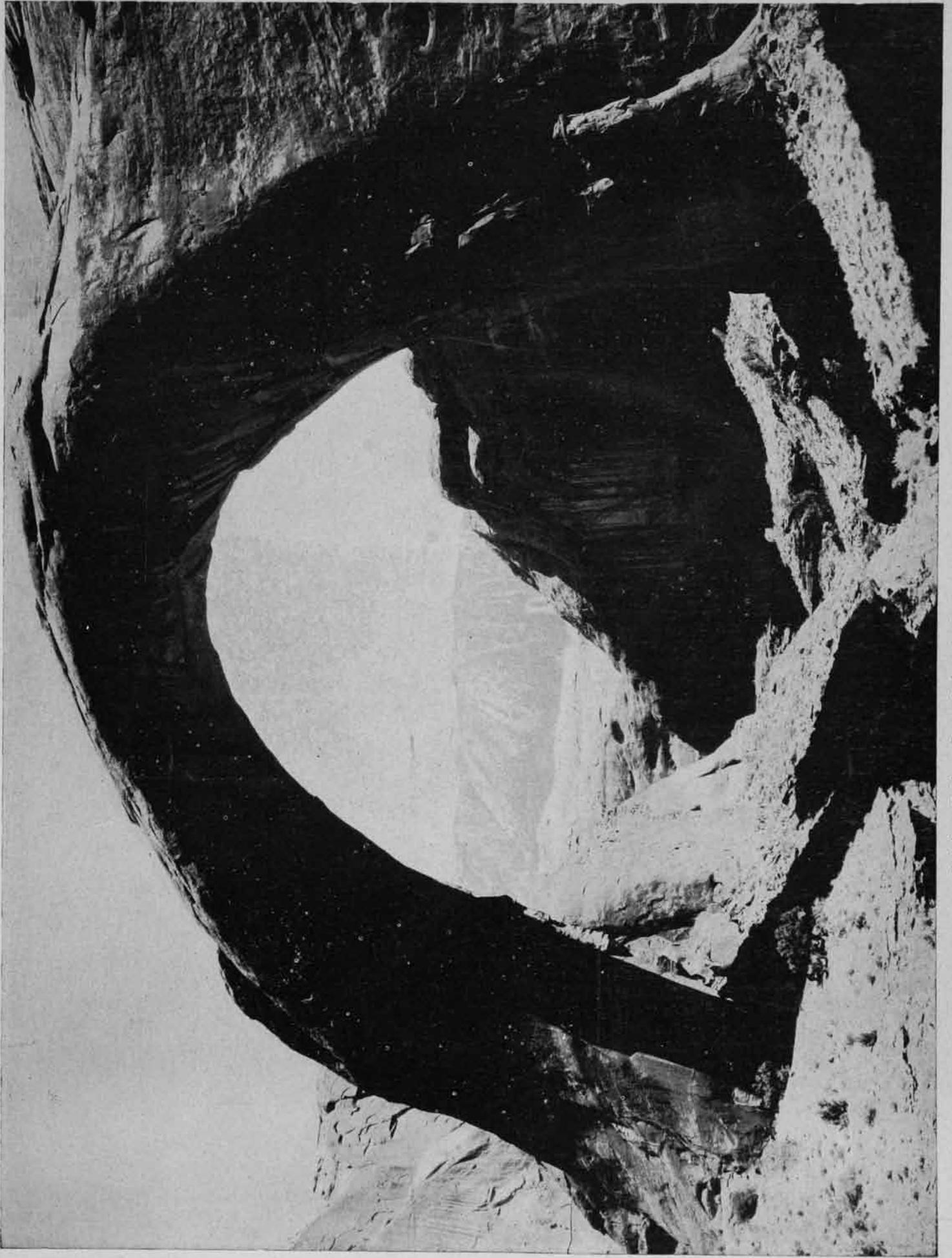
## ARIZONA TODAY

And there is modern Arizona . . . Arizona of today . . . progressive . . . prosperous . . . intelligent. This is the Arizona of modern, up-to-date cities, the Arizona of the great agricultural empire, the Arizona of mountains and desert, where resorts and ranches of charming informality tell of a new way of life . . .

This is the young and vigorous Arizona . . . of fine schools . . . and up-right citizens . . . of mechanical enterprise . . . of great dams that are marvels of engineering . . .

This modern Arizona is hospitable and friendly . . . and the traveler is always welcomed with warm cordiality . . .





Rainbow Bridge, One of America's Greatest Natural Wonders

**Bartlett Dam** is the highest multiple arch dam in the world. It is a monument to irrigation and power and was built at a cost of \$5,200,000. It is 286 feet high and was completed in May, 1939. It will be, in the future, sought out by the reclamation-minded tourists as a greater tourist attraction.

**Coolidge Dam**, across the Gila River is the highest multiple dome structure in the world. It is 279 feet high. It is the key to the San Carlos project in Central Arizona. Three gigantic domes on the down-stream side form the impounding barrier.

The dam itself is 880 feet long and was designed by Major Charles Olberg.

**Parker Dam**, located on the Colorado River between California and Arizona was constructed in 1938 at a cost of \$13,000,000 and has a capacity of 700,000 acre feet of water and covers 25,000 acres. It is of arch-type construction and is 800 feet long and is built of re-enforced concrete. The dam has five spillways each 50 feet square. The Parker line is estimated to bring 40,000 horse-power or 190,000 kilowatts to Phoenix and Central Arizona. It is estimated it will reclaim some 600,000 acres of land, through irrigation, in the Gila and Yuma valley.

Several other Dams of interest in the Salt River Valley of great reclamation value are the Horse Mesa Dam, the Mormon Flat Dam, the Stewart Mountain Dam, and the Granite Reef diversion Dam., all on the Salt River. These form the bases for the reclamation projects on the Salt River comprising some 240,000 acres. The Horse Mesa Dam was built from 1924 to 1927 at a cost of \$5,248,000. It has a generating capacity of 43,000 horse-power. The irrigation and power in the total Salt River Valley cost some \$43,000,000 and represents the greatest and most successful type of reclamation in the United States.

#### IV. INDIAN RUINS

**Navajo National Monument** contains the most famous of Navajo ruins. It was discovered by Lieut Bell in 1859. The ruins are divided into several sections designated as Ruin A, Cliff House B, Swallows Nest, the Betalakin, Kilsiel Cliff Dwelling, Scaffold House, (300 feet long), the Cradle House (containing 50 rooms), the Ping Tree House, and the Tricking Spring House. The best preserved, however, is the Kilsiel Cliff Dwelling.

**The Kanishba Ruins** is Arizona's largest cliff dwellings apartments. There are more than 600 rooms in the ruins. It is an old Apache "Brown House" and is some 400 years old. It is being considered as the 16th National Monument of Arizona.

**Ho-Ho-Kam Ruins**, 700-1400 A. D. now the restored Pueblo Grande between Phoenix and Tempe, was one of Arizona's oldest cities and a relic of Arizona's prehistoric tribes in

civilization. The prehistoric canals used by the prehistoric ancestors of the modern Pueblo's have been traced by Herbet R. Patrick who found 135 miles of main canal in the Salt River, irrigating some 140,000 acres and supporting some 20,000 Indian families.

**Montezuma's Castle National Monument**, located on the Apache trail 54 miles east of Prescott, is one of the most popular tourist attractions in Arizona. Three sets of ladders must be climbed to reach the ruins which are well preserved. They have been built in a huge carved-out shelf in the cliff which protected the Ancient Apaches and also preserved the ruins from erosion.

**The Casa Grande Ruins** form a well preserved four-story prehistoric structure. Archeologists from many parts of the world have visited Casa Grande Ruins. An extensive, prehistoric canal system is in the vicinity. Special features of the ruins are the calendar and the maize found in the walls exciting much speculation among the modern scholars.

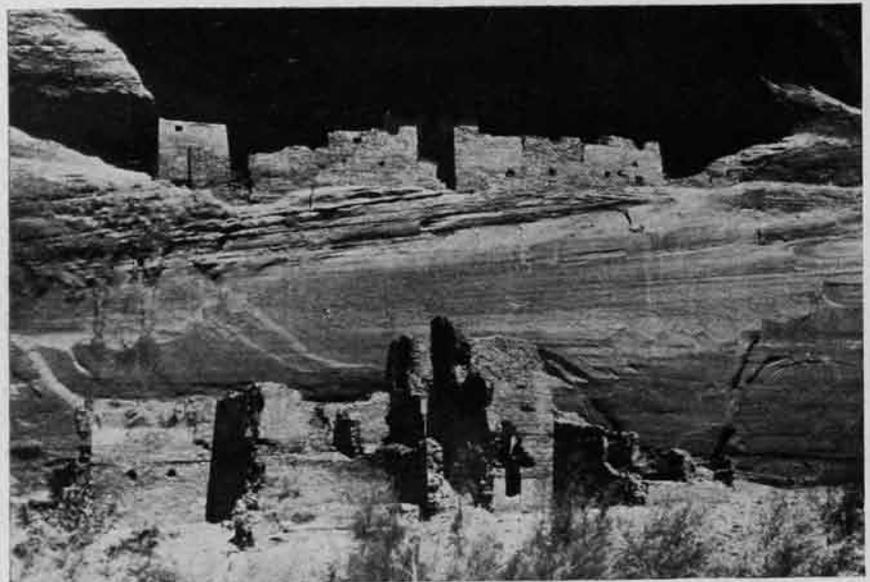
**Waputki National Monument** between Flagstaff and Tuba City is another of Arizona's ancient cities studied by Archeologists for clues of past Indian civilizations.

**Tuzigoot National Monument** near Clarksdale is the latest Arizona monument. These have original bazaar wall patterns.

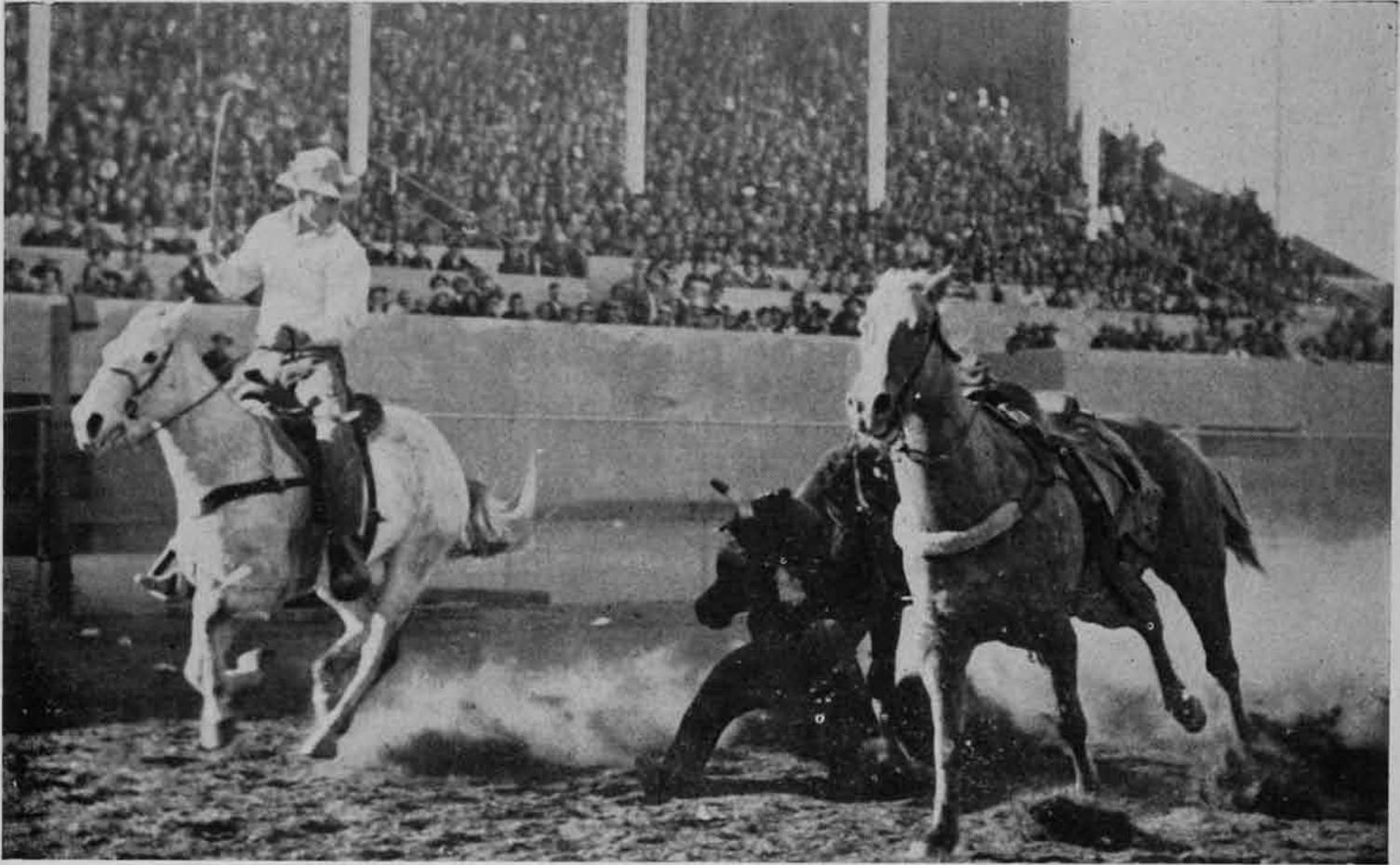
**Tonto National Monument** contains prehistoric cliff dwellings in a first-rate state of preservation. It is located just east of Roosevelt dam on the Apache Trail.

**Walnut Canyon National Monument** contains many well preserved cliff dwellings and is near Flagstaff.

**Canyon De Chelly National Monument** is very famous for its Indian Ruins. It is peculiar because of its whitish chalk-like walls. The White House ruins is one of the most outstanding of the many ruins there.



Prehistoric Indian Ruins



World Championship Rodeo Sponsored by Phoenix Jay-Cees

#### V. WILD-WEST PAGEANTRY

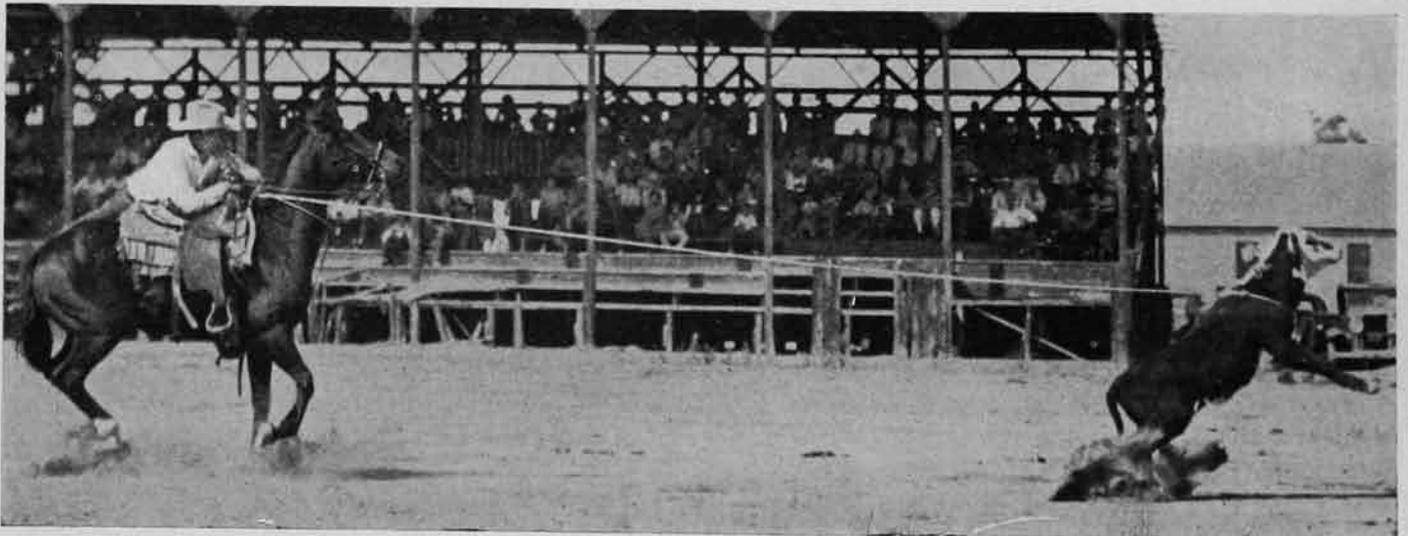
Samples of pageantry in the wild-west are the rodeos, Indian ceremonials, and the Fiesta del Sol.

#### A—Rodeo—

An Arizona rodeo is more than just a spectacle for

natives and guests. It is a Western carnival. It is the gathering-place of good fellows—the meeting of old neighbors, and new friends—The Spirit of the Old West.

The rodeo is incidentally, the only sport to grow out of major industry. For the prowess which the cowboy dis-



Roping a Steer

plays at the rodeo is more than just trick stuff, perfected for grandstand purposes. It is his craft, his profession—it is the same skill which he must manifest during his working week on the ranch.

There are scores of rodeos held during the season in the Valley of the Sun. One of the best known ones is the World's championship rodeo sponsored by the Phoenix Junior Chamber of Commerce held at the State fairgrounds. It occurs in February at the height of the tourist season. The world's finest riders, many of which are from Arizona, take part in this rodeo. A full, live, rollicking program of bulldogging, roping, trick riding, broncho busting, even the riding of wild brahma steers is given. One of the best rodeos of the year with an All-star group of performers is given in Tucson. Prescott claims the first rodeo ever given in the United States and its annual rodeo is worth traveling far to see. Rodeos are very popular in

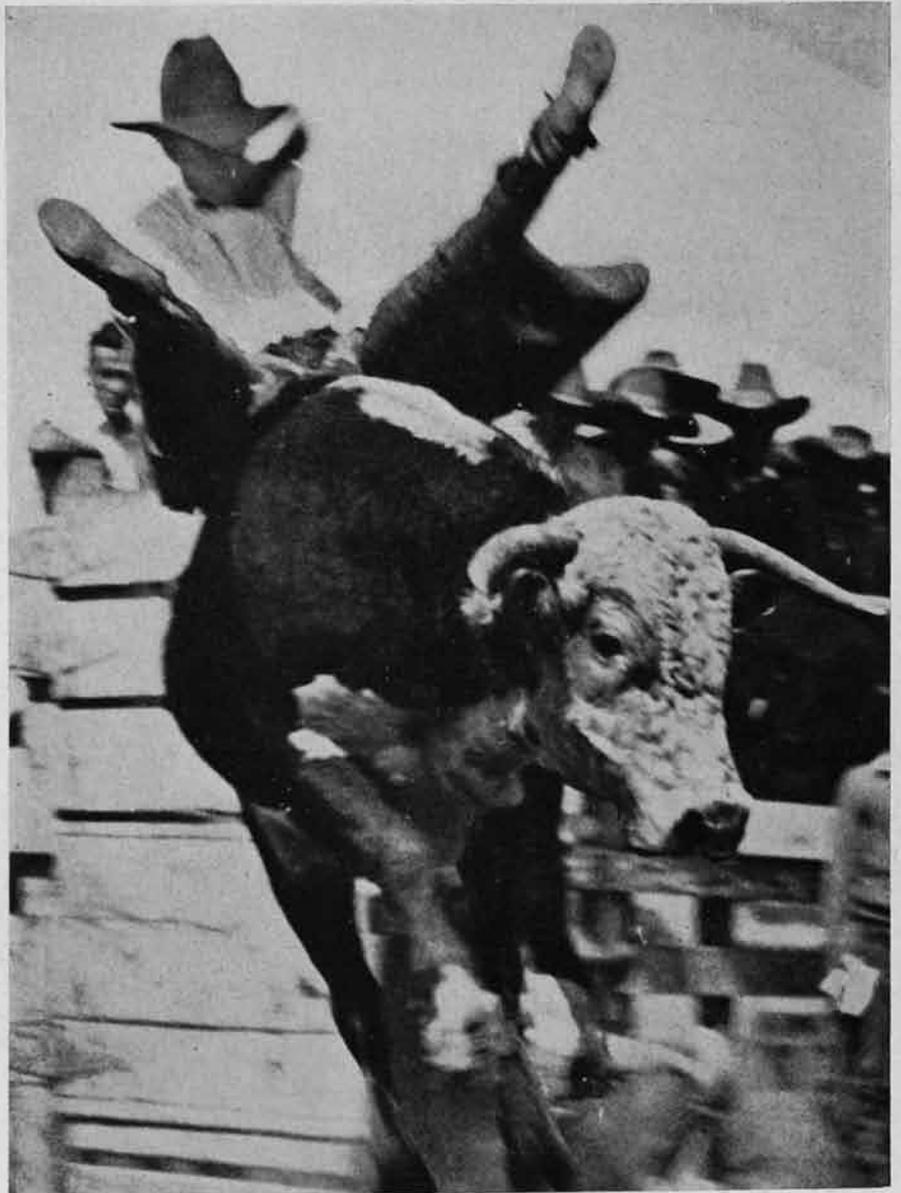
Arizona and prove to be one of the major tourist attractions. The cost of putting on a first class rodeo in Phoenix or Tucson ranges from \$20,000 to \$80,000. Buckeye, Chandler and Wickenburg annually put on first class rodeos.

The exhibition riding and roping to be seen at these rodeos are admittedly the best in the West, for Arizona cowboys are known to out-rodeo any of their colleagues in the country. But perhaps one of the highlights of Arizona rodeos—at least from the point of amusement—is the opportunity given to greenhorns to display their skill. New-comers to Arizona are encouraged to enter these events, and their attempts to tangle with cattle are hilariously cheered by the audience. Visitors participation is especially encouraged in "guest ranch" rodeos, as at "Remuda" ranch at Wickenburg.

#### **B—Indian ceremonies—**

Arizona has dozens of different tribes of Indians in the state. Annually they hold Pow-Wows and Snake dances, usually in the Northern part of the state. Chief of these Pow-Wows is the one held at Flagstaff, from July 2-4. Ten thousand Indians gather for this strange occasion. From the far reaches of the country, but especially from the Southwest desert, come thirty-five or more Indian tribes for this gigantic conclave. The Navajo's come in wagons, the Havasupai riding spirited horses, as do the Mohaves, Piutes and Apaches. Some even come by automobile and by truck.

#### Indian Contribution to Arizona Culture



Riding A Brahma Steer

Many of the Indians live in teepees during their stay at the pow-wow. It is a show for the Indian. The whites take no part except as spectators. The Indians outnumber the whites about four to one at the pow-wow. Flagstaff merchants donate several thousands of dollars of food to serve two big meals each day of the three-day celebration to tribesmen and their families. Some of the more prosperous Indians pay and stay at auto courts or hotels.

Two shows are given daily: the rodeo in the afternoon; and the tribal dances, chants, songs and warded ceremonials at night. An unusual feature of the 1940 pow-wow was the cactus rite in which the dancers wore moccasins stuffed with cacti.

Each year the citizens of Prescott hold the Smoki Indian ceremonials which form one of the major pageantry attractions for both winter visitors and Arizona citizens. The Snake Dance, in which live bull snakes are used, is one of the most fantastic of the dances given.

This is an ideal sight and is enjoyed by thousands of out-of-state tourists annually.

The desert is full of folklore of much interest to visitor and resident alike. Each year the Spanish Dons of Phoenix make a trek to Superstition Mountain. Somewhere hidden among the rocks of the Superstition Mountain is the fabulously rich Lost Dutchman Mine. Many prospectors have spent years looking for this mine and some of them have given their lives in the search. The Lost Dutchman Mine was first discovered by Carlos, the son Don Miguel Peralta in 1845. He reported his findings to several associates who set out with him with the intentions of working the mine. On the way they were waylaid by the Apaches and all but two of the men were killed. Some years later one Jacob Walz stumbled into camp where these two men were working the mine. Seeing the richness of ore he killed the two men in order that he might have the mine for himself. As time went on the secret of Jacob Walz's mine became known and many men attempted to follow him to it, but he usually managed to elude them. If they were persistent in the search he was not hesitant in doing away with them. It is said that several men were killed and that their bodies were covered with the rolling rocks. Thus the years passed with no one ever discovering just where Jacob Walz went when he entered the mountain. On his death bed Walz revealed to a friend the exact location of the mine but the latter could never find it. He was told that near a gigantic saguaro cactus is a palo verde tree with its limbs on the



Indian Race at Flagstaff Pow-Wow, America's Best Annual Indian Ceremonial

opposite side chopped off. Between this tree and a large rock at the base of weavers needle is located the mine. Supposedly it is covered with brush. Perhaps some day the Dons will really uncover the secret of old Jacob Walz's mine.

#### VI. SOUTH OF THE BORDER

Traffic between Mexico and Arizona was quite heavy in 1939. The Bureau of Customs reports that some 933,918 automobiles, 41 airplanes, 4,363 busses, 193 passenger trains in addition to 79,786 other vehicles entered Arizona from Mexico.

Some 4,674,320 individuals entered Arizona from Mexico through the custom ports of Ajo, Douglas, Lochiel, Naco, Nogales, San Luis, and Sasabe. Nearly 50 per cent of the traffic, or 2,291,813 came by automobile. Pedestrians totaled 2,311,649 (3). Some people came in by airplane, 10,689 by bus, 6,434 by train and 53,682 coming by other vehicles.

The above statistics suggest the attractiveness of going "Down Mexico way." Mexico has a peculiar fascination for tourists in the southwest. Nogales has the most popular approach into Mexico. Americans like to shop and purchase Mexican pottery, curios, metal work, as well as to observe their educational, religious, business, home, and recreational life. There is a charm and fascination in Old

(3) Many of these were citizens of Nogales, Arizona, working or trading in Nogales, Sonora, and vice-versa. U. S. Customs stations received from U. S. Treasury Department, 1940.

Mexico, the land of Manana. The Mexican people love lavish entertainment of the Spanish type. About 25 per cent of Arizona's population consists of Mexicans who preserve Mexican and Spanish customs and traditions.

Excellent fishing can always be found at Guaymas on the Gulf of Lower California.

Mexico lies at Arizona's back door. It is glamorous and beguiling. Its foods are spicy and its beverages are potent. Its scenery is a combination of the desert, mountain, tropic and coast. The mesquite and sage brush are the usual vegetation, but there are plenty of cacti, palm, and banana trees. Great varieties of vegetable and fruits are grown where there is irrigation. Mexico is not modern, but it is interesting and gay and many tourists and visitors find their way down South of the Border before returning home.

#### VII. DUDE RANCHING

Tourists and winter visitors come to Arizona to get into the spirit of the real west by personal participation. Special preparations are made for them on the Dude Ranches. Arizona is famous for its guest ranches. They reflect the glamour of the west and they keep the west 'western.' Arizona has a desert setting of great beauty. It is filled with cowboy and Indian traditions, folklore and pageantry. Wickenburg claims to be the guest ranch capitol of the world. Some of the famous ranches are the Remuda, the Kay-El-Bar, The Lazy R C, the Old Brill Ranch, and many others. Here the easterners don their levis, chaps, neckerchiefs, ten-gallon hats, holsters and six shooters, and spurred boots to gallop on well-trained ponies over the cactus studded hills, ravines and desert stretches.

Desert trips, rodeos, fishing and camping trips are very popular. There is always plenty of entertainment provided. The climate and the altitude of the west bring health, rest and diversion to many business people, sportsmen, and movie stars alike.

The Camelback Inn is newest of the desert resorts near Phoenix—it is eleven miles to the northeast in a beautiful desert tract close to the famous mountain from which its name is taken. Some lawn and flowers at the Inn, but giant cacti and desert shrubs are adjacent to the cottages, and the general theme is entirely of the desert. All but a few of the guest rooms in Spanish style bungalows of from three to six rooms

are arranged with oil furnace heat, private baths, room phones, and Western Union service. Riding is featured as an outdoor attraction.

Ingleside Inn is ten miles from Phoenix with all the advantages of a desert climate. The Inn is the center of acres of lawn, flowers, and orange, olive, and grapefruit trees in full bearing. In the main building are the lounge, dining, and service rooms. Cottages are conveniently near, but remote enough for privacy. There is golf, horseback riding, tennis, hikes, excursions, and other diversions.

Ten miles from the center of Phoenix, on the desert outside irrigated districts, and on the southern slope of Camelback is the Jokake Inn. It is an adobe construction with cottages grouped around, and about one to two hundred yards away from the main building. Natural vegetation surrounds Jokake, growing right outside flower filled patios. There are three excellent golf courses close by; riding; swimming in a heated outdoor pool; tennis, hiking, picnicing, croquet, roque, archery, indoor amusements at Jokake, and urban amusements in Phoenix.

Located on the edge of a vast desert district in the village of Litchfield Park is the Wigwam. It combines all the best features and services of the inn, hotel, and guest ranch; and offers a delightful vacation spot to those who wish a restful but interesting winter resort. Although the guest bungalows surrounding the main Wigwam are set in broad lawns with tropical vegetation, desert country is but two blocks away, making air dry and especially healthful. There are many amusements including golf, tennis, swimming, desert riding, bicycling, and rodeos.



Calf Roping

For those who desire a vacation of absolute rest, there can be no more quiet and comfortable place than the Southern Arizona Ranch. Not that the ranch is devoid of gaiety, but that its reaches are so broad and its quarters so commodious that the vacationist who must have rest is assured a quiet retreat. Butler's Guest Ranch is picturesquely situated in the orange district, near desert and mountains, eight miles north of Phoenix. It is modern in every detail, having all the comforts and conveniences of a well-equipped home. They prefer guests who will stay entire seasons for benefit of athsma, sinus, or rheumatism. There are saddle horses on the ranch and good golf courses within ten or fifteen minutes ride. A low rambling adobe on the desert—massive windows, grilled windows, and patio with foundation. With a superb background of mountains is the Casa Hermosa Guest Ranch, ten miles northeast of Phoenix. It has one separate guest house while the others are in the main building. There are baths or showers in every room—fire places and steam heat—comfortably and tastefully furnished in keeping with the Mexican-Indian motif. There is a place where one may live well and enjoy life. There are theatres, shops, cafes, golf, tennis and swimming nearby. El Rancho Grande is just far enough away to enjoy the air, sunshine, and ranch life, yet conveniently near modern cities—twenty-eight miles east of Phoenix. It is made of thick adobe walls, polished concrete floors, and long patio porches. It has well-planned living quarters—Moneterey furniture, fireplaces, each room with bath and shower and evinces the true western hospitality. Old Homestead Ranch is not a hotel, just a modern guest ranch with modern conveniences. In the center of the ranch, surrounded by citrus trees, stands the house, insuring restful quiet. It is a half hour's walk to the Salt River Mountains. The Wanada Lodge has a homelike atmosphere. It has the cottage plan—living room with open fireplace, large sleeping porch and connecting bath. The main building has a well-furnished large living room where guests may lounge, play games, or read. The Wrangler's Roost is an all-year ranch at a very beautiful spot on Black Canyon Highway, thirty-eight miles northeast from Phoenix, the most convenient rail station. The modern guest houses are Indian style, built of river boulders and furnished with Monterey furniture. All rooms have private or connecting bath.

#### VIII. TOURIST ACCOMODATIONS

Phoenix and the Valley of the Sun offer the best in guest ranches, hotels, motels, and resorts, many of which are fully-equipped with golf courses, riding ponies, entertaining cowboys, swimming pools, camping facilities, experienced guides and trained leadership for healthful and wholesome and recreational activities when the tourists have in mind when they come to Arizona "to go places and see things."

Tourist accomodations of Phoenix are very varied. They are devised to meet family and individual requirements—from completely furnished homes and apartments, to internationally famous urban and resort hotels, attractive ranches, beautiful desert inns, and modern automobile and trailer courts. Living costs are definitely in line with traveling budgets; low moderate or high to fit the pocket-book and needs of the visitors.

The Arizona Biltmore hotel is between two colorful mountains, Squaw Peak and Camelback, in a 1,350 acre tract of desert. It is architecturally designed in a harmonious blend of modernity with the Spanish-Indian style distinctive of the Southwest—executed in carved concrete blocks—perfectly oriented, unmistakably "belonging" to the desert. Lavish attention to all niceties of furnishings and service in guest accomodations—in building, cottages, or individual houses. There is tennis, polo, swimming, golf, trap shooting, all on the grounds; riding, picnicking, motor-ing; weekly rodeo; nightly supper dancing with modern orchestras. This is only eight miles northeast of Phoenix. It was erected in 1929 by William Wrigley near the site of his Phoenix suburban home. It was designed by Phoenix's internationally known architect, Frank Lloyd Wright.

The Westward Ho is the largest hotel in the city proper. As its name suggests it vibrates with the spirit of true Western hospitality. It is one of the finest hotels in the entire Southwest since its construction in 1928.

The Adams Hotel has always been the center of state activity. It is one of the most popular hotels in Arizona. It is located in the heart of Phoenix.

Phoenix has an unusual number of fine hotels among which are the Luhrs, Jefferson, Arizona and San Carlos.

The San Marcos Hotel at Chandler, Arizona, is 23 miles Southeast of Phoenix and forms an ideal and luxurious winter playground for some 190 winter guests. It has a heated out-door swimming pool and an 18 hole golf course. It is the center for swimming, horseback riding, golfing and other sports.

The El Portal at Mesa has a beautiful setting and is very attractive abode for winter vacationists. It is equipped with lovely gardens, a tennis court and many other features of up-to-date Western hostelries.

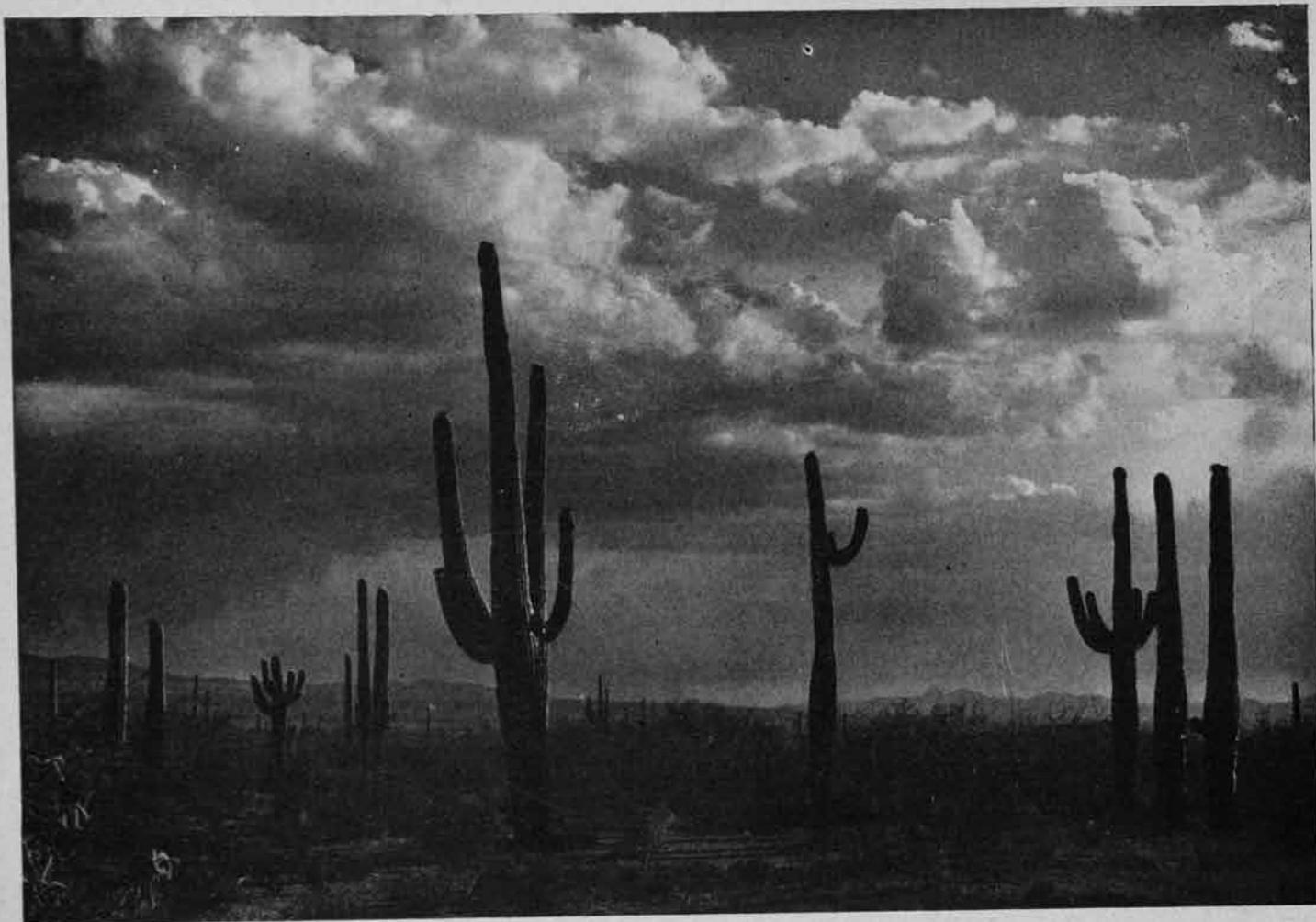
The Casa Loma Hotel at Tempe operated by Dr. Dumas is modern, luxurious and commodious.

There are many automobile motor courts and cottages in Phoenix. Some of these are the Autopia Hotell Apartments, Autopia Motor Park, Blue Bonnet Court, Harvard Motor Courts, King's Rest Tourist Court, La Fonda Motor Hotel, Palomine Hotel Motor Court, Park Lane Motor Court, Sea Breeze Tourist Vilage, Canary Court, Cozy Trailer Court, Silver Arrow Court, El Royale Motor court, Far West Auto Court, Green Parrot Auto Court, Mayfair Motor Hotel, Palm Garden Auto Court, Red Wing Auto Court, Traveler's Court, Triangle Motor Court and the Yaqui Motor Lodge, et. al.

Phoenix lays claim to having the largest number of tourist courts, cabins and motels of any city in the United States.

#### IX. PHOENIX IS A TOURIST CENTER

Some 35,000 winter visitors are to be found in Phoenix during its six months winter season in addition to its normal population. The season 1930-40 have been especially good. Without exceptions the hotels, resorts and ranches reported gains in the number of visitors. Camel-



### Night In The Desert

back Inn, for example, said the December 1939 season was its greatest, representing an increase of 68 per cent over December 1938 and an increase of 107 per cent over December 1937. The war in Europe is perhaps the major factor. Annually some 533,000 tourists go abroad spending some \$100,000,000. Most of these are now prohibited from going to Europe and the "See America First" slogan is becoming more generally adopted.

The annual income from tourists to Arizona in 1940 was estimated at \$75,000,000. About \$30,000,000 of this found its way into the Valley of the Sun.

A person coming to the Valley of the Sun is fascinated by the thousands of acres of green and gold citrus groves; marvels at the date gardens with their graceful, swaying palms, and the soft, grey-green olive trees; they find an urge to claim for their own the wide-sweeping cactus-dotted deserts and towering, craggy mountains—for these are the much-talked-of "great open spaces" where there is room enough to breathe, to laugh, to exercise, to relax, to

"sun-gaze" the days through and "star-gaze" the nights away.

Yes—charm and beauty, romance and adventure, sunshine and serenity—of such is the irresistible glamour of this enchanted, carefree Valley of the Sun in which Phoenix is the center.

Phoenix may be reached via Rock Island—Southern Pacific, the Santa Fe System and their connecting lines; Greyhound, American and Santa Fe busses; American Airlines; or via transcontinental U. S. Highways 60, 70, 80, and 89.

Phoenix is one of the most healthful cities in the nation. Numerous private sanitariums and up-to-date hospitals, with thoroughly modern equipment, are available. Located in the desert immediately adjacent are many "Dude Ranches" which play host to great number of outsiders who come here in the winter months to enjoy the sunshine. Most assuredly, it is the spot where "summer comes to winter."

(4) M. E. Bemis, statistical expert, Phoenix Chamber of Commerce, February, 1941

## PLACES OF INTEREST (5)

**Heard Museum**—Situating at 22 East Monte Vista Road, this museum is open to the public daily, except Sunday and Monday, from 10 A. M. to 4 P. M. and Sundays from 1 P. M. to 4 P. M. only. Closed all day Monday. Contains excellent specimens of Arizona Indian art and handicraft, both modern and prehistoric, and interesting exhibits from all parts of the world. The museum also houses a valuable library of historical books. There is no charge to visitors.

**State Library**—A State law and legislative library. 35,000 volumes; 5,000 Government and other documents. Located in State Capitol.

**State Capitol**—A well-landscaped structure facing Washington on Seventeenth Avenue. It is situated in the midst of a ten acre tract of beautiful trees, palms, shrubbery, and flowers. One of the interesting features there is the statue of Frank Luke, Arizona's World War Ace and hero.

**Camelback Mountain**—Situating 12 miles northeast of Phoenix. Picturesque as its name implies, it rises to an elevation of 2,700 feet, and resembles from a distance a kneeling camel, with well-proportioned hump and back lines. North on Central Avenue to Camelback Road, thence east.

**Arizona Museum**—Situating at Tenth Avenue and West Van Buren. Open to the public free of charge daily except Monday from 2 P. M. to 5 P. M. Has an interesting collection of relics of prehistoric Indian life and other things of historic interest.

**Indian School Trading Post**—One of the most interesting spots in the valley is the Indian School Trading Post, 23 E. Indian School Road. Displaying genuine Indian handicraft, such as jewelry, pottery, baskets, gloves, moccasins, rugs and leather garments.

## DRIVES TO OUTLYING STOPS

**Mormon Flat Dam**—Forming Canyon Lake, 47 miles from Phoenix, and second in the Salt River Irrigation Project chain of reservoirs below Roosevelt. A popular resort for fishermen and campers.

**Lake Pleasant Dam**—Spans the Agua Fria River, 35 miles northwest of Phoenix. The water impounded is used for irrigating the land to the south of the dam, and east of the White Tank Mountains. The dam is 2,200 feet long and 261 feet high.

**Horse Mesa Dam**—Forming Apache Lake, 60 miles from Phoenix, the first of the chain of lakes below Roosevelt Dam.

**Wickenburg, Arizona**—Located at the junction of U. S. 60 and U. S. 89, a distance of 54 miles west of Phoenix, known as "Guest Ranch Capitol of the World." Six splendid ranches in its immediate vicinity draw visitors of wealth and reknown to their hospitable portals from every State in the Union and many foreign lands. Here are enjoyed the authentic amusements and occupations of the historic southwest country. The West is seen in active

operation—cow punching, bronc riding, roping and branding. The City of Wickenburg has gained much fame through the well-known cartoon "Out Wickenburg Way"

**Coolidge Dam**—Its waters are used to irrigate the Casa Grande Valley; it is situating on the Gila River 134 miles from Phoenix and 26 miles from Globe; height, 250 feet; capacity, 1,200,000 acre feet; largest multiple dam in the world. U. S. Highway 70 crosses the top of the dam.

**Canyon Lake**—Formed by the Mormon Flat Dam, about 47 miles from Phoenix. It is reached over the Apache trail from Phoenix. A mecca for fishermen. Motor boats and other water transportation can be obtained. The lake is about 10 miles in length.

**Mormon Temple, Mesa, Arizona**—One of the finest temples of the Mormon people outside of Utah. Situating in Mesa, 18 miles east of Phoenix.

**Yaqui Indian Village**—Distinctive Indian, and picturesque in the extreme, showing life in its primitive state, is the Yaqui Indian Village, fourteen miles southeast of Phoenix. This is the home of the Guadalupe Indian tribe, and their colorful and picturesque ceremonial dance, which begins at sundown on Good Friday and continues until sunrise Easter Sunday, attracts many visitors.

**Apache Trail**—This is recognized as one of the most scenic and remarkable trips in America. Takes one through the old Apache-infested land. Rugged, imposing, beautiful, thrilling. Reached over highway 89 to Apache Junction, thence northeast over highway 88, or Apache Trail.

**Superstition Mountain**—Mysterious Superstition, immortalized in story and legend and song. They say no Indians will spend the night there, for death in a mysterious form overtakes them. White men still claim that they are met by bullets when penetrating too far into its fastnesses. This is the home of the famous Lost Dutchman mine. Drive through Mesa to Apache Junction, from which point the mountain is available over several routes.

**Roosevelt Dam**—The famous Roosevelt Dam, located 79 miles from Phoenix, and reached over the scenic Apache Trail, was constructed by the government and completed in 1911 at a cost of over \$7,000,000. This massive structure, with the great artificial lake it is responsible for, is 25 miles in length, and is one of the show places of Arizona.

**Casa Grande National Monument**—Established by the Government as a national monument in 1892. It is supposed to be about 1,000 years old. Built of calcehi, the main building being about four stories in height, it is an imposing structure even in its state of ruin, and gives the visitor an excellent conception of the architecture of prehistoric times. Here are seen also the remains of an extensive canal system used by these early people. Museum in connection. It is located 55 miles southeast of Phoenix, and is reached by driving to Mesa, thence south through Chandler and following State Route 87.

**Stewart Mountain Dam**—The last dam constructed in the Salt River Irrigation Project, forming Saguaro Lake. The dam is 1,260 feet long and 212 feet in height.

**Southwestern Arboretum**—Between Florence Junction and Superior. The late William Boyce Thompson founded this unique wonderland of plant life. Ten thousand varieties of plants from every continent are here assembled.

### SPORTS

**Golf**—Practice Golf Course, (Clubs furnished), 12th St. at McDowell. Phoenix Country Club, 7th St. and Thomas Road. Municipal Golf Course, Encanto Blvd. and 7th Ave. Ingleside Golf Course, 5 miles N. E. Phoenix, Indian School Road.

**Auto Races**—E. Washington. Midget auto races held Sundays starting at 1 P. M. (Occasionally.)

**Riding Academies**—Arizona Riding Stables, Bethany Home Road. Desert Trails Ranch 4, Griswold Road. Miami Lodge Stables, Paradise Road. McClain Riding Stables,

4849 N. 7th Ave. Mosse, Capt. Riding Academy, 351 E. Camelback. Red Star Riding Stables, 6220 S. Central.

**State Fair Grounds**—Home of the State Fair, horse racing, auto racing, rodeos, polo. Has tennis course, archery range and other sports. Concrete grandstand seats 10,000. Out Grand Avenue to Six Points.

**Swimming Pools**—University Park, 15c (rent bathing suits), W. Van Buren and 12th. Tempe, 15c (rent bathing suits), Tempe. Riverside Park, 15c (rent bathing suits), S. Central.

The Junior Chamber of Commerce (7) sponsors and operates a visitors club which is more or less a melting pot and get acquainted center for visitors from the 48 states and several foreign countries. Each year the Phoenix Chamber of Commerce spends some \$35,000 (6) on national advertising.



Mystic Superstition Mountain

(6) Some \$25,000 of this is provided by the city of Phoenix and \$10,000 by Maricopa County.  
 (7) The Visitor's club did not operate during the 1940-41 season.

## CHAPTER X

# ECONOMIC AND BUSINESS ORGANIZATION

"1824: Merchandise was regularly transported upon the backs of mules and horses over the Santa Fe Trail. Colonel Marmaduke, later governor of Missouri, was a member of a party which carried thirty thousand dollars worth of merchandise to Santa Fe. First wheeled vehicles to cross the Great Plains carried eighty missionaries with a trainload of wares, accompanied by pack mules. Trails were made into Arizona and California by Jedediah Smith, the Patties, Bill Williams, Felix Aubrey, Pauline Weaver, Kit Carson, et.al. The Patties obtained permission from the New Mexico governor to trap along the Gila River—Ashley expedition explored the Colorado River."

The above Milestone of Progress (1) indicates that merchandising and wholesaling were a problem in the Southwest more than 100 years ago. While Phoenix dates back to 1867, its first authentic merchant was William Smith who rented Captain Hancock's adobe building on July 9, 1871 for a monthly rental of \$25. His meager stock of goods (2) was trucked in by a "covered wagon" from Los Angeles. The next business firm was the partnership of James Murphy and John T. Dennis who in 1871 built a store on East Washington Street. Shortly after their mill was destroyed Wm. Bechard organized a store and flour depot in Phoenix in a small adobe building purchased from Johnny George. Then George Loring reconstructed an old store so attractively that it became the commercial center of Phoenix. It housed the post office and Wells Fargo Express. Phoenix was an up-and-coming village of nearly 500 when the "Tucson Citizen" (3) printed this notice.

"Now it (Phoenix) contains four stores, owned by: Menassee and Company, Dennis and Murphy, Bechard and Cromwell, A. Carpenter; a good hotel by John J. Gardiner; a brewery by Matt Cavaness; a bakery by Julius Bauerlein; two blasksmiths and wagon shops, one by Ware and the other by Frank Cosgrove; two carpenter shops, one by L. C. Kendall and another by Richard E. Pearson. The professions are represented by Edward Irvine and Captain Wm. Hancock, lawyers, and the Rev. Franklin McKean of the Methodist church. No physician is in the valley yet. There are two free public schools. Improvements in the town; W. D. Fruiter is erecting a warehouse; Burnett and Block, a store and warehouse; Columbus H. Gray, a two-story building intended for a store below and Masonic Hall above; George Bertran, dancing and concert hall; James D. Monihan and Jacob Starar, a livery stable; S. M. French, M. H. Hamilton, Jesus Otero and Tom C. Hays; putting up dwellings, and several others constructing buildings."

Phoenix is definitely growing in economic and business organization. (4). Its retail sales amounted to more than \$50,000,000 in 1940 as compared to \$47,922,000 in 1939. Its wholesale trade was also estimated at \$12,000,000, while service establishments in Phoenix, such as barber shops, laundries, and funeral parlors, accounted for receipts of \$5,010,000. Phoenix rates at the top in retailing, service

and wholesale establishments, as well as in finance. However, its outstanding weakness is in manufacturing.

Among the foremost groups boosting in greater Phoenix is that of the Chamber of Commerce, organized in 1889, headed today by A. F. Morarity. The Chamber of Commerce has carried on a major advertising program.(5). They have led the way towards making Phoenix a major military air-port center and annually sponsor the Fiesta del Sol. (6) Paul Murphy is the wide-awake secretary of the Chamber of Commerce and M. E. Bemis is its statistical expert. For more than fifty years the Phoenix Chamber of Commerce has attempted to lead the way in business endeavor of all types. It has interested itself in the winter visitor problem and provides visitors with literature on most of Arizona's many attractions. It has more than a thousand members who are divided into ten permanent committees: agriculture, city and county affairs, civic betterment, conventions, finance, health and sanitation, national advertising and publicity, new industries and trade promotion, parks and beautification, roads, making Phoenix an outstanding convention center and aviation.

According to Paul Murphy, secretary, the Chamber received 28,860 inquiries for information on climatic conditions, major points of scenic and historic interest, as well as hotel, recreational, and transportation accommodations last year. For some time the Chamber has been focusing its attention on completing U. S. Highway 60. The Chamber of Commerce played an important part in the city expansion which resulted in increasing the city corporate area from 4,200 to nearly 7,000 acres; and increasing city assessed valuations some \$4,400,000.

Conventions enrich Phoenix by some \$500,000 annually. Phoenix with its splendid climate, genuine hospitality, recreation facilities, and housing capacity can justly be called the convention city of Arizona. Some of the attractive conventions during 1940 were the Western Safety Conference, which was attended by nearly 500 delegates from eleven western states, Mexico Canada, and Hawaii. This was followed by the annual Southwestern District Kiwanis Convention which had an attendance of some 500 delegates and visitors from Arizona, New Mexico, and West Texas. The annual national convention of the Fraternal Order of Police attracted from between 300 and 400 delegates. Clarence Buddington Kelland was the main speaker and the entertainment was unique. From 350 to 400 members of the Arizona Pharmaceutical Association together with the members of the Arizona Drug Travelers Association met in Arizona in November, 1940. Members of the Arizona Funeral Directors Association also met in

(1) See Chapter 1 "Milestones of Progress" for year 1824.

(2) In 1872 Smith sold his meager stock of goods to Barnett and Block.

(3) In Tucson Citizen, April, 1872.

(4) Social Studies Department of A. S. T. C., Tempe—based on U. S. Government figures, 1940.

(5) The City of Phoenix provided \$25,000 and Maricopa county \$10,000 in making up this fund.

(6) This is annually handled by the Thunderbirds, active organization within the Phoenix Chamber of Commerce.



Winter Visitors and Tourists Come to the Valley of the Sun from All Sections of the Country, Canada, Mexico, Europe and South America

November for a two day convention at the Hotel Westward Ho. It was presided over by J. S. Brazill, Glendale, president of the Association. During each month of the Fall, Winter, and Spring, Phoenix is host to one or more state-wide Associations, such as the Retailers, Wholesalers, Medical men, Lawyers, Dentists, Accountants, Pharmacists, Morticians, and others. The National Reclamation Bureau, the Arizona Education Association, possibly the Western Fruit Jobbers and many smaller conventions will meet in Phoenix in 1941-2.

In 1939 the outstanding convention was the large national convention of the Ancient Egyptian Order of Sciots which attracted 2500 delegates and friends.

During 1939 the Chamber of Commerce reported that Phoenix was host to some 50 conventions or other group gatherings.

Among the major groups and organizations which Phoenix entertained included the Arizona Newspaper Association, Arizona Sportsmen's Association, Arizona Hotelmen's Association, Arizona 20-30 Clubs, Arizona Hospital Executives Association, Arizona County Assessors, Arizona Title Association, Arizona Small Mine Operators, Arizona Bottlers, Arizona Pharmaceutical, Arizona Medical Association, Arizona Cattle Feeders, Arizona Good Roads Association, Arizona Association of Social Workers, Arizona Postmasters, National Association of Sanitarians, Arizona Federation of Business and Professional Women's Clubs, Western Archery Associations, Arizona Reserve Officers, Hiram Clubs of the United States and Sonora, Mex., Arizona State Dental Society, Western Association of State Highway Officials, Arizona Farm Bureau Federation, Arizona State Bankers Association, Western Growers Protective Association and many other small meetings.

In 1938, 34 conventions took place in Phoenix. (7) These varied in size from 35 to 2500 delegates. The two large conventions were the Arizona Pioneers Association with 2200 in April and the Arizona Education Association with 2500 in December.

According to Paul Murphy, the average convention member, while attending a convention, will spend from \$50.00 to \$75.00. Federal data reveals that some 25 per cent of expenditures go to retail merchants, 21 per cent to restaurants, 20 per cent to hotels and auto courts, 8 per cent to theatres and other amusements, 6 per cent for refreshments, and 20 per cent for transportation.

The thunderbirds, an organization within the senior Chamber of Commerce annually sponsors the Fiesta del Sol celebration one of the most colorful of pageantry events in the Phoenix social calendar. Miss Mary Jane Knorpp was elected the queen of the Fiesta del Sol in 1940 succeeding Miss Betsy Neff in 1939. The Thunderbirds also direct the Street Decoration Program.

The Phoenix Junior Chamber of Commerce (8) consists of 350 young business and professional men who sponsor such community events as The Arizona Hobby Fair, The Christmas Charity Newspaper Sale, a Christmas party for thousands of under-privileged kiddies and perhaps the biggest and most exciting event of the Social Calendar—the World Championship Rodeo. They are ably assisted by the Duettes.

The Merchant's and Manufacturer's Association was organized in Phoenix in 1912. It is state wide in its scope and is operated as a non-profit, voluntary association under the direction of Lyle N. Owens, Secretary-Manager. It serves primarily as a credit unit for Phoenix and Maricopa County. The affairs of this organization are governed by a board of twenty-five business and professional entrepreneurs.

More than 230,000 individual credit records are on file with the M. and M. It is directly affiliated with the Associated Credit Bureau of America which consists of some 1,300 organizations. More than 60 million credit reports are given out by the combined national credit associations.

In September 1925 a collection service was added to the Phoenix "M. and M.," not only to aid debtors to pay, but also to help establish them on a sound financial basis. Another expansion was the development in May, 1938, of

a freight and transportation department to get favorable rates for Phoenix merchants in less-than-carload lots from Middlewest and Eastern points.

The M. and M. is merchant owned, operates a collection department but operates pooled accounts only when necessary. It has three department managers; one for written reports; one for telephone reports; and one for collections. It has some 27 employees in its organization. It keeps 15 telephones busy, but has no telautographs or teletypes. It keeps some nine reporters, one investigator and four stenographers busy. The local M. and M. was compared critically with 54 equivalent cities throughout the nation (9) on



An Arizona Buckaroo

25 characteristics. Phoenix rated second with 49 points, while Lexington, Kentucky, rated first with 85 points. Sioux Falls, South Dakota, came 3rd with 48; Joplin, Mo., 4th with 41; and Corpus Christi, Texas, 5th with 40.

The Better Business Bureau of Maricopa County, Inc., under the management of John R. Arnold, began operations September 1, 1938. Its motto, according to Mr. Arnold is "Before you invest, investigate." The Board of 25 members is directed by A. F. Jennings, president, Don McAfee, vice-president, and Charles Korrick, treasurer. It is a non-stock, non-profit organization whose membership is composed of business and professional men who have as their objectives the furthering of fair competition, protecting the public against fraud and deception, and making war on "chiselers". It is an economical integrating organization by means of which fair trades practices may be regulated and enforced.

Phoenix in 1940 is the wholesaling, jobbing, service and

(7) Some of the other major conventions in 1938 were the Pharmaceutical Association, Western Growers Protective Association, The Arizona Congress of Parents and Teachers Association, and the Arizona Municipal League. The eight major conventions of 1938 brought a total of some 6300. There were 26 smaller conventions averaging about 75 delegates each.

(8) See Chapter IX on Arizona's Attractions.

(9) Social Studies Department, A. S. T. C., February, 1941.



Winter White-Caps San Francisco Peaks in Northern Arizona

retail center of Arizona. It is the center of a large inland agriculture empire in the Salt River Valley whose cotton, citrus, lettuce, cantaloupes, beet-seed, alfalfa, live-stock, etc., provide the basis for commerce and trade. It is the hub of Arizona's city, county and state government, as well as the integration center for federal agencies. Arizona's climate and scenic attractions draw winter and summer

tourists which participate in all phases of its economic life, and spend some \$30,000,000 annually in the Valley. Phoenix is well-equipped in terms of economic organization from the standpoint of distribution, consumption and finance, but is somewhat weak on the production or manufacturing factor.

## CHAPTER XI

# RETAILING IN PHOENIX AND THE VALLEY OF THE SUN

During 1939 Phoenix did a total retail business of \$47,992,000. Its 1,207 stores were operated by 1,004 active proprietors. These retail establishments hired some 5,541 employees, paying them salaries amounting to \$6,042,000. (1)

In 1935 Phoenix did a retail business of \$35,234,000 in its 1,033 stores. At that time there were 894 proprietors, who employed 4,459 employees with a total payroll of \$4,509,000.

Phoenix retail sales amounted to 71.81 per cent of Maricopa county retail sales, although it only had 50.7 per cent of retail stores in Maricopa county.

### 1. Early Beginnings

Retailing in Phoenix goes back to 1868 when Jim McKinney and John Alvany built a two-room structure in which they started a saloon and a small eating place for the infant community. Two years later William Hancock built the first store of adobe. However, William Smith laid claim to operating the first real store in Phoenix in July, 1871. He brought a small stock of goods in a wagon from Los Angeles. In November 1871, Holcomb and Hargraves rented floor space and opened the first butcher shop. They sold eggs for one dollar a dozen and butter for one dollar and five cents per pound. (2)

By 1872 a laundry had been started in Phoenix by three Chinese. James Monihan and the Starat brothers opened the Phoenix Livery, Feed and Sales Stables. It was in 1872 that Morris Goldwater opened the forerunner of the present store. Phoenix now had three stores in addition to a brewery, two boarding houses, two blacksmith shops, corrals, county jail, four dance halls, a school with an attendance of about twenty, and fifteen saloons. Edward Irvine opened a book store, and Dr. Forbes the first drug store; J. E. Mitchel—the first carriage factory; and James Grant—the first harness shop. George Roberts and J. Romain were perhaps the first milk dealers in Phoenix.

### 2. Break-down of Retail Business in Phoenix and Comparison with Tucson.

All retail business in Phoenix was surveyed. It was found that Phoenix had some 295 food stores such as grocery stores, with or without meat, confectionary stores, fruit or vegetable markets, egg and poultry dealers, bakeries, etc. One out of every four stores was a food store or 24.4 per cent of the total. Food stores did a retail business of \$6,599,000. They were operated by 261 employers and an average of 528 full-time employees with a total payroll of \$448,000. In Tucson there were 144 food stores which did a total business of about \$5,000,000 in 1939. (3) Food is a fundamental industry in any community.

The general merchandising group in Phoenix numbered nineteen department, dry-goods, or variety stores which did a retail business of \$8,027,000, employing 1,116 individuals and provided a payroll of \$1,130,000. Tucson, on the other hand, had some twenty general merchandise stores which did a business of \$3,146,000 in 1939.

Another major division of retail stores was the apparel group which in Phoenix included seventy-one doing a retail business in 1939 of \$2,610,000. This group comprised mens' and boys' furnishings, family clothing, womens' ready-to-wear, furriers, millinery shops, womens' accessories together with shoe stores, custom tailors, infants' and other apparel shops. These were directed by thirty-nine active proprietors of unincorporated businesses employing some 298 individuals with a total payroll of \$316,000. By comparison there were forty-seven apparel shops in Tucson doing a business of about \$2,000,000.

Retail stores attempt to meet human needs not only in food and clothing but in other areas as well. Consequently, the household, radio, and furniture group form one of these areas. There are forty-six retail stores in Phoenix of this nature. In 1939 these did a business of \$2,654,000. They were operated by twenty-eight entrepreneurs. Some 407 were on the payroll which amounted to \$530,000,000. In Tucson there were twenty-four retail stores. These included fourteen dealing in furniture and home furnishings which did a business of \$822,000.

The automobile is considered one of the three greatest inventions of the twentieth century. Phoenix has proved to be a natural center for automotive dealers, of which it has forty-six. These did a business of \$9,520,000 in 1939, being directed by thirty-four active proprietors who employed 681 individuals with a payroll of \$1,018,000. Tucson had twenty-three automotive dealers doing a business of \$4,117,000.

Motor vehicles must have food and drink like human organisms. In the case of motor vehicles, however, it takes the form of gasoline and oil. Within the city limits of Phoenix there are 165 stations, doing a petroleum business of \$3,076,000 annually. Some 148 of the proprietors were operating unincorporated businesses. Filling stations accounted for 315 employees having a payroll of \$352,000. In Tucson there were eighty-two filling stations within the city limits which did a business of \$1,612,000 employing 147 people with a total of \$165,000 paid out for salaries.

Wherever people are, they must have shelter; whether it be in single dwellings or apartment houses. Therefore, building and construction forms a natural division in any

(1) U. S. Department of Commerce: Bureau of the Census: Retail Trade—Arizona, 1940.

(2) See Chapter I.—Milestones of Progress.

(3) U. S. Census—16th census report: "Retailing in Arizona, 1940."

community. In the building group are included lumber and construction material dealers, heating, cooling and plumbing equipment as well as electrical supply, paint, glass, and wall paper stores. All of which combined number twenty-nine, doing a 1939 business of \$2,086,000. They employed 197 with a payroll of \$290,000. Closely associated with this group are the hardware, farm implement and tractor dealers who number twelve in Phoenix, doing a business of \$2,342,000 in 1939. They employed an average of 175 with an annual payroll of \$265,000. Tucson had seventeen lumber, building and hardware stores, which, combined, did an annual business of \$1,910,000.

Man has a faculty of being hungry three or more times a day and liking snacks in terms of food intermittently. Consequently, we find in every community, large or small, a considerable number of eating places. These include restaurants, cafeterias, lunchrooms, lunch counters and stands, together with established soft drink, fruit juice and ice cream stands. There are 209 eating places in Phoenix or 17.3 per cent of all its retail stores. Eating establishments in Phoenix had sales amounting to \$2,895,000. Some 853 individuals were employed in eating places and received a payroll of \$586,000. There were seventy-six restaurants or other eating places in Tucson which did a business of \$1,082,000 in 1939. Taverns and drinking places have increased during the last five years, and totaled fifty-five in Phoenix as contrasted with thirty in Tucson. This did not include eleven Phoenix liquor stores handling packaged goods only, which alone did a business of \$276,000 in 1939. In Tucson there were eight liquor stores dealing with packaged goods and having a sale of \$200,000.

Drug stores with their department store extensions are a fundamental part of every community. Phoenix has forty-five drug stores, thirty-five with fountains and ten without. These forty-five drug stores do an annual business of \$2,463,000. Some 275 people were employed and the payroll was \$304,000. Tucson had twenty-five drug stores whose sales amounted to \$1,453,000 in 1939. They employed 199 with a payroll of \$212,000.

In addition to the fundamental groups above, there were 141 other retail stores which did a business of \$3,682,000. They hired an average of 405 employees who had a payroll of \$579,000. Among these were thirteen fuel and ice dealers, five florists, nine cigar stores, six news dealers, seventeen gift and novelty shops, thirteen jewelry stores, etc. Tucson had nine jewelry stores which did a total business of \$1,062,000.

Phoenix has the unusually large number of sixty-one second-hand stores which had a retail sale of \$432,000. Some sixty-three individuals were employed in them with a payroll of \$61,000. Tucson on the other hand, had only eight second-hand stores which did a business of \$52,000 in 1939. This would indicate that Phoenix had a larger group of low-income inhabitants relatively than Tucson.

Retail business in Phoenix was 36 per cent better in 1940 than in 1930, although 18 per cent less than in 1929. Retail business in Tucson was only 13.1 per cent better in 1940 than in 1930. Phoenix and Tucson combined did a total of \$71,568,000 worth of retail business in 1939 as contrasted to \$52,130,000 in 1935, an improvement of 37.5 per cent. However, this was some 13.5 per cent short of the combined \$82,727,000 in retail stores in 1929. The state's total retail sales in 1939 amounted to \$162,003,000 as contrasted to \$118,874,000 in 1935. While this was 36.3 per cent better than in 1935 it was still 16.4 per cent less than Arizona's retail sales of \$193,818,000 in 1929. Phoenix and Tucson had more than 44 per cent of the total retail sales in Arizona.

Phoenix did a retail business from March 1939 to March 1940 of \$44,944,000 which was 16 per cent better in April 1940 than in April 1939. The first three weeks of May, 1940 were 28 per cent better than the first three weeks of May, 1939, and the September 1940 forecast was some 10 per cent better than in 1939 according to Roger W. Babson, statistician. During the last decade Roger Babson has, time after time, indicated that both Phoenix and Arizona formed the Gold Spot of the Nation. The December 1940 sales were the highest ever reached in Phoenix, ranging from ten to fifteen per cent over December, 1939.

The Arizona Republic, in a front-page article entitled "Americas Gold Spot Advances" stated: "With trade in nearly all lines at a peak, with population in the city proper up thirty-five per cent over a decade ago, with agriculture prospering and with other economic factors showing strong upward tendencies, Phoenix's symbolic banner, with the legend, "America's Gold Spot", still flies. (6)

The United States Department of Commerce released statistics for the first 200 cities in population in the nation in 1932-33, indicating that Phoenix, whose per capita retail sales were \$733, was second only to Fresno, California, whose per capita sales were \$793. (7)

United States governmental retail reports for 1933 made a careful analysis of the retail breakdown. In terms of

TABLE XVI—COMPARISON OF RETAIL TRADE BETWEEN PHOENIX AND TUCSON 1929, 1935, AND 1939 (4)

Phoenix and Tucson	Preliminary 1940	Population Per Cent Change 1940 vs. 1930	Sales		Per Cent Change		
			1939	1935	1929	1935	
Total: Arizona	497,789	14.3	\$162,003	\$118,874	\$193,818	36.3	-16.4
Phoenix & Tucson	102,197	26.8	71,568	52,130	82,727		-13.5
Phoenix	65,434	36.0	47,922	35,234	58,464		-18.0
Tucson	36,763	13.1	23,646	16,896	24,263		-2.5

(4) Ibid, U. S. Census Report, "Retailing for Arizona, 1940."

(5) Roger W. Babson Reports, Management Section, Vol. 31, No. 11, June 17, 1940.

(6) Arizona Republic, August 2, 1940, p. 1.

(7) This was based upon the population of Phoenix being some 48,118.

population, Phoenix was listed as the 198th city in the nation and this should have been its corresponding position in the different items suggested below. For example, in 1933 Phoenix retail sales were listed as \$23,729,000 which gave it the 109th position on the list. The drug sales in Phoenix in 1939 were \$1,089,000 which made it the 104th out of the 200 first cities. Food sales are always an excellent indicator because twenty-five per cent of all retail stores in the average city are in that category. In 1933, with retail sales of \$4,944,000, Phoenix was 155th in the nation. Retail food sales in 1935 amounted to some six million dollars. (8)

Retail sales of local department stores in Phoenix were 11.5 per cent higher in May, 1940 than in May, 1939. For the first five months in 1940 department store sales were 14.4 per cent more than during the same five months of 1939. Sales in independent retailing, excluding department stores were 4.6 per cent more in May, 1940 than for the same month in 1939. According to an announcement released by William L. Austin, Director of the Bureau of Census, (9) the independent retailer, excluding department stores, were 6.5 per cent higher for the first five months of 1940 than for the first five months of 1939 in sales.

Retail sales in the furniture and appliances group showed the greatest gain, which was 18.3; whereas, lumber and building materials were up 13.8 per cent.

In 1940 Montgomery Ward, Sears-Roebuck, and the Porter's Saddle and Harness Company built new business edifices to keep pace with the growing retail needs of Phoenix. The Arizona Grocery Company built the second of four contemplated Safe-Way stores in an investment of some twenty-five thousand dollars. Food Town was also added to the list of large Phoenix groceries. Stein's Men's Clothing Company came to Phoenix in the fall of 1940.

Barry Goldwater was requested to prepare an article for this survey on retailing developments of 1930-40 in Phoenix, Arizona, which follows:

"The decade ushered in by 1930 saw many important changes in the economic picture of Phoenix and Maricopa County. We want particularly to treat on the subject of retailing as affected by those changes.

"A large portion of the burden of supplying the demand of the consumer public of this area has shifted, in the past ten years, from the individual locally-owned retail store to the chain store. Prior to 1930 the bulk of Phoenix' fifty some-odd millions of dollars of retail trade went through local pockets and the profits derived therefrom stayed in local business. However, in 1930 it was very evident that Phoenix was to become the main distributing point in the southwest and that it would eventually replace El Paso in this respect. The farseeing managements of the big chain stores of the country knew that in the years to come Phoenix would furnish a new and increasingly powerful market. They therefore entered into the retail field here, and they have done more in the way of building and planning for the future of this area's retailing in the past ten years than have the local merchants.

"We find the low-bracket stores, such as Kress', Newberry's and Woolworth's, with one exception, equipped with new and modern retail plants. We find the chain department stores, such as J. C. Penny Company, Sears Roe-

buck, and Montgomery Ward, again with one exception, equipped with new and enlarged facilities for handling the trade in this area.

"That this shift in consumer supply has affected the local merchant is not denied, yet at the same time the local merchant has enjoyed very appreciable gains in volume. It would seem, therefore, that the introduction of the chain store into this area in such a vigorous manner has not seriously affected the local merchant but that both have realized gains due to the increasing population of this area and the increasing population that is dependent upon Phoenix for its existence.

"Where Phoenix was once considered primarily a farming community, it is now a community with diversified means of sustenance: farming, tourist, and mining, for a few. This area's most prosperous days were those when the farmer was running his farm profitably. Now that farming shows signs of returning to that basis, the hopes of retailers for a sustained prosperity are increasing.

"In 1930 and 1931, a recognized Chamber of Commerce saw the immediate need of bringing new revenue in large amounts into this city. The natural thing to which to turn was the capitalization of our climate, our natural beauties, and the romance of our desert. These natural resources, which had never before been tapped, were subjected to a national advertising program. This program has been continued during the years, and the benefits derived from it can never be fully estimated. It is very safe to say that Phoenix would not be in the prominent position which she now occupies, near the top of the per capita spending column of the nation if it were not for the thousands of winter visitors and tourists who call Phoenix their home during a few months of the year.

"The stimuli from the injection of these tourist dollars into the veins of our economic being have been felt by every person doing business in this area. The farmer has sold more produce. The hotels have filled more rooms. The merchants have sold more goods. It is easy to see, therefore, why business men are so unanimously enthusiastic about the continuance and enlargement of a proper advertising program.

"Another factor that has been of extreme importance to retailing in all its branches has been huge expenditures of public moneys in this area. Arizona ranks near the top in per capita money received from the New Deal. It is sheer folly for any of our numerous branches of business to consider this money as a permanent source of income to business. If it continues, it will be at the expense of business and is, so to speak, robbing Peter to pay Paul. Nevertheless, the millions of dollars spent in Phoenix and Maricopa County for the purchase of supplies etc. have made their mark and have had their effect upon our economic picture during the last ten years.

"Summing up the past ten years of retailing in Phoenix, it would be safe to say that we have four distinct things happen to us that have had a great bearing on our business during this period:

- "1. The chain stores' recognition of Phoenix and consequent coming to this locality;
- "2. The evident trend of the farmer back to the small farm operation that was so successful between 1910 and 1920;
- "3. The introduction of a new type of wealth which had never before been experienced in such large amounts by this locality, namely: the tourist dollar, of which retailing gets 26 per cent; and
- "4. The diverting into spending channels of millions of dollars of government money.

(8) Restaurants in Maricopa County in 1939 reported a gross income of \$8,228,876.14.

(9) Released June 27, 1940, Washington, D. C.

One of the leading chain food stores, however, countered with the following arguments for chain stores.

"1. We pay cash for all fine foods we sell our customers.

"2. We buy direct from producers, millers, and manufacturers. By doing this we eliminate many in-between profits.

"3. We sell on a strictly cash basis. We have no credit losses—no expensive bookkeeping for "Charge Accounts."

"4. We pay low transportation rates to bring foods to you, saving thousands of dollars.

"5. We buy tremendous quantities of top quality foods.

"6. We save thousands of dollars by our most efficient store-keeping methods. We have no fancy fixtures—no costly trimmings—no expensive delivery service.

"7. We take a small profit for our services, and give our customers the benefits of our efficiencies and multiple savings by pricing all our goods VERY LOW, EVERY DAY."

### 3. Retail Sales in Maricopa County and its Cities.

The 1940 retail census in Maricopa County indicated that there were 3,381 retail establishments which did a business of \$66,688,000 in 1939. Some 678 or 28.47 per cent were food stores which sold some \$12,950,000 worth of food. There were also eleven general stores (with food) whose sales were \$224,000; 82 automotive establishments—\$11,020,000; 421 filling stations—\$5,580,000; 80 lumber, building and hardware stores—\$7,820,000; 529 eating and drinking places—\$5,968,000; 78 drug stores—\$3,260,000; with 300 other stores doing a business of \$5,267,000.

Maricopa County, with 37 per cent of Arizona's population has 38 per cent of the retail stores; and 41 per cent of the food stores and 37 per cent of the food sales; 6 per cent of the general stores (with food) and 2 per cent of the general store sales; 26 per cent of the general merchandising stores and 43.4 per cent of the general merchandise sales; 40 per cent of the apparel group and 46 per cent of the apparel sales; 40 per cent of the furniture, appliance and radio group and 50 per cent of the sales; 37 per cent of the automotive group and 47 per cent of the sales; 35 per cent of the filling stations and 36 per cent of the sales; 38 per cent of the lumber, building and hardware stores and 56 per cent of the sales; 40 per cent of the eating and drinking places and 40 per cent of the sales; 40 per cent of the drug stores and 43 per cent of the sales; 43 per cent of other stores and 50.5 per cent of the sales.

Mesa had 112 retail stores in 1939 which had total retail sales of \$2,736,000. Of these twenty-seven were food stores having a value of 773,000; four belonged to the general merchandise group with sales of \$330,000; ten were clothing stores whose sales amounted to \$83,000; six were furniture stores with sales of \$152,000. Mesa has nine automotive establishments with sales amounting to \$348,000 worth of automobiles and accessories; thirteen filling stations totaling \$251,000; five lumber, building and hardware stores with sales of \$365,000; seventeen eating and drinking places whose sales totaled \$146,000; three drug stores with

sales of \$140,000 and eighteen miscellaneous stores whose sales totaled \$148,000. In summary Mesa has about two per cent of the retail stores and four per cent of the retail sales in Maricopa County.

Glendale had 80 retail stores which did \$1,797,000 worth of retail business in 1939. Some twenty-four or 30 per cent were food stores with sales of \$484,000 or 30 per cent of the total business in Glendale. There were four general merchandise stores. Four apparel stores in Glendale did a retail business of \$68,000, and five automotive establishments had retail sales amounting to \$427,000; eighteen filling stations had retail sales totaling \$195,000. Some eleven eating and drinking places in Glendale had retail sales of \$92,000; three drug stores did a business of \$101,000 and five other stores totaled \$17,000.

Tempe has 64 retail stores which did a business of \$1,073,000 in 1939. Of these thirteen were food stores whose sales amounted to \$335,000; it had but one in the general merchandising group and two lumber, building and hardware stores; three apparel shops in Tempe did a business of \$32,000; Tempe had three furniture, appliance or radio stores whose sales were \$27,000; its three automotive establishments totaled \$124,000; in 1939 it had eleven filling stations whose sales totaled \$184,000; there were nineteen eating and drinking places with sales of \$111,000; three drug stores with sales amounting to \$70,000. It had six other stores totaling \$67,000 in sales.

Phoenix has 1,207 retail stores with total sales of \$47,922,000. Phoenix has 51 per cent of the retail stores which make 72 per cent of the retail sales in Maricopa County.

There are 918 retail stores in the remainder of the county whose retail sales amounted in 1939 to \$13,160,000. Of these some 319 or 35 per cent were food stores which had total sales in 1939 of \$4,759,000 or 37 per cent of the retail sales. There are nine general merchandising stores (with food); five furniture, appliance and radio stores and 218 eating and drinking places. Seventeen general merchandising stores did a business of \$286,000; seven apparel stores—\$97,000; nineteen automotive establishments—\$601,000; 214 filling stations—\$874,000; twenty-eight lumber, building and hardware stores—\$2,694,000; twenty-four drug stores—\$486,000 and fifty-eight stores did a business of \$445,000.

Retail sales are expected to continue high in Phoenix and the Valley of the Sun in 1941 reaching an all-time high in the Christmas season of 1941. General prosperous conditions in the country, the continuation of the war with America's consequent big armament business in heavy industry, and an increased number of both summer and winter tourists due to the fact that European travel has been almost completely eliminated will be trends aiding Phoenix and Valley of Sun business. Phoenix is one of the great retail centers of the nation and its future destiny can be greatly enhanced by solving the water problem by tapping both the lower and upper Colorado River, together with a sound farm chemurgic program of manufacturing.

4. Retail Business in Arizona.

Arizona retail sales amounted to \$162,300,000 in 1939. This was an increase of 36.3 per cent over 1935 when the sales volume was \$118,874,000. However the 1939 total was some 16.4 per cent less than the dollar volume in retail sales in 1929 when retail sales in Arizona totaled \$193,818,000. There has been some increase, however, in the number of stores since 1929, when the number of retail stores totaled 4,766. In 1935 the number of stores had increased to 4,939, while in 1939 the number reached an all time high of 6,242 or 31 per cent more than in 1929. The population gain in Arizona during the decade was 62,216 or 14.3 per cent. The gain since 1929 included 308 food stores, 571 filling stations, and 782 eating and drinking places. This indicates the love of Arizona people for automobiles, food and drinking places. The number of employees in retail stores increased some 3,752 over 1935 although the total number of employed was some 1,087 greater than in 1929. The pay-roll was 40.3 per cent higher than in 1935 but 9.6 per cent lower than 1929.

Some 26.29 per cent of all stores in Arizona were food stores. They increased from 23 per cent in number since 1929 but were still 10 per cent behind in sales. The 1,641 Arizona food stores in 1939 had sales of \$34,856,000 or about 21 per cent of the retail sales. Food stores, with the exception of those selling fresh meat with groceries, fell deplorably short of the 1929 level. General stores (with food) totaled 175 and had sales of \$9,136,000 which was 54 per cent in number and 43 per cent in sales less than in 1929, dropping from 383 in 1929, and 218 in 1935. The retail sales of these general stores was \$16,101,000 in 1929; \$7,891,000 in 1935 and \$9,136,000 in 1939.

The 175 general merchandising stores in Arizona had total sales of \$20,418,000 in 1939. Variety stores gained 55 per cent and dry goods-general merchandise-stores showed gains of 76 per cent respectively over the 1935 volume, but only variety stores were ahead of 1929 in number and in sales.

In Arizona there were some 239 apparel shops of all types and descriptions in 1939, and people purchased some \$6,271,000 worth of goods from them. This Group specializing in what men, women, boys, and girls and infants wear had an increase of 26 per cent in the number of stores, and increase of 52 per cent in sales over 1935 and were within 19 per cent of the dollar volume of 1929—quite an amazing record. Shoe stores were 50 per cent ahead of 1935, while family clothing stores were 93 per cent ahead of the 1935 level.

Arizonans buy so much furniture that it takes 165 furniture, household goods, and retail stores to supply them with the \$5,401,000 worth of such goods sold in 1939. The furniture and radio group gained 31 per cent in stores and 42 per cent in sales since 1935. Prices were obviously

greatly reduced but the physical quantity sold was perhaps equal to that of 1929.

Filling stations and their sales are on the increase in Arizona as in other states. In 1939 there were 1,396 compared to 897 in 1935, and 625 in 1929. Gasoline sales in 1939 amounted to \$15,484,000 as contrasted to \$8,513,000 in 1935 and \$8,185,000 in 1929. This means that the number of filling station proprietors, employees, pay-rolls and sales have doubled since 1929.

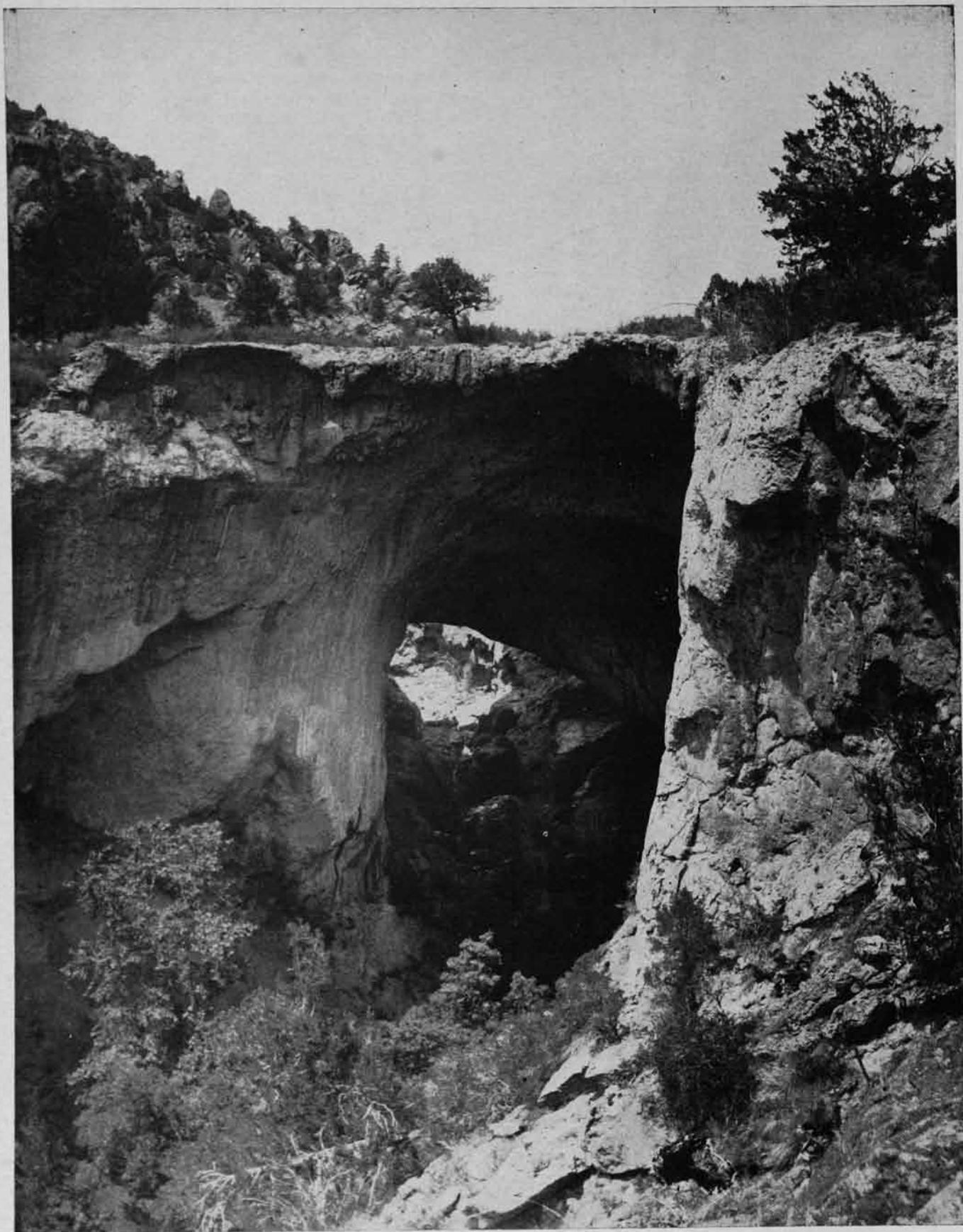
Lumber, building, and construction in Arizona has gained 62 per cent since 1935 with 142 establishments making retail sales of \$7,742,000 in 1939. This was still some 43 per cent below the dollar volume of 1929. The hardware group including tractor and farm implement dealers, however, increased 74 per cent in sales over 1935 and was 29 per cent ahead of 1929. The 67 retail stores of this type had retail sales of \$6,315,000. Eating places like filling stations greatly increased in both number and sales volume, with an increase of 36 per cent over 1935. Drinking places such as taverns, gained 77 per cent in number and 127 per cent in sales. The combined sales of eating and drinking places totaled \$14,949,000 in 1939 as compared with \$9,290,000 sales for eating places alone in 1929 when liquor sales were prohibited. Package liquor stores in 1939 tallied \$784,000 in sales or an increase of 16 per cent over 1935. There are 493 drinking places in Arizona whose 1939 sales amounted to \$6,449,000. In addition there are 49 liquor stores packaged goods were sold for a total sum of \$784,000 in 1939.

Drug stores also made a tremendous gain during the last five years being 33 per cent ahead of 1935 in sales volume, and two per cent ahead of 1929. There has been little change in the number of drug stores which totaled 194 in 1935.

Phoenix, the Cities of the Valley and Arizona stand ace-high in Retailing.

TABLE XVII—COMPARISON OF RETAIL TRADE IN ARIZONA FOR 1929, 1935, AND 1939

Year	Population	Stores	Sales	Employees	Pay Roll
1939	500,000	6,242	\$162,003,000	16,577	\$17,119,000
1935		4,939	118,874,000	12,825	12,202,000
1929	435,000	4,766	193,818,000	15,490	18,938,000



Tonto Natural Bridge Found on the Rugged and Historic Apache Trail!

## CHAPTER XII

# WHOLESALE

Phoenix is the outstanding wholesale center for Arizona. In 1939 it had 194 establishments with total sales of \$49,519,000. (1) Phoenix alone employs some 2,046 laborers in the wholesale industry and its annual payroll is some \$3,033,000. While Phoenix has seven less manufacturing establishments than in 1935 its wholesale business increased by some \$2,587,000 during the four year interim.

Phoenix with more than \$50,000,000 in wholesale sales in 1940 led many of the outstanding cities of the nation in wholesaling such as Youngstown, Ohio; Camden, New Jersey; Schenectady, New York; Kansas City, Kansas; San Diego, California; Fort Wayne, Indiana; Utica, New York; Topeka, Kansas; and Galveston, Texas. It is among the top 75 cities of the nation in wholesaling. (2).

Phoenix is increasing each year in its volume of wholesale business and has achieved a position of national eminence as a distributing center. Leading manufacturers throughout the nation as well as retailers are establishing branch offices, warehouses, and factory agents in Phoenix. This accounts for some 131 service and limited function wholesalers, doing a business of \$27,542,000. There are also in Phoenix some 30 sales branches of manufacturing concerns which do an annual business of \$8,510,000. Twenty-seven of these have stocks of goods while three do not. There are three petroleum bulk stations in Phoenix whose sales total \$1,380,000. Also, among the wholesalers are listed 15 agents and brokers for national firms whose sales amount to \$7,824,000. There are also 15 assembling plants whose sales total \$4,263,000.

A breakdown of the service and limited function wholesalers indicates that there are 11 wholesale automotive establishments doing business of \$1,284,000; 12 beer, wine and liquor concerns with sales of \$2,267,000; 5 chemical and paint establishments doing an annual business of \$211,000; 9 electrical goods stores whose sales amount to \$1,553,000; 33 farm product concerns doing a business of \$55,995,000; 13 grocery and food stores whose sales total \$1,406,000; 3 wholesale hardware establishments with sales of \$1,432,000; 3 lumber and construction establishments with sales of \$321,000; 16 machinery and equipment stores with sales of \$875,000; 3 tobacco product establishments with sales of \$946,000; and 16 other establishments with sales of \$2,600,000.

Phoenix makes available to the retailers of Arizona the products of eastern and western factories, because of its central location, which is the most strategic in the commercial southwest between Los Angeles and El Paso, Texas. Arizona is no longer isolated from fast commercial transportation facilities.

About 22 per cent of the commodities handled by Phoenix wholesalers are farm products, many of which are purchased in Arizona. They deal in liquor, lumber, food, automotive products, drugs, coal, dry goods, electrical

appliances, farm supplies, hardware, machinery, petroleum, paper, jewelry, tobacco, optical goods, plumbing and heating equipment, chemicals and paints, and many other types of merchandise. About one-third of Phoenix wholesale business is in groceries and foodstuffs other than farm products. Phoenix wholesalers are marketers and coordinators as well as distributors. They form an essential commercial artery in the nation's business.

Wholesaling in beer, wines and liquors amounts to more than 2½ million dollars. The wholesale liquor business was first initiated into Phoenix by a large distillery. This was divided into several separate branches. Its major firm still controls the liquor business dispensed from Phoenix. Approximately 50 per cent of all liquor wholesaling is done in the City of Phoenix or vicinity.

Dry-goods wholesaling is at very low ebb in Phoenix due to the tendency of manufacturers to relay their goods directly to the retailer, which saves time, money, and additional handling. Most of the dry goods come from either the east or the west coast, little being produced in Arizona.

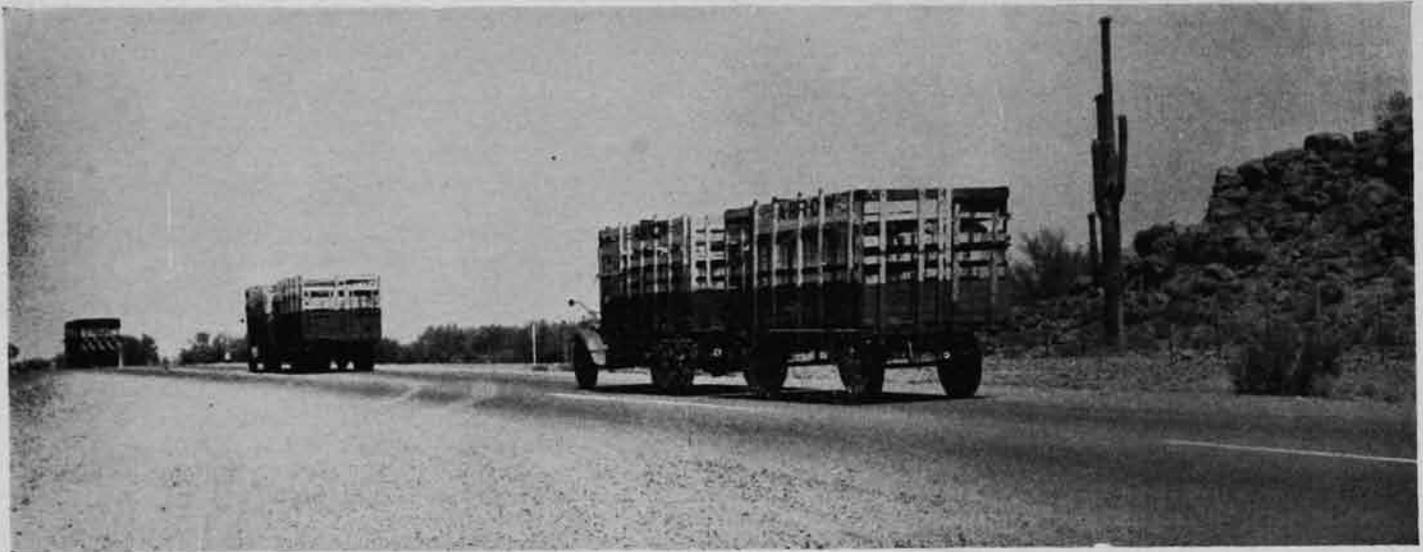
Wholesaling of meat in Phoenix is divided between three major companies. They are Tovrea's, Swift & Company, and Armour & Company. Tovrea produces his own meat which is discussed under the chapter of Manufacturing. The other two meat wholesalers purchase from the coast and ship here by truck. The meat is then unpacked and recut to suit the needs of the local buyers, and deliveries are made according to the volume of business carried out at the time. Their salesmen in addition to promoting trade, are on the lookout for local products of real value. Armour and Swift get most of their grade of heavier beef from the middlewest. Arizona produces essentially prime beef in mass loads. Wholesaling of meat is on the increase.

Lumber wholesaling is quite limited in Phoenix except as a point of distribution. Phoenix supplies the Salt River Valley with its network of towns and communities. Halstead, O'Hallaran, O'Malley, and Bennetts are some of the largest distributors who have large warehouses adapted and equipped for the storage and handling of large quantities of lumber.

About one-half of the Phoenix wholesalers are regular wholesalers in domestic and foreign trade, who take title to the goods they buy and sell and are largely independent in ownership. These wholesalers take pride in building a more prosperous Arizona and a Southwest industrial empire on a higher business standard. They attempt to meet the needs and demands of Arizona and Southwest retailers speedily and efficiently. Assuming the continuing growth of the Salt River Valley, the wholesaling industry of this community is still in its infancy.

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(1) & (2) U. S. Census report on Wholesaling, Department of Commerce, 1940.



Wholesaling in Phoenix Amounted to More Than \$50,000,000 in 1940.

The following table gives the complete wholesaling story for Phoenix:

TABLE XVII—WHOLESALE TRADE, PHOENIX, ARIZONA, 1939. (3)

PHOENIX TYPE OF OPERATION KIND OF BUSINESS	Establishments	Sales (add 000)	No. of Employees*	Total Pay Roll* (add 000)
Totals, 1939 .....	194	\$49,519	2,046	\$3,033
Totals, 1935 .....	201	46,932	1,435	2,078
Service and limited-function wholesalers .....	131	27,542	1,077	1,665
Manufacturers' sale branches .....	27			
Manufacturers' sales offices .....		8,510	344	600
(Without stocks) .....	3			
Petroleum bulk stations** .....	3	1,380	93	228
Agents and brokers .....	15	7,824	47	93
Assemblers (mainly farm products) .....	15	4,263	485	447
<b>BY KINDS OF BUSINESS:</b>				
Service and limited-function wholesalers .....	131	27,542	1,077	1,665
Automotive .....	11	1,284	107	206
Beer, wines, and liquors .....	12	2,267	89	149
Chemicals and paints .....	5	211	14	18
Electrical goods .....	9	1,553	52	124
Farm products—raw materials .....	7	8,653	96	158
Farm products—consumer goods .....	26	2,151	184	235
Groceries (general line) .....	7	3,844	112	158
Groceries and foods (specialty lines) .....	13	1,406	65	76
Hardware .....	3	1,432	84	118
Lumber and construction materials .....	3	321	38	62
Machinery—equipment—supplies .....	16	874	70	121
Tobacco and products (except leaf) .....	3	946	26	22
Waste materials .....	3	141	19	19
All other .....	13	2,459	121	199

\*Employees and pay roll include paid executives of corporations but not the number and compensation of proprietors of unincorporated business.

\*\*Sales of bulk stations include taxes.

How does Phoenix compare with Tucson as a wholesaling center? Phoenix in 1939 had 194 wholesaling establishments with sales amounting to \$49,519,000, whereas Tucson had 63 establishments with total sales of \$12,750,000.

There are some 270 wholesaling establishments in

Maricopa County with total sales of \$61,235,000. They employ 2,543 people and their payroll amounts to \$3,739,000. Some 72 per cent of the wholesalers in Maricopa County are in Phoenix. There are 16 wholesalers in Mesa whose business totals \$1,833,000; whose employees number

139; and whose wages amount to \$147,000. In the remainder of the county there are 60 wholesalers with the business of \$9,833,000 employing 358, who receive wages of \$559,000.

Wholesaling in Arizona amounted to \$96,528,000 in 1939, and surpassed \$100,000,000 during 1940.

Maricopa County was by far the most active in wholesaling with 34.1 per cent of the wholesale business of the state. Pima County came second with 76 establishments, having sales of \$13,462,000. Cochise was third with 50 establishments doing a total business of \$4,059,000, followed respectively by Yuma and Yavapai Counties in point of sales.

**TABLE XVIII—WHOLE TRADE IN ARIZONA BY COUNTIES, AND EACH CITY OF MORE THAN 5,000 POPULATION, 1939 (4)**

COUNTY, AND CITY	No. of Establishments	Sales (add 000)	No. of Employees*		Total Pay Roll* (add 000)
			Average for year		
Arizona, all establishments	607	\$96,528	3,854		\$5,623
Apache County	5	238	7		9
Cochise County	50	4,059	91		103
Bisbee	5	559	18		17
Douglas	12	1,257	48		48
Remainder of County	33	2,243	25		38
Coconino County	22	2,038	38		61
Gila County	25	2,130	74		100
Globe	11	1,156	46		63
Remainder of County	14	974	28		37
Graham County	13	1,350	45		74
Greenlee County	5	500	17		22
Maricopa County	270	61,235	2,543		3,739
Mesa	16	1,833	139		147
Phoenix	194	49,519	2,046		3,033
Remainder of County	60	9,883	358		559
Mohave County	15	782	24		37
Navajo County	17	1,800	69		110
Pima County	76	13,462	514		768
Tucson	63	12,750	487		729
Remainder of County	13	712	27		39
Pinal County	23	1,135	27		35
Santa Cruz County	17	1,089	41		41
Yavapai County	37	2,752	108		166
Prescott	16	1,256	74		109
Remainder of County	21	1,496	34		57
Yuma County	32	3,958	256		358
Yuma	18	2,948	218		320
Remainder of County	14	1,010	38		38

\*Employees and pay roll include paid executives of corporations but not the number and compensation of proprietors of unincorporated businesses.

There were only 358 wholesale establishments in Arizona in 1929 as compared to 607 in 1939; however, the 1929 sales total of \$97,554,000 was slightly higher than that of 1939 when sales amounted to \$96,528,000. More people are employed today than in 1929 in Arizona wholesaling,

the number being 3,854 as compared to 2,982 then. The pay roll amounted to \$5,623,000 in 1939, slightly more than the \$5,425,000 in 1929 when the per capita pay roll was less. The following table gives a breakdown of the wholesale trade between 1939 and 1935 in which there was an increase of 23.7 per cent.

**TABLE XIX—COMPARISON OF WHOLESALE TRADE IN ARIZONA 1939 TO 1935.**

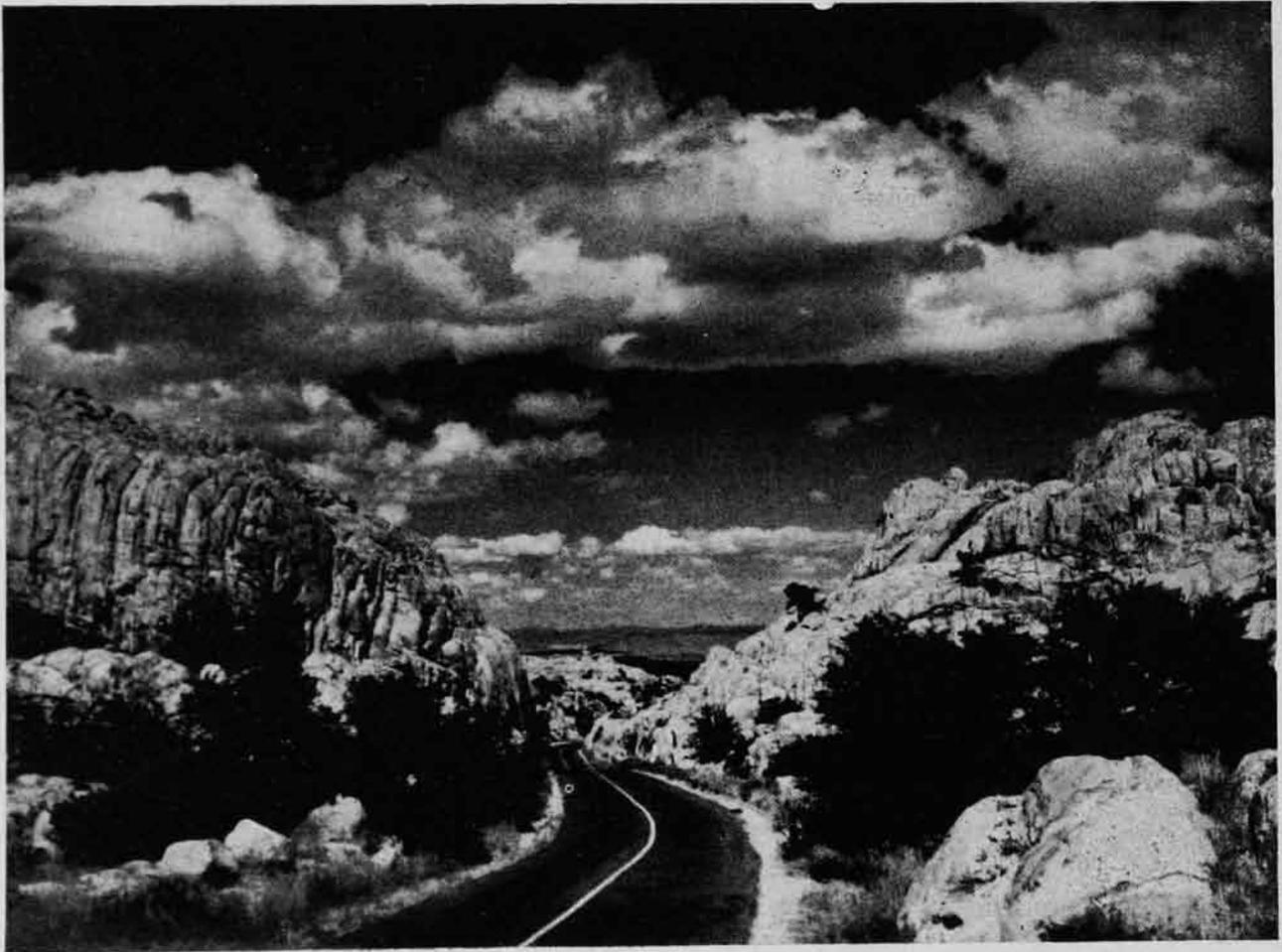
Type of operation	Number of Establishments		Net Sales		Percent change 1939 vs. 1935
	1939	1935	1939	1935	
Total	607	541	\$96,528,000	\$78,046,000	+23.7
Service and limited wholesalers	268	242	46,019,000	34,027,000	+35.2
Manufacturers' sales branches and sales office	51	43	11,469,000	8,869,000	+29.3
Petroleum bulk stations	221	188	21,747,000	14,725,000	+47.7
Agents and brokers	24	30	9,036,000	13,574,000	-33.4
Assemblers of farm products	43	38	8,257,000	6,851,000	+20.5

The greatest increase was in terms of petroleum bulk stations, increasing from 188 in 1935 to 221 in 1939, and the sales increasing from \$14,725,000 to \$21,747,000 or 47.7 per cent. The service and limited function wholesalers increased their business from \$34,000,000 in 1935 to \$46,000,000 in 1939, or more than 35 per cent. Only the wholesale agents and brokers encountered a decrease in business. Wholesaling is a major business in Arizona.

But how does wholesaling today compare with the boom year of 1929 in the United States? In 1929 there were 169,702 wholesale establishments with sales of \$69,291,547,000. These wholesalers employed 1,605,042 people.

They paid in salaries and wages \$3,010,129,000 and the value of their stock was more than 5 billion dollars.

Wholesalers throughout the nation sell industrial goods such as coal, oil, and steel machinery of all kinds; supplies to railroads, to factories, and to large industrial establishments; export to all parts of the world; and make direct sales to institutions which do not have their counterpart in retail sales. There were 176,756 wholesale establishments in the United States in 1935 which employed 1,277,000 people with wages amounting to over 2 billions of dollars. Wholesale sales in 1935 totaled \$42,803,000,000. Wholesale sales in 1940 in the United States are expected to surpass \$50,000,000,000.



Good Highways are an Asset to Wholesaling and Sound Business Organization

## CHAPTER XIII

# MANUFACTURING

### I. MANUFACTURING IN MARICOPA COUNTY

Maricopa County had some 148 manufacturing establishments in 1940 as contrasted to 130 in 1937, according to the 1940 Census of Manufacturers. Manufacturing industries in the county employed some 3,032 employees, paying them wages amounting to \$3,935,888 (1). The value of manufactured products in Maricopa County for 1940 was estimated at \$35,000,000 as compared to \$25,856,716 in 1935. (2).

Phoenix in 1937 had eighty manufacturing establishments doing a business of \$9,779,624 and numbered some 1,156 laborers who received salaries amounting to \$1,402,289. While Phoenix had four less manufacturing establishments than in 1935, yet it did a business of some \$2,880,000 more. (3).

Phoenix manufacturing establishments are many and varied. The Tovrea Packing Company, Inc., was founded in 1919 by E. A. Tovrea on the present site of 187 acres east of Phoenix. The company was re-incorporated as the Tovrea Packing Company in 1931. The Tovreas now own and control more than 51 per cent of the stock.

Since 1929 the company has purchased and operates five ranches, located at Buckeye, Chandler, Tempe, and Gila Bend, and the Salt River south of the plant. Arizona consumes 70 per cent of Tovrea products. Production sales amounted to some \$1,000,000 in 1920; \$5,000,000 in 1929; \$3,000,000 in 1933; and \$5,000,000 in 1938. The average yearly slaughtered animals over a period of 10 years at Tovreas was: cattle, 50,000; calves, 7,000; sheep, 30,000; and hogs, 30,000. Supplies purchased in the state included 75 per cent of all the livestock; 100 per cent of cotton seed oil for shortening; and 100 per cent of livestock feed, hay, grain, silage, etc. (4).

N. Porter Saddle and Harness Company is world famous for the manufacturing of saddles and cowboy outfits. It was founded in the early days when Phoenix was a one-horse cow town. When easterners and westerners alike want fine boots and the best saddles, they call at Porter's in Phoenix to fill their orders. Sportsmen and women throughout the country, Mexico, Canada, and even Europe are on the clientele list. The N. Porter Company makes nearly 100 saddles a month. It employs 50 persons, including 20 leather workers. The making of leather goods is a \$125,000 a year industry.

Phoenix' first industry was the milling of flour. As a matter of fact, the original name of the Phoenix settlement was Mill City. Construction began on the first steam

flour mills in the Salt River Valley in 1869 (5). The Hayden Flour Mills were built by the father of Carl Hayden at Hayden's Ferry in 1873. The mills were destroyed by fire in 1915. The present Hayden Flour Mills were then built on the present site (5).

The Arizona Flour Mills, under the capable direction of Joe Melczer, operate throughout Arizona in strategic places, filling a major manufacturing need in the state.

The Allison Steel Manufacturing Company is foremost in its field in Arizona. It has grown consistently with Phoenix under the guiding hand of W. L. Allison. The KTAR towers were constructed by this firm, as well as the new million-gallon water tower for the city of Tucson.

Some of the steel manufacturers in Phoenix are the Western Pipe and Steel Company, the Southwest Manufacturing Company, the U. S. Pipe and Steel Company, Johnson Brothers, and the Goettel Brothers Sheet Metal Products Company. Castings manufactured in Phoenix foundries keep abreast with the newest developments, and through continuous expansion have established the city as one of the leaders in the Southwest in this type of manufacturing. Castings ranging from minute sizes to many tons are turned out without difficulty. They are made of iron, bronze, steel, aluminum, and brass. Included in the factories' facilities are excellent pattern shops, some of which supply mines and other concerns which operate their own foundries. The Phoenix foundries employ scores of men and add thousands of dollars to the payrolls of the city.

Phoenix is the center for a brick and tile manufacturing industry. An excellent brick-clay is found south of the railroad tracks and west of Seventh Avenue. Some of the finest tile clay in the county is found in the Alhambra district. The combined manufacturing capacity of the three brick plants is 130,000 bricks per day. One of the plants can manufacture 12,000 roofing tiles per day. Many of the new residences, schools, and churches use the products of these local industries. The capacity of the three brick plants is some 4,000,000 bricks per month. (6).

The manufacture of bread is a big business in Phoenix. The Holsum Bakery, which is associated with the "Lone Ranger" radio programs, will celebrate its sixtieth anniversary in 1941. Holsum bread claims the Harry M. Freer National Award for excellence in national competition on volume, shape, freshness, bloom, crust, grain, texture, color of crumb, odor, and taste of its product. The Rainbow Bakery stresses the health qualities of its prod-

(1) C. B. Sullenger, statistician of the Unemployment Compensation Bureau.

(2) Social Studies Department, A. S. T. C., 1941.

(3) U. S. Census of Manufactures for 1937, U. S. Census 1939.

(4) Tovrea Packing Co., 1940.

(5) Mr. Hayden named his product Arizona Rose Flour in honor of the sole surviving rose bush of the several which Mrs. Hayden had brought to the Valley.

(6) Arizona Publishing Company: Romantic Progressive Edition—1940, Phoenix Gazette, November 16, 1940.

uct. It contains proteins for muscular repair, fat and carbohydrates for energy and fuel, calcium, phosphorus, potassium, iron, and other minerals vital to good health and energy. The New England Bakeries have five branches within the city limits. There are some 21 bakeries in Phoenix.

Phoenix lays claim to being the air-conditioned capital of the world, both in the manufacturing of air-conditioning units and also in the extent of utilization of this product. Hundreds of men are employed in the manufacturing, assembling, and distributing of the blowers, boxes, and pads.

The modern air-cooling system, like the modern refrigeration system, goes back to the Indians. The Indians wrapped blankets around their native pottery jars (ollas) and filled the jars with water. An end of the blanket dipped in the water kept the blanket wet. By hanging the wet blankets in the breeze, the hogans were kept cool.

The "cooler" business totals \$150,000 each summer and gives employment to some 200 workmen. There are more than 30 "cooler" manufacturers in Phoenix. The modern blower type of evaporative cooler has a capacity of from 2500 to 5000 cubic feet of air per minute.

The manufacture of Venetian blinds has developed into a \$200,000 a year industry since its inception a decade ago.

The Desert Citrus Products Association at Tempe, a subsidiary of the Arizona Fruit Growers, utilized some 20 per cent of the 1940 grapefruit crop. Some 225,000 cases of grapefruit juice were shipped in 1,123 cars throughout the nation.

Tovrea's Packing plant has formed an Agricultural Products Company which is experimenting in the field of farm chemurgics, for the utilization of excess farm products as the raw materials of industry.

Dairying was a \$4,000,000 business to Maricopa County in 1939, some 80 per cent of the state's total income from dairying. Phoenix and Maricopa County have more than 30 retail dairies. Some 25,000 milk cows on 3,500 ranches and dairy farms in Maricopa County provided the raw milk which went into the making of the following dairy foods: 9,625,000 pounds of evaporated milk; 421,000 gallons of ice cream; 467,000 pounds of farm butter; 2,548 pounds of creamery butter; 515,000 pounds of cheese; 656,000 pounds of skim milk cheese; 235,000 pounds of bulk condensed milk; 485,000 pounds of powdered skim-milk and butter milk; and 253,000 pounds of casein. One of the largest milk factories is the Arizona Milk Producers Association at Glendale. In the Salt River Valley there are five butter-making factories, one condensory, and several ice cream plants. Some of the well-known dairies are the Mission Dairy, Borden's, Central Avenue Dairy, Webster's Dairy, and many others. (6).

The manufacture of native costume jewelry by Indians, Mexicans, and whites is a favorite industry of long standing.

The Arnold Pickle and Olive Company treats and bottles Arizona ripe and green olives in addition to the manufacture of pickles, vinegar and relishes. Another olive packing company has recently come to Phoenix.

The processing of fresh dates is another industry that is growing in Phoenix with expanding national markets.

Phoenix has a number of bottling companies which manufacture both soft and hard drinks. Among these are Barq's, Coca Cola, Dr. Pepper, Double Cola, Nehi, Seven-Up, and the Valley Bottling Company. The Artisana Water Company supplies boiled and distilled water, while the Arizona Brewing Company manufactures beer and ale.

The Phoenix Tent and Awning Company manufactures hammocks, awnings, tents, and canopies.

A concrete company makes pipe and culverts so necessary for sewers, water mains, etc. A box company turns out millions of boxes for shipping containers.

One of the largest industries in the valley is the manufacturing of ice. The Crystal Ice Company has a capacity of 27,000 tons in one room of its five-story structure. In 1939 more than 175,000 tons of ice were produced, only 20 per cent of which was used in Phoenix homes. Ice is desperately needed to keep the perishable fruit and agricultural products in good marketable condition. Some 10 tons of ice were sprayed and packed carefully on each of the 12,000 carloads of lettuce shipped from Phoenix sheds in 1939. Some 4000 carloads of cantaloupes received some seven tons of ice each to insure their safe arrival in the nation's markets. The manufacturing of ice represents a \$1,000,000 industry annually. (6).

Neon signs also form a flourishing industry in the valley.

How do Phoenix and Tucson compare in manufacturing? In 1937, Phoenix had some 80 manufacturing establishments employing some 1,156 wage earners, as compared with 36 establishments hiring some 396 workers in Tucson. In 1935 Phoenix had 84 manufacturing industries with 864 employees; while Tucson had 40 plants with 478 laborers on the payroll.

Manufacturing in Phoenix reached an all-time high in 1929 when some 101 manufacturing establishments, employing 1,456 persons, did a manufacturing business of \$14,482,436.00. In the same year, Tucson, with 43 manufacturing establishments, employing 993 workmen, had a manufacturing production valued at \$4,568,980. The 1940 manufacturing census revealed that there were some 85 manufacturing establishments in Phoenix doing a business of approximately \$12,000,000.

II. MANUFACTURING IN ARIZONA

Arizona had some 207 (7) manufacturing establishments in 1940, employing an average number of 8,403 wage earners who received wages of \$9,926,155.

TABLE XX—GROWTH IN ARIZONA MANUFACTURING 1899-1940 (7).

Year	Number of establishments	Wage earners	(average) Wages	Cost of Materials for products fuel	Value of Products	Value added by manufacture
1940	315	8,403	\$ 9,926,155		\$130,000,000	
1937	290	7,193	8,602,418	\$84,721,115	118,355,981	\$33,634,866
1935	272	4,748	5,033,516	39,283,462	55,456,045	16,172,583
1933	223	4,181	4,153,975	16,086,523	28,573,806	12,487,283
1929	348	10,550	15,074,528	167,713,595	200,002,217	32,288,622
1927	300	8,967	12,132,957	77,709,198	117,909,310	39,825,336
1925	294	9,127	11,506,159	92,270,550	138,781,477	46,510,927
1923	283	9,008	12,635,070	80,992,793	123,377,206	42,384,413
1921	269	4,774	6,809,465	26,495,183	39,110,439	12,615,256
1919	480	8,528	12,014,769	92,645,437	120,769,112	28,123,675
1914	322	6,898	6,228,873	39,283,038	64,089,510	24,806,472
1909	311	6,441	5,505,183	33,600,240	50,256,694	16,656,454
1904	169	4,793	3,969,248	14,595,057	28,083,192	13,488,135
1899	154	3,126	2,287,352	7,876,542	20,438,987	12,562,445

Arizona has eight copper smelters and refineries which employed 2,262,000 persons and paid out wages amounting to \$3,434,117. This represented the largest part of manufactured products whose value totaled \$79,601,203. Meat packing business was second with products valued at \$6,-

807,363. Agricultural by-products including oil, cake, meal and cotton seed amounted to \$4,353,296 in 1937. According to the 1937 manufacturing census there were 49 bakeries employing 514 individuals which paid out \$567,047. These bakeries in 1937 did a business of \$3,260,667. (7).

TABLE XXI—ANALYSIS OF MANUFACTURING IN ARIZONA IN 1937 (7).

Industries, 1937	No. of Establishments	Employees	Wages	Value of Products
Beverages, nonalcoholic .....	18	102	108,015	\$ 921,613
Bread and other bakery products .....	49	514	567,047	3,260,667
Butter .....	4	65	65,582	1,314,212
Clay products, other than pottery .....	5	126	68,929	209,631
Feeds, prepared, for animals and fowls .....	4	45	39,653	662,652
Foundry products (gray-iron and malleable-iron) .....	5	148	165,969	682,978
Ice cream .....	14	90	91,300	858,322
Ice, manufactured .....	27	231	276,179	1,674,250
Lumber and timber products not elsewhere classified .....	21	1,527	1,300,454	3,804,938
Meat packing, wholesale .....	5	307	336,049	6,807,363
Oil, cake, meal, cottonseed .....	5	149	125,949	4,353,296
Planing-mill and other wooden products not elsewhere classified, made in planing mills not connected with sawmills .....	6	115	138,704	765,952
Printing and publishing, book, music, and job .....	16	132	171,156	587,109
Printing and publishing, newspaper and periodical .....	38	345	523,891	2,742,549
Smelting and refining, copper .....	8	2,262	3,434,117	79,601,203
Other industries .....	65	1,033	1,189,424	10,109,246

(7) U. S. Manufacturing Census used for 1899-1937 figures, Washington, D. C., 1939. The figure of 207 manufacturing establishments in Arizona in 1940 was provided by C. B. Sullenger, statistician of the Unemployment Compensation Bureau. It represents an increase of 21 manufacturing establishments in which there are three or more employees. If one included the total number of manufacturing establishments in Arizona, there would be 290 in 1937, and some 315 in 1940. The value of Manufacturing products for 1940 was estimated by the Social Studies Department of A. S. T. C., 1941 as well as 1941 number of establishments.

### III. MANUFACTURING IN THE NATION

Manufacturing is a major factor in the development of any nation or community. Sound manufacturing demands four things: (1) availability of sufficient raw materials; (2) cheap and adequate power; (3) a trade territory large enough to dispose of manufactured products; and (4) opportunity to invest surplus capital at a profit (8).

A brief survey of manufacturing in the United States follows, indicating that industrial production is a major business. (9).

Manufacturing in the United States has been transformed from small units in the home to great enterprises requiring billions of dollars of capital.

Early in the history of the nation, its leaders were impressed with the necessity of encouraging facilities to convert the vast storehouse of raw materials into finished products, rather than to depend upon foreign manufacture. The frequent surveys of American manufacturing from 1810 to 1937 tell a graphic story of the changing characteristics of American life. The 1810 census shows that the great volume of production—particularly in such things as cotton and woolen cloth—took place in the home. Blacksmith shops constituted a principal industry. Grist mills and saw mills dotted nearly every county. Scattered everywhere were fulling mills, hatteries, naileries, tanneries, saddleries, gunsmiths, tallow candle factories, carriage makers, snuff factories, straw bonnet factories, whip makers, coopers' shops, corn broom factories, gunpowder factories, grist mills, saw mills, and forges. There were no railroads and no paved roads. Fabrication of raw materials was necessarily close to the consumer demand. Each community converted its local products so far as possible to supply the needs of that community.

Evidence of the decentralized status of the cotton and woolen manufacturing industry is shown in the first survey of production in the state of Maine. Cotton goods produced in the homes amounted to 811,912 yards, worth \$324,764.80. There were only three commercial factories producing cotton cloth in the state. Maine families that same year produced also over 800,000 yards of woolen cloth while only 2,000 yards were produced in commercial factories.

In the year 1809, the production of spinning wheels in Massachusetts was 6,393 valued at \$17,982. Blacksmiths did work to the value of \$565,718. Wagons produced numbered 2,260, worth \$43,600 and 733 carriages were worth \$122,674. Massachusetts produced over 700,000 gallons of beer, worth \$6,450. (10).

Orange County, New York, produced 26,000 pounds of snuff in 1809, worth \$8,700. In all of New York State, there were 591 distilleries producing 2,107,243 gallons of spirits worth \$1,685,794.40. Essex County, New Jersey,

made \$11,529 worth of tallow candles. Pennsylvania had 2,562 blacksmith shops turning out work valued at \$1,572,627. "Starch and hair powder" produced in Pennsylvania amounted to 338,000 pounds, worth \$41,756. Pennsylvania had over 8,600 'wagon' makers and 51 carriage makers and 958 coopers' shops. Nearly every county in Pennsylvania had its grist mills, producing in the whole state 844,000 barrels of flour. Every county in Pennsylvania had saw mills, producing a total of 73,800,000 feet of lumber, worth \$600,000. Virginia turned out 1,081 swords, worth \$5,405.

The census of 1810 did not undertake to refine the factory statistics as today's reports do. It simply measured the volume of production, and in certain lines the volume of production in family units was relatively more important. The tendency of manufacturing to gravitate to larger-sized units is shown by the manufacturers' census of 1849, when there were 123,025 factories employing 957,069 workers, having a working capital of \$533,245,351, paying in wages \$236,755,464 and turning out products worth \$1,019,106,616.

By 1899 the number of factories had increased to 512,191, with 5,306,143 wage earners; employing capital of \$9,813,834,390; paying wages of \$2,320,938,168 and turning out products worth \$13,000,149,159.

These figures of 1899 include all factories of whatever size. But by that time, small-unit production had become such a small factor in the grand total that the census bureau began to exclude hand and neighborhood industries doing \$500 or less.

Through the years there was an increased production per unit; a relative decrease in the number of units; increased per-man production and increased ratio of capital, per unit and wage earner, went on. There were 272,518 factories (above \$500) in 1914 employing 7,023,685 wage earners; employing capital of \$22,790,979,937; paying wages of \$4,067,718,740, and turning out products of a value of \$24,216,514,573.

Then again production in smaller units had become such an unimportant factor that the census bureau began to exclude units doing less than \$5,000 per year. There were 177,110 of such larger units in 1914; there were 214,383 in 1919, 141,769 in 1933, and 166,794 in 1937. The number of wage earners in factories in 1919 was 9,000,059, as compared with 6,055,736 in 1933, and 8,569,231 in 1937. The value of output in 1919 was \$62,041,795,316; in 1933 it was \$31,358,840,338, and in 1937 it was \$60,712,871,737. Wages paid to factory workers in 1919 were \$10,461,786,869; in 1933 wages were \$5,261,576,029 and in 1937 wages totaled \$10,112,882,711.

Whereas the amount of capital per factory in 1849 was only about \$4,000, the amount of capital required in the more highly mechanized factories of 1919 was \$44,467,000,000, or approximately \$200,000 each for the 214,383 factories then doing more than \$5,000 a year. Whereas, the operating capital required in 1849 was only around \$4,000 per factory, the operating capital is today nearly twice that figure per worker employed.

(8) Dr. A. G. Horton, Social Studies Department, A. S. T.C., Tempe, 1941.

(9) Wm. L. Austin, Director of Manufacturing Census, U. S. Department of Commerce, 1930, 1940.

(10) U. S. Census of Manufacturing, 1930, 1937, 1940.

Analysis of the 1937 census of manufacturers, covering 166,794 plants shows the continued rapid gravitation to production in larger units. Nearly one-third (50,548) of these plants did a volume of from \$5,000 to \$20,000 each and these smaller units employed 161,896 wage earners, paying wages of \$130,709,644 and producing products valued at \$576,966,403. In other words, nearly one-third of all the factories produced less than one-one hundredth of the total value of goods. The factories which turned out goods valued at from \$20,000 to \$50,000 numbered 37,611 and they employed 305,036 wage earners and produced goods valued at \$1,214,034,452. Again, this second larger bracket, representing nearly one-fourth of all the factories, produced one-fiftieth of all the goods in value.

Out of 166,794 factories, 135,242 turned out annual products of \$250,000 or less. They represented numerically more than three-fourths of the total number of factories, yet they employed only one-fifth of the total wage earners and turned out a little more than one-ninth of the total value of products.

The 31,212 factories doing more than \$250,000 per year employed 6,953,286 workers out of a total of 8,569,231 and produced products worth over 53 billions of dollars out of the total of \$60,712,871,737. Thus less than one-fifth of the factories in number employed nearly six-sevenths of all factory workers and produced more than five-sixths of all goods in value.

In addition to the 8,569,231 factory workers employed in 1937, these same factories had 1,217,171 salaried employees which brought the total of gainful workers directly employed by factories to nearly 10,000,000 which was comparable, numerically, to the gainful workers, including proprietors, directly employed by the nearly 7,000,000 farms.

From the point of view of the number of men employed, steel works and rolling mills led the procession with 479,342, and the total value of steel products was \$3,330,491,000, as compared with \$3,096,219,000 for motor vehicles and \$2,787,358,000 for meat packing. The making of motor vehicles employed 194,527, but the making of motor vehicle bodies and motor vehicle parts employed an additional 284,814.

Cotton woven-goods factories (producing cloth 12 inches and over) employed 336,104, and lumber and timber products 323,928.

The rise and fall of certain factory products during the past 30 years affords an interesting basis for speculation as to the ability of possible new industries to absorb idle workers. The record shows that the advance of a new industry oftentimes results in a shrinkage of an existing industry. For instance, while certain silk fabrics declined from 386,000,000 square yards in 1927 to 109,000,000 in 1937, rayon fabrics advanced from 66,000,000 square yards to 947,000,000 square yards.

While paper bags rose from \$71,000,000 to \$97,000,000 in

10 years, textile bags declined from \$167,000,000 to \$122,000,000. While paper and paperboard boxes rose from \$332,000,000 to \$442,000,000 in 10 years, wooden boxes declined from \$180,000,000 to \$131,000,000 during the same period. Wooden cooperage declined by 70 per cent while steel barrels, kegs and drums doubled. Metal furniture increased while wooden furniture declined but still held the larger ratio.

From 1923 to 1937 radio receiving sets increased from 190,374 (with tubes) and 223,303 (crystal) to an annual production of 9,693,230. But the value of phonograph products during the same time declined from \$57,000,000 to \$11,000,000; the number of pianos produced declined from 348,000 to 103,000 and organs from 9500 to 6800.

Electric stoves and ranges more than doubled while gas cooking stoves and ranges declined only slightly. Electric clocks rose nearly fifty fold in 10 years, while other clocks declined by half.

Mechanical refrigerators made increases in value from \$91,000,000 in 1927 to \$287,000,000 10 years later, but during the same period the value of manufactured ice declined from \$184,000,000 to \$135,000,000. The value of safety razors produced rose in 8 years from \$1,800,000 to \$11,000,000, but other kinds of razors declined from \$404,000 to \$89,000. Fountain pens skyrocketed while pen points halved. Cigarette production rose from \$558,000,000 in 1927 to \$887,000,000 ten years later and during the same period cigars went down from \$336,000,000 to \$168,000,000, and chewing and smoking tobacco went down from \$238,000,000 to \$185,000,000.

The knickerbocker in which proud golfers strut on Sundays went up to 21,000,000 pairs in 1927 and down to 10,000,000 in 1937. During the same period, slacks rose from unimportance to 20,000,000 pairs. Men's and boy's woven fabric union suits were 5,000,000 dozen in 1927 and 637,000 dozen in 1937, but during the same period shorts rose to 8,000,000 dozen from practically nothing.

Probably no figures in the manufacturers census tell more as to the changed habits of Americans in transportation than those having to do with automobiles, carriages and wagons. In 1904 we made only 20,000 passenger motor vehicles but then we made 937,000 carriages, buggies and sulkeys. In 1937 we turned out 3,847,000 passenger motor cars and only 900 buggies. Horse-drawn wagons reduced from 644,000 in 1904 to 106,000 in 1937 and motor trucks rose from a production of 160 to 602,000. Production of railroad freight cars is down from 153,000 in 1919 to 90,000; horse-drawn plows down from 1,256,842 in 1904 to 319,000 and tractor-drawn plows up from nothing in 1904 to 160,000 in 1937. There were some 45 million autos in the world in 1939, of which 30,615,087 were in the U. S. A. (11).

The newest sensation in industrial expansion is the airplane. Aircraft and parts manufacture amounted to \$107,000,000 in 1937. There were 92 establishments employing 24,000 workers. On account of normal growth, accentuated by war demands, this industry is now reputed

to be operating at the rate of more than \$300,000,000 a year. The national defense program of 1940-41 has given great impetus to aviation.

Phil Tovrea prepared an article on manufacturing in the Valley of the Sun for this survey, as follows:

"Great industrial centers come into existence because of one or more of the following reasons:

1. They locate in a region of plentiful raw materials and cheap power sources.
2. They locate because of unusually good shipping facilities—such as harbor conveniences, rail centers, riverways, canals.
3. They develop almost automatically with the growth of a community and the trading area it serves.

"Obviously, it must be reason No. 3 which applies to the situation in Phoenix. True enough, we have an almost perfect year-round climate. However, why should an industrialist select Phoenix as a factory site when he can have practically the same climatic inducements in Southern California, and at the same time be in the center of one of the world's largest markets, conveniently adjacent to excellent harbor facilities? We all know that the secret of meeting competition, and at the same time showing profit, lies in volume sales.

"Our community has grown and expanded in a very healthy and sound fashion. Mining and livestock were the original sources of our group purchasing power—and still remain of primary importance. Then came the agricultural and tourist industries. The first manufacturing businesses to grow and prosper here were those which converted the raw food products, produced in this region, into food suitable for human consumption. There was an immediate market for these items and they would successfully meet outside competition. Good examples of these home-consumed items are the beeves and lambs which are raised, fed, processed and consumed here. Another good illustration will be the grains which are grown, milled and then consumed in the form of flour or finished factory goods.

"Mining has given this state a large and fairly consistent income. However, this income has been only in the form of mining pay rolls and taxes levied against the mining properties. The raw materials of the mining industry have been shipped to other centers for transformation into finished goods. The same thing holds true with the major product of the cotton crop—the cotton fiber. We do utilize most of the cottonseed meal and all of the cottonseed hulls in this area by feeding the same to cattle which are in turn processed and consumed by humans. We also convert most of the cottonseed oil into shortening which is consumed locally. Although few in number there are other examples in pay rolls due to the actual conversion of raw products into finished products in the Phoenix area.

"The scarcity of the manufacturing pay roll here is evidenced by the fact that there are probably fewer than 5,000 persons in Maricopa county, with its 180,000 population, who derive their income from such activity.

"In spite of the lack of sizeable industrial pay rolls, Phoenix is a national leader in per capita retail sales. The reason for this is at once apparent. Our business district is located in the heart of a thriving and prosperous agricultural section. Our farmers and ranchers are marketing some form of crop or livestock every month of the year. Phoenix is an outstanding example of the fundamental and unswerving economic law which states that national prosperity hinges on the prosperity of the farmer, for it is he who provides for the market for the manufacturer. By the same token, Phoenix has become a most opportune

location for the aggressive manufacturer, distributor, jobber and wholesaler. The mere fact that Phoenix is the capital city has had little to do with its fast growth.

"As our rural districts became more populous and push the borders of our immediate trading area further into what we might call the hinterlands, our manufacturing activity will increase of its own accord, and it will be a substantial, healthy growth.

"It is logical then, to conclude, that if we want manufactureres pay rolls in this area, we must as in any other business, create a demand. We can do this by systematically encouraging more and more visitors to enjoy our climate, and the incomparable romance and beauty they will find in this land. We know from experience that many of those who come as guests remain as esteemed fellow citizens. We also know as businessmen that we can't sell our merchandise in the stores unless we get people to visit our stores and inspect the items we have for sale. We accomplish this by advertising, by telling people what we have to sell. The same principle applies to our efforts to stimulate the growth of Phoenix, and for that matter to all of Arizona. As our community grows, so will our city, and incidentally, our individual prosperity.

"Manufacturers will keep pace with our city's growth, factories will appear as various necessities become evident—hence, the pay rolls which accompany factories as may be looked upon as a bonus or dividend to the community—a reward for creating a demand."

Phoenix and Maricopa County have made such outstanding progress in retailing, service establishments, finance and wholesaling that it is rather deplorable that they should be so weak in manufacturing. This situation can be remedied. The farm chemurgic movement provides the answer. Farm products, above those needed for food and clothing, could be used as the raw materials of industry.

Dr. Ira B. Judd, head of the Agriculture Department of A. S. T. C., Tempe, was asked to make a brief statement on agriculture's importance along this line. He states:

"In keeping with the name of Phoenix, the Agriculture of the Salt River Valley has risen on a prehistoric irrigation agriculture which was developed and maintained in the valley by the Indians hundreds of years before the white men came. The agriculture of Maricopa is unusual in the diversity of the crops grown. The wheat, barley and flax of the northern plains are equally at home with the cotton, sorghum, cowpeas and peanuts of the South. The sesame of the Orient and the psyllium of India grow side by side here with the European grasses and the corn and oats of the middlewest. Here meet the cool-climate crops and the crops from the tropics with the adapted varieties of each finding a place. On the basis of possibilities of new crops being introduced, new varieties being developed, and more economical use of present water resources, Agriculture in the Valley of the Sun may assume even greater importance in the future."

The farmer has been too long appraised only as a producer of food and clothing products, and consumer of manufactured goods. The farmers in the Salt River Valley may well prove to be the answer to successful manufacturing in the Valley of the Sun. In the Egyptian Nile Valley of America, the farmer may provide the raw materials of industry which will establish industrial production on the farm chemurgic basis, assuming of course that ample water for irrigation and cheap power will be available. Manufacturing is Arizona's baby that has a future if carefully nurtured.

## CHAPTER XIV

# FARM CO-OPERATIVES IN THE VALLEY

Farm cooperatives, both producer and consumer, are taking an increasingly important part from year to year in the economic life of Arizona agriculture.

The fact is amply established by the rapid growth of the movement during the past six years, according to W. G. Ashby, secretary-treasurer of the United Producers and Consumers Co-Operative, Salt River Valley agricultural service association, when interviewed for this survey. This Salt River Valley Cooperative in the Salt River Valley is the largest and most successful institution of its kind in the west, he said.

The cooperative movement in Arizona, proving its own economic importance, follows closely the national trend. There are in the United States today more than 15,000 farmer-owned and farmer-controlled cooperative associations and mutual companies, of which some 10,000 are engaged in marketing farm products, purchasing supplies for farmer members, or performing some related services. It is estimated in government reports that more than 3,000,000 persons hold memberships in these American cooperatives and at least half a million patronize them without becoming members. Sales of farm products and farm supplies by cooperatives in the United States now exceed two billion dollars annually.

"The co-operative movement is merely the application of democracy to industry," Mr. Ashby stated; "it is a method of doing business. The fundamental characteristic of an agricultural co-operative is that it is operated for the mutual benefit of its members as producers, not as stockholders—with a single vote to each member. Advantages to a member accrue primarily through his patronage with the association and not because of any financial investment he may have made. The primary purpose of a co-operative is to make farming operations more profitable; to return to the producer as much as possible for the products he sells, to provide him with the kind and quality of farm supplies that he desires, at the lowest possible cost, and to provide farm business service of many kinds, including the marketing of products on a non-profit basis."

The United Producers and Consumers Cooperative, which had its beginning in 1934 largely for the purpose of providing its members with petroleum products, now has a membership of more than 13,000 and does an annual volume of business which approaches in value \$2,000,000. It purchases for its members, at wholesale figures, some 3,000 items for which the farmer has use, helps him sell his hay and grain, provides him with poultry, dairy and hog feeds at prices he can afford to pay, and performs a number of other services almost equally as important.

"The farmer is a wholesaler," Ashby said. "He takes land, seed, labor, sunshine, and produces a raw crop. He sells that crop on a wholesale market and at wholesale prices, but until recently he had to buy his supplies at retail. He cannot—any more than other wholesaler—purchase at retail the materials that go into his crops, then sell his products at wholesale and continue to survive. In 1934, when the United Producers and Consumers Co-Operative was established, most of the farmer's profit went into the cost of supplies. There was a 75 per cent to 150

per cent retail mark-up on lumber. A plow disc that now costs through the co-operative \$5 to \$5.50 at that time cost \$12 or \$12.50. A pitchfork handle that the farmer can now get through his co-operative for 38 cents then cost him \$1.25. The retail price of gasoline and oils was practically prohibitive for use in his mechanized farm equipment. That was the necessity which brought about organization of the co-operative association, and its almost unbelievable growth in the succeeding six years has amply demonstrated its need."

Items of merchandise available through the cooperative include hardware, building materials of nearly all kinds, farming and household supplies, furniture, plumbing fixtures and supplies, gasoline and oils, paints, electrical equipment and supplies, and many others. The marketing division annually handles many thousands of tons of hay and several million pounds of grain, a large portion of which goes to the new cooperative mill which grinds and mixes poultry, dairy and hog feeds, returning them to the farmer-consumer and thus benefitting both the grain grower through fair prices for his products and the stock raiser by providing him with his feeds at prices he can afford, and at the same time benefitting the community at large by keeping considerable quantities of money at home which otherwise would be sent out of the state.

The aim of the cooperative movement, according to Mr. Ashby, is to secure for its members the best possible values both on the things they buy, and for the things they sell, and its economic place in the community has proved by its accomplishments as well as by its successful growth.

### MARICOPA COUNTY

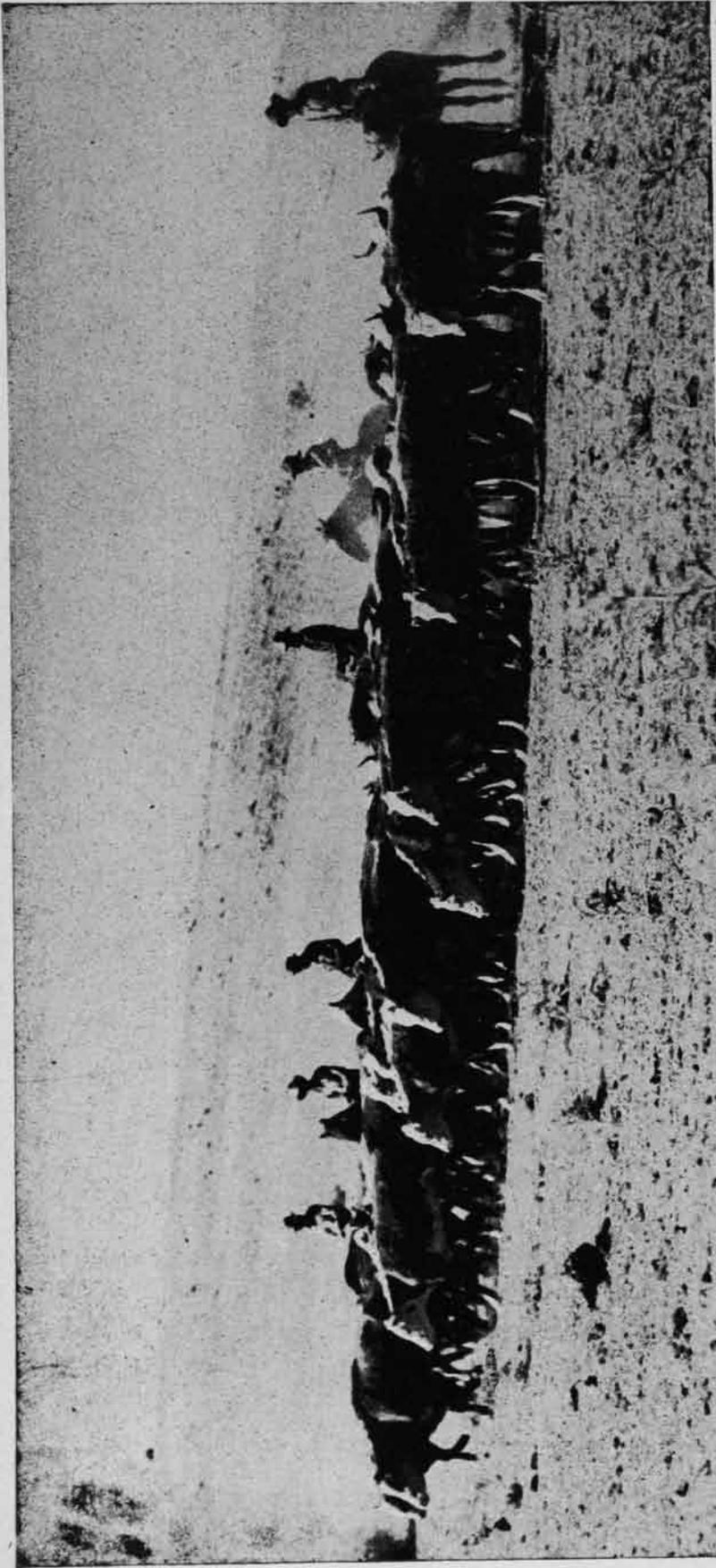
Maricopa county, with considerably more than 350,000 acres of irrigated land under cultivation, is by far the State's largest and most productive agricultural county. Its principal crop production consists annually of 100,000 bales of cotton; 4,000 cars of citrus fruits, 275,000 tons of alfalfa hay, 750 tons of sugar beet seed, 15,000 tons of grain sorghums, 35,000 tons of wheat, 20,000 tons of barley, 2,000 tons of oats, 100 tons of dates, 100 tons of pecans, and 350 tons of grapes. Vegetables as mentioned above include all vegetables, those raised for shipment outside the state and those for home markets; that is, markets within the state.

These crop yields are marketed as follows:

**Cotton:** All cotton is sold locally, but eventually is shipped to Eastern and foreign markets.

**Citrus:** Approximately 3,000 cars of citrus are shipped to markets outside the state, leaving about 1,000 cars for distribution to home markets, within the state.

**Alfalfa hay:** The percentage of hay which moves outside the state varies greatly with range conditions in this and other states. The percentage will vary from one per cent to as high as ten per cent in certain years, but ordinarily nearly all of the alfalfa hay can be said to be consumed by home; that is, within state markets.



ARIZONA AND PRODUCTION OF SELECTED CROPS 1935-40. (add 000).

Crop	1929-39 Ave.	1935	1936	1938	1939	1940
Corn: Acreage	32	35	35	33	22	25
Production — Bushels	494	630	490	462	275	362
Wheat: Acreage	38	34	48	50	35	39
Production — Bushels	841	990	1104	1100	805	819
Barley: Acreage	22	32	22	26	34	37
Production — Bushels	686	1056	726	806	1156	1184
Oats: Acreage	10	10	10	10	10	11
Production — Bushels	285	260	300	260	230	297
Tame Hay: Acreage	196	214	201	196	224	218
Production — Tons	509	566	484	448	490	445
Cotton: Acreage	190	160	208	204	288	221
Production — Bales	*128	135	170	196	202	195
Grain Sorghums: Acreage	*30	42	48	35	28	32
Production — Bushels	*784	1134	1083	1102	708	880
Oranges: Production — Boxes		240	220	430	520	600
Grapefruit: Production — Boxes		1800	1750	2700	2900	2570

\* 1928-1932 average used.

LIVESTOCK ON FARMS IN ARIZONA, 1931, 1935, 1937, 1940

Class	1931	1935	1937	1940
Horses	84,000	77,000	75,000	70,000
Mules	12,000	12,000	12,000	11,000
Cattle	1,025,000	771,000	776,000	750,000
Sheep	1,261,000	931,000	837,000	824,000
Hogs	19,000	22,000	29,000	38,000

Source: 1940 Preston J. Greer, Federal Agricultural Statistician, U. S. Agricultural Marketing Service.

**Alfalfa seed:** Approximately one-half of the production, or 375 tons annually, is shipped out of the state.

**Vegetables:** Practically all of the lettuce, cantaloupes, and carrots produced in this county go to eastern markets. Of the other miscellaneous vegetables, it would probably be safe to assume that around 75 per cent of the actual production of the county is consumed locally.

**Grains:** No grain is shipped out of the state except grain sorghum, which is used for seed purposes in the mid-western states. This market is rather unsatisfactory and fluctuates according to the seasons in those particular states.

**Sugar beet seed:** Approximately 75 per cent of all of the production of this particular commodity is shipped to other states.

**Dates:** Approximately one-half of the local production, or 50 tons annually, goes into out-of-state markets.

**Pecans:** The greater percentage of locally produced pecans are disposed of in local markets.

**Grapes:** Approximately 75 per cent of the local production, or approximately 260 tons, goes to out-of-state markets.

It will be noted that in the foregoing, the markets are classified as "home" and "out-of-state". It is next to impossible to distinguish between the local Maricopa county and the statewide market, insofar as quantities are concerned, because of the fact that truck shipments from Phoenix to points within the state cannot be accurately estimated.

Until recent years, practically all cotton grown in the southwestern states was exported to Japan, but due to unsettled conditions in that country, exports have dropped off during the past year and cotton grown in this area is being shipped to eastern markets. Citrus fruit is marketed largely on the West coast—California, Oregon, and Washington—some small portions going into export to New Zealand points.

Alfalfa hay which is shipped outside the state goes to Southern California markets, to army posts in Texas and ranches in New Mexico. The alfalfa seed is shipped largely to the west coast.

Vegetables move mostly to eastern markets. Sugar beet seed is distributed through the production agencies to all states in the Union which produce sugar beets.

Dates move to eastern markets, and grapes, also, are disposed of in eastern and middlewestern markets.

In a general way, it may be said that "home" markets are not satisfactory for those portions of the above mentioned crops sold at home. This fact can be attributed to a number of conditions which, according to J. H. O'Dell, county agricultural agent, "may be corrected in time". On the other hand, with the exception of citrus fruits, probably most of the products which are shipped outside of the state are finding satisfactory markets with the present facilities.

No hay is shipped into this state during normal years. Approximately from five to ten carloads of seed oats are shipped in annually from outside the state. Approximately an equal volume to the volume produced of wheat, or flour to the equivalent, that is to say, 35,000 tons, is shipped into the state each year. No barley is shipped in.

Though there is no accurate manner in which to determine the quantities of each, citrus fruits, deciduous fruits, and miscellaneous vegetables are shipped into the state throughout the year.

Considerable butter and large quantities of eggs are shipped into Maricopa County, re-worked in the case of butter and shipped to other parts of the state or other states. That portion shipped is not produced within the county. Approximately 30,000 to 40,000 pounds of butter and 2,000 cases of eggs are shipped from the county monthly and are largely distributed through the Los Angeles markets and firms or individuals in other Arizona cities outside Maricopa county. Eggs imported from outside the state amount to approximately 50 carloads annually, and butter is imported in volume varying from 70,000 lbs. per month during the winter months to around 50,000 lbs. per month during the summer.

In the opinion of County Agent O'Dell, there is no question that better profits to Maricopa county producers would be obtained through the setting up of proper marketing facilities. "This would include, of course, market news service and adequate distribution facilities. If products were pooled, grading of these would naturally follow, and the fact that materials of higher grade would be shipped would, I believe, increase the profits to the producer."

Livestock exported from Maricopa county annually includes approximately 3,000 head of dairy cattle and approximately 90,000 head of beef cattle. Federal Market figure for 1937 was 80,800 head of cattle shipped out, or 23 per cent of the state's total. Also exported annually are approximately 150,000 head of sheep, but very few hogs and very little poultry. The foregoing figures, however, are likely to be somewhat misleading. Very few head of beef cattle are actually produced in this country, although large numbers are shipped in for finishing and are then shipped from the county. This applies also to sheep, due to the fact that sheep are shipped in to winter in the county, and the lambs which are dropped during the fall months are then shipped out to markets and the old stock is also moved out of the county, most of it back to the northern pastures, in the spring. An estimate of the county's production which is shipped out of the state would amount to about as follows: cattle, 10 per cent; sheep, 80 per cent to 90 per cent; hogs, less than 1 per cent; poultry, approximately 1 per cent.

In the opinion of Mr. O'Dell, cash crops not now being produced in quantity in Maricopa county which could be profitably grown here in greater volume include flax and various vegetable and flower seeds.

Trucks hauling produce from this county could profitably bring back butter and eggs, vegetables and fruits,

including both citrus and deciduous fruits, and possibly livestock from other states, Mr. O'Dell believes.

"In my opinion, agriculture's greatest need in this county is more stable agriculture; that is, more farmers farming smaller units and employing year around labor on this particular unit," Mr. O'Dell says.

"This would result in less seasonal demand for out-of state farm labor and make for better year around business in this and other counties in the state.

"It would seem that our greatest marketing problem at present will be found in the citrus industry. Other markets may not be entirely satisfactory, but at least the producers are able to dispose of their produce at a price which returns some profit. This, however, is not true of the citrus industry. Possibly cooperative marketing of certain produce, using more modern methods such as grading, packing and transporting, would be of material help.

"This office will be glad to participate in any program which will better farming conditions, either through better living on the farm or through a more stabilized agriculture in which the farmers are interested in bettering living conditions through improvement of the soil and improvement of produce to be sold."

The Salt River Valley Water Users Association, in its report of acreage for 1939, lists 33 agricultural items as being grown on 227,688 acres of Salt River Valley project lands within Maricopa County. Cotton heads the list with 52,393 acres, 34,355 in short staple and the remainder in long staple. Next comes alfalfa with 39,514 acres, and alfalfa-grain with 33,168 acres. Lettuce acreage is given as 9,155 planted last fall and 15,646 acres for the spring crop.

The report found 3,767 horses and 1,229 mules on the project. Other farm items listed are: Milch cows, 23,096; calves, 10,469; beef cattle, 18,492; sheep, 25,312; hogs, 12,228; stands of bees, 5,150; chickens, 287,087; turkeys and geese, 7,523.

The foregoing figures apply only to the lands of the Salt River Valley Project proper and do not include a number of other Maricopa County irrigation districts. The alfalfa acreage in the county was 109,136 acres; total wheat acreage, 21,379; long staple cotton, 24,076; short staple cotton 85,461 acres.

Summing up the situation it is seen that a number of factors which go into the depressive condition of the market and the limiting of farm production volume in the State apply to all or almost all of the geographical subdivisions, both in the irrigated valleys and the mountain and mesa areas. Foremost of these are three:

1. The highly disorganized and disordered state of the market generally.
2. Competition by transport agencies and the pyramiding of profits in between the producer and consumer.
3. Limited competitive buying from farms and ranches in local communities.

The co-operative marketing agency could, for example, as conditions warrant—

Set up a central egg storage plant and marketing service.

Prepare and distribute poultry feeds at the lowest possible costs, performing a service similar to that of the co-operative buying now practiced by poultry producers in the Joseph City area.

Provide transport facilities both for marketing products and distributing supplies.

Install feed mills and feeding pens for the fattening of cattle, either bringing the cattle to the feed or distributing the feed at the lowest possible cost to the producer.

Keep representatives out in the State, both buying and selling under the cooperative marketing program, as recommended in the foregoing by Mr. Walkup

Set up and maintain an accurate and detailed statistical market reporting service, the function of which would be to keep, and distribute, a constantly running account of production and consumption in all parts of the State.

Provide transportation service which would promote the interchange of products, in season, between the producing areas in the several counties and between the counties, and perhaps even carry Arizona products outside the state and bring back commodities which must be imported from out-of-state markets. In that connection, attention is called in the foregoing review of the situation in the Cochise county to the successful experience of Mr. E. C. Hill in marketing vegetables from the Double Adobe district.

Such a central co-operative marketing agency or agencies, while not necessarily providing a guaranteed market, would unquestionably create an assured market. It would therefore offer every producer in the State who is disposed to take advantage of it, an outlet for his products and relieve him from possible exploitation by the local buyer to whom he now must sell.

Business and industry of almost all other types retail and wholesale, already are highly organized primarily for the protection of prices. Farmers have lagged somewhat in this respect, and in consequence have suffered from exploitation. It would appear that the time has come when they must, in their own defense, set up and maintain efficient marketing organizations.

The total inventorial value of livestock on farms in Arizona January 1, 1941, was \$44,654,000, compared with \$40,855,000 on January 1, 1940, according to the report released by the Agricultural Marketing Service through the office of the agricultural statistician at Phoenix. These values are an aggregate of the seven major species—horses, mules, cattle, sheep, hogs, chickens, and turkeys, according to the United States Department of Agriculture.

## CHAPTER XV

# POWER

The Central Arizona Light and Power Company (1) serves electric power to eight Valley of the Sun Communities. A wide network of transmission lines abundantly supplied with power from four sources offers valley power users and towns a constant adequate supply of cheap power for all purposes. A pipeline network supplies natural gas to four of the communities for heating, cooking, and water heating.

The Central Arizona Light and Power Company purchased the utility facilities in Phoenix in 1920. In 1924 the Central Arizona Light and Power Company became a member of the Electric Bond and Share System. As a result of materially enhanced credit, the local company was able in subsequent years to purchase and improve the electric distribution systems in Tempe, Chandler, Glendale, Peoria, Gilbert, and Scottsdale, and to construct systems in Buckeye and Avondale. Phoenix and Tempe manufactured gas distribution systems were owned, and after arranging for delivery of natural gas to the Valley of the Sun from gas wells in New Mexico 655 miles away, these systems were converted to natural gas, and distribution systems were built in Glendale and Chandler. Since 1924, the cost of electricity to consumers has been reduced 37 per cent.

A 66,000-volt power line was constructed to connect the Arizona Power Company generation facilities with the valley to augment the supply of power generated by hydro-electric plants of the Salt River Valley Water Users' Association. As the communities grew, the Central Arizona Light and Power Company constructed a steam electric plant west of Phoenix to assure continuous service, and in subsequent years has added two more generating units so that instead of being a "standby" plant for emergency only, the company's steam generating station was able to supply all of the company's electric power users during the 1940 dry period when all available hydro-power was required for irrigation pumping purposes.

A still further source of power was developed by officials of the Central Arizona Light and Power Company through the negotiation of a contract with the United States Bureau for power from Parker Dam. This contract also provides for power for farmers in the Salt River Valley Water Users' project.

With the completion of the service facilities from Parker Dam in 1942, the Central Arizona Light and Power Company system will have a total available power pool of 73,500 kw. available for all of its customers who during the peak demand period of 1940 required 44,300 kw.

The interconnecting network of transmission lines and power sources of the Company have enabled the smallest communities served to enjoy the same high type of metropolitan service found in Phoenix at low rates.

The company serves a total of 31,300 electric customers and 18,900 natural gas customers. Approximately 890 miles of pole lines are necessary to serve these electric customers and 277 miles of distribution mains are required to serve the gas customers.

Of the nearly 500 employees on the company payroll, 60 per cent have been with the company for more than five years and 37 per cent for more than ten years.

More than 116 trucks and cars are used to maintain speedy service to customers. These vehicles travel a total of about 1,300,000 miles per year.

Cheap power has been the largest contributing factor in the development of the fertile farm lands surrounding Buckeye and areas outside of the Salt River Valley project served by the Central Arizona Light and Power Company. Other industries served by the company include one of the finest packing plants in the West, flour mills, cotton processing plants, steel and iron manufacturing concerns, and many other types of business that require an abundant uninterrupted supply of power.

Air conditioning for summer cooling has been one of the developments of the Central Arizona Light and Power Company and cheap power. Early installations and designs were under the supervision of company engineers, and subsequent development of cooling for residential and commercial use has resulted in the name "Air Conditioned Capital of the World" being applied to Phoenix. Due to the extremely mild winters in the Valley of the Sun, possibly more concern is given to summer cooling than winter heating, although the majority of the businesses and residences in the communities served by the company use natural gas for heating in winter. Gas heating is a contributing factor to the remarkable cleanliness of valley communities.

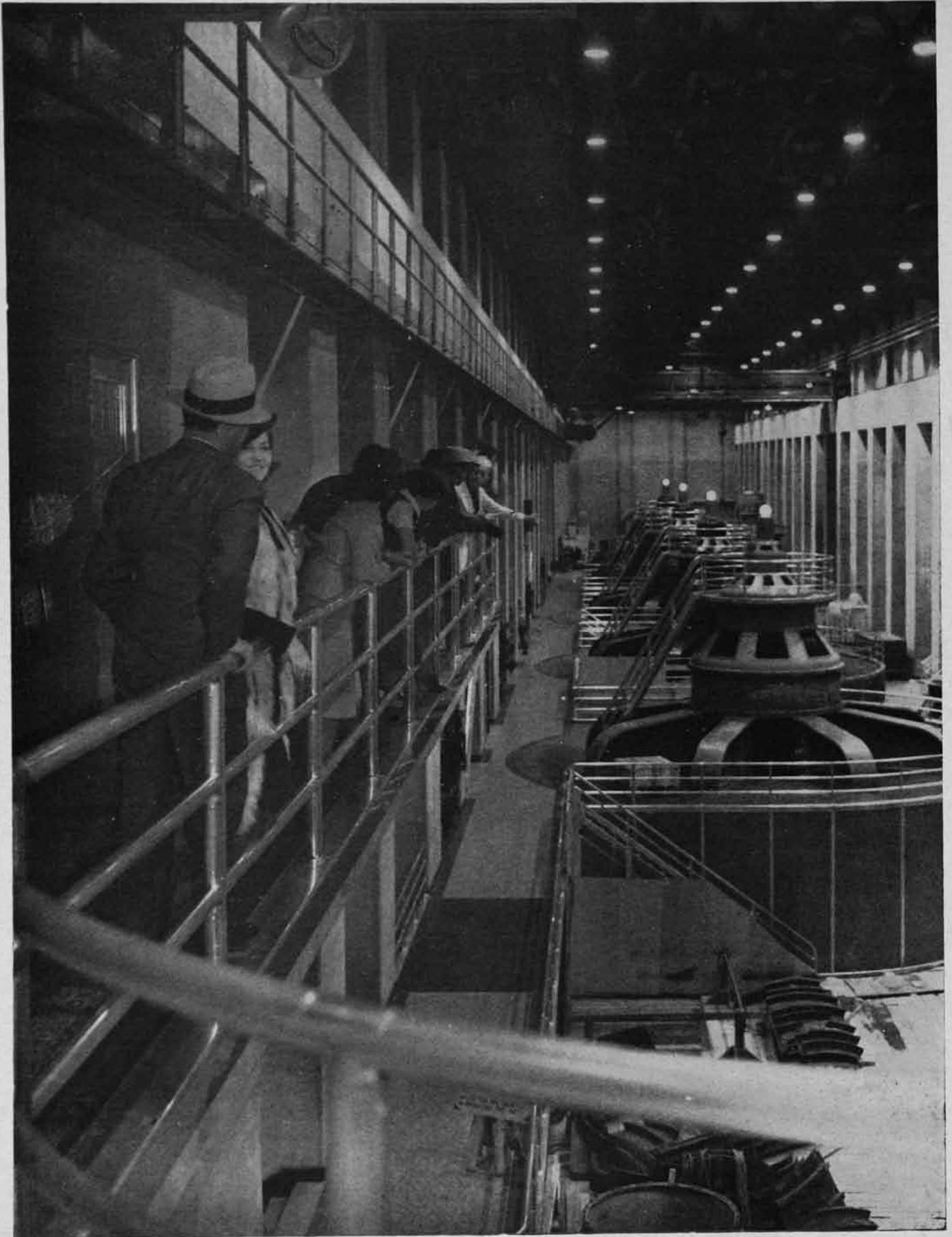
With prospects of the Valley of the Sun being the center of national defense projects including air training fields, this locality is fortunate in having a utility company serving it able and ready to supply even the most extreme demands for power.

### POWER SYSTEM OF S.R.V.W.U.A.

The S.R.V.W.U.A. operates eight hydro-electric power plants with aggregate turbine capacity of 115,000 H. P. Out of 836 feet fall from high water level at Roosevelt to the crest of Granite Reef Diversion Dam, 729 feet head is utilized for power at the four storage dams, while 200 feet fall is utilized in four plants in the valley. The transmission system, consisting of 1,400 miles of power lines, of which 380 miles are primary lines of 40,000 to 110,000 volts. Power is distributed for mining and industrial use as well as agriculture in Maricopa and adjoining counties, service being extended to every farm of the project. Approximately 50,000 H. P. standby stream power is avail-

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(1) Central Arizona Light and Power Company, 1941.



Dynamos in Boulder Dam

able under contracts with the C.A.L. & P. company and nearby mines and the association is installing a 15,000 H. P. Diesel Plant for additional stand-by purposes. (2).

The valley power comes from four sources; Hydro-electric power from eight dams in the Salt River power project, accounting for 86,000 kilowatts, a steam generating plant supplying 30,500 kilowatts, a power line from the Parker Dam on the Colorado river to Phoenix supplying approximately 66,000 kilowatts, and a fourth source is the diesel generating unit installed by the Salt River Valley Water Users Association in 1939. It is a two-unit plant, with each engine generating 7,500 horse-power, or 12,500 kilowatts to make a total of 195,000 kilowatts which can be produced if everything is running at full capacity. An unlimited source of undeveloped power is to be found in the upper Colorado River with its superb damsites.

Al Morairty prepared the following article on "The Contribution of Public Utilities to the Valley of the Sun." (3):

"As the Easterner approaches the Salt River Valley via the American Airlines, the Transcontinental Sunshine Route of America, he sees beneath him, instead of the ranch town he expected, the metropolitan city of Phoenix, a jewel of modernity set in the green carpets of year-round crops which abound in the surrounding 500,000 acres of fertile land.

"Looking toward Camelback, the mountain of patience, he sees reservoirs filled with pure, sparkling water brought in abundance from the Verde River to supply the domestic needs of the inhabitants and to irrigate the lawns studded with many flowers, palms, and orange trees.

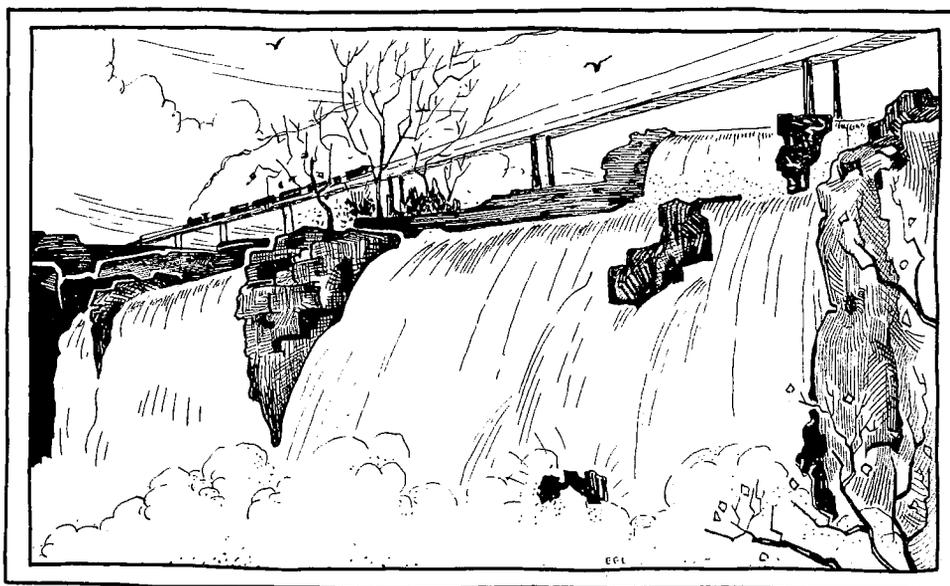
"To the left, a fellow passenger points out the gas holders and the gas plant which now serve as standby for the natural gas supply brought to Phoenix through a pipeline 655 miles in length from Jal, New Mexico. This utility

service not only makes Phoenix a smokeless city but also gives an economical fuel for homes, offices, and industries. Farther to the left, he sees the very modern steam plant whos turbines are turning with full load to supplement the hydro electric power brought from the dams of the Salt River Valley Water Users' Association on the Salt River.

"The passenger explains that the utilities serving the valley purchase their power from the Water User's Association who generate it at the dams along the Salt River as a by-product of the water brought down from the reservoirs to irrigate the crops grown on the several thousand acres surrounding Phoenix. During times of plentiful water supply a large portion of the power comes from this source and during times of shortage or large power demands the steam plant acts as an insurance for a steady supply of electric power for the homes and industries of the valley.

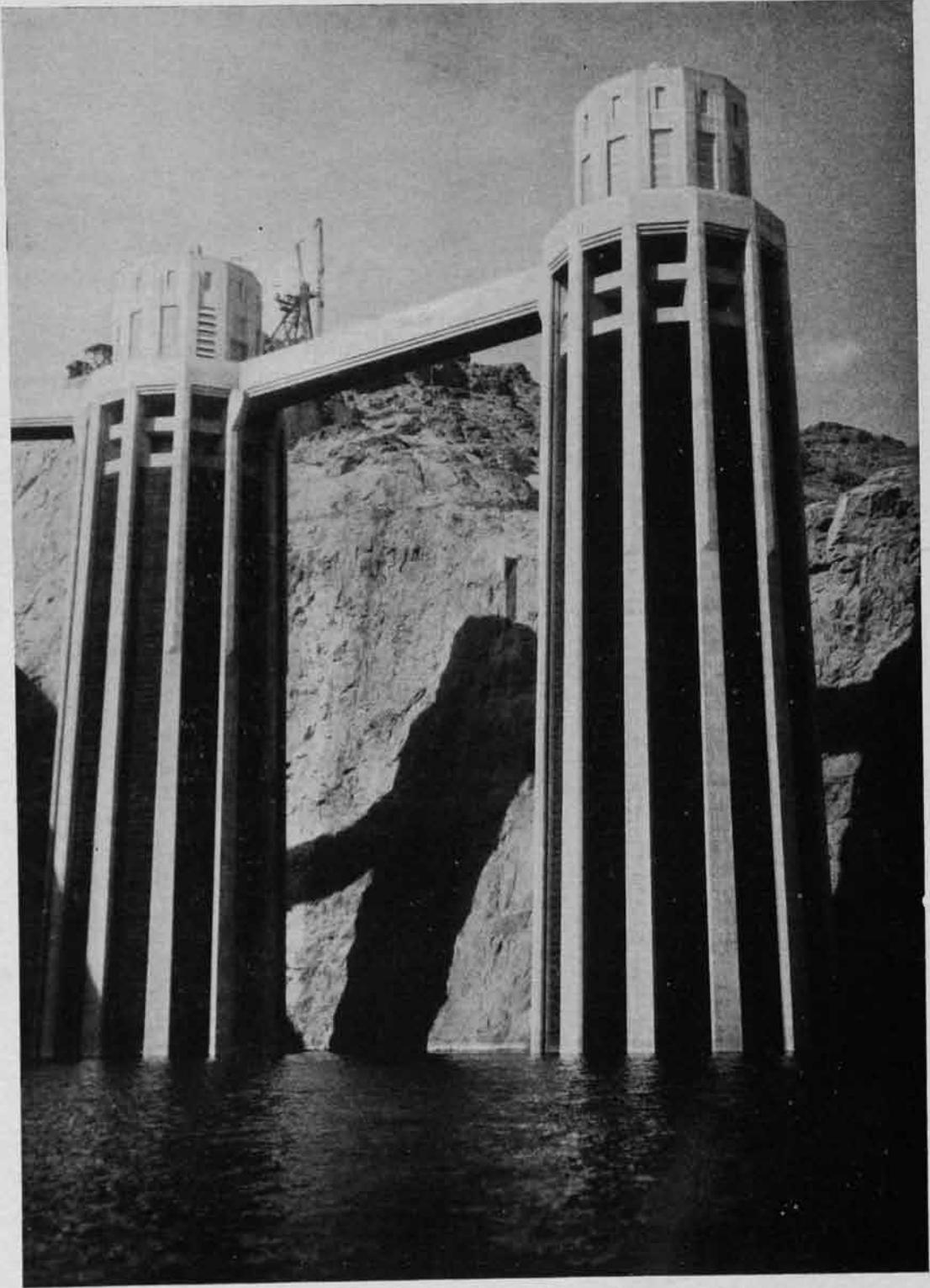
"Thus, the farmer benefits from the sale of power, making possible lower cost of irrigation and the City of Phoenix has a cheap and steady supply of both natural gas and electricity. By this time, the airplane glides to a landing at the Class A airport, alongside of a TWA plane which is just taking off for Boulder Dam and San Francisco. For the purpose of arranging delivery of baggage coming by train, our Eastern friend is taken by comfortable bus to the depot of Spanish architecture which services the deluxe air conditioned trains of both the Southern Pacific and Santa Fe railroads. He is then driven through the main streets of Phoenix, sparkling with many colored Neon and flourescent tube lighting of the most modern type.

"As he leaves the city, bound for his hotel in the foothills, he sees through the windows of the bus many suburban and farm homes, cheerily lighted from electric supply lines which traverse every road and lateral in the valley. Upon inquiry, he finds that he is riding through the first completely electrified rural district in America. He is told that practically every rural home in the valley uses electricity for cooking, water heating, pumping, and the many other uses around the farm. He sees many winter homes of Eastern visitors which are also supplied with the comforts and conveniences of modern life by the utilities which serve the Valley."



(2) T. A. Hayden, S.R.V.W.U.A., 1940.

(3) Appeared in Arizona Republic during the Spring of 1939 as part of the Phoenix Jay-Cees "Valley of the Sun" program.



The Power of the West — Boulder Dam

## CHAPTER XVI

# LABOR

Labor in Arizona received some \$83,000,000 in 1940 compared with \$75,373,950.41 in 1939 according to the Arizona Unemployment Commission. This represented an increase of \$7,500,000 for workers employed in Arizona industries. Wages to Arizona industrial workers in 1940 totaled \$73,648,843.56. However, railroad payrolls amounted to \$9,292,662.33, making the total of \$82,941,505.89. Wholesale and retail trade in Arizona gave labor to \$20,488,579.05 in 1940, some 27.62 per cent of the total. Mine wages were second, amounting to \$20,238,405.48 or 27.48 per cent. Employees engaged in manufacturing received \$9,926,154.99 or 13.48 per cent of the state total. Personal service workers received wages amounting to \$8,802,358.21 or 11.95 per cent of the total. Building and construction workers received \$4,613,655.77 or 6.26 per cent of the total.

The Utility payroll amounted to \$2,548,794.76 or 3.46 per cent. Railroad payrolls totaled \$9,292,662.33. Transportation other than railroad gave labor \$2,152,712.56 or 2.92 per cent of the total. Communications paid labor \$1,360,541 or 1.85 per cent.

Professional services amounted to \$844,467.54. insurance; \$657,815.85 finances; \$615,901.93; real estate; \$556,083.04. administration \$482,054.53, miscellaneous; \$360,828.44.

Agriculture, public offices, and the teaching profession are not included in the Arizona Unemployment Commission's totals because they are not insured against unemployment (1). Unemployment compensation in 1940 amounted to \$1,321,417.21. This was much less than in 1939 when unemployment compensation amounted to \$1,523,522.62. It was still higher in 1938 with \$1,905,633.76.

Benefit payments went to 16,346 persons in 1940 (2) as compared with 18,163 in 1939 and 19,496 in 1938. Maricopa County employees received almost one-third of the benefits given out by the Unemployment Commission, according to the preliminary total of December 31, 1940. Maricopa County received \$423,905.07 or 32.08 per cent. Pima received \$161,556.42 or 12.22 per cent.

Multi-state operations resulted in payments of \$329,183.47 or 24.9 per cent of the total.

### MINING

The Arizona mining industry accounts for about one-fifth of those gainfully employed in Arizona. In 1938 Arizona mining and smelting companies paid \$17,088,308 to an average of 10,849 wage earners in 1938. This was some 23 per cent of the state's wages. Mining accounted for \$15,140,606.55 and smelting for \$1,947,701.78. The percentage of gainful workers in all industries that are employed in mining, smelting and refining of non-ferrous metals in Arizona was 22.8 per cent in 1809, 14.7 per cent in 1919, 12.7 per cent in 1929, 8.3 per cent in 1937 and about 10 per cent in 1940. (3)

### AGRICULTURE

The percentage of gainful workers in all industries employed in agriculture, animal husbandry and forestry was 25.5 per cent in 1909, 27.7 per cent in 1919, 23.7 per cent in 1929 and about 24 per cent in 1940. (4)

According to the U. S. Department of Commerce, the employment in Maricopa county was nearly equally divided between business and industry with 17,503 employees and farm personnel was 17,958 employees.

In 1939 Maricopa county had 2,543 employees engaged in wholesaling out of the 3,854 employed by the wholesale industry in Arizona. Some 2,046 individuals are engaged in the wholesale business in Phoenix.



Classes in Arizona Vocational School. Top, painting; Below, Laundry Salesmanship.

(1) The statistical year 1940 consists of the first nine months of 1940 and the last three of 1939.  
(2) Unemployment Compensation was claimed by 25,899 persons in 1940, but only 22,083 were found eligible.  
(3) J. S. Coupal, Director of Department of Mineral Resources, Dependence of Arizona on Mining Industry, p. 5, 1940.  
(4) Ibid, 1940.

## MANUFACTURING

In 1930 there were 2,181 individuals employed in manufacturing, employed in 139 manufacturing establishments. By 1935 that number of manufacturing plants had dropped to 84 which employed 864 wage earners. In 1937 some 80 manufacturing establishments in Phoenix employed 1,156 laborers. This had increased to about 1,250 by 1940.

## LABOR IN PHOENIX AND VICINITY

A disinterested study of labor in Phoenix and Maricopa County indicates that organization is on the increase. Cheap labor is imported to pick cotton, citrus and other produce. When the harvesting season is over these workers are left without money or jobs. Consequently they turn to the jobs they can get and sometimes take the place of union workers at a lower wage scale. This is one of the big hinderances to organized labor. However, the unions are gradually becoming more and more powerful. In 1937 two new unions were formed. These were the Millmen's Union and the American Federation of State County, and Municipal Employees. Altogether Phoenix has some 45 different unions, (5) according to A. S. Hollahan, Secretary of the State Federation of Labor.

## CASE STUDIES OF FIVE UNIONS IN PHOENIX (6)

1. **Phoenix Typographical Union No. 352**, with C. J. Hopwood, president, has 160 members. The work week is divided into two classifications. Newspaper printers work seven hours and forty minutes per day five days a week. The wage rate varies into three classifications; (1) The day work scale is \$1.08½ an hour; and the night work scale is \$1.13½ an hour; and the lobster shift has the same total for 6½ hours as the night scale for seven hours and forty-five minutes.

Local dues of the Typographical Union are entirely up to the local organization. In the Phoenix Union it is 1 per cent plus 50c plus 10c; the international dues are 1 per cent; pension and mortuary benefit, 1 per cent plus 70c international per capita tax.

The apprenticeship in the unions is left up to the local organization. In most cases the ratio of apprentices is 1 to each 5 jourmalmen or major fraction thereof, provided no shop is permitted more than 2 apprentices. However, in Phoenix there is no limit on the number of apprentices. There is one to every five, or major fraction thereof. The apprenticeship program is run over a period of six years with the apprentice receiving an increase in pay each year after he has served the initial two. He is also under the protection of the union after completion of the second year and can be dismissed only for cause which the union has the right to pass on before the discharge is effective.

A course of lessons in printing comprising approximately sixty lessons is required before the apprentice is given a card as a journalman. These lessons are compiled by the Bureau of Education in the Typographical Union and are accepted in all schools and colleges throughout the United States.

The Typographical Union works only on a closed shop basis. It controls the hiring of men and provides that the foreman of a shop must be a member of the Typographical Union. In Phoenix the initial fee is \$10. Cheap labor is eliminated by the use of Typographical Union labor only. Political activities are none.

Overtime varies, but in most cases the payment for overtime is time and a half. Any time that a journalman overtime aggregates one day he is bound by his international law to hire the first available substitute thereby giving out the time he has had above the five days. Sundays and holidays vary from time and a half to double time.

The Typographical Union has an \$8 a week pension which is given to any member with twenty-five years consecutive membership who has attained the age of sixty years.

The Union maintains a mortuary benefit which ranges from \$175 to the maximum of \$500 which is reached when a member has 15 years continuous standing.

Strikes of the Typographical Union must be sanctioned by the International Union after all other means of negotiation have failed and a benefit of from \$14 to \$18 per week to any man going on strike. The most effective method employed by the Typographical Union is the strike itself because of the high degree of skill required by the organization.

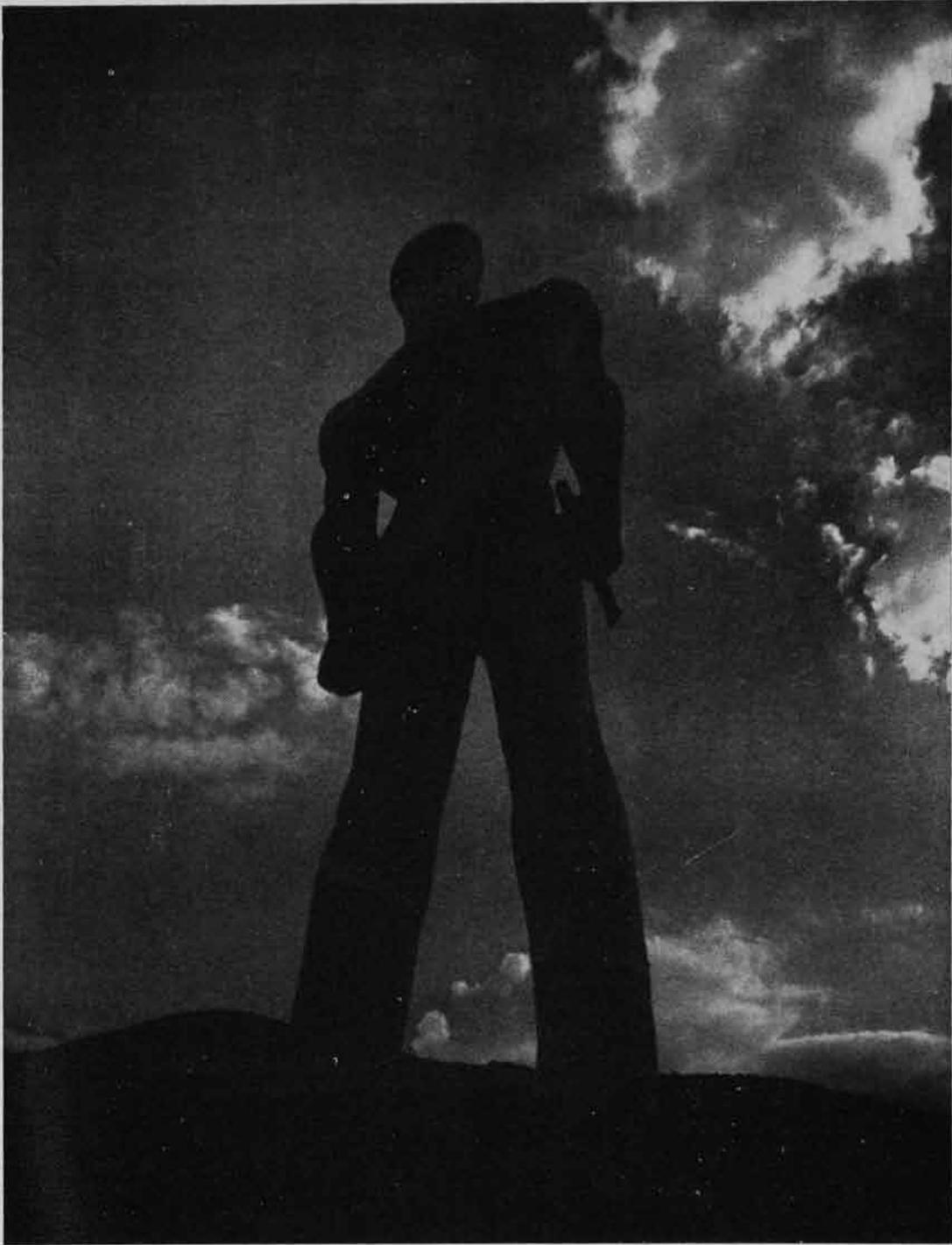
2. **Teamsters and Chauffers Phoenix Organization** has some 1000 members with Herman Lown, president. The weekly hours vary from 40 to 48 hours. Wages vary from \$25 to \$60 a week. Dues of the organization run approximately \$2.50 per month.

The Phoenix union was organized in 1933. It is affiliated with the American Federation of Labor and all State and Central bodies. It is affiliated with the Highway Council in Los Angeles. The apprenticeship program is not a comprehensive program. In very few instances the union permits open shop conditions, but in all of its major contracts the closed shop prevails.

The initial fee is \$25. It has a vast plan of expansion as is shown by its past year and a half of work in which they have gained over 100,000 members. The goal of the union is to organize everything on wheels. Cheap labor

(5) Phoenix unions include: American Federation of State, County, and Municipal Employees. Auxiliary Brotherhood of R. R., Bakers, Barbers, Black Smiths, Boiler Makers and Helpers, Brewery Workers, Brick Layers, Brick and Clay Workers, Butchers, Carpenters, Cooks, Waiters and Bartenders, Conductors, Chauffers and Teamsters, Cleaners and Dyers, Culinary, Electricians, Fire Fighters, Fruit and Vegetable Workers, Hod Carriers, Iron Workers, Lathrers, Machinists, Millmen, Motion Picture Operators, Musicians, Operating Engineers, Painters, Plasterers, Plumbers, Phoenix Central Labor Council, Pressmen, Roofers, Steet Metal Workers, Stage Hands, Sign Painters, Street and Railway Workers, Switchmen, Tile Workers, Trainmen, and Typographical Workers.

(6) Case studies of unions made by A. D. Hinshaw, et.al.



The Miners' Memorial at Bisbee

is eliminated by refusing to handle merchandise that is in any way processed or handled in any stage by non-union labor. Political activities are governed by circumstances at the time of election. Over time rates are payable at time and a half on regular scale. Sundays and holidays, unless covered by contract, are also overtime. The union has no pension requirements. Insurance is entirely a local matter. In strikes the local point as well as the point of

origin is tied up.

**3. United Brotherhood of Carpenters and Joiners Union No. 1089**, with O'Neil as president, has 450 members. The work week is 40 hours per week, 8 hours a day. The wage rate is \$1.12½ per hour. Dues are \$2.50 per month. Overtime is time and a half. Sundays and holidays and Saturdays are considered overtime, and overtime rates prevail.

The union was organized in 1900. It is affiliated with the American Federation of Labor, City and State Central bodies. The apprenticeship program is under complete jurisdiction of the union and is limited. During extenuating circumstances the union will permit open shop. The closed shop predominates, however. The initial fee is \$50. It plans expansion. The goal of this union is approximately the same as of other unions, that is, to organize the entire industry from the tree to the ultimate building project. Cheap labor is eliminated by refusal to use any products made by it.

Political activities are governed by conditions in the locality. The union has a pension system through the International union amounting to \$30 per month. A small death benefit is also maintained by the union together with a home for the aged members. Its strikes are usually won by the fact that skilled labor is the most economical that a contractor can use.

**4. Culinary Workers Union No. 631, Phoenix,** with Homer Wise, president, has approximately 250 members. The work week is 48 hours. Wages vary from \$13.50 a week to wages upward to \$300 per month in the case of cooks. Dues are \$2 per month.

The union was reorganized in 1932. It is affiliated with the American Federation of Labor and all city, central and state bodies.

An apprenticeship program is used in the case of waiters and cooks. It is entirely a local question. There is no law in the matter. The union strives for closed shop conditions, but in many cases they allow members to work in houses not completely signed up. The initial fee averages about \$7.50. It plans for expansion and the goal of the union is complete organization of the craft and a shorter work week in the entire industry.

An attempt is made to eliminate cheap labor by the use of an economic boycott which in return is backed up with all other organizations placing the firm with a picket line in front of it. Political activities are governed entirely by local conditions. Overtime is allowed only in the case of male workers, as state law prohibits overtime in the case of female workers. Sundays and holidays are worked without overtime where the help has certain days off. The union has no pension fund. It has a death benefit of \$250. Its strikes are conducted only with the backing of the labor movement.

**5. Phoenix Central Labor Council** with Ledbetter, president, was organized in 1910. The organization is made up of all unions affiliated with the American Federation of Labor in the city of Phoenix, totaling approximately 45. It is concerned with hours, wages, and working conditions of employees in local unions.

It is affiliated with the American Federation of Labor and the State Federation of Labor. There is no apprenticeship program. They make an attempt to enforce the closed shop and to aid all other organizations in securing it. There is no initial fee. It is supported by a per capita tax of 7½c

per member per month from the membership of all local unions affiliated. Its plan of expansion and goal is to aid all organizations when the need presents itself.

It attempts to eliminate cheap labor from all crafts by the use of its economic power. Political activities are dominated by the will of the organization and membership. It has nothing to do with overtime and holiday work. There is no pension plan and no insurance plan. It takes part in every strike of every affiliated local to bring about solidarity of the labor movement in winning the controversy. In most instances it takes the leading part in applying boycott against a firm which has been declared unfair by an affiliated local union, and in turn concurred by the body.

The Unemployment Census of 1937 showed 813 women totally unemployed in Phoenix, another 409 on emergency work, and 258 partly employed. For Maricopa county, these figures would be 1,219, 653, and 296 respectively; of the 1,219 women without jobs, the greatest unemployment was found, in order of numbers, among clerks and kindred workers (saleswomen and telephone operators), servant classes, and semi-skilled workers (include beauty parlor and laundry workers as well as factory.) Among the 1,219 were 169 workers, most of them over 25 years of age. The employment situation has greatly improved since then.

The speed-up of the National Defense program has caused innumerable conflicts between Capital and Labor. Both sides have been suspicious of the other, especially in regard to profiteering. Greater cooperation will be necessary on both sides during the coming crisis in 1941-42.

The recent 1940 census figures on manufacturing, wholesaling and retailing have emphasized Labor's part in the economic order in the U. S. A.

The great machine necessary for the retail distribution of goods from the producer to the consumer shows a volume of business which averages forty billion dollars per year. To do this retailers employ from five to seven million wage earners, depending on the current state of business, and pay them in wages from five to seven billions of dollars annually. Wholesalers employ an additional 1,500,000 workers and pay them more than two billion dollars annually. Much of the total volume of goods this machine handles has previously been processed or fabricated in American factories, themselves turning out sixty billion dollars' worth of goods and employing over ten million people with wages of more than ten billion dollars. Part of the goods for which they find a market comes from the nearly seven million farms which employ more than ten million other workers. Production and distribution employment is further increased by nearly two million employees of service businesses, theaters, hotels and laundries, and by one million workers in the offices of insurance, real estate and financial institutions.

Labor in the Valley of the Sun is well-organized, patriotic, and willing to cooperate fully in the National Defense program at all times in both peace and war.

## CHAPTER XVII

# BANKING AND FINANCE

### 1. Banking Institutions in Phoenix and the Valley

Three strong banks serve Phoenix and the Valley of the Sun. They are—The Valley National Bank, First National Bank of Arizona, and the Phoenix Savings Bank and Trust Company. (1). Combined deposits of these three institutions on June 29, 1940 were \$63,696,035.00 as compared with \$59,215,584.00 on the corresponding 1939 date.

A. The Valley National Bank, (2) whose main office is in Phoenix, Arizona, is the largest single banking institution in Arizona. In fact, it tops all banking organizations between Dallas, Texas, and Los Angeles, California, coming closer to rendering a statewide banking service with its nineteen branches, than any other financial unit in the state. As such, its operations are and its history has been closely woven with Arizona's economic development during its entire statehood (from 1912) and for a considerable period prior to that.

The Bank's contributions to the exploitation of Arizona's resources by virtue of the character and regency of Arizona's industry has followed two main lines, both extractive, namely, agriculture and mining. Almost from the very start, the bank, forced by the financial needs and exigencies that arose in the different communities in which no adequate banking service was available, took the form of a branch bank operation.

The only commercial banks serving the Territory were located at El Paso, Texas, Tucson and Phoenix, Arizona. The only depositories for safekeeping money in the rest of the Territory usually were saloons and sometimes stores.

Historically, The Valley National Bank stems directly to the Gila Valley Bank which was organized and established under a state charter in the cattle town of Solomonville, January 11, 1900. The decision to incorporate was taken December 15, 1899; In 1902, its name was changed to the Gila Valley Bank and Trust Company. While the original unit was associated with the growing agricultural needs of the Gila Valley, it was not long before banking services were extended to the surrounding mining districts. From then until 1922, when The Gila Valley Bank and Trust Company was merged with The Valley Bank as The Valley Bank and Trust Company, the business was derived, for the most part, from the mining communities.

In 1914 the Gila Valley Bank and Trust Company was invited to work out and submit a plan of reorganization and liquidation of the assets of a Phoenix bank which had failed that year. The new management took over the liquid assets, developed a scheme for disposing the unacceptable assets, provided for authorized capital up to \$500,000, re-opened the bank December 30, 1914, and subsequently

paid the depositors of the defunct bank an amount averaging more than 90 per cent of their deposits. It continued to operate as a separate entity until 1922, as did the Gila Valley Bank and Trust Company, but under the same management, when both were merged as already stated.

Since then the fortunes of the merged unit have been tremendously influenced by world wide political and economic conditions as had those of its two antecedents during the World War. The general prosperity of the Arizona communities closely followed the rise and fall of prices for lumber, cattle and a few selected agricultural products on the one hand and copper and a few other metals on the other. In common with banks in other regions The Valley Bank and Trust Company rapidly expanded its deposits and loans until it was forced to contract under the impact of the depression, 1930-34. Nevertheless, it did ride out the banking crisis of 1933, as its two predecessors had done previously through the money crisis of 1907 and the drastic depression year of 1921.

The attached table portrays the Valley National Bank's growth. Resources have increased from \$560,986.33, December 31, 1904 (no earlier figures are available) to \$9,634,178.54, December 29, 1920 to \$45,438.47, June 29, 1940. Deposits show the same magnitude of growth. From an original \$25,000 capitalization, the capital account which includes surplus, undivided profits and reserves for various contingencies now stands at \$3,276,576.47 (June 29, 1940).

There have been three active periods in branch additions and acquisitions (1) 1902-1924, when Morenci, Clifton, Globe, Miami, Ray, Winkleman and Hayden were established, Solomonville moved to Safford, and Phoenix (The Valley Bank with its branch at Gila Bend later moved to Ajo) was acquired, (2) 1923-1926, when Ray and Winkleman branches were closed and banks at Glendale, Prescott and Mesa acquired, and (3) 1934-1937 during which time branches were established at Coolidge, Casa Grande, Kingman, Superior, Tucson, Willcox, Chandler and Douglas.

Departmental expansion and specialization has grown apace with branch expansion. The most noteworthy development since 1935 has been in the consumer credit field.

Until 1935 the Valley Bank and Trust Company operated as a state bank. In that year it became a National Bank and changed its name to The Valley National Bank.

B. The First National Bank of Arizona (3) was established in 1881, but was reorganized in 1887 as the National Bank of Arizona, with a capital of \$100,000. In 1896 one of the original owners sold his stock to Emil Ganz who became its president, and remained its head for many years. The name was changed to the First National Bank of Ari-

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- (1) Each of the above banks are members of the Federal Deposit Insurance Corporation through which deposits are insured up to \$5,000.00.  
(2) Source: Valley National Bank, 1941.  
(3) Source: Sylvan Granz, First National Bank of Arizona, 1941.

zona in about 1925. This bank, first to be established in Phoenix, has had a great influence in the development of Phoenix and the Salt River Valley. Always conservative, it nevertheless accepted the responsibility of a bank to a growing agricultural community and met the challenge fairly to citizens, both farmers, livestock owners, and growing business, as well as to its stockholders. The First National Bank, under the capable direction of Mr. Ganz, grew and prospered as the city and valley expanded and progressed.

Mr. Ganz was a banker of the old school, who knew his clients, counted them as his friends, and they had the same feeling for him. His son, Sylvan Ganz, is now executive vice-president of the First National Bank. In 1937 the First National Bank of Arizona and the Phoenix National Bank consolidated as the First National Bank with the main office in Phoenix, a branch at Tempe, and one at Yuma. The officers of the bank are: H. J. Coever, president; S. C. Ganz, executive vice-president; W. K. Humbert and R. A. Beckner, vice-presidents; J. H. Brahm, cashier. Resources on March 30, 1940 were \$20,266,515.54; deposits totaled \$18,578,410.27; while capital stock, surplus and undivided profits amounted to \$1,467,769.92.

The Phoenix Savings Bank is a State institution with resources of \$5,053,121.24. Deposits of \$4,447,929.65. Capital stock, surplus, and undivided profits of \$438,850.43. Officers of the Phoenix Savings Bank and Trust Company are S. C. Ganz, president; W. K. Humbert, vice-president; and D. W. Losch, assistant vice-president.

The First National Bank of Arizona and the Phoenix National Bank were merged in November, 1937, when both were acquired by the Giannini interests, owners of the Bank of America. These interests at the same time acquired the Phoenix Savings Bank and Trust Company.

The Phoenix Savings Bank and Trust Company, however, has continued to retain its own name and identity.

C. Other Loan Agencies and residential loans are made through the banks, and the First Federal Savings and Loan Association, Western Building and Loan Association and a few other agencies which qualify under the Federal Housing Administration.

The First Savings and Loan Association (4) was organized on February 9, 1925 with assets at the end of 1925 amounting to \$31,359. John G. O'Malley was its first president. It has kept pace with the growth of Phoenix. Its resources on June 30, 1936 were \$308,440.93. Within the next fiscal year this was increased to \$1,340,824.45. By June 30, 1938 to \$1,765,293.06. By June 30, 1940, its resources were listed as \$3,005,252.62.

Joseph G. Rice is president and C. Austin Nelson is vice-president.

Arizona associations advanced \$1,531,122 for home building in 1939. This represented a big increase over 1938. Five hundred and sixty-one home loans were made by associations in Arizona, making it a banner year for home

financing. These figures compare with 372 loans valued at \$993,048 in 1938, indicating the steady expansion of this method of home construction financing in Arizona.

At the close of business December 13, 1939, insured associations in the state, which number three, had home mortgage loans on their books amounting to \$3,212,960. At the end of 1939, these three private Arizona institutions chartered by the Federal Savings and Loan Association were accommodating 3,256 depositors as compared with 2,261 a year before. Their savings are fully protected against loss up to \$5,000 per depositor by the insurance corporation here, a federal government agency. Assets of these locally owned and managed institutions grew \$1,019,040 in 12 months, the total increasing from \$2,642,590 to \$3,662,060.

Insured associations in Arizona are the First Federal Savings and Loan Association of Phoenix, the Tucson Federal Savings and Loan Association, and the Western Building and Loan Association of Phoenix.

Mr. Twohy was appointed governor of the governmental agency under which the First Federal Savings and Loan Association was chartered, on October 16, 1939.

In a manner similar to the Federal Reserve System, the Federal Home Loan Bank System was created to provide for the needs of urban home financing. Only a few years ago, the thousands of savings and loan associations and other thrift and home-financing institutions scattered throughout various parts of the country were dependent upon their own resources, today there is a credit system that was devised to bulwark them against any emergency the future might hold.

A total of \$1,355,853,158 in home mortgage loans has been advanced by federal savings and loan associations since 1934 when congress authorized these locally owned and managed institutions to operate under a federal charter, it was reported by officials of the Federal Home Loan Bank Board, their supervisory agency.

Of this cumulative figure, some \$400,337,000 was extended to borrowers last year, 39.5 per cent more than in 1938.

More than two thirds—\$841,622,181—of the cumulative loans made in five and one-half years went into the construction and purchases of homes. Approximately 68 per cent of the 1939 total was used for these two purposes, as against 45 per cent in 1935.

There were 1,409 federal associations as of December 31, 1939, with assets of \$1,577,981,000. Depositors had 1,414,900 accounts in the institutions, with savings totaling \$1,110,749,000 at the end of the year.

The total of home mortgages of all types recorded in Arizona during 1939 was 5,824 with a value of \$14,976,000, officials of the Home Loan Board said.

Savings and loan associations made 1,220 of these loans, or 20.95 per cent, valued at \$3,398,000; banks and trust companies made 1,951, or 33.5 per cent, valued at \$3,263,000.

(4) Source: J. G. Rice, First Savings and Loan Association, 1941.

Assets of the Western Building and Loan Association as of September 30, were \$478,815.03 as against only \$382,621.15 September 30, 1937, a gain of only a little short of \$100,000. During the twelve-month period, the association made 122 loans aggregating \$194,577.58 of which \$71,024.21 was construction of 28 new homes.

Association officers are Douglas H. Driggs, president; Van B. Brinton and J. Morris Richards, vice-president; and Junius E. Driggs, secretary and treasurer. Directors are the officers and R. H. Sainsbury.

Advent of the federal program in the field of savings and building and loan institutions here has brought renewed confidence resulting from the insurance of accounts and establishments of a large credit reserve through the Federal Home Loan Bank system, officials reported.

For the period of January 1, 1939, to and including December 31, 1939, there were 564 individual FHA Title II loans completed in Maricopa County, totaling \$2,064,500.00.

An FHA Title II loan is a single insurance mortgage loan permitting no secondary financing. The monthly payments, which include principal and interest, mutual mortgage insurance premium, fire insurance, taxes and paving, if any, make it easy for the mortgagee to be sure of his payment for shelter. The monthly payments in most cases do not exceed one-fifth of the mortgagee's monthly income.

During course of construction at least three periodic inspections are made by the architectural department of the FHA offices, thus insuring to the mortgagee substantial construction according to the plans and specifications as approved by the local FHA offices before construction is started. Other loan agencies in the Valley are the Farm Credit Administration and Emergency Crop and Feed Loans; represented by Mr. John Odell; National Farm Loan Association—Louis G. Galand; and Arizona Livestock Production Credit Association—W. Smith Pickrell, secretary-treasurer.

2. The growth in the financial standing of Phoenix banks is indicated in the following table:

**TABLE XXII.—DEPOSITS IN PHOENIX BANKS BY DECADES 1910-1940**

1910	\$ 4,302,736.00
1920	17,455,023.00
1930	33,368,685.00
1940	63,696,035.00

**TABLE XXV.—PHOENIX, TUCSON AND NOGALES ANNUAL DEBITS 1930—JUNE 30, 1940. (6)**

	Phoenix	Tucson	Nogales	Combined
1930	\$444,474,795	\$135,353,235	\$73,856,128	\$653,694,158
1931	355,359,428	123,985,090	55,852,490	535,197,008
1932	238,425,422	100,074,745	34,180,411	372,680,578
1933	218,330,959	78,982,415	21,456,554	318,769,928
1934	305,654,939	90,791,146	29,509,068	425,955,146
1935	361,300,835	104,698,855	37,450,086	503,445,776
1936	441,005,417	118,981,247	36,818,346	596,805,010
1937	516,966,412	146,502,886	37,367,940	700,837,238
1938	487,377,057	131,847,008	31,864,839	651,088,904
1939	508,657,387	138,948,381	34,533,840	682,175,608
1940	285,657,387	76,286,892		361,940,318

(first six mos.)

**TABLE XXIII.—CONDENSED STATEMENT OF RESOURCES AND DEPOSITS OF PHOENIX BANKS 1933-40 (5)**

	Resources	Deposits
December 30, 1933	\$23,409,247.00	\$19,529,386.56
December 31, 1935	45,246,829.04	40,971,387.79
December 31, 1936	55,820,802.64	50,732,812.71
December 31, 1937	62,470,252.45	57,130,662.65
December 31, 1938	66,412,938.11	60,754,558.35
December 31, 1939	68,978,495.09	63,059,536.02
June 29, 1940	69,670,905.42	63,696,035.00

Another means of determining the status of the banks in Phoenix is by examining the yearly totals of check transactions.

**TABLE XXIV.—CHECK TRANSACTIONS OF PHOENIX BANKS, 1926-1940 (5)**

1926	\$307,248,985.00
1927	333,502,219.00
1928	425,595,976.00
1929	523,529,493.00
1930	454,071,973.00
1931	386,089,379.00
1932	238,425,422.00
1933	218,330,959.00
1934	\$305,654,932.00
1935	361,300,835.00
1936	441,005,411.00
1937	516,966,913.00
1938	487,377,057.00
1939	508,657,385.00
1940*	285,653,426.00

\* First 6 months only.

Checking transactions on individual debits of Phoenix banks during the first six months of 1940 totaled \$285,653,426.00, for the corresponding six months of 1939 the figure was \$285,733,587.00. This meant a total income increase of \$25,919,839.00. The check transactions for the first half of 1939 over the same period in 1938 shows a gain of only \$7,645,946.00. Bank debits are regarded in financial circles as accurate barometers of business and industrial conditions.

Check transactions in Phoenix Banks in 1939, were reported by the Phoenix Clearing House Association as follows: January (four weeks) \$47,050,753.00; February (four weeks) \$40,739,620.00; March (five weeks) \$48,267,777.00; April \$39,365,841.00; May (five weeks) \$46,451,901.00; June (four weeks) \$37,857,695; July \$39,471,560.00; August (five weeks) \$40,297,608; September, \$33,663,886.00; October, \$38,023,222.00; November (five weeks), \$51,677,541.00; December (four weeks), \$45,789,981.00.

(5) Phoenix Clearing House Association, 1940.

(6) Source: Walter Bimson, Valley National Bank, 1941. December excluded since reporting service was discontinued November 30, 1939.

There is no central reporting agency for the State of Arizona nor for Maricopa County. There are now only two clearing associations in the state, viz., at Phoenix and Tucson. Nogales office was discontinued in November, 1939. The Phoenix association compiles debit figures only, whereas Tucson reports both debits and clearing house transactions. The latter figures run slightly higher than the debits.

The combined total for the three points probably exceed three-fourths of the state's total debits.

Phoenix debits are probably ninety-five per cent of the total Maricopa county debits.

There has been considerable consolidation in operating banks in Arizona in the decade 1930-1940. In 1930 there were 41 banks in Arizona of which 13 were national banks and 28 were state banks. On June 30, 1940 there were only 12 banks in Arizona, of which five were national and seven were state banks. Phoenix likewise has followed the same trend. Phoenix, in 1930, had six banks: three national and three state. On June 30, 1940, Phoenix had three banks; two national and one state.

Walter Bimson, president of the Valley National Bank, prepared a statement on the "Ability of Phoenix Financial Institutions to Underwrite Possible Expanded Commercial Industrial and Agricultural Needs" for this survey which follows:

"A statement on the ability of the financial institutions in Maricopa County, better still, Phoenix, to adequately meet the present and the prospective financial demands that may arise therein is presumably one stating their capacity to supply the necessary capital for agricultural, commercial and industrial operation and growth. As is well recognized there are two main types of capital needs. One is for permanent plant and improvements, that is, fixed plant, equipment, buildings, etc., the other is for current operations, that is, to carry inventories, move products, etc. Sources for supplying the two classes of capital differ.

"Phoenix is the financial capital of Arizona. This may be readily seen from the Table No. 1 showing the annual clearing house debits. As such a variety of private and public (Federal) financial institutions serving general and specialized services have been established there. Some of these have direct access to the nation's major capital markets.

"In the main up to about the beginning of the present decade, Arizona has been an importer of capital. Therefore, insofar as the anticipated ordinary long term private capital needs of Maricopa County are concerned, it is probably safe to say that these can be adequately met locally at comparable rates of interest suited to the time and purpose. Any extraordinary undertaking will very likely require some outside capital, but as indicated, local men and houses are in a position to advantageously tap the country's capital markets.

"The banks of Phoenix, whose function it is to provide short term or working capital, are fewer in number than at any time during the last decade. Nevertheless, the resources at their command are larger, individually and as a group, than at any time. One, The Valley National Bank, the largest in Arizona, comes nearest to operating a statewide branch organization. The second, The First National Bank of Arizona, is an affiliate of the largest branch bank operation in the United States. The third is affiliated with the First National Bank of Arizona. These

banks are in a situation similar to most banks in the country in that their available loanable funds have consistently and in considerable degree exceeded local demands. Hence each have extended their respective operations to include all types of consumer credits. It may therefore be categorically stated that the banks of Phoenix are in a position to directly undertake any immediately foreseeable increase in the demand for working funds arising from expanded operations in Maricopa County."

3. The 1940 census emphasized the competition between sales finance companies and bank holdings of retail installment paper. (6) Commercial banks hold four dollars or retail installment paper for every ten dollars held by sales finance companies. Sales finance companies during 1939 purchased nearly two billion dollars of retail installment paper from the sale to consumers of motor vehicles, household appliances, radios, oil burners, furniture and other merchandise. They held \$1,348,824,000 of this paper at the end of 1939. Holdings of automotive paper increased 25 per cent while other retail paper increased at about 3 per cent. The banks have definitely entered the consumer financing field especially since 1934. At the end of 1939 bank holdings of this class of paper totaled \$541,243,000 or 28.6 per cent of the combined holdings of bank and sales finance companies. Of the 13,493 insured commercial banks in the United States, some 10,381 reported that they handled retail installment paper. The retail installment paper held by banks at the end of 1939 was in practically the same proportion as the sales finance companies—71.6 per cent automotive and 28.4 per cent of the retail.

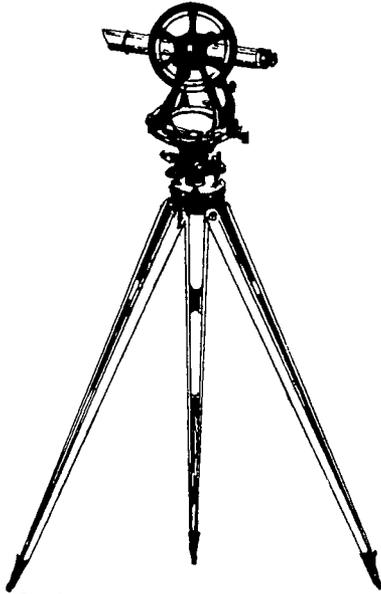


Goldwater Party Exploring Grand Canyon

(7) U. S. Department of Commerce 16th census of the U. S. Sales Finance Companies and Banks' Holdings of Retail Installment Paper for 1939.

## CHAPTER XVIII

# PROFESSIONAL AND SERVICE ORGANIZATIONS



**Civil Engineering Is A Popular Profession In Arizona**

Phoenix and the Valley of the Sun are attractive to professional men and women. The exceptionally mild climate and attractive features of this Arizona metropolis have made a very favorable impression upon the professional and occupational groups. They offer the highest type of services by worthwhile men and women representing a great variety of specialties in skills. Phoenix is not lacking in professional leadership. Many of its members hold offices in leading district, state and national societies and certain of them are well known throughout the country.

The schools and colleges from which the professional people of Phoenix and the valley are graduated will reveal that they are among the finest educational institutions in the country. Practically every professional man and woman in Phoenix has received a diploma from a recognized school or college. A board of examiners appointed by the governor has examined the professional candidates, making them successfully pass comprehensive examinations before licensing them to practice. This license is at all times subject to revocation if the ethics of the vocation has been violated. Phoenix is no longer the victim of unlicensed and unqualified charlatans.

There are 212 lawyers in Phoenix. The ministerial association is represented by 62 members.

Phoenix has 150 physicians, among these are seven ear, eye and throat specialists; one plastic surgeon; one bone and joint specialist; two skin specialists; two obstet-

ric specialists; four chest and lung specialists, and many others. Phoenix has five clinics and five hospitals. The hospitals include one maternity home and one sanitarium. There are 51 dentists in the city. Phoenix has 21 naturopaths, 10 chiroprodists and 19 chiropractors.

At the state hospital there are five doctors, two male nurses, twelve female nurses, and eight registered nurses. There are more than 100 trained nurses employed in Phoenix and there are 160 student nurses employed. Phoenix has ten optometrists. Some 140 doctors are affiliated with St. Joseph's hospital and 45 graduate nurses are employed. About 100 doctors are on the staff of the Good Samaritan, and it employs 18 graduate nurses and 50 student nurses.

Phoenix is the center of government operations of Maricopa county and for the entire state. Phoenix has 309 of the 577 employed, or 53.5 per cent of the executive state officers or members of boards or commissions in 1939 (1).

Of the 438 United States officials in Arizona, 38 per cent of them are located in Phoenix. There are 828 state employees, 664 federal employees, 615 city employees and 212 county employees in Phoenix.

Phoenix might be called the official headquarters for education, due to the fact that the superintendent of public instruction has his office at the capitol with his staff of school administrators. (2). There are 70 school administrators in the elementary school system of Maricopa county. Some 41 of these have an average salary of \$2,385. There are 29 women administrators who have an average salary of \$1,757. There are 734 class room teachers in Maricopa county. Of these 108 have an average salary of \$1,323; and 626 women have an average salary of \$1,191. There are 28 administrators in Maricopa county. Of these, 16 men have an average salary of \$2,939 and 12 women have an average salary of \$2,534. The high schools have 210 class room teachers. Some 101 of these are men with an average salary of \$1,802 and 109 are women with an average salary of \$1,658.

Maricopa county had 14,483 individuals engaged in industry and business in 1938. This figure included manufacturing, retailing, wholesaling, insurance, real estate, finance, mines and quarries, construction, hotels, etc. Some 2,208 individuals were employed in manufacturing in Maricopa county in 1935 as compared to 5,987 for Arizona.

There are 561 service establishments in Phoenix doing a business of \$5,010,000. These employ 1,616 people with annual salaries amounting to \$1,649,000. These service establishments include 70 barber shops; 19 barber and beauty shops; and 70 beauty parlors. The 159 barber and beauty shops do a combined business of \$750,000 and employ 446 individuals, including proprietors, giving them a salary of \$245,000. The 24 cleaning, dyeing, pressing and repair shops

(1) "Business and Professional Directory of Arizona," Phoenix Directory Company, 1939.

(2) Department of Commerce, Services by Income Tax Classes, September, 1937.



Preparing for Teaching at Arizona State Teachers College

and plants in Phoenix do a combined business of \$347,000 and employ 150 individuals with annual wages of \$92,000. The 10 funeral parlors and crematories do an annual business of \$237,000, employ 40 people with annual pay checks amounting to \$63,000. The 22 power and hand laundries in Phoenix do an annual business of \$1,022,000, employing 524 individuals with yearly wages of \$487,000. The 15 photographic studios do a yearly business of \$81,000 and employ 36 with an annual payroll of \$15,000. Phoenix has 45 shoe repair shops and shoeshine shops with a 12-month business of \$95,000, employing 71 individuals. The 49 business service establishments, including adjustment and credit bureaus, collection agencies, etc., do an annual business of \$893,000, employing 310 and pay salaries amounting to \$297,000.

Tempe was listed as having 19 service establishments doing a business of \$63,000. The Tempe establishments were directed by 20 proprietors who employed some 13 people with a payroll of \$14,000. (3).

Glendale had 29 service establishments with receipts of \$93,000, directed by 30 entrepreneurs. Some 17 employees were given salaries of \$14,000 in these Glendale service establishments. (4).

Mesa had 38 service establishments which did an annual business in 1939 of \$105,000. In addition to 39 proprietors there were 17 employees who received annual wages of \$19,000. (5).

The remainder of Maricopa county had 173 service establishments doing an annual business of \$753,000. These were run by 177 proprietors who employed 175 additional employees for \$169,000 in wages. To summarize, Maricopa county has some 820 service establishments operated by 842 active proprietors, which do an annual business of \$6,024,000. Some 1,838 employees are employed by them with an annual payroll of \$1,865,000. Phoenix by itself did 83.2 per cent of service establishment business in 1939. Phoenix also did 47 per cent of the total service establishment business in Arizona in 1939.

Tucson with 239 service establishments had 1939 receipts of \$1,909,000. Some 238 active proprietors directed them, and employed 662 workers for \$638,000.

There were 300 service establishments in Arizona in 1939 as compared with 302 in 1935. However, 1939 receipts amounted to \$812,000 as compared to 664,000 in 1935. In 1939 Arizona service establishments were directed by 314 active proprietors who employed 238 employees with a payroll of \$224,000. In 1935 there were 305 entrepreneurs hiring 273 workers with a payroll of \$217,000. (6).

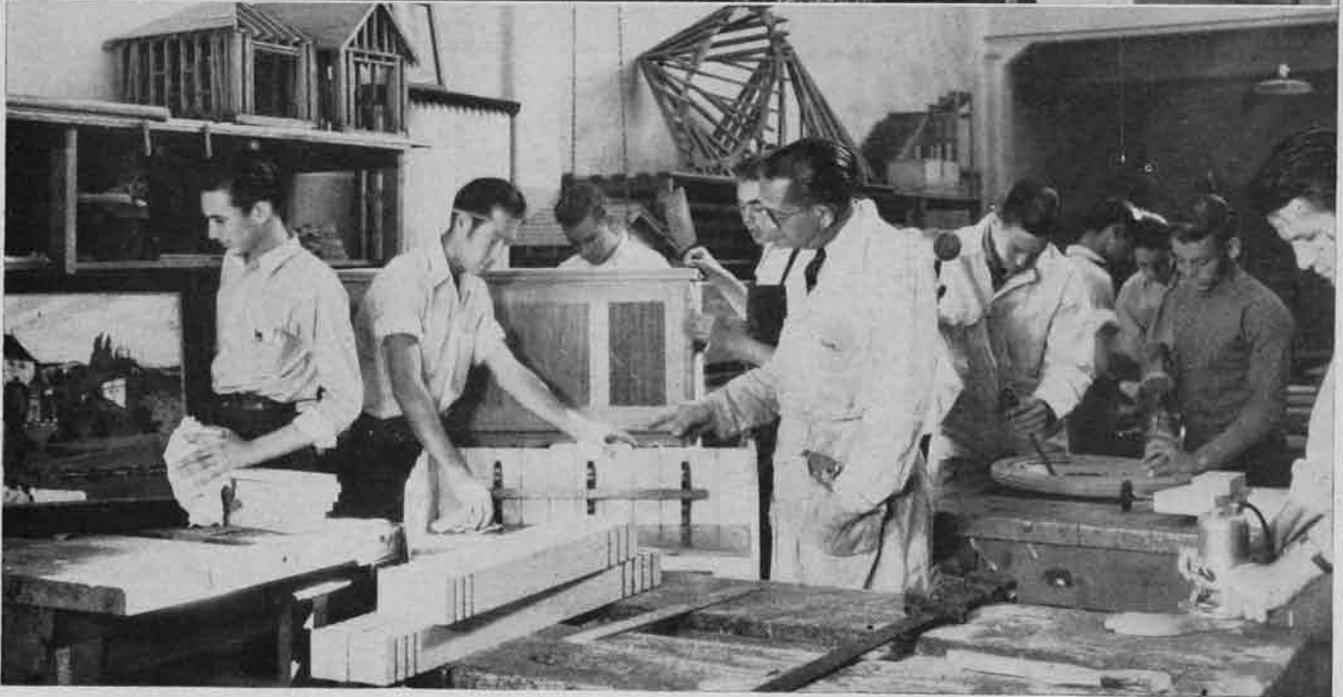
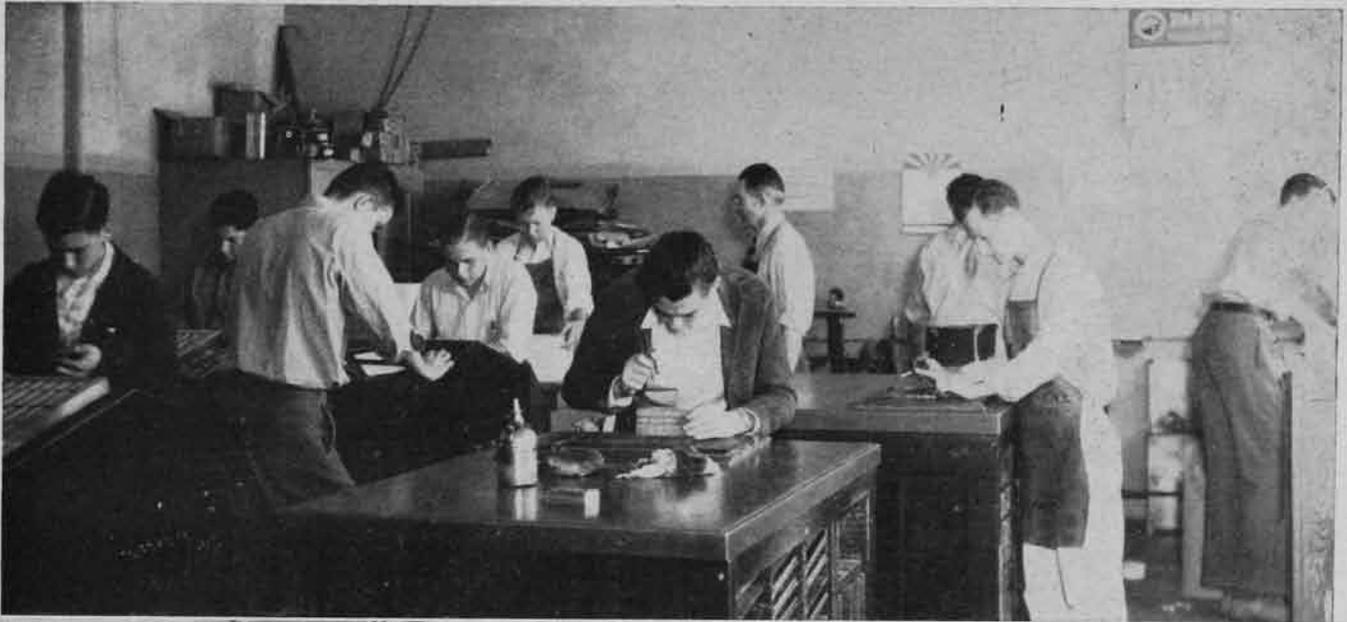
In taking a cross-section of society in Phoenix by income tax returns, we find the following data: Some 6.4 per cent had no income; 20.1 per cent had an income of less than \$500; 21 per cent had an income of \$500 to \$999; 20 per cent from \$1,000-\$1499; 14.6 per cent from \$1500-\$1999; 9.7 per cent from \$2000-\$3000; 5.8 per cent from \$3000-\$5000; 1 per cent from \$5000-\$7000; 0.8 per cent from \$7000-\$10,000; 0.4 per cent from \$10,000-\$15,000; and 0.2 per cent

(3) U. S. Department of Commerce: "Service Establishments, 1939", p. 4. Bureau of the Census: 1940.

(4) Ibid, p. 4.

(5) Ibid, p. 4.

(6) Ibid, p. 4.



Students at Work in Vocational Training at Phoenix Union High School

over \$15,000. Some 67.5 per cent of Phoenicians received an annual salary of less than \$1500; some 30.1 per cent received between \$1500 and \$5000; while 2.4 per cent received salaries of \$5000 or over. (7). Phoenix is continually setting up higher standards for its business and professional classes. It is definitely the central integration point for

major state and federal officials and has some of the leading figures in the legal, medical, religious and educational fields within its midst. Some of the outstanding writers, authors, musicians, actors and professional people with great ability have made Phoenix their home. Phoenix is an attractive center for qualified professional people.

(7) This material may be found in the September 1937 issue of the Department of Commerce publication Consumer Use and Services by Income Tax Classes.

## CHAPTER XIX

# BUILDING AND CONSTRUCTION

Phoenix has 20,453 dwellings according to the 1940 building survey made by the United States government. Of these 19,040 or 93 per cent were occupied. Only 1,413 or 6.9 per cent were vacant. The same 1940 survey indicated that Tucson had 10,854 dwelling units, of which 9,927 or 91.5 per cent were occupied and only 927 or 8.5 per cent were vacant.

It was found that there were 53,953 building units in Maricopa county of which 49,831 or 92.4 per cent were

occupied, leaving 4,122 or 7.6 per cent vacant. Some 37.9 per cent of all dwellings in Maricopa County are in Phoenix. In terms of occupied dwellings, some 38.2 per cent were in Phoenix.

During 1940 it was found that there were 146,078 dwelling units in Arizona, of which 130,020 or 89 per cent were occupied. Likewise 16,058 or 11 per cent of the dwellings were vacant.

**TABLE XXVI—TOTAL DWELLING UNITS, OCCUPIED AND UNOCCUPIED IN ARIZONA BY COUNTIES, 1940 (1)**

County	Total	Occupied	Vacant	Per cent
	146,078	130,020	16,058	11.0%
Apache	8,011	5,192	2,819	35.2%
Cochise	9,904	9,178	726	7.3%
Coconino	5,396	4,477	919	17.0%
Gila	7,138	6,578	560	7.8%
Graham	3,030	2,850	180	5.9%
Greenlee	2,236	2,166	70	3.1%
Maricopa	53,953	49,831	4,122	7.6%
Mohave	3,023	2,640	383	12.7%
Navajo	7,701	5,865	1,836	23.8%
Pima	21,281	19,093	2,188	10.3%
Pinal	7,091	6,876	215	3.0%
Santa Cruz	2,634	2,384	250	9.5%
Yavapai	9,249	7,802	1,447	15.6%
Yuma	5,431	5,088	343	6.3%



**Industrial Arts Building, P.U.H.S.**

(1) Arizona Housing Units, Sixteenth Census of U. S. No. H. 20, Department of Commerce, September 28, 1940.



Building and Construction in Phoenix

Residential construction has continued in Phoenix at high tempo in 1939, 1940 and 1941. Many new sub-divisions have been added to the city area. Contractors and realtors have built modern homes representing a wide range in price level in the new areas. In 1940 building residential permits totaled 494 with an aggregate value of \$1,709,075, and 64 building business permits amounted to \$688,795. Value of all 1940 permits was \$3,801,075. Construction in

metropolitan areas outside the city limits was estimated in 1940 at \$2,500,000. The slum clearance project amounted to \$1,750,000 but was not included. Both Indian and Spanish influence was noticed in the construction. Thirty-seven residential permits in January 1941 were valued at \$125,750. Total January 1941 building permits amounted to \$151,640.

Year	Residences		Business		Valuation Total (5) Permits
	No. New (3)	Valuation	No. New (3)	Valuation	
1917	107	\$ 220,810	53	\$ 415,896	\$ 713,428
1918	177	368,693	28	229,640	734,981
1919	453	1,050,372	85	731,665	2,368,950
1920	821	1,619,561	97	1,090,249	4,542,099
1921	343	890,029	74	318,020	1,779,373
1922	161	474,059	160	498,796	1,779,037
1923	189	685,874	49	745,293	1,841,243
1924	306	1,079,121	78	494,114	1,903,648
1925	463	1,637,207	33	241,244	3,106,722
1926	363	1,264,474	38	274,790	2,637,124
1927	405	1,232,420	61	695,163	5,652,115
1928	451	1,548,632	97	749,903	5,999,465
1929	501	1,581,587	134	910,400	5,248,674
1930	209	725,100	81	233,105	3,001,066
1931	135	550,310	32	193,775	2,125,343
1932	46	161,867	25	55,305	392,411
1933	11	46,050	10	137,725	330,319
1934	19	47,280	24	58,260	310,959
1935	49	218,195	39	136,075	1,140,145
1936	189	814,075	26	190,750	1,531,661
1937	185	767,570	39	691,841	2,054,350
1938	345	1,348,625	37	328,415	2,759,361
1939	495	1,808,525	53	468,558	3,935,439
1940	494	1,709,075	64	688,795	3,801,075
1941 (January only)	37	125,750	4	2,750	151,640

#### HISTORY OF BUILDING AND CONSTRUCTION IN PHOENIX

Building and construction in Phoenix (5) goes back to 1867 when Jack Swilling, confederate leader, built the first canal from the Salt River into what is now Phoenix. He formed the Swilling Irrigation Canal Company. In 1868 Jim McKinney and John Alvany built a two room structure in which they started a saloon and a small eating house. In 1869 construction was begun on the Bechard Flour Mills, the first steam mills in the Salt River Valley, which were located at the present site of the Luhrs Tower. On October 20, 1870 the townsite of Phoenix was laid out. W. B. Hellings located his store and mill on section 1; Captain William Hancock surveyed the town, laying it off in blocks. Judge Berry of Prescott, paid \$116 for the first town lot on the southwest corner of First and Washington Streets. Sixty-one lots were sold at an average of \$48 each. The first store was made of adobe and belonged to William Hancock. The Hayden Flour Mill was built near Phoenix and the Tempe canal was also dug in 1870. The first hotel and saloon was opened by Joe Thalheimer. A brewery

was built. William Smith opened the first store in Phoenix in July 1871. Work commenced on the Central Methodist Church building and Phoenix first county court house were erected at a cost of \$900 by Captain Hancock and Jim Monihan.

In 1872 Phoenix was a flourishing village consisting of 3 stores, a brewery, 3 saloons, a school, 2 boarding houses, 2 blacksmith shops a large number of private dwellings, corrals, a county jail and a county court house.

Phoenix continued to grow. Between 1900 and 1910 the citizens of Maricopa county were concerned with the building of a major bridge. Tempe and Mesa wanted the bridge to be built on the Tempe road. Phoenix favored the South Center Street site. The contractors submitted plans for what was then said to be the longest concrete bridge in the world. On April 7, 1909 Phoenix citizens subscribed \$50,000 for the bridge. In the June election the Center Street faction won. Tempe citizens started planning for a bridge of their own.

(2) Phoenix City Hall, February, 1941.

(3) This does not include hotels, apartments or courts, nor does it include any repairs, additions or alterations to old residences.

(4) This includes all building permits issued for new buildings and for repairs, additions and alterations to old buildings.

(5) See Chapter I, Milestones of Progress.

The first brick building in Phoenix was used by William B. Hooper and Company as a wholesale liquor house on the corner of Jefferson and 2nd streets. (6). This time all other buildings were of adobe as lumber was scarce and expensive.

Another building boom was started in 1920. Some of the addition to the hospital included. A hospital valued at \$36,500; a new school building, a hotel, and two additions to public schools. Building permits amounted to \$4,542,099.

Phoenix was in the midst of her greatest building activity in 1920. Permits were issued for 1,080 public buildings. These included garages, a church, and a department store. The church edifice was estimated to cost \$125,000. A business building was estimated to cost \$44,469. Fifteen residences were under construction, a ware-house was built; eight business blocks were improved.

Some of the important buildings built between 1920-1930 were: Heard Building, 1919-20; J. W. Walker, 1920; Ellis Building, 1922; Luhrs Building, 1923, \$400,000; Mountain States Telephone, 1927; Newberry, 1927; Security, 1928, \$462,000; St. Joseph's Hospital, 1927, \$115,000; Orpheum Theatre, 1928, \$220,000; High School Stadium, 1928, \$100,000; Emerson School, 1928, \$107,300; High School Buildings, 1928, \$442,976; Junior College, 1928, \$127,000; State Office 1929, City County Building, 1929, \$1,063,528; Baptist Church, 1929, \$170,000; Phoenix National Bank, 1929, \$100,000; Terminal Market, 1929, \$110,000; Good Samaritan Hospital, 1929, \$180,000; Firestone Building, 1929; Grunow Memorial Clinic, 1929, \$112,000; Luhrs Tower, 1930, \$238,000; Korrick's (annex), 1930, \$200,000; Biltmore Hotel and improvements, 1930, \$2,000,000.

Del Webb, Phoenix contractor, summarized the last decade (1930-40) of building and construction in Phoenix and the valley for this survey as follows:

"The early part of 1930's not only coined a new word in politics, but changed the whole method of construction as we knew it previous to the New Deal. From the time the Republic was founded up to 1932 construction was financed wholly through private capital, banking organizations and building and loan associations. Starting in 1933 the government actively entered into the field of construction through its various agencies such as P. W. A., W. P. A., F. H. A., H. O. L. C., C. C. C., and R. F. C. These agencies through the medium of loans and grants to municipalities and school districts placed construction almost wholly under supervision of the federal government. These activities ranged from huge Reclamation projects involving expenditures of hundreds of millions of dollars to small home additions under the Home Owners Loan Corporation. Construction is no longer a private enterprise but rather a subsidiary of the federal government. A typical example of this is the huge expansion program at the Arizona State College of Tempe, the University of Arizona and the State Teachers College at Flagstaff.

"With the rapid growth of the Salt River Valley, residential and business construction is moving forward at the fastest pace in the Valley's history, even during the so-called boon days prior to 1930. It is the concensus of opinion that this is due to sound economic conditions and good business.

"The fact that no registration is required for building permits beyond the limits of the incorporated cities makes it difficult to determine the approximate amount of money spent in the Valley for construction, but in Phoenix alone, the building permits show that over 15 million dollars has been spent in the last ten years. This figure does not

include the many subdivisions just outside the city limits and therefore shows but a fraction of the total investment. No accurate check has been made to date in the suburban residential areas around the Valley, but authorities are convinced the volume of residential construction is at least equal to and in all probability surpasses, that of the City.

"Air-conditioning apparatus has enabled Phoenix to meet and conquer the summer heat, long the bane of the southwesterners existence. Thus gaining the uncontested title of "the air-conditioned capital of the world," and placing our buildings among the better type of modern structures. The hotels have kept pace with the cities and remodeled or rebuilt as the need demanded. In most instances all of the building has been in keeping with our scenic beauty. The Mexican and Indian architecture predominates with a recent trend toward the pueblo type. We also note the straightforward functional architecture of the many handsome downtown business buildings. Yes, great progress has been shown in building and construction in Phoenix and the Valley of the Sun the past ten years and we are still building. New structures are going up and new construction is under way. Office buildings, homes, schools and churches are being built in all localities and much more construction is already planned or contemplated. That miraculous bird, the Phoenix, the embodiment of the sun god who arose in youthful freshness from its own ashes may look down with pride upon its namesake, Phoenix, and upon a Valley that was dominated by the arid desert, but who like the Phoenix bird arose from the desert and blossomed into a fertile, prosperous valley.

Phoenix is also bettering her fine system of city streets. The city recently completed an extensive street improvement program financed under the State Improvement Act assisted by P. W. A. grants. The total cost of this first program was \$439,965 and involved the paving and improving of approximately 9.39 miles, or 120 blocks. In addition to this street paving 76,269 feet of curb and gutter, and 223,143 square feet of sidewalk were laid. In addition to these fundamental portions of the job, all incidental work, such as driveways, drainage, street signs, fire hydrants, etc. were installed.

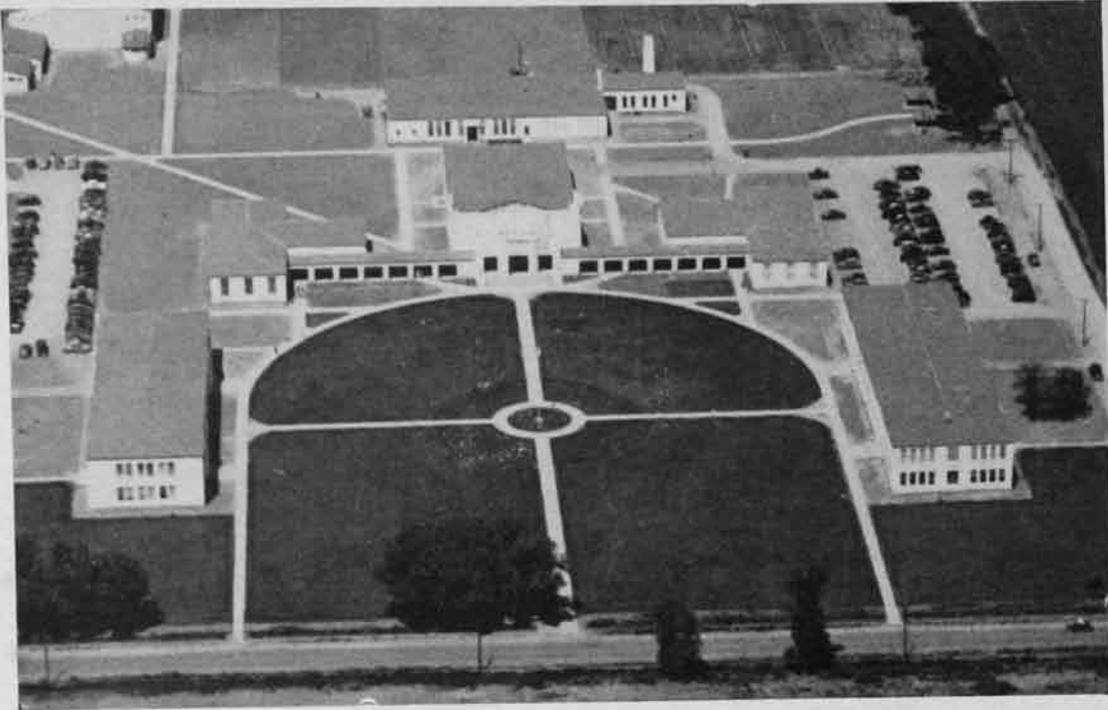
Since the arrival of the P. W. A. additional allotments have been made to Phoenix for another program which will cost a total of \$788,500 which resulted in the improvement of 14.8 miles of streets.

Much of the new paving is of an improved asphaltic type, and was built at extremely low cost. The gross cost of the projects has ranged from 60 to 70 per cent of the similar work done previously.

At the present time the city of Phoenix has 152 miles of paved and surfaced thoroughfares and 33 miles of un-surfaced roads, within the city limits that are in use. The estimated investment represent in paving in use here is more than \$7,500,000.

The city commission of Phoenix approved and adopted a comprehensive building code on July 13, 1935. It concerned the minimum standard governing the construction, erection, altering, repairing, remodeling, rebuilding, moving, demolition, operating, maintenance, and inspection of all buildings and structures, appurtenances thereto in the city of Phoenix and provided for their safety when erected. It classified the building permits for residential and business construction and the defining of fire hazards, etc.

(6) It is known as the Afro M. E. Church.



Aerial View of Phoenix Junior College

Phoenix is proud of her many fine buildings, such as the Title and Trust Building. Each year some are added, helping to build a greater Phoenix.

Other buildings which are included in Phoenix's ever growing skyline are the Maricopa County Court House and Phoenix City Hall the new \$1,000,000 United States Post Office, the Arizona State Capitol and numerous department stores.

With the aid of the Federal government the state of Arizona has rebuilt its Fair Grounds in Phoenix into one of the most modern and complete in the west. The cost of rebuilding was over \$1,000,000 and all work was done by the Works Progress Administration.

Phoenix Junior College and North-Phoenix High, both on Thomas Road were built at a combined cost of approximately \$1,500,000. North Phoenix High School was constructed at a cost of \$814,000 as a P. W. A. project. The architecturally planned landscape and the setting are unusually beautiful. The plant consists of a liberal arts and library building, a gymnasium, science building, stadium, cafeteria and an auditorium. The Phoenix Junior College has a beautiful setting on Thomas Road overlooking Encanto Park. Its buildings are in line with the best of modern architecture. Three major edifices were added to the business district in 1940. These were the new Montgomery Ward, Porter's Saddle and Harness Company, and the Sears Roebuck Buildings. Food Town was added to the list of large Phoenix groceries. The Arizona Grocery Company also built the second of four contemplated Safeway stores.

Building and construction is Phoenix's largest business. From 20 to 25 per cent of the total employed population is

directly or indirectly related to the construction field. Phoenix has been made headquarters by many architects, contractors and roadbuilders which operate not only in and around Phoenix but all over the entire Southwest.

Phoenix has 20 dealers in building materials, some dozen firms in air conditioning and 9 contractor equipment dealers. Phoenix itself has 35 or more contractors and 12 architects. It has 90 or more dealers in real estate. This partial list indicates the tremendous scope of this field.

The original normal building at Arizona State Teachers College was built in 1885-86 at a cost of \$7,249. The college has grown progressively with Phoenix and the Valley of the Sun. Old Main was built in 1894-99 at an original cost of \$44,071. Since that time approximately \$10,800 has been spent improving Old Main. The original architects were Fred Heilein and W. A. McGinnis. Alpha Hall was started in 1902 and the second half added in 1927-28, the total cost amounting to \$48,000. East Hall was started in 1903, president's residence, 1907; Science building, 1909; auditorium, 1910. Gradually the campus at Arizona State Teachers College was built. The Arts Building was constructed in 1914 at a cost of \$103,375. In 1916 the infirmary was built and another dormitory. Matthews Hall was finished in 1918. The men's gymnasium was constructed in 1927-29 at a cost of \$98,738. Matthews Library was started in 1929 and additions were made in 1936. The total cost amounting to \$242,075.

The student body was growing and there was a great need for dormitories. West Hall was built in 1936 as a modern women's dormitory and cost \$158,752. The old wood stoves would no longer heat the big buildings so a new heating plant was installed for the entire campus at a cost of \$81,000. The Stadium and Industrial Arts Build-

ing were also built at a cost of \$89,465. It seemed advisable for the women to have a gym and social activity room of their own. The Moeur Activity Building was built in 1937-39 at a cost of \$155,220.

Dr. Grady Gammage's career at the Arizona State Teachers College has been marked by continued building and construction. Governor B. B. Moeur, Rawleigh Stanford, together with Senator Carl T. Hayden and Representative John Murdock with the cooperation of the state W. P. A. and federal funds did much to make this building and construction program possible. The Lyceum was erected in 1939 at a cost of \$48,000. The college farm and N. Y. A. building in 1939 was necessary for the functional growth of the Agricultural Department and were built at a cost of \$57,000. In 1940 the Home Management and Nursery building was built, at a cost of \$45,000. Construction, alone from 1885-1940 curtailed an expenditure of \$1,672,812. (7).

### PHOENIX HOUSING PROJECT

Because of the excellent climate people from all walks of life have come to Phoenix and the Valley of the Sun. Many of these individuals had just enough to get to Phoenix without any employment, as the picture "Grapes of Wrath" suggested.

Phoenix had shockingly disgraceful slum areas, until recently. The slums created a public health menace as a breeding place for disease. They fostered juvenile delinquency and created social problems that affected the entire community. They discouraged the development of areas in which they were situated and tended to serve as a serious drain. They were a challenge to persons who recognized their duty to their less fortunate brothers.

In some areas, three or four persons lived in single-roomed shacks which had only dirt floors and no modern sanitary conveniences. These dwellings were called home by many. Children grew up in them. Because of the deplorable conditions found in these dwellings children did not care to sleep in them but would rather sleep wherever they could find a place or else wander around as vagrants doing nothing or getting themselves into trouble. Clearance of these areas has helped to eliminate a breeding place for juvenile delinquency.

Father Emmett McLaughlin, member of the housing committee of the city of Phoenix, reported (8) in June 1939 that: 4065 houses were visited in the so-called slum areas, of which only 289 could be classified as standard homes. The others were classified as sub-standard, having no utilities or being ramshackle and fire hazards.

As an example of how this work was carried out; a man took one block in which he found only two houses having running water; only one with an inside toilet; and one outside toilet used by 24 families. Only seven houses had electric lights.

Of the 4065 houses visited, 1166 were occupied by white families, 1566 by Mexicans; 912 by Negroes; and 60 miscel-

laneous races, such as Chinese, Japanese, Indians, etc., 361 were vacant houses.

Deducting the vacant and the personally owned homes, the slums clearance survey showed:

In 194 homes, the family income was less than \$20 a month; in 601 homes it was less than \$40 a month; in 881 homes less than \$60 a month.

Under the Housing Act passed by the 14th Arizona State Legislature, only those whose earning power is \$400 annually or not in excess of \$1100 annually would be eligible for occupancy of homes erected by the Phoenix Housing Authority. The plan follows closely that of the Federal Housing Act.

Some 500 small homes rather than apartment type buildings were built. The rent, including all utility costs, averaged about \$3.50 per room with no charge for bath room, service porches or halls. Under this plan, a five room house would rent for \$17.50 a month.

In a survey of 64 cities made in 1934 including Phoenix, it was found that in Phoenix 18.1 per cent of all dwellings either needed major repairs or were unfit for habitation; 16.7 per cent were more than 40 years old; 20.6 per cent rented for less than \$15.00 per month; 16.8 per cent were over crowded; 8.1 per cent lacked gas or electricity; 5 per cent had no running water; 13 per cent had no private indoor water closet; and 20.2 per cent had neither bath nor shower.

In 1940-41 the vast sum clearance was nearing completion under the supervision of the Phoenix Housing Authority, which received 90 per cent of its finances from the United States Housing Authority. The program involved three tracts which will provide new and suitable quarters for 600 families and represents an investment of \$1,700,800.

One of these units is the Mathew Henson project of 157 family units for colored persons. It covers two city blocks between 7th and 9th Avenue and Tonto and Sherman, providing space for children's playgrounds and recreation areas. The slum clearance program sponsored by the Phoenix Gazette accounted for \$1,079,546.

The Marcos de Niza project will provide for 225 dwellings for Spanish-American families. It is located between Yavapai and Pima Streets; Harmon Park and First Avenue. The Frank Luke, Jr. project will provide for 176 residence units for white families and is located between 19th and 20th streets; Villan and Highland Streets. The three projects will all consist of one-story units with masonry walls and tile roofs, concrete floors and sash steel windows. All units will have electric lights and running water, complete with utilities including; gas-stove and electric-refrigerators in kitchen, a bathroom and a stationary tub. The grounds will be landscaped; the streets and alleys paved; sidewalks laid and definite areas set aside for recreation. From 400 to 600 men will be working steadily until July, 1942 when the project will be completed.

(7) Dr. A. J. Matthews, President Emeritus of A. S. T. C., Tempe provided data on Arizona State College.

(8) Junior Chamber of Commerce in Phoenix Bulletin.



Matthews Library at Arizona State Teachers College

#### RESIDENTIAL BUILDING

Residential building in Phoenix has been steadily increasing since the quiet years of 1932-33 and during 1940-41 hit a particularly accelerated stride. Many of these new homes have been financed through the help of the Federal Housing Administration.

The F. H. A. has also been instrumental in refinancing, repairing, and modernization of a large number of homes since its establishment four years ago. Phoenix's record is clear of any foreclosure of an F. H. A. approved project because of failure to pay interest or principal on the loan. Phoenixians are now building better homes than they did several years back. The average cost per new residence constructed in 1920 was approximately \$1,973. This is compared with the average of the first 10 months of 1938 of approximately \$3,760.

Phoenix is a winter resort, and many small houses are constructed to accommodate winter visitors at a price they are willing and able to pay. This of course brings down the average cost per residence built. However, during the

past few years there has been a definite trend to the \$5,000 and \$10,000 residences in Phoenix.

Scores of Easterners, coming to Arizona for a brief vacation, become so infatuated with the land that they tarry for an entire season and finally establish a permanent residence here. Each year, the population of Phoenix and other Arizona cities is composed of a larger proportion of permanent residents, as transients become converted to permanent Arizonans.

Practically all new structures, and many old ones in Phoenix have been equipped with air conditioning units for summer and winter. Air conditioning has done many things for Phoenix aside from giving it world leadership in summer comfort per capita. Air conditioning has added a new and bustling industry to the city and has resulted in an investment of nearly \$400,000 as of November 1, 1938. It has increased the "livability" of residences and other buildings. It serves to promote and safeguard health. It stimulates business during the summer months. It increases productiveness of office employees some 20 to 25

per cent. Air conditioned office buildings are more economical to rent.

The city of Phoenix has a modern and very strict building and construction code, which sets up certain minimum requirements which every building must meet. This code covers all sewage, electrical, water, gas, and plumbing connections as well as many building requirements which are too numerous and technical to enumerate here. In connection with these requirements the city maintains a crew of building inspectors which condemn all buildings which do not meet requirements.

The mild climate of Phoenix permits the widest possible variety in architectural construction which builders and architects have been quick to recognize and take advantage of in their plans. If a flat roof or a sundeck is desired there is little need to worry about it having to carry a load of wet snow in the winter. If a tile roof is what the home owner wants he does not have to fear that the frost and wet will creep between the laps and crack off the covering. (9).

There is no great predominance of one architectural style over another in the metropolitan Phoenix area. Great stress has been laid on its beautiful homes—native, south-western and Spanish design, but alongside may be modernistic structures equally attractive. Most Phoenix homes have painted brick or frame stucco walls on a concrete foundation. The floors are of hardwood and most houses are covered by a wood shingle roof. Dwellings set in a desert surrounding usually have unsurfaced adobe walls, which is native to the Arizona deserts and which harmonize so successfully with the terrain about the home.

The one-story structure predominates, because there is little reason for building a second-story when there is plenty of room to spread out. Almost every home in Phoenix and in the Valley of the Sun has an "outdoor living room" which is used the year around. A patio, large or small, is an accepted part of Phoenix homes. In such an enclosure many comfortable hours can be spent under the winter sun and refreshing summer breezes can be fully enjoyed under a clear moon and starlit Arizona sky.

The valuation of business building permits for Phoenix hit its all-time high in 1920 at \$1,090,249. Since 1932 there has been an almost steady rise in the valuation of new business building permits. It must be remembered that these figures do not include permits for hotels, courts, and apartments or alterations, repairs and additions to business buildings.

These residents build for themselves homes which match the luxury to which they are accustomed. Consequently, Phoenix has an unusually large percentage of splendid private homes for a city of its size.

These homes, which line the city's magnificent streets, frequently take their architectural inspiration from Arizona and its historical background. Many are adaptations of Spanish dwellings, while others gain their motif from

the Mexicans or the Indians. Invariably, these homes take advantage of Arizona's climate by including patios, which all year around become the center of family activity. These lavish private homes, gorgeously landscaped and adorned by lush floral growth, add immeasurably to the beauty of Arizona.

#### MOTELS AND HOTEL LIFE

There are some 161 officially registered motels in Phoenix and immediate vicinity, not to mention many more outside the city limits. A tally was made of the motels between Phoenix and Tempe. It was found that there were 60 motels or auto courts on Van Buren alone and 19 on Washington street. The auto courts on Van Buren were rated as follows: Excellent, 3; very good, 4; good, 10; fair, 24; poor, 19. Of the 19 on Washington street only 1 was rated as good, 12 as fair and 6 as poor. Phoenix is the motor court and motel capital of the world.

The people who winter in the Valley of the Sun are discriminating people, accustomed to luxury and service. To house them comfortably and pleasurably, there has grown up in the vicinity of Phoenix a cluster of hotels which rank among the country's finest. Leading among them are the Arizona Biltmore, San Marcos Hotel and Bungalows, Camelback Inn, The Wigwam, Jokake Inn, Hotel Westward Ho, Remuda Ranch, Monte Vista Ranch and Kay-El-Bar Ranch.

Naturally, these hotels offer their guests every possible convenience of metropolitan hotel life—well-appointed rooms, an excellently-trained staff, and a superb cuisine. What is more important is that these hotels keep in mind constantly that their guests have come to Arizona to rest and to play—and above all, to be in the sun.

They are equipped with facilities for all outdoor sports—swimming pool, golf course, tennis courts, etc. They have beautiful patios in which the guests may lounge all day—in which they may even eat their meals. Many of the hotels have individual bungalows on their estates so that families may winter in Arizona in complete privacy. Several of the hotels have been organized as dude ranches where informality prevails, and guests are encouraged to rough it, with the assistance of authentic cowboys who are staff members.

Major hotels in Phoenix have a capacity of 1,518 rooms, as follows: Adams, 350 rooms; Arizona, 150; Ford, 60; Jefferson, 125; Kimball, 30; Luhrs, 150; San Carlos, 175; Savoy, 75; State, 53; and Westward Ho, 350. Small hotels in Phoenix would add some 33 additional rooms. Resort hotels have the following capacity: Arizona Biltmore, 250 rooms; Camelback Inn, 76; Ingleside Inn, 50; San Marcos, 135; El Portal, 54; Casa Loma, 42; Wigwam, 75; and Jokake Inn, 85. Guest and dude ranches provide an additional 100 rooms.

#### FEDERAL AID IN COUNTY CONSTRUCTION

The federal government has greatly aided Maricopa County since 1935 in the construction of highways, roads,

(9) Excellent Accounts of modern architectural trends are to be found in the Arizona Republic and Phoenix Gazette, published by the Arizona Publishing Company in Phoenix, Arizona.

streets, and other transportation facilities. Following is a summary of physical accomplishments by the Works Projects Administration from July 1, 1935, to January 1, 1940, (10).

More than one-fifth, or 335.7 miles, of the total of 1,714 miles of highways, roads and streets which have been built, reconstructed or improved throughout Arizona, are within Maricopa County.

Of the total miles of new and improved country roads, which is exclusive of work done in the county by the State Highway Department, 219.4 miles are rural farm-to-market roads, developed principally to facilitate the transportation of agricultural products and transportation in the mining and livestock industries. The figure includes 44.9 miles of city streets and alleys and 71.4 miles of roadways in parks and other areas.

Typical of the WPA county-wide highway improvement program is the widening and surfacing of South Central Avenue for a distance of five miles, from the bridge across the Salt River to the South Mountain Municipal Park. This road, from the bridge to the Baseline Road is 40 feet wide, which provides greatly improved facilities for the flow of heavy traffic.

Another typical section of highway improvement ac-

complishments in the county are the accomplishments at Phoenix Sky Harbor, where the 322-acre field is ready under specifications of the U. S. Bureau of Commerce. A runway 4,000 feet long and 150 feet wide was constructed, with a high type surfacing, and ramps from the runway to the hangar and terminal building were constructed with 23,034 square yards of high-type surfacing. The project included flood-lighting the landing field, for which ten large floodlight standards were erected, and an addition was built to the administration and terminal building.

Contributions to traffic safety in the county program were the erection of 1,054 traffic signs, and the painting on the highways 45 miles of traffic control lines.

New bridges numbering 58 were constructed across canals and irrigation ditches, 44 of which are of concrete or other masonry, 11 of steel and 3 of wood. Illustrative of the concrete masonry bridges is that constructed across the Grand canal at 32nd and East Van Buren streets, which serves traffic from four directions.



**Arizona Highways Are Among the Best in the Nation**

complished with WPA labor is the widening and paving of U. S. Highway 89, along East Van Buren street from Sixteenth street to the Tempe bridge, a distance of six and one-half miles. The route in this area was widened to 56 feet, to provide for four lanes of traffic, and along the entire distance curbs, gutters and sidewalks were installed.

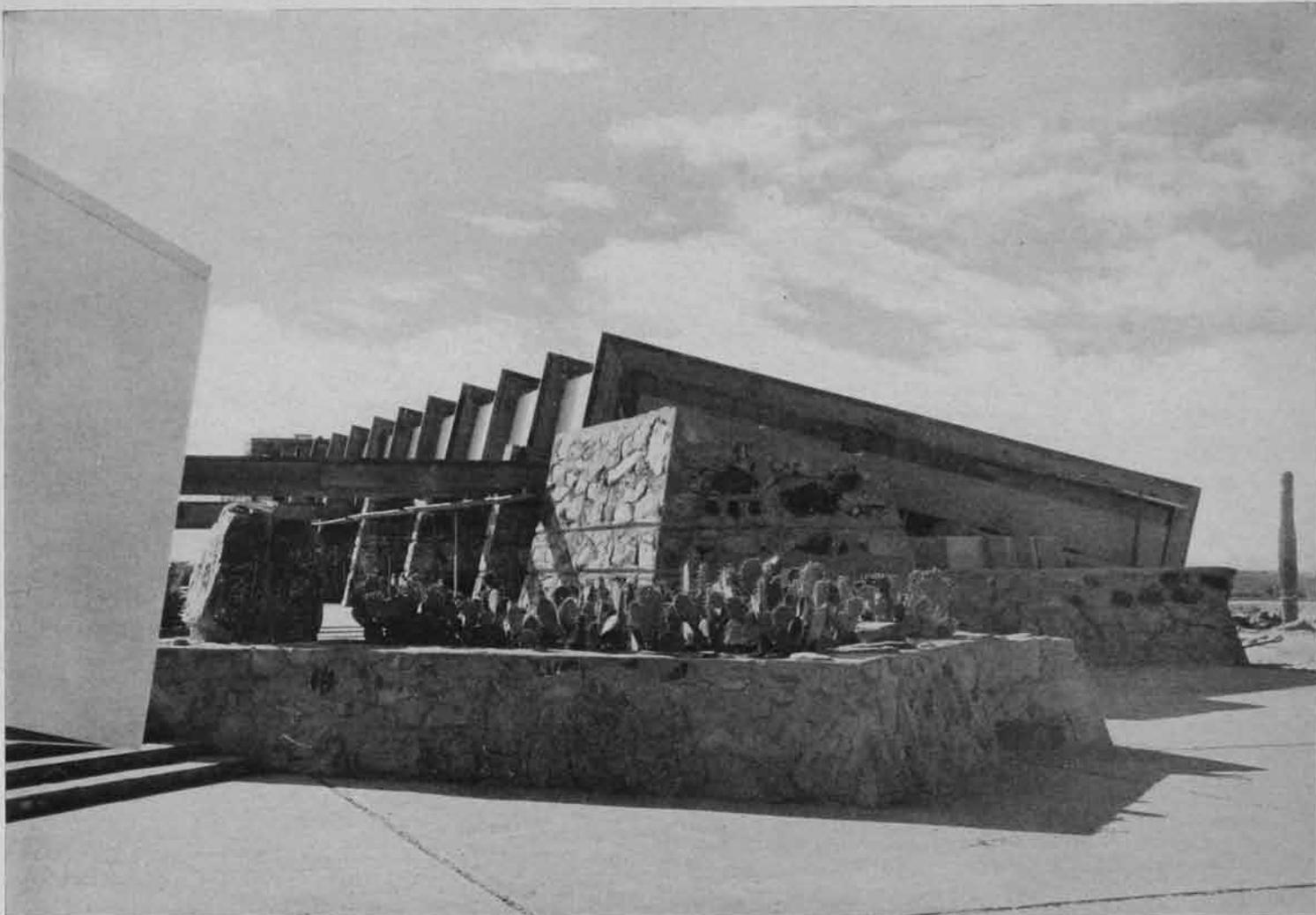
Among the WPA contributions to improved transpor-

Other accomplishments include the construction of 1,993 culverts and 28.3 miles of new roadside ditch and drainage systems and the reconstruction of 14.5 miles; the laying of more than 80 miles of sidewalks, 77 miles of which have high-type surfacing; the building of 58.1 miles of curbs and five miles of gutters; construction of 1,833 lineal feet of new utility tunnels and 240 feet reconstructed; and the completion of 262 miles of roadside landscaping and beautification, which included the removal of 1,000 trees and stumps.

Examples of the roadside landscaping and beautification are along the route between Phoenix and Glendale, along East Van Buren street from 24th street to the Tempe bridge, and eastward from Tempe along U. S. Highway 89.

Among the drainage structures completed is a 24-inch concrete pipe line which was laid along East Van Buren

(10) Federal Works Agency, Work Projects Administration, W. J. Jamieson, administrator, Phoenix, Arizona, 1940, pp. 21-23.



**Architectural School of the Taliesin Fellowship in the Valley of the Sun**

from 22nd street to 16th street and on East Washington street, from 32nd to 16th street, where the drains were connected with a 36-inch concrete out-fall line extending from Van Buren street southward to the Salt River.

Under the county-wide highway improvement program, provisions were included which permitted the forming of road improvement districts for the sponsorship of street and sidewalk construction in suburban residence areas, so that residents and property owners could participate in WPA assistance. By this method, the district floats a bond issue to provide the sponsor's share of the cost, and the bonds are retired by assessments to property owners along whose real estate frontage streets were improved and gutters, curbs, sidewalks and driveways laid.

The inventory of accomplishments does not include the improvement of an additional 157 miles of county-wide road improvement contemplated under a new WPA project which was put into operation in the latter part of December, nor the extensive Phoenix city street improvement program recently instituted for the contemplated widening, surfacing and otherwise improving of 1,000 blocks of city streets, such as the repaving of West Washington street

from Fifth street to Sixteenth avenue, the widening and repaving of McDowell road in the vicinity of Central avenue, extension of water and sewer mains to areas not previously served, and numerous similar units.



**Government Aids in Heavy Reconstruction of Roads**

The federal government also helped in many types of construction. For example, 207 new buildings were con-

structed, 338 reconstructed and improved, and 29 additions were completed in Arizona by the aid of the WPA from 1935-1940. Some of the outstanding accomplishments in Maricopa county from July 1, 1925, to January 1, 1940, in which Uncle Sam was a major factor follow:

Wickenburg High School, Mesa City Library unit of City Hall structure, Avondale School auditorium, Peoria High School gymnasium, B. B. Moeur Activity Building, Arizona State Teachers College, Tempe, County Agricultural Building, Phoenix; Southside District Hospital, Mesa; Peoria town jail, Roosevelt School, Arizona National Guard warehouse, Papago Park; combination City Hall and fire station, Gilbert; grandstand at State Fair Grounds, seating capacity of 10,000; fair grounds and rodeo grounds, State Fair Grounds, covering 15 acres; Encanto Park improvements; Tempe Municipal Playground; school playground at Isaac School; athletic field, Gila Bend High School; tennis courts, Scottsdale High School; swimming pool, Rendezvous Park, Mesa; wading pool, Harmon Park, Phoenix; incinerator, Buckeye Union High School; pumping station, University Park, Phoenix; water mains, 93,000 linear feet, Phoenix (now in operation); pipe lines, 40,805 linear feet gas mains, Mesa; water consumer connections, 1,145 on one project, Phoenix; storm and sanitary sewers, 26,704 linear feet of outfall sewer, Glendale; flush-type toilets, Osborn School; sanitary privies, 4,447; flood-lighting of athletic field, Mesa Union High School.

Frank Lloyd Wright, internationally famous architect, has a studio workshop in Paradise Valley, near Scottsdale at the foot of the McDowell mountains. He began practice at Chicago, Illinois, in 1893. His work is characterized as "The New School of the Middle West" in America, and "The American Expression in Architecture" in Europe. (12). He is the founder and conductor of "The Taliesin Fellowship" a cultural experiment in the arts. About forty apprentices participate.

He is the architect of the Imperial Hotel, Tokio, Japan, (1916-20), and of the Arizona Biltmore near Phoenix. Work on Taliesin West has continued over some five winters in the Valley of the Sun.

Professor Harold Rugg of Columbia University has described him as follows: "Frank Lloyd Wright is the greatest creator of our time." (13). The Taliesin Fellowship was named after Taliesin, Wisconsin, Mr. Wright's birthplace. The Taliesin Fellowship is located on a 550-acre farm in rich land in Wisconsin, during the summer and in the Valley of the Sun during the winter.

Mr. Wright's claim to fame lies in two things—his originality in structure, and his building of hurricane-proof structures.

Phoenix has able architects, contractors, and builders, and the business and residential buildings form an ample indication that Phoenix is on its way in becoming the City Beautiful!



Peoria Underpass

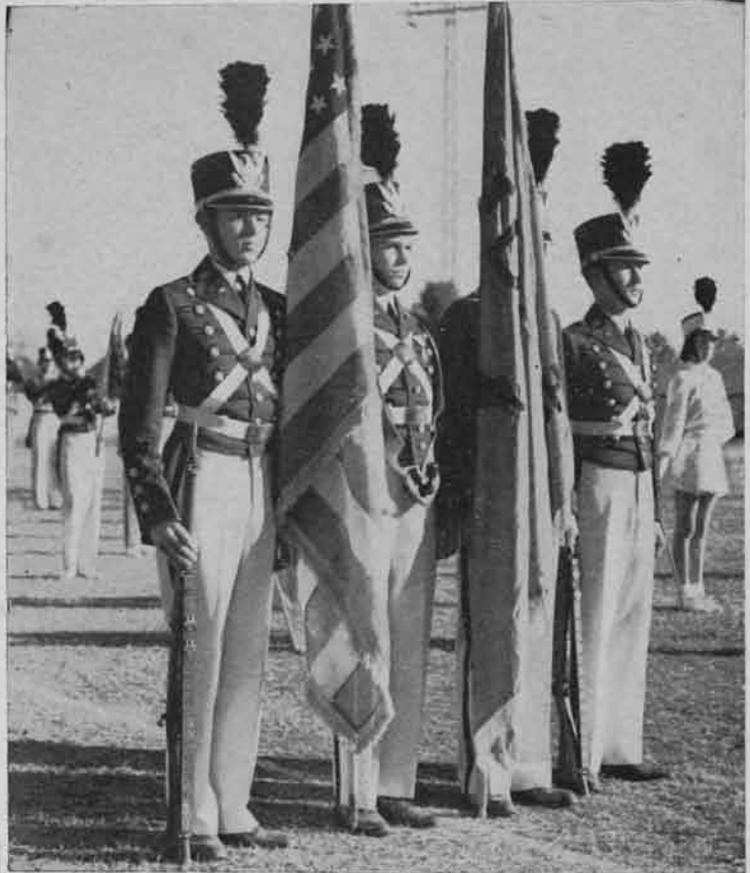
- (11) Federal Works Agency, Work Projects Administration, W. J. Jamieson, administrator, Phoenix, Arizona, 1940, p. 44.  
 (12) Who's Who in America, 1938-39, Vol. 20, p. 2736, A. N. Marquis Company, Chicago, 1938.  
 (13) Arizona Highways, May, 1940, p. 5, Raymond Carlson, editor.

## CHAPTER XX

# NATIONAL DEFENSE

Arizona is girding itself, along with the nation, in preparation for national defense. Arizona has complied with the peace-time draft. After six weeks of preliminary maneuvers in Leesville, Louisiana, the Arizona National Guard was called to the colors. It is quartered at Fort Sill, Oklahoma.

Fort Huachuca, Arizona's only military post, has been the recipient of a \$3,000,000 expansion program. Fifteen hundred workers have been hired to enlarge the military garrison. The weekly payroll is more than \$100,000. Fort Huachuca is the home of the 25th Infantry. It is composed of some 2,000 negro soldiers, under the command of Colonel Lee D. Davis. It is expected that this number will treble during 1941, and some military authorities have intimated that eventually a full division, 20,000 men, will be stationed there. A \$250,000 barracks, housing two companies, was built in 1940. The cantonment will contain 80 barracks, housing 63 men each, besides fully equipped mess-houses, shops and vocational buildings. A water system which can supply some 2,500,000 gallons a day should be sufficient for 40-50,000 men. A natural gas line has been laid to the fort and all approaching highways are being surfaced. Vocational training is being stressed at Fort Huachuca.



### Attention! America Prepares for National Defense

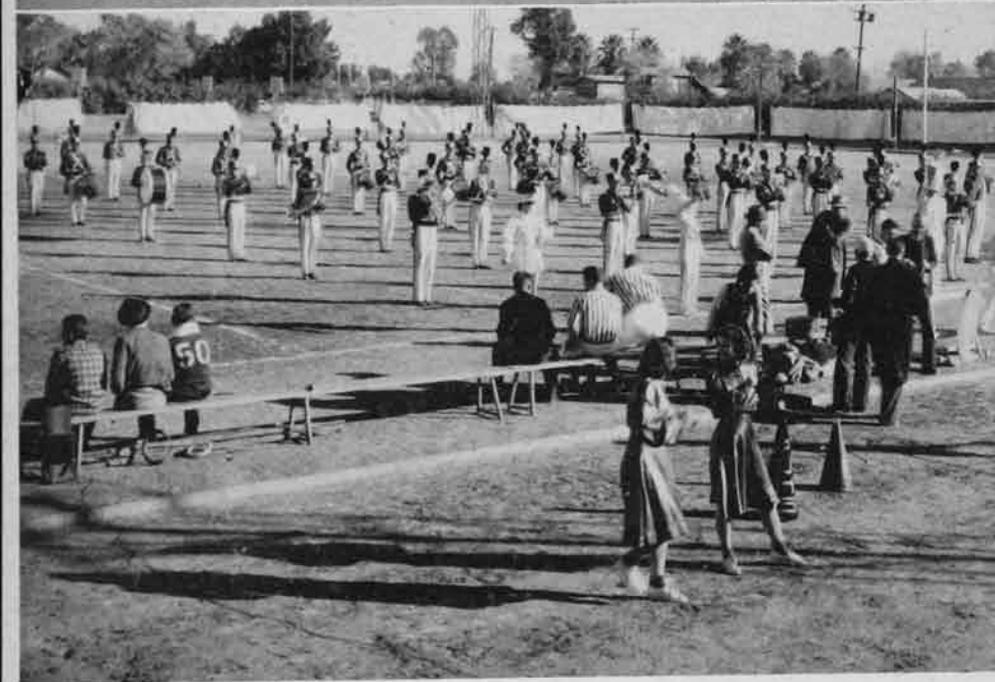
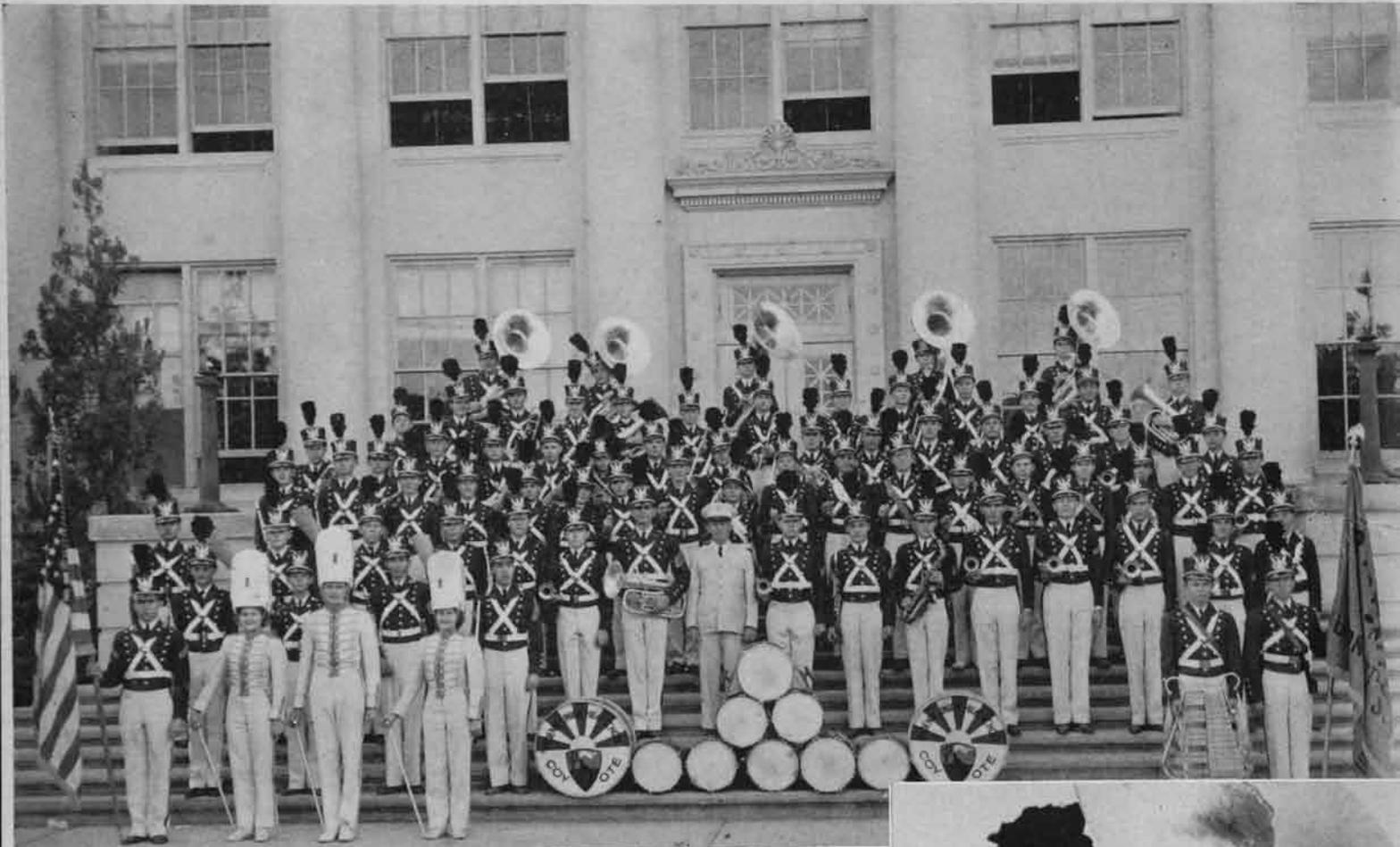
Arizona will play a vital role in national defense because of its tremendous water and power resources in the Colorado river which as yet have been but modestly tapped. It can provide cheap power for factories producing munitions and fundamental defense needs.

Arizona's location on the Mexican border makes it very strategic in a military point of view, consequently, millions of dollars will be spent in Arizona as a first line of defense.

Industrial and manufacturing plants in Phoenix will be transformed to meet any emergency that might arise. More smelters may be built in Arizona in order that the metal ore can be more hurriedly turned into pure metal for military and industrial usages. Arizona's mineral output, which in 1939 was estimated at \$75,000,000 will be a major contribution to national defense. Arizona supplies more than 40 per cent of the nation's copper. Arizona's other basic metals are gold, silver, lead and zinc, which abound in great quantities. It also has considerable quantities of manganese, vanadium, tungsten, mica, fluor spar, nickel, molybdenum and many other metals necessary for industrial self-sufficiency. Arizona's \$25,000,000 livestock industry will also aid. The Salt River Valley forms a huge



Colonel Scott Heads R. O. T. C. Unit at P. U. H. S.



Strike up the Band at P. U. H. S.

The Youth of Arizona are Willing if Need Be, to Answer Their Country's Call to Either War or Peace.



Inspection at Arizona National Guard Encampment

food resource for armies in the Southwest. Arizona's citrus, lettuce, melons, nuts, alfalfa, grain and cotton will also help meet the emergency needs.

Arizona will be the site of 58 airports. Two of these will be in class "3", sufficient for 30-passenger planes. Ground was broken in November, 1940, for an \$825,516 army airport covering 1,200 acres some seven miles from Tucson. The Tucson airport will be the base for the First Bombardment Wing, 41st Bombardment Group Median, 31st Air Base Corps. It will house 60 bombing planes and will be the headquarters for 3,320 officers and men. Plans are under way for the construction of a large military airport in the Phoenix vicinity, near Glendale.



Fifteen other Arizona cities and 41 other communities are to be checked out with class "2" or class "3" airports. A military airplane assembly plant is also planned for Arizona.

The United States government is spending \$6,000,000 on aviation in Arizona. The vocational training schools throughout Arizona are preparing youth in practical techniques in national defense.

The University of Arizona, the two teacher's colleges, the two junior colleges and high schools in major cities are all cooperating with the Civil Aeronautics Authority in training civilian pilots. The American Legion is taking part in the promotion of true Americanism and active participation in Americanization programs.

Major General A. M. Tuthill is adjutant general of the Arizona National Guard. He is highly regarded by both officers and men throughout Arizona and the Southwest.

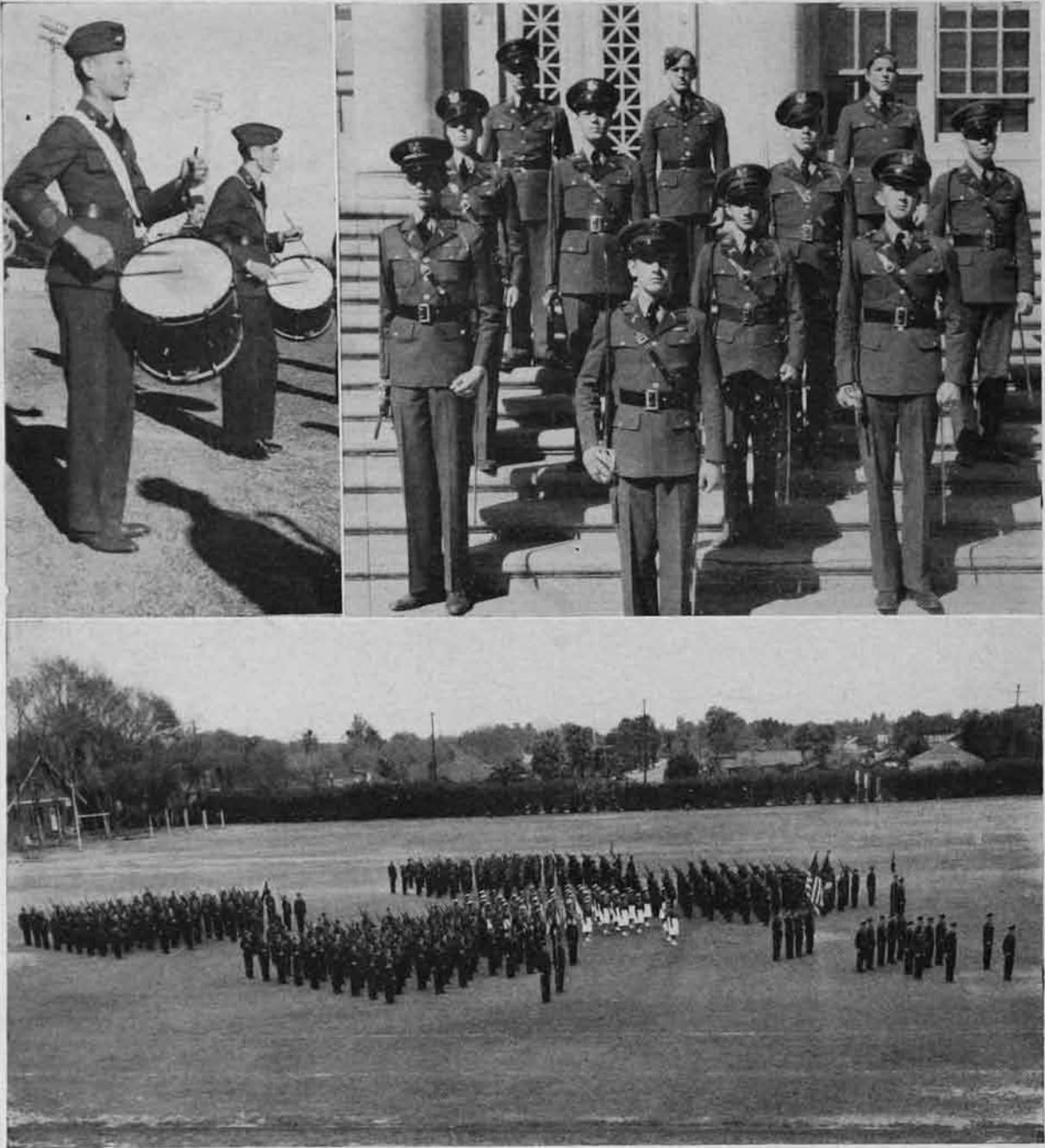
Arizona has 27 CCC camps consisting of about 200 men each. (1). According to Colonel Power Conway, who was appointed head of Arizona's defense efforts by former Governor R. T. Jones, one of the major efforts of Arizona will be the construction of major military super-highways which will connect strategic points.

Arizona is girding herself for national defense.



Ready for Action!

(1) There are 1,500 CCC camps in the United States.



Phoenix Youth Aid in National Defense, R. O. T. C. Unit at P. U. H. S.



Modernistic architecture is used in J. J. Newberry Variety Store, above.

Part of modernistic fleet of Menderson Bus Lines, below.





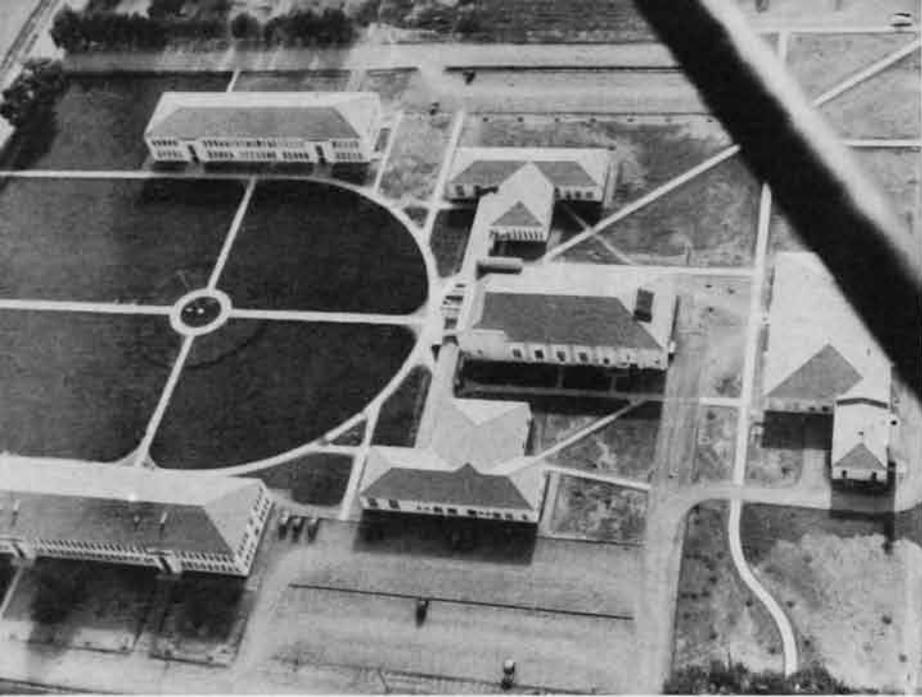
Hotel Luhrs is both com-  
modious and attractive.

J. C. Penney's is an estab-  
lished firm in Phoenix.

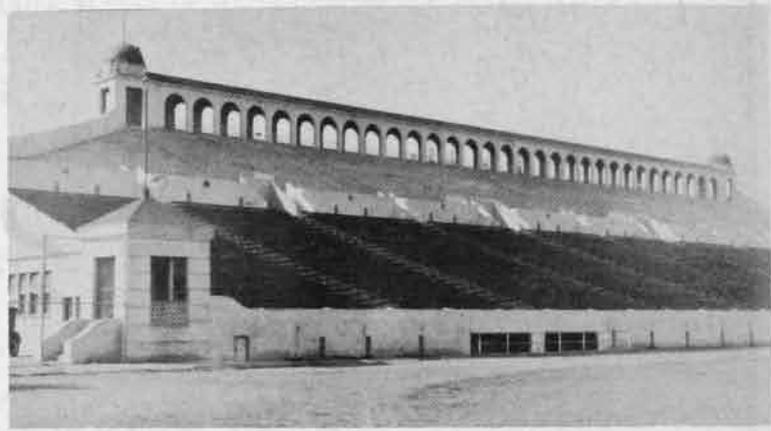


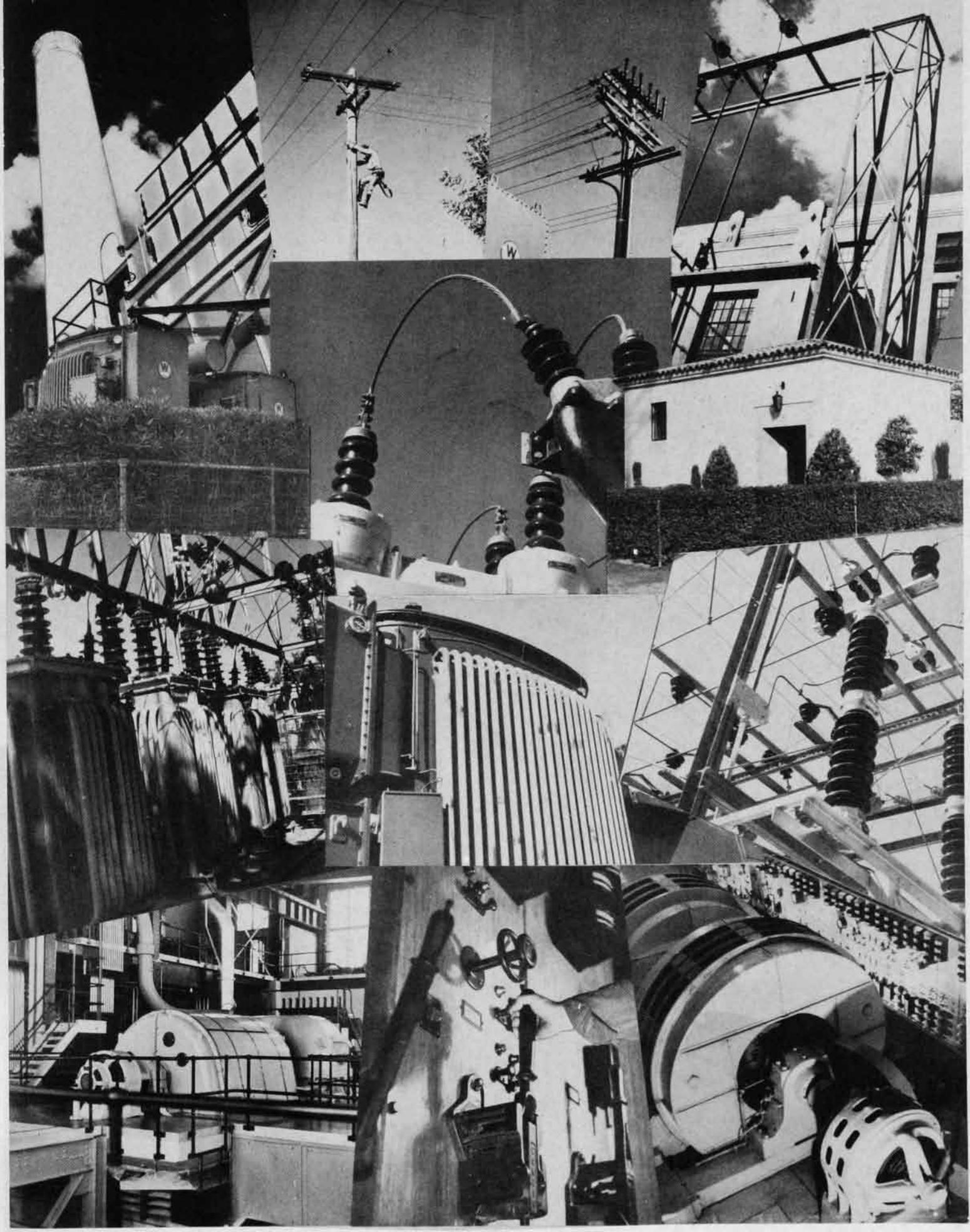


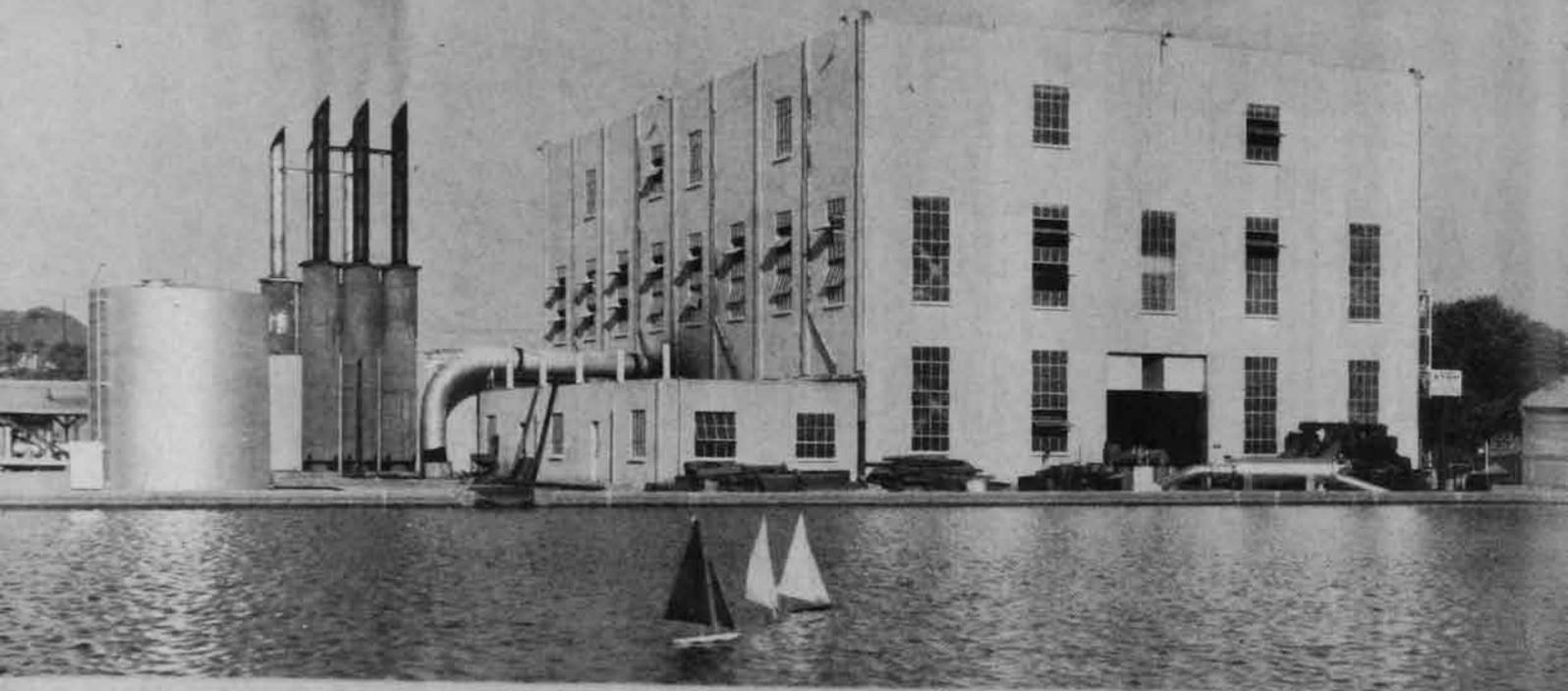
Grapefruit and lettuce form two important industries in the Valley of the Sun. Grapefruit ready for market from 850 acres of citrus groves at Chandler Heights, upper left. Closeup of a large lettuce field in the Valley of the Sun. Lettuce is packed in crates and loaded on trucks, lower right.



Phoenix and the Valley of the Sun have excellent educational facilities. Reading from left to right, top to bottom: Air view of Phoenix Junior College; Indian School; Chandler High School; Adams School; P. U. H. S. Stadium; Lowell School; and the P.U.H.S. Auditorium.

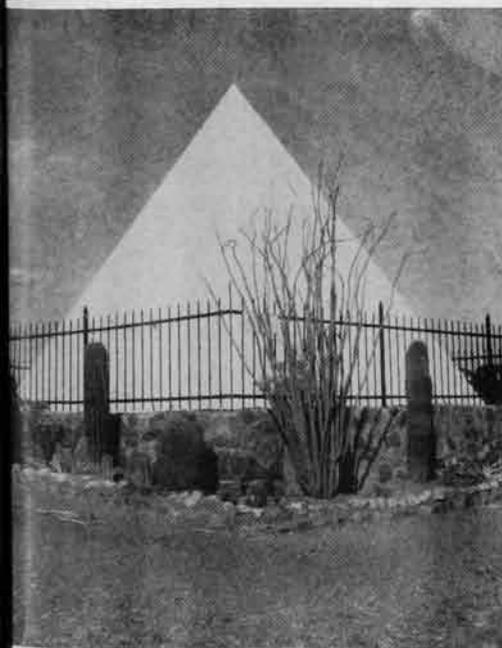






Power is supplied to the Central Arizona Light and Power Company and the Salt River Valley Water Users' Association. The diesel power plant of the S.R.V.-W.U.A. at Tempe has one of the largest diesel engines in the world, upper. The main power plant of the Central Arizona Light and Power Company, west of Phoenix, lower right.





Glimpses around the Valley. Left, top to bottom: Frank Luke Memorial to Arizona's World War ace; float in the Fiesta del Sol annual spring festival; prospector's tent pyramid in memoriam to Former Governor George W. P. Hunt and his wife. Right, top to bottom: Zuni dancers; ruins; Casa Grande Ruins; Riverside Pool and Tempe Beach Pool.





Col. M. E. Bunker, head U. S. Reclamation Survey of Arizona.



Phoenix City Commission. Left to right: Messrs. J. R. Fleming, M. F. Wharton, Mayor Reed Shupe, Bill Sims, and E. E. Walsh. Judge J. C. Furst, City Clerk, in foreground.



Dr. Reed Shupe, Mayor of Phoenix until May 1, 1941, when called to colors.

Police Chief Lou Holtzendorff with Hess Seaman, City Attorney.



New KPHO Radio Station.



Donald Scott, Phoenix City Manager, with Gail Baker, City Engineer.

## CHAPTER XXI

# PUBLIC ADMINISTRATION OF PHOENIX

The City of Phoenix is a \$70,500,000 corporation, which costs some \$2,500,000 annually to operate. It has a mayor and four commissioners (1) who are chosen by the Phoenix electorate as provided by the City of Phoenix charter. They in turn appoint a city manager who is directly responsible for the public administration of the city.

The mayor is the chief executive officer of the city and while his duties relating to administrative affairs are delegated to the city manager, nevertheless it is up to him and the commission to see that the city manager does his job.

The executive and legislative functions of the city are combined in commission-city manager type government; mayor has but one vote, like the other members of the commission. The commission follows the majority rule on each matter of official business and in the formation of its ordinances. The city manager (2) is in charge of the city administration. He is directly responsible to the commission for the proper conduct of all municipal duties and also for the enforcement of city legislation. His function, like the manager of a big concern, is to so coordinate the different departments of the city that they will work in harmony with the administration and with each other.

Certain city offices such as those of the city auditor, city magistrate and clerk, city assessor, and city treasurer, are like the city manager appointed by the city commission and are responsible solely to it. All other department heads are appointed by and responsible to the city manager. About one-half of the department heads appointed by the city manager are on Civil Service. (3).

The number of city employees varies as occasion demands, but in the early fall of 1940 numbered 646. (4) All but twelve of these were on civil service. Heads of departments were on Civil Service in about half of the cases.

The Phoenix Civil Service is operated by the scientific procedure in which the qualifications for each position have been delineated. Each position is carefully defined and outlined with the functions and tasks to be performed, and in each case the minimum requirements which must be met whether the position be that of advertising agent, architectural draftsman, or the assistant city park custodian, are specifically stated.

The date of origin of Phoenix is now established at 1867 when Jack Swilling, Confederate leader, built the first canal from the Salt River into what is now New Phoenix. The name of "Smithville" was proposed, but the Phoenix Settlement was first called Mill City. Darrell Duppa, British renegade, proposed the name of Phoenix after the bird which rose from its own ashes to fly forth in renewed splendor. Phoenix was in Yavapai County in those days. The Yavapai Board of Supervisors referred to it as the Phoenix Precinct. The first Phoenix election was in 1868 at Jack Swilling's house with Swilling serving as Inspector and J. H. Davis and J. Burns as judges. (5).

The townsite of Phoenix was laid out on October 20, 1870, and "Articles of Association of Salt River Valley Town Association Community" were signed by Darrell Duppa, John P. Osborne and many others.

By 1871 Phoenix had a population of 300. The last lot of the original Phoenix site was surveyed, and the Hancock map was made. The town was one mile long, one-half mile wide and was divided into 96 blocks. Washington was the main street running east and west and was 100 feet wide. So were Jefferson and Center streets. On February 13, 1872 the townsite of Phoenix consisting of 320 acres was officially filed on in the United States Land Office at Prescott. In 1874 President U. S. Grant issued a patent to Judge Alsap for the present site of Phoenix and Phoenix was born again. (6).

As early as February 5, 1881, when the city of Phoenix was first incorporated in Arizona territory, the mayor-council type of administration, consisting of four members and mayor was chosen. Judge Alsap was the first mayor in the booming town of Phoenix with a population of 1,708.

Phoenix was re-incorporated on June 8, 1912 from the territory to the State of Arizona.

April 7, 1914 was a Red Letter day for the City of Phoenix. The City Manager-Commission type of municipal government was adopted with W. A. Farish, civil engineer as first city manager. (7) Phoenix at the time had a municipal water plant, several miles of sidewalks, 100 blocks of pavement and a good sewer system.

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- (1) The Honorable "Mr." Mayor and four commissioners are elected at large for two year terms. The mayor and two commissioners are elected in even number years and two commissioners in each odd number year. They do not receive a salary, but receive a stipend of \$5 per meeting. The total legislative expense of the commission is not to exceed \$1525.
  - (2) The city manager receives a salary of \$6,000 per year. He is officially elected by the majority of the commissioners and can be removed by a majority vote at any time.
  - (3) The offices of the chief of police, assessor and collector, city engineer and superintendent of streets, city health officer, inspector of buildings, the sealer of weights and measures, and superintendent of the water department are appointive administrative positions. However, the fire chief, the city librarian, the electrical inspector, humane officer, plumbing inspector, and temperance director receive their positions by classified Civil Service.
  - (4) Roy Hislop, former city manager, October, 1940. WPA help was not counted.
  - (5) See Chapter 1, 'Milestones of Progress.'
  - (6) Judge Alsap was given \$450 for expenses encumbered in same, which included his fee of \$150.
  - (7) John T. Alsap was mayor and the four councilmen were T. W. Brown, W. T. Smith, J. M. Cotton, J. H. Burtis. George H. Rothrock, a pioneer photographer, was recorder. In the next election Francis W. Shaw was chosen mayor and Joseph H. Campbell became recorder. George F. Coats and DeForrest Porter were other early mayors.

By 1921 Phoenix had 35 miles of paved streets; 64.16 miles of sidewalks and 125 miles of streets and avenues. Some of the civic improvements achieved that year were: (1) Extension of water system to additions added to corporate limits of city and enlargement of some of the old main. (2) Extension of sewers to new additions to the city. (3) Construction of a new fire station, house, purchase of two new pieces of fire apparatus; installation of an auxiliary fire alarm system of twenty boxes. (4) Purchase of an automatic police reporting system, installation work on which has been started. (5) Purchase of a portion of University track for park purposes. (6) Extension of city drainage system; spent more than half a million on paving work (\$535,916.32). In 1920 it was \$448,000. (7) Extension of city playground system. (8) Construction of several miles of concrete sidewalks. (9) Construction of several miles of curbing. (10) Construction of nearly eight miles of paving.

Supposedly a great civic improvement to Phoenix was the million and a half dollar Verde Water System. The contract for laying of a pipe line was awarded to Redwood Manufacturing Company and Pacific Tank and Pipe Company of San Francisco. The line of 32 miles in length was completed in September, 1921. This later proved to be a major scandal.

In 1914 certain fundamental departments were installed. Besides the city manager, the commission appointed a city auditor, city magistrate, city attorney, city assessor, city clerk, and city treasurer. The manager then installed the city collector, city engineer, chief of police, fire chief, and a superintendent of streets. The Commission-City Manager system prevails in Phoenix today.

All the powers of legislation and of control over the administration in the local government of Phoenix are unified and vested in the hands of a commission of five members. There is no separation of powers; there are no important checks or balances.

Phoenix' city manager charter (1914) attempts to make a precise separation of functions by provisions which are designed to restrict the commission's work to legislation and control; and to compel it to vest the entire function of administration in the hands of an appointed city manager and skilled department heads, appointed by him. The commission thus constitutes a "policy-determining body." It enacts the ordinances, makes the appropriations, authorizes borrowing, grants franchises, and decides all general questions. But it does not assume any direct share in the executive or administrative work of government. Instead it appoints a chief administrative official known as the city manager and this work devolves upon him. In other words, the commission hires the city manager for the municipal corporation. He is responsible directly to them.

The city manager, who is supposed to be selected on the basis of training and ability, has the authority to appoint all important administrative offices, to prepare the annual budget, and to control and direct the entire administration. The city commission has entire control over the manager through its power to appoint him, its powers to dismiss him at any time, its power to pass on all ordinances

and resolutions, subject to no veto whatsoever, its power to control the purse, its power to investigate his books and administration at any time. The city manager should be present at commission meetings and to answer all reasonable questions as to the city's administration. The city manager is the commission's advisory expert on all questions of municipal policy. He is the connecting link between the legislative and administrative departments of the city government; he is the commission's agent for enforcing the ordinances and carrying its votes into effect; he has the right to appoint and remove all municipal officials, subject, naturally enough, to the civil service regulations—these regulations usually give the city manager a free hand in selecting the heads or directors of departments, but require that appointees to all subordinate positions shall be taken from the lists supplied by the civil service board. The city manager takes entire responsibility for the conduct of the various municipal departments, streets, water supply, sewage, street lighting, parks, police, fire protection, etc.

In order to build up a permanent civil service, the city manager and the department heads should be given indefinite tenure, subject to the commission's power to remove the manager and the manager's power to remove department heads. Members of the commission should be forbidden to interfere with him in the performance of his administrative work. The city manager appoints all the subordinate officials and they are responsible to him. He in turn, steers all responsibility into the hands of the commission who are the representatives of the people.

The greatest problem of city manager government is to get the right manager. The position of city manager requires professional and personal qualities of a high order; the successful city manager must not only be well versed in the technical phases of city administration, but he must be energetic, show sagacity, and be able to acquire and retain the cooperation of his superiors and subordinates.

Phoenix has had twelve different city managers in the past ten years. Two of these twelve served in that capacity at two different times making a total of fourteen changes in the city manager's office in the years 1930 to 1940 inclusive.

Phoenix city managers since 1930 with their respective terms follow:

Todd, George H.—May 1, 1929 to May 2, 1932; Furst, Joseph C.—May 2, 1932 to January 18, 1933; Clark, William F.—January 18, 1933 to May 2, 1933; Johnston, S. McN.—May 2, 1933 to April 1, 1934; Lefebvre, W. C.—April 1, 1934 to May 25, 1934; Sullivan, Thomas M.—May 25, 1934 to June 15, 1934; Lefebvre, W. C.—June 15, 1934 to October 3, 1934; Sullivan, Thomas M.—October 3, 1934 to May 1, 1935; Wilson, Fred—May 1, 1935 to May 1, 1936; Stallcup, Evan S.—May 1, 1936 to May 1, 1937; Walsh, Houston L.—May 1, 1937 to October 13, 1938; Wheeler, M. L.—October 18, 1938 to March 28, 1939; Hislop Roy R.—March 28, 1939 to October 3, 1940; and Scott, Donald C.—October 3, 1940.

The Phoenix budget requirements for 1940-1941 were set at \$2,494,321.51, a saving of nearly \$19,000 from the 1939-40 budget of \$2,513,156.

The per capita cost of government is about the same as in 1935, although somewhat less than in 1937-1939. This is very favorable because the usual experience of cities the size of Phoenix or larger, is that cost of government increases at a faster rate than the population growth.

The tax rate in Phoenix for 1940-41 was \$1.70 on the assessed valuation of \$70,500,000. It takes about \$1 of this to service bonded indebtedness.

Estimated revenues for the fiscal year 1940-41 were set at \$1,295,300. This left slightly less than 50 per cent or \$1,198,521.51 to be raised by taxation. (9)

Two of the major functions of any city are the protection of its people from fire and theft. The fire department will cost Phoenix some \$228,200 in 1940-41, whereas the cost of the Police department is set at \$189,328. The Police department receives about \$75,000 in additional funds annually from parking meters. The electrical department of the city takes about \$30,000. The City Health department, which is indispensable, costs the city some \$84,000 annually. Dogs and cats, which may have been run over or gone mad, are handled by the humane department which is budgeted at \$6,000 annually. The airport is a vital institution, but the annual cost of maintenance amounts to \$28,500. The engineering department is scheduled for \$36,750 in 1940-41.

Phoenix believes in keeping its streets clean and having its garbage handled properly, caring for drainage, sprinkling, etc. This all costs the city some \$265,000 a year. The sewage disposal plant is listed at \$68,000. The Phoenix libraries are allotted \$34,000, and \$114,000 is set aside for recreational purposes. A modern city must have an adequate water supply, which amounts to \$125,000 on the budget. The street railway's cost of maintenance is more than \$300,000 annually.

Revenues—Liquor licenses bring into the city some \$60,000 yearly. The city magistrate is expected, by bails and fines, to augment the city income by \$58,000. The city assessor is responsible for collecting more than \$60,000 for miscellaneous fees and penalties. The water department through its meters, etc., brings in \$662,000. The street railway adds to its income some \$334,000. Health department fees amount to \$8,000 and sewer rentals to \$13,000. All in all, some \$1,295,800 comes into the city in revenue, slightly more than 50 per cent of the total amount to balance the budget.

Mayors of Phoenix and their terms since 1930 include: Franklin D. Lane—May 1, 1930, to May 1, 1932; F. J. Paddock—May 1, 1932 to May 1, 1934; Joseph S. Jenckes—May 1, 1934 to May 1, 1936; John Udall—May 1, 1936 to May 1, 1938; Walter J. Thalheimer—May 1, 1938 to May 1, 1940; Reed Shupe—May 1, 1940 to—

On May 1, 1940, Mayor Walter J. Thalheimer was succeeded in office by Dr. Reed Shupe. The Phoenix Gazette made the following editorial comment on Mayor Thalheimer's achievements while in office: (10)

"The South Central Avenue underpass, as it stands, was negotiated and completed during the Thalheimer mayoralty.

"The mayor has wholeheartedly promoted the city annexation program, with the hope of giving Phoenix a 100,000 rating in the 1940 census. Although that goal has not been achieved, the program has brought about a decided increase in the city's population.

"The administration followed a policy, whenever possible, of refunding indebtedness of the city at lower interest rates. More than \$1,000,000 of bond issues have been refunded, effecting a saving of more than \$8,500 annually in debt service on such issues.

"More busses and new bus routes have been put to the service of all parts of the city.

"Water mains are being rapidly extended, additional fire hydrants installed and fire fighting equipment purchased, in order to lower insurance rates within the city as much as possible.

"The administration has paved many streets at lower costs to property owners, through taking all possible advantage of federal grants

"Facilities have been improved at Sky Harbor airport, especially the runaways.

"Additional equipment has increased the efficiency of the street department, the thought being that well-kept streets and alleys are safer and more attractive."

Dr. Reed Shupe, who took office on May 1, 1940 said in his inaugural address:

"We shall continue our efforts to promote the annexation program so that Phoenix may soon enjoy all the privileges and advantages which go with a city of 100,000 population. We welcome our newly annexed areas and we will do our utmost to serve the new districts as fast as possible."

The other four members of the commission were William Sims, W. F. Wharton, Houston L. Walsh, and J. R. Fleming. Messrs. Shupe, Wharton and Sims formed a majority block in May, 1940. But realignment took place, Mr. Sims casting his lot with Messrs. Walsh and Fleming which then became the majority block. Donald Scott became the new city manager replacing Roy Hislop. As Dr. Reed Shupe was called into selective service, he tendered his resignation as of May 1, 1941.

Both former Mayor Walter J. Thalheimer, and Dr. Shupe advocated certain charter changes to make the Phoenix city government stream-lined. These proposals are briefly enumerated as follows:

- (1) Electing the mayor and all four commissioners at one time, every two years and for terms of two years each.
- (2) Changing the date of the primary to the second Tuesday in January and that of the city election to the second Tuesday in February of even numbered years, commencing in 1940, the elected officials to take office on the first Monday in March.
- (3) Payment of "reasonable" yearly salaries to the mayor and commissioners.
- (4) Elimination of the present requirement that the city manager must be a resident and elector of the city at the time of appointment, although he would be required to live in the city during his term of office.
- (5) That the city manager be appointed for an indefinite term and be subject to removal by majority commission vote, but that at least 10

(9) The average city over 100,000 population in the U. S. in 1935 received 63 per cent of its total revenue from taxes. Municipal Index and Atlas, 1937.

(10) Phoenix Gazette, April 30, 1940, Editorial.



Looking North on Central Avenue, Phoenix

days before removal may become effective that official shall be furnished with a notice of intention in the form of a resolution passed by majority vote of the commission and further provided that no removal action shall be taken until the expiration of the 10-day period. (6) Designation of the mayor as ex-officio city manager to serve during the absence or disability of the city manager. (7) Shortening the time during which the commission is required to sit annually as a board of tax equalization from 20 to 10 days.

Egbert Wildeman, one of the younger Phoenix attorneys, was asked to prepare a brief statement on the governmental functions of Phoenix, which statement follows:

"The business of running a city is not one to be taken lightly, but on the contrary is the responsibility of all the citizens of Phoenix. We are all stockholders in a \$70,000,000 corporation, a municipal corporation to be sure, but nevertheless a business one. As stockholders we are all interested in the conduct of its affairs, we are all interested in its welfare for if the corporation should be improperly conducted all of us would suffer in proportion to our investment.

"We must learn to recognize that the city government is our affair and we must not treat it lightly, neither should we treat it as a grab bag.

"The business of running our city is one worthy of the best business minds and talent in our city, and instead of adopting an attitude of 'Let George Do it', we should adopt one of 'What can I do to help my city?'"

Phoenix electors have the right of the initiative and referendum on measures during election years.

The major activities of the City of Phoenix are supervised by a series of boards. These include a Pardon and Parole board of 5; an Aeronautics Commission of 3; an Athletic Commission of 10; Civil Service, 3; Public Works Board, 6; Humane Board, 7; Library Board, 5; Liquor Board, 3; Planning and Zoning Board, 8; Safety Commission, 7; Adjustment Board, 5; Park Board, 5; Public Charities Board, 3; Building Advisory Board, 16; and a Plumbing Examination Board of 3. This makes a total of 94 board members in governmental functions of the City of Phoenix.

Certain major offices in the City of Phoenix, such as the City Auditor, the City Clerk and Magistrate, the City Attorney and the City Treasurer, are appointed by the mayor and other members of the City Commission, rather than elected by the people. These are responsible, like the City Manager, to the City Commission. However, all other officers positions, such as that of the Chief of Police, Fire Chief, City Health Officer, or Superintendent of the Water Department, are responsible directly to the City Manager.

All Board members are appointed by, and hold their positions at the discretion of the City Commission.

#### THE POLICE DEPARTMENT (11)

The Police Department is one of the most important arms of the Phoenix government. The Chief of Police, Lou Holtzendorf, has a personell of 90. There are five captains, four sargeants, 14 detectives, a jailor, a superintendent of identification, a superintendent of radio, three radio technicians, one personell and equipment director, one Identification Bureau officer, one stenographer (part

time), and one matron, and the remainder are patrolmen. The Police Department of Phoenix is motorized, having 15 police cars, one ambulance, and five motorcycles. Transportation expenses of the Police Department annually amount to \$8,500. The total police budget for 1940-41 was set at \$173,597. (12). The Police Department of Phoenix maintains law and order in the community. It is equipped with modern arms and motorized equipment to handle quickly and efficiently the many problems of theft, larceny, assault, robbery, rape, embezzlement, drunk and disorderly conduct, vagrancy, murder, suicides, traffic violations, etc. The Police Department functions day and night to make Phoenix a better place in which to live.

Some \$50,000 annually is paid the City Magistrate in bails and fines by our "law abiding" citizens. Sufficient federal offenders come into the city each year for the city to present "Uncle Sam" with an \$8,500 bill annually for feeding federal prisoners.

The Identification bureau has on file the histories of more than 80,000 criminal records. Between 4,000 and 5,000 finger prints are received by the department each year.

#### THE PHOENIX FIRE DEPARTMENT

Phoenix has a modern Fire Department which reduced the fire losses per capita \$.98 for the fiscal year of 1938-39. The necessity of having an up-to-date fire department is suggested by the fact that the property endangered in 1938-39 amounted to \$7,189,843, while the loss was only \$63,968. The loss entailed to buildings was \$42,879 and the contents, \$21,089. The National Insurance Underwriters have reduced the fire insurance rates upon proof of the low fire risk in Phoenix. The Fire Department during 1939 saved the lives of 6 Phoenix citizens with its first aid equipment and oxygen tanks which it carries. (13). In 1922-23 some \$160,000 worth of property was destroyed by fire, but the worst fire in the history of Phoenix was in the fiscal year 1931-32, when the total loss exceeded \$250,000.

The fire department budget for 1940-41 was \$21,478, of which \$191,732 was in the form of salaries. The personell of the Phoenix Fire Department totals 85. It is headed by Frank Cochrane, fire chief. There are 16 captains, 33 hosemen, 18 engineers, 2 mechanics, an assistant chief, a deputy chief, a superintendent of motor equipment, a drill master, and a personell clerk in the firefighting department. There is a fire alarm superintendent and 6 operators in the fire alarm bureau. In addition there is a fire marshall with two inspectors in the fire prevention bureau. The duties of the fire-fighting department are: Protection against fire loss, and salvage; protection against loss of life, first aid work, and rescue work. The fire alarm bureau is a branch of the police radio, operating from Central station, which has a telephone switchboard. The fire prevention bureau inspects business buildings and conducts campaigns and programs to make the city fire hazard conscious.

The City of Phoenix purchased a new streamlined \$10,000 rescue squad wagon with complete fire-fighting facilities for the Central station in June of 1940 to take the place of one completely damaged in a wreck. This newest

(11) See Chapter on 'Law, Crime and Punishment.'

(12) This does not include some \$75,000 revenue annually to the Police Department from parking meters.

(13) Some 60 Salt River Valley citizens were treated.

wagon has a capacity of 750 gallons per minute. Another of the trucks in the Fire Department is capable of throwing 1200 gallons of water per minute through four 2½ inch hose lines.

Phoenix has three first class fire stations, having 6 buildings 1 machine shop and 1 garage, which are well-equipped. In all, there are eight fire trucks of which six are engine companies. Five of the engines have pumpers. Many times the rescue squad of the Fire Department is called out to care for serious burns, because it is equipped with an Iano spray gun for burns together with Iano jelly, blankets, all kinds of bandages and splints. It has a generator and a searchlight for night lighting purposes. The engine companies each carry 2,000 feet of 2½ inch hose; together with nozzles, salvage cutters and forcible entry tools. The firemen have a dress uniform and a fatigue uniform, besides waterproof coat and trousers, leather boots and leather-tinned hat. There are some 22,000 feet of hose in all. The fire chief has a two-way radio on his car, and, like the trucks, is provided with a fire siren. About forty alarms were turned in each month during 1938. Most alarms are received at night from 7 to 8 p. m., 6 to 7 p. m., 11 to 12 p. m. and then from 3 to 6 p. m. Fewest calls are from 3 to 10 a. m.

It was on August 12, 1886 when the Phoenix Engine Company, No. 1 was organized as a volunteer personell. The first horse team was installed on January, 1889. Eight years later a fire station was completed between First Street and Jefferson. In 1910 the city council employed a full-time fire chief. Motor driven apparatus was adopted by the fire department in 1914. Between 1914-1916 Central station was built in its present location. Stations were built at Five Points, and East Van Buren at Ninth street. In 1922 a station was built at First Street and Moreland. In 1928 two additional stations were erected at 715 South First Avenue and at 2026 North 7th Street.

The entire department, including the chief, operates under Civil Service.

About three per cent of the revenue of Phoenix is expended for parks and recreation. The city's planned recreation is administered by the Parks Playground and Recreation Board. The city maintains some eight recreational leaders throughout the year and more than double this number during the summer. South Mountain Park, embracing 14,672 acres, is the largest city owned Park in the United States. Phoenix has four parks with swimming pools in addition to 20 other play area parks. Regular tournaments are conducted in swimming, soft ball, base ball, badminton, tennis, ping pong, croquet, shuffle board, and horse shoes. The WPA cooperates with the city department in the supervision of the recreational centers and parks. Phoenix' park system is valued at \$1,000,000.

Horse Thief Basin covers 4,000 acres and is 90 miles away from the city. It forms a delightful recreational center for Phoenix citizens on vacation.

Total park coverage belonging to the Phoenix municipality is 18,976 acres. Three of its parks are outside the city limits and have a total acreage of 18,673 acres. The total area of the parks inside the city limits is 296.3. The following is a list of the 22 parks within the city limits of Phoenix and their acreage; Encanto Park—202.27 acres; Encanto Playground—16.74 acres; Palmercroft Strip—3.13;

Harmen—9.19; Monterey—11.20; Coronado—11.00; East Lake—1.091; University—8.318; Phoenix Municipal Stadium—4.13; Library—3.708; Central—2.178; Woodland—3.708; Grant—2.07; Townsend—2.00; 19th Avenue and Van Buren—1.26; Roosevelt—.54; Verde—3.50; City Hall; Old Post Office; Broadmoor; 3rd and Holly; Alvarado. The last named group represents narrow strips or blocks of territory which are insignificant as to area and serve purely for ornamental purposes. Of the parks within the city, four serve for general playground and recreational purposes, Encanto Park serves as a playground for boating and golfing. Six have swimming pools, while all except the purely ornamental parks have children's playgrounds with wading pools. The strictly ornamental parks are Palmercroft Strip, Library, Woodland, Roosevelt, Central, City Hall, Old Post Office, Broadmoor, 3rd and Holly, and Alvarado.

The Municipal Stadium park serves the purpose of facilities for the more important base ball, and soft ball games and for boxing and wrestling.

Only two of the recreation and playground parks are as yet adequately equipped. University Park represents the summer specialization because of its abundance of shade trees, while Encanto playground has been developed primarily for winter use. The parks are well equipped.

Approximately \$115,000 will be spent on the parks and their maintenance in the 1940-41 fiscal year.

Phoenix adopted the Civil Service Commission in 1924 and since that time has eliminated the Spoils System, and incorporated the Merit System.

In brief summary, Phoenix since 1914 has operated under the commission-city manager form of municipal government. The city manager is comparable to the business manager of a large corporation selected on the basis of training and ability. He has the authority to appoint 11 important administrative officers, prepare the annual budget, and direct the entire administration. The council has entire control over the manager through its power to appoint and dismiss. The city manager is the commission advisory expert on all questions of municipal policy. The commission is the legislative body of Phoenix and operates by city ordinances. The city manager has power over some 12 or 13 department heads not on Civil Service, but on the other hand, he must abide by Civil Service provisions concerning the department heads on Civil Service. Of the 646 city employees all but the 13 who are, incidentally, administrative heads, are subject to Civil Service regulations.

Phoenix with a population of 65,000 has an assessed valuation of \$70,500,000. It has a tax rate of \$1.70 per one hundred dollars of assessed valuation. It takes \$1.00 of the tax rate to service bonded indebtedness, leaving some 70 cents for municipal operation

Phoenix increased its area from 4,112 acres in 1930 to 7,200, acres in 1941, or an increase of some 3,000 acres. It has had the city manager form of government since 1914, and each city manager, good or bad, lasts about nine months. It costs \$2,500,000 annually to run Phoenix, about 50 per cent of revenue coming from the taxes and the other 50 per cent from revenue other than taxes. Suffrage is widespread and the electorate is becoming more intelligent about municipal affairs.

## CHAPTER XXII

# CITIES OF THE VALLEY

The principal cities and towns in Maricopa County are Mesa, Tempe, Tolleson, Wickenburg, Buckeye, Chandler, Gilbert, and Scottsdale. (1) Peoria, Gila Bend, Litchfield Park and Scottsdale are unincorporated but are important units.

### MESA

Mesa (2) was incorporated as a village on July 5, 1883; as a town on March 29, 1897, and as a city on August 20, 1929. Its population has steadily increased from 1900 to 1940 as follows: 1900, 740; 1910, 1692; 1920, 3036; 1930, 3711; 1940, 7224. However, its valuation has decreased from a high of \$3,345,957 in 1920 to \$1,816,910 in 1940, while the actual amount of tax levy has gone down from \$26,433 in 1920 to \$19,441 in 1940. The tax rate has increased from 79 cents in 1920 to \$1.13 in 1935. The tax rate was \$1.07 per \$100 of assessed valuation in 1940. The gross value of personal property in Mesa was valued at \$4,308,560. The utility customers served by the City Utilities Department include: electric, 1862; gas, 1201; water, 1976. The average daily consumption of water is 1,600,000 gallons. Some 14,000 KWH of electricity are used daily. The average daily consumption of gas is 4,000 therms.

The WPA payroll of the City of Mesa sponsored projects amounts to about \$12,500 monthly. Improvements to the city made in cooperation with WPA, PWA, and NYA included city hall, library and Chamber of Commerce building, public rest rooms located on City Hall grounds, hospital building and landscaping grounds, Rendezvous Park recreation facilities and bath house, plant and store-room buildings for all city departments, cemetery street paving and landscaping, irrigation, underground cement pipe system, water and gas main extensions, street paving, including gutter, curb and sidewalk, mapping and records of all city streets and utilities, and re-capping old pavement and stabilizing dirt streets; NYA-Little Theatre building which was city sponsored although the cost was paid by Little Theatre and recreation association, ball park stadium and park improvements (not completed), mapping and record project, now in progress at City Hall; water system improvements and new well.

Mesa lies 16 miles east of Phoenix and in the Salt River Valley. It includes the largest organization of Latter Day Saints within Arizona, and is the center of one of the most prosperous Stakes of the Mormon Church. The soil is of the best, without alkali, and its products cover almost anything that can be grown in the temperate zones.

At all times since its settlement, Mesa has prospered, but its prosperity has been especially notable since the development of the Pima long staple cotton. The region is one of comfortable, spacious homes and of well-tilled farms. It is second only to Phoenix in size and importance

within Maricopa County. The community was one of the first to enter the association that secured storage of water at Roosevelt.

Mesa was settled by Latter Day Saints from Bear Lake County, Idaho, and Salt Lake County, Utah. The former left Paris, Idaho, September 14, 1877, and they were joined at Salt Lake City by the others, from whence they traveled the entire distance by wagon, using the Lee's Ferry route, and coming over the forested country to Camp Verde. The immigrants with their families numbered 83 individuals.

The settlers stopped at Camp Verde to give themselves and their horses a much-needed rest. A scouting expedition was sent out, and within a few days had covered 125 miles. They were attracted by the possibilities suggested by the remains of an ancient canal which they found. Legal appropriation of the head of this waterway was made. Charles Crismon, one of the scouts, and two others were left behind to begin work on the irrigation project, while the others went back to Camp Verde to pilot the rested travelers southward.

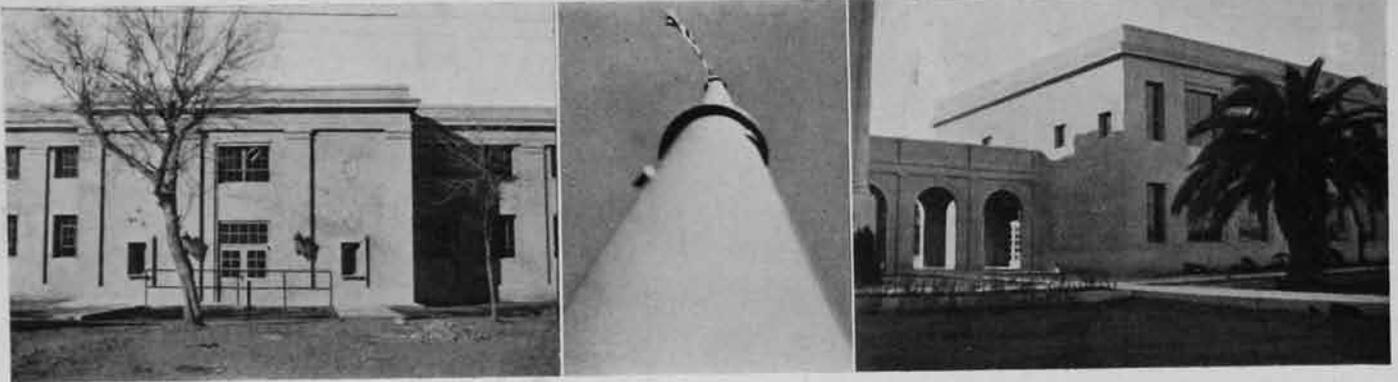
The finding of the canal, dug more than 1000 years before, was considered Providential. It was cleaned out for the use of the pioneers at a cost of about \$48,000, including the head, and afterward was enlarged. It was estimated that it saved the settlers some \$20,000 in cost of excavation. There were 123 miles of these ancient canals.

Mesa was founded by the Mormons in 1878. The Mesa Canal was made in 1878. Mesa has six churches, and a



Mormon Temple at Mesa

(1) Annual Report—Clerk of Board of Supervisors, Maricopa County, 1939, pp. 7.  
(2) City of Mesa Pamphlet, 1883-1941.



Mesa Union High School

splendid school system. Mesa Union High School is one of the finest in Arizona. It accommodates some 1,000 students. Harvey L. Taylor is the high school superintendent.

Among its civic organizations are: The Chamber of Commerce, Rotary, Lions and 20-30 Club, together with the Junior and Senior Womens' Clubs. Mesa annually sponsors the Arizona Citrus Show, a gala event, where a queen is elected and where everybody dons Spanish attire.

Mesa has a library of more than 4,600 volumes and 4,500 files of periodicals. It is noted for its wide streets. Mesa has a hospital which gives first-class medical facilities to the entire Southside.

It is famed throughout the entire Southwest for its beautiful Mormon Temple, which was built in 1927, at a cost of \$800,000.

Mesa is now engaged in a construction of a \$152,000 paving project of the four major highways which pass through it, together with much local paving and the construction of an underpass on the Chandler highway.

Professor Holland Melvin of Mesa Union High School gives the following history of Mesa:

"Mesa is sometimes called the "Gateway City" because it is the first city in entering the Salt River Valley irrigated area from the east. It has grown to be a thriving community, with an exceptionally industrious and sturdy stock of people. Unlike many other Arizona centers of population there has not been a large number of health seekers. Many of the people come because of a desire to participate in the economic privileges of this community. Many of the Mormons came in order to be near their relatives and friends. On the whole the population seems to be of an especially progressive and enlightened type.

"The early settlers came in order to take up new lands. They had prepared the Indians for their coming by sending missionaries to them from 1855 to 1875. So when they came the Indians were in a friendly mood. They were pioneers willing and eager to face the rigors of a new country. There were three migrations of settlers. The first came in 1875. Daniel W. Jones and party visited the Salt River Valley which doubtless led the Mormons to arrange for making a settlement the following year. Early in 1877 Daniel W. Jones along with P. C. Merrill, D. J. Merrill, Thomas Merrill, S. A. Rogers, Joseph McRae, Issac Turley, and A. O. Williams and their families, numbering seventy-one in all, were organized into a company by President Brigham Young at St. George, Utah, and started for Arizona, D. W. Jones in charge. They crossed the Colorado

River at Stone's Ferry and arrived at where Lehi is now located in the Salt River valley, without mishap, on March 6. A good many of this group helped in the settlement of Mesa.

"The second migration started in 1877. This company were the real founders of Mesa, and the builders of the Mesa canal. The start was made from Paris, Bearlake County, Idaho, on the 14, of September, 1877, and consisted of the leader, Francis Martin Pomeroy, and a company of seventy-five.

"The third large migration included a strong company from Montpelier, Bearlake County, Idaho. The party consisted of John Hibbert, Hyrum S. Phelps, Charles C. Dana, and Charles Warner. They came on January 17, 1879, with about fifty-one people in their party.

"Their was some trouble over a suitable name for Mesa. When a postoffice was first put in the postal authorities would not let them use the name Mesa since they were afraid it would become confused with Mesaville, another little village. They changed the name to Hayden's Ferry for a time and then to Zenos, a prophet in the Book of Mormon. Soon after the postoffice at Mesaville was closed and the Mormon village in Arizona became Mesa.

"Population grew fairly rapidly. In 1886 Mesa was described as being 'a Mormon villiage of about 300 population, five miles east of Tempe. It maintains two or three small stores, a fine public school, and a Mormon Church. The inhabitants are principally interested in fruit raising and agriculture, and the place is in the midst of as fine a fruit raising country as is to be found anywhere.'

"About 1907 we find the beginnings of an industry that was destined to become one of the greatest in the Mesa district. This was the growing of citrus. The earliest citrus groves were owned by Mr. Brown, Mr. Sargent, and Mr. Millet, bearing in 1907. In 1909 groves were owned by Mr. McCullough, Mr. Graylor, Dr. Shouse, Mr. Morris, and Calvin Phelps. Most of these were lost in the freeze of 1913, however. In 1910 Jack Frazier, George Cole, and Rube Hess set out groves

"Cotton culture continued to increase. By 1917 they were having 'cotton days' in Mesa. Because of the good price received for cotton during the war the farmers were in no humor to cease its cultivation. The merchants of Mesa were offering a \$50 prize to the farmer who got the first bale of cotton to the gin. The period of rising prices and an expanding cotton market caused the farmers to drop all pretenses at diversification and they went solely into the raising of cotton. In general the descendants of the early settlers stayed with the land. This was in accordance with their faith.

"Economically the depression of 1921 hit Mesa with terrific force. One citizen claimed that it was far worse in its noticeable effects than the depression of 1930. There

was an enormous number of foreclosures and land transfers. Before the crash was over the First National Bank had had to levy a one hundred per cent special assessment on stock. The Salt River Valley Bank was taken by the Valley Bank. Short staple cotton in the lint and in seed sold higher than long staple cotton. Neither was profitable. The farmers began to see the disastrous effects of having sold their dairy cattle during earlier years in order to grow cotton, for the bottom dropped out of the cotton market. They had depended upon one crop too much. Cotton had been depended upon to the exclusion of practically everything else in an agricultural way. When the cotton prices dropped to low levels then the entire Mesa district was in the grip of one of the most noticeable panics in its history.

"Mesa is supposed to have been laid out according to the rules laid by Joseph Smith for an ideal city. Mesa certainly has these characteristics to a remarkable degree. Wide streets, and big blocks are particularly characteristic of Mormon cities.

"Many of Mesa's homes have modern conveniences. In 1933 there were 500 gas consumers in Mesa, 1200 electric consumers, 1600 water consumers, and a range of all the way from 845 to 1000 telephones in use within the municipality.

"Population growth within recent years has been rapid growing from 3,711 to 7,211 in the last decade. This was the greatest period of growth in the history of the city."

#### TEMPE

Tempe is located some nine miles east of Phoenix at an elevation of about 1100 feet. It is in the center of the Salt River Valley and is one of the most productive irrigated districts in the United States. It was founded in 1870 by Charles Trumbull Hayden, established at the site of Hayden's Ferry. He also built the Hayden Flour Mill, giving Tempe its major industry. The Mormon settlement in Tempe was started July 3, 1882. On March 10, 1885, the Arizona legislature provided for the establishment of Tempe Normal School. The first class was graduated in 1887. Tempe is known throughout Arizona as the home of Arizona State Teachers College. Its growth has been rapid and today more than 1300 students enjoy its education facilities. The rapid growth of ASTC is due to President Emeritus Arthur Matthews, Doctor Ralph W. Swetman, and Doctor Grady Gammage, who have built it up into a splendid institution. The student body has grown every year since 1928 with the exception of 1932 and the annual increase has been between 10 and 20 per cent.

Tempe has nine different church denominations, a high school, three city schools, and two country schools. Tempe Union High School is modern and well-equipped.

At Tempe is located the No. 1 Borden plant; the Desert Citrus Products Association; a branch of Arizona Flour Mills; Hayden Flour Mills; a branch of First National Bank of Arizona; one of the major water pumping plants of the Salt River Valley Water Users Association; a first-class sand and gravel company, which furnishes many valley contractors with material; a small packing plant; a branch of the Central Arizona Light and Power Company; a mod-

ern telephone exchange which will have its own dial system; the Casa Loma Hotel; Southside Progress printing company; a modern movie theatre; a U. S. Entomological Laboratory; a new City Hall; and a new postoffice has been authorized and will soon be built. Tempe is engaged in paving projects totaling \$253,000. Tempe Beach Swimming Pool and Playground is one of the finest in the state. The Tempe Bridge across the Salt River was completed in 1931.

The following story of Tempe's growth was written by the Reverend Norman Taylor for this survey:

"Tempe was named for its likeness to the Vale of Tempe in ancient Greece by 'Lord' Darrell Duppa, a young English adventurer. At first it was known as Hayden's Ferry after its founder Charles Trumbull Hayden. Located at the foot of Tempe Butte it is the location of the most dependable crossing of the Salt River, originally a ferry, now railroad and highway bridges.

"In the eighteen seventies Charles Trumbull Hayden saw the possibilities of irrigating the land surrounding Tempe. He established the first store and a ferry, provided merchandise to Jack Swilling and his associates who dug the Tempe canal. From them he secured water power for the first flour mill and began to produce flour in 1874. Today under those earliest water rights, Tempe farm lands produce hay, grain, cotton, winter vegetables, citrus and dates, provides pasture for thousands of head of sheep and cattle.

"Tempe is the oldest educational center in the state. From nursery school to the graduate division of the State Teachers College the finest opportunities are available. The Territorial Normal School was founded in 1885 and has become one of the best equipped colleges of its size in the nation—with a winter enrollment of over 1300 students and a summer session enrollment of over 400. The college is at the heart of the town.

"The population of Tempe increased 15 to 20 per cent in the last decade. Incomplete census figures for 1940, exclusive of the 1300 college students, is just under 3,000 persons. The city is on two main transcontinental highways, U. S. 60 and U. S. 80, and on the main state highway running north and south. It is on the main line of the Southern Pacific railroad, nine miles from Phoenix, the state capital, and at the heart of the population center of the state. The altitude of Tempe is 1,150, avoiding the difficulties both of sea level and of excessive height.

"The future of Tempe is that of a wholesome community of homes. As a college town and an agricultural center it promises to continue to be a substantial little city without boom growth."

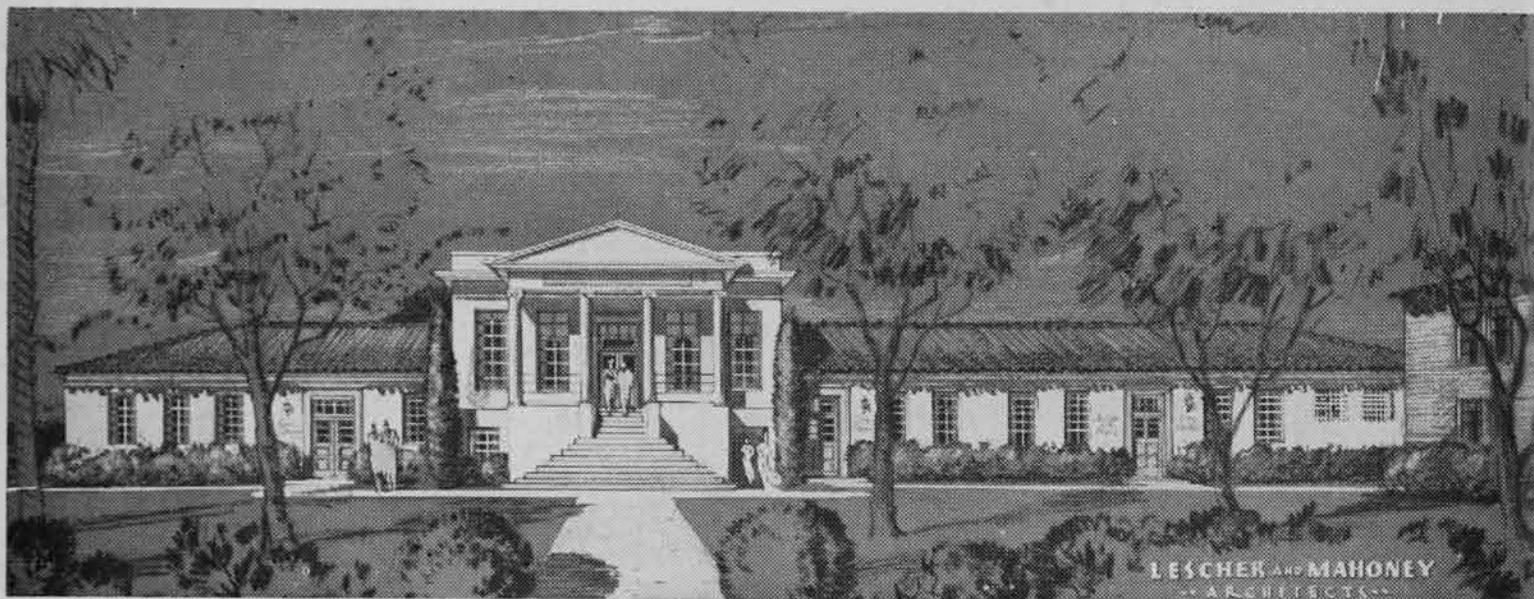
Tempe (3) has some 64 retail establishments doing an annual business of \$1,073,000. These are directed by 59 entrepreneurs who employ 99 wage-earners whose payroll is \$929,000.

Tempe has a gross valuation of \$2,782,313, with a net valuation of \$1,098,308. Its assessed valuation and its annual budget is about \$70,000.

Four U. S. Highways, namely, U. S. 60, 70, 80, and 89 run directly through Tempe, which is also located on the main Southern Pacific line to Phoenix and is but seven miles from Sky Harbor airport.

(3) U. S. Department of Commerce. 'Retail Trade-Arizona-1939,' pp. 7, Washington, D. C.

(4) Annual Report—Clerk of Supervisors, Maricopa County, 1939, pp. 7.



New City Hall in Tempe

### TOLLESON

Tolleson is claimed to be the largest cantaloupe producing center in the United States. Nearby is one of the largest beet seed storage sheds in the world. (5).

Tolleson saw its birth during the year 1910 when its founder, W. G. Tolleson, (6) bought 160 acres of land at the southwest intersection of Lateral 22 and Yuma road, a few miles out of Phoenix.

Now Tolleson has developed into a rich, productive area by irrigation and farming. The first agricultural ventures consisted mainly of alfalfa and wheat, only the dairying industry vying with these for supremacy. The planting of long staple cotton was then introduced. Its cultivation immediately became so popular and important that it advanced to front rank and almost threatened to crowd out the other agricultural products entirely. This was very satisfactory so long as the market held good and stayed steady, but after a few had made money from it, the other people rushed to do likewise. Soon there was a plethora of cotton farming with great over-production. The bottom dropped out of the cotton market with sickening abruptness. Cotton is now a far less important agricultural item, although it is still grown in many places in the area.

The most important industry of Tolleson is primarily the growing and shipping of the lettuce and cantaloupe crops, a comparatively recent development. They are so ideally suited to the climate, land, and people that they have formed the actual foundation of the town's rapid growth and success.

The Japanese of the district have taken a special interest in growing these crops, both because of the rela-

tively high monetary returns and similarity in cultivation to Japanese agricultural processes. Lettuce and cantaloupe sheds have grown from six or seven sheds in 1932-33 to between fifteen and twenty lettuce-cantaloupe sheds in 1941.

There is a limited amount of truck-farming of carrots, cabbage, cauliflower, broccoli, and watermelons and is done mostly by the Hindus and Japanese. Dairies are prevalent and provide a large source of the area's income.

The cultivation of sugar-beets was also tried about Tolleson, and they are still being grown for the seeds.

Tolleson has a Christian Church of God, Catholic, Baptist and Assembly of God Churches. But to the wide prevalence of the Mexican and Spanish population in this area, the Catholic may be the dominant religion.

The educational set-up in the district of Tolleson is highly desirable. There is a grammar school with an enrollment of approximately 400 students, while the total of the high school is 193. The Tolleson Union High School has an auditorium with a seating capacity of 500. It possesses a large modern gymnasium as well as a modern agricultural department and shop with up-to-date machinery and equipment. The other departments of home economics, general science, and commerce are similarly well-equipped and modern.

The need for local government has to some extent been realized in the building which serves the needs of the people as Town and precinct court. A cursory survey of the town's business assets reveals the following small business or industries: 7 grocery stores, 1 dry good store, 4 major service stations, 2 major garages, 5 restaurants, 1 theatre, 1 lumberyard, and hardware supply, 1 barber and beauty shop, 2 drug stores, 8 cottage courts and 1 clinic.

(5) Located at Cassion three miles from Tolleson.

(6) Material gathered by Monica Gilbert.



Arts Building, Arizona State Teachers College at Tempe

Tolleson also has a large modern ice-plant located a little way outside of town. It has an ice-storage capacity of 50,000 tons and is second in equipment to few or none in the Southwest. The purpose of the ice-plant is primarily to serve the lettuce and cantaloupe sheds, although it does some business in the town as well.

The Tolleson Women's Club was organized in 1935 with seven members. At the present time it has thirty-five members and has as its objective the social welfare and educational furtherment of the community. It helps finance visual and dental care for impoverished children of the grammar school. The Men's Club has been organized only since 1939, and it has just recently joined the International Lion's Club, having forty charter members in it. The present population of Tolleson is now 1,724 (7) which represents an 89.9 per cent increase over that of 910 in the 1930 census. This constitutes one of the greatest

increases of population in Maricopa County, boding well for the future.

#### WICKENBURG

Wickenburg is the number one Dude Ranch Capital of the World. Tourists and winter visitors come from all over the United States and from foreign countries to this fascinating town, valued at some \$400,000, which dates back to 1863 when Henry Wickenburg discovered the Vulture Mine.

It has a population of 1,100, has seven guest ranches, several rooming houses and hotels, modern auto courts, a supply of pure mountain water and an excellent climate. The Round-up Club serves as the Chamber of Commerce. It has no city taxes. the entire cost of municipal government is met by revenues from city-operated utilities.

(7) Taken from the census taken by Mrs. Lucy T. Whyman and submitted to Mr. Monico Gilbert of Tolleson.

Among other things it has a hospital, three churches, good school system, theatre, weekly newspaper, airport, bakery, ice-plant and swimming pools.

The following brief sketch of Wickenburg was prepared for this survey by Oliver L. Corbin:

"Wickenburg, Arizona, 'the guest ranch capital of the world' owes its perfect setting to a generous and bountiful Nature. The town, which has all the most charming features of a typical western community, nestles in the valley of the Hassayampa River. Surrounded by rugged mountains which break the force of the winds, and nourished by an unlimited supply of mountain water, this valley offers unique climatic advantages to be found nowhere else in the world.

"J. B. Priestly, author and world traveler, after spending two seasons in the Wickenburg vicinity wrote in Harper's Magazine: 'This town claims, with some measure of success, to have the best winter climate in Arizona. It has, therefore, one of the best winter climates in the world, which is notoriously short of good winter climates. I prophesy that this Wickenburg district will become increasingly important in the near future. I ask for no better weather. The railway folders call this a wonderland. For once in their lives they are speaking the truth.'

"Wickenburg is within easy driving distance of several of the greatest scenic wonders of the world, including Grand Canyon, Boulder Dam, the Petrified Forest, various dwellings of the early Indian inhabitants of Arizona including Casa Grande, and many other points of interest.

"Due to its climatic advantages and its accessibility to points of interest, the Wickenburg area is ideally situated for the location of guest ranches. These are seven of these ranches located in a radius of four miles from Wickenburg; Kay El Bar, Monte Vista, Remuda, Bar F X, Triangle W, Lazy R C, and Sombrero Ranch. Horseback riding is the chief sport at these ranches, but many of them have tennis courts and some have a swimming pool, so there is no lack of activity for the energetic guests. On the other hand, many winter visitors enjoy just loafing in the sun and the ranches are perfectly equipped for that. There is nothing quite as luxurious and comfortable as just loafing in the warm sunshine of Wickenburg's pleasant winter.

"The Wickenburg visitor who enjoys hunting finds he has chosen an ideal spot. The finest quail shooting in the country is to be had at the very outskirts of town. In addition, whitewings, rabbits and deer are plentiful in the immediate vicinity, and elk and other big game is to be found within a day's drive. Also within a few hours drive the angler will find choice water wherein he may try for trout, bass and other game fish in season. In addition to the various facilities for sports and entertainment offered by the individual ranches, during the winter season a bi-weekly rodeo is sponsored by the ranches and held at the Remuda Ranch rodeo grounds. This has become a popular feature of the winter program.

"On June 23, 1940, dedication ceremonies were held at the reconstructed wishing well on the Hassayampa River. Long before the white man settled in this part of the state, Yavapai and Maricopa Indians used a well very near this spot. The water supply was known to even the earliest travelers, Pauline Weaver, an early scout and explorer, having stopped here in 1840. The original well was located just north of the present site in a grove of trees. Its importance may be seen since it was the first available drinking water this side of Agua Fria and was on the road from Tucson to Prescott. Wickenburg, established in 1862, was one of the largest cities in Arizona by 1866, so other wells were dug to supply the community. In 1890 when the Walnut Grove Dam, some eighteen miles

upstream, broke, the original Wishing Well was filled with sand and abandoned.

"There is an Indian legend saying that wishes made at the well will come true, if, after drinking of the water, the wisher faces north and tosses a bit of silver coin or other valuable, into the well. The modern traveler who pauses here may now take advantage of this ancient legend. The legend says too that he who drinks of the water of the Hassayampa River can never tell the truth again and that he is certain to come back to this region. The present well was built by the Round Up Club of Wickenburg. At the dedication ceremonies a bronze plaque, inscribed with the history of the well, was presented by Charles Fields. Mulford Windsor of the department of archives and libraries made the dedication talk, recounting Wickenburg history.

"During the course of his talk Mr. Windsor said, 'I have in mind the Hassayampa's place in Arizona history. Historical background is a priceless cultural heritage, but a colorful past is also a powerful magnet. No state in the Union can boast a more spectacular, more virile history than Arizona, and this district about Wickenburg, and up and down the Hassayampa's course came near to being the center of the stage during the most exciting period of early Arizona. It had more than its quota of picturesque characters, whose lives were stranger than fiction and whose deeds are worthy to be told. It was a field of action, tragedy, blood and heroism. Its important location on the route by which military and industrial supplies were transported from the Colorado River to all over Arizona, Indian massacres, desperate battles, intrepid pioneers, one of the world's outstanding gold discoveries—these are the materials for scores of absorbing narratives, few of which have been completely told.' "

#### BUCKEYE

Buckeye, famous for its annual "Hells-a-poppin" celebration, has a gross valuation of some \$629,585. (8). Buckeye is the center of a fifty year old irrigation project. It was named by a group of pioneers from Ohio, the Buckeye state. Its water rights are some of the oldest and most authentic in Arizona and irrigate some 20,000 acres of fertile soil. Irrigation comes from the 41,000 acre Roosevelt Irrigation district and 9,000 acre Arlington Canal Company project. (9). Some 15,000 bales of cotton are raised annually on same, as well as raising large amounts of chilean alfalfa. Excellent crops of wheat, oats and barley are grown. Honey-production and poultry raising are profitable.

Buckeye is a wild-western, Hells-a-poppin town with a personality. It is located thirty-two miles west of Phoenix on the Southern Pacific Railroad. It has an abundance of cheap electric power, and additional irrigation possibilities from eighty five deep wells.

#### CHANDLER

Chandler is a dignified, attractive prosperous community some twenty-three miles from Phoenix. It is on the main line of the Southern Pacific Railway with direct Santa Fe Connections.

Winter visitors annually stop at the San Marcos Hotel, the Plaza Hotel and La Hacienda Inn or some of the attractive motels.

(8) Report of Clerk, Board of Supervisors, Maricopa County, 1939, p. 7.

(9) 1939 Romantic-Progressive Arizona Edition, Section 7, p. 11.



An Aerial View of Chandler

Chandler has a fine high school system, a Catholic School as well as a good private and public school system. Eight denominations are represented among Chandler churches. It has several women's and men's clubs, lodges and organizations. Chandler offers hunting, gold, tennis, swimming, horseback riding and an annual rodeo for entertainment around Thanksgiving.

Chandler has a gross valuation of \$1,095,386 and a city tax rate of \$2.65. The city offers great possibilities for residential and industrial progress. It is a modern city of fine homes, schools, and churches. It is noted for its alfalfa and cotton production as well as its sheep and cattle feeding industry. (10)

#### GILBERT

Gilbert, with a population of 812 persons, has a gross valuation of \$458,418. Its homes range in value from \$3,000 to \$5,000. It has four churches, a good high school and grammar school, and American Legion chapter and auxiliary and a Lion's Club with 21 charter members. It has a low local tax rate of \$1.42.

Gilbert is an agricultural and live-stock feeding community near Chandler. The Western Cotton Products Company operates a long staple cotton gin, erected at a cost of \$25,000; and also a short staple cotton gin, erected at a cost of \$35,000 is being operated by them. The Gilbert Ginning Company operates a long staple cotton gin and a short staple gin. The Western Seed Production Corporation runs the best seed plant in Gilbert. Gilbert is one of the largest hay markets in Arizona.

#### GLENDALE

Glendale (8) is noted as being in the heart of a 30,000 acre agricultural section in the fertile Salt River Valley. It is northwest of Phoenix in U. S. Highways 60, 70 and 89. Glendale was founded nearly fifty years ago by John Isaacs, Sam S. Stoutt, and A. S. Straw. Its elevation is 1152 feet, some 70 feet higher than Phoenix. It is essentially a city of homes. The population is approximately 4,000. It has a municipally owned water system with nearly a 1,000 connections. The Mountain States Telephone and Telegraph Company maintains a branch with nearly 600 connections. It has low cost natural gas and other utility services available.

Glendale Union High School was completed at a cost of \$109,000.000 in cooperation with the PWA. It accommodates some 750 students and teachers in its nine buildings. It has a student body of 550. Glendale also has a \$223,400 grammar school whose 34 classrooms house 185 students and nearly 40 instructors. Glendale's library which started in 1896, has 10,000 volumes. A branch of the Maricopa County Free Library is also maintained in the same library.

Glendale is the center of a large agricultural area in which lettuce, cantaloupe and many other crops are grown. It is also a packing center for this produce with warehouse after warehouse shed along the track, modernly equipped to sort, grade, pack, and ship lettuce, melons of many varieties, and other vegetables.

(10) Chandler Chamber of Commerce, 1941.

(11) Romantic, Progressive Arizona, 1940 edition, Section 6, p. 11.

Glendale was the home of Phoenix's original ostrich farm, when ostrich plumes were in favor with the ladies of the land as adornment for hats. The United States poultry experimental station for Arizona is located on the former ostrich farm giving Glendale the title of being "the Egg Basket of Arizona." Dairying and livestock are also of major importance in Glendale.

Glendale has an active Chamber of Commerce which is attempting to achieve the following objectives: (1) Better and more road improvements. (2) A large and attractive neon sign across the intersection of Grand and Glendale Avenues to call attention to the city. (3) Adequate signs, giving distance and direction, on roads leading to Glendale. (4) More and better publicity through pamphlets and newspaper advertising. (5) Encouragement of holiday decorations in city and community. (6) New and better home building. (7) Encouragement and sponsoring of annual affairs as the "beautiful campaign" and the Hallowympics. (8) Establishing of new businesses and industries in the community. (9) Adequate facilities for trade and exchange at prices in keeping with those offered in larger centers. (10) Encouragement for the support of local business and industries to the end that they may offer adequate facilities at fair prices. (11) Encouragement and sponsoring of more and better recreational programs.

Glendale (12) had 80 retail stores doing an annual business of \$1,797,000 in 1939. These establishments are operated by 65 proprietors who employ 169 individuals. The retail payroll is \$163,000. Glendale has 24 food stores with an annual business of \$484,000. Four apparel stores have sales of \$68,000. Five automotive stores in Glendale did a business of \$427,000. Glendale's eighteen filling stations had sales in 1939 of \$195,000. Glendale is becoming a prosperous community.

Glendale's (13) realty was listed at \$356,775; improvements at \$1,360,861; personal property at \$457,530; gross value \$2,175,166. Exemptions amounted to \$908,620 and net valuation was \$1,266,546. The city tax rate for 1939-40 was \$2.29.

Glendale has been selected as a major aviation base by army authorities, where large numbers of officers and personnel will be quartered. This will not only aid business but also the National Defense program.

#### SCOTTSDALE

Scottsdale, (14) unincorporated, is located twelve miles northeast of Phoenix, at the foot of Camelback Mountain. This residential community is at the edge of the citrus belt and in the heart of a region of diversified farming. Scottsdale has two elementary schools and a high school. There are also high class private schools in the district. Public schools A. D. A. in 1939 was over seven hundred. There are three churches, two protestant and one catholic. Social and civic organizations are active.

Chamber of Commerce, American Legion, Red Cross, Women's Club, all have thriving memberships. Several guest ranches and resort hotels are in or near Scottsdale. The water supply comes from deep wells which assure an abundance of pure soft water. Central Arizona Light and Power Company contracts the electrical franchise. Telephone connections are on the Phoenix exchange. There are many general stores, groceries, markets, and service stations. Several paved roads give access to the neighboring cities of Phoenix, Tempe and Mesa.

Scottsdale is in the center of the citrus belt. Much cotton is also raised in the vicinity. The soil is fertile with good irrigation possibilities. It is in an exclusive section of the desert near the Arizona Biltmore, Jokake Inn, Ingle-side and Camelback Inn. It is near Papago Park, the State Welfare Sanitarium and Camelback Mountain.

#### PEORIA

Peoria (15) is in the center of a rich farming area, some thirteen miles northwest of Phoenix on U. S. Highway 89. Earliest pioneers were D. S. Brown and J. B. Greenhut who erected the first store buildings, used also as the U. S. Post Office. Peoria suffered a setback in 1917 when the town was practically destroyed by fire. Major crops are short-staple cotton, Pima-long-staple cotton, alfalfa, citrus, corn, wheat, etc. Truck farming is profitable. The Chamber of Commerce owns and operates the domestic water system. The population is about 700. The woman's club of Peoria has some 65 members. The town has four churches and a good educational set-up.

#### GILA BEND

Gila Bend is 78 miles southwest of Phoenix on U. S. Highway 80. It has a population of 1,500. Gila Bend is the center of and market for a large farming community. Mining is an industry there of increasing importance.

#### LITCHFIELD PARK

Litchfield Park (16) some 17 miles west of Phoenix, is the tire testing grounds of the Goodyear Tire Company. It is the locale of Wigwam Inn or Lodge, of national fame. This consists of the main lodge and some 16 bungalows or wickiups. It has a golf course, swimming pool, saddle horses and all modern conveniences and facilities of a A-1 Dude Ranch. The 17,000-acre Wigwam ranch embraces huge cotton fields, citrus groves, alfalfa and grain fields and cattle ranges.

- (12) U. S. Department of Commerce: Bureau of Census "Retail Trade—Arizona for 1939." 1940, Washington, D. C.  
 (13) Annual Report, Clerk of Board of Supervisors, Maricopa County, 1939.  
 (14) Judge W. W. Davis provided factual material.  
 (15) Romantic Progressive Edition of Arizona Republic for 1940, published by Arizona Publishing Company, November 16, 1940.  
 (16) Arizona Publishing Company, Romantic-Progressive Edition, November 16, 1940, Section 2, p. 8.



San Marcos Hotel at Chandler

## CHAPTER XXIII

# MARICOPA COUNTY

When Arizona became a territory in 1863 it was divided into four counties, Mohave, Yavapai, Pima and Yuma. Yavapai, which later became known as the "Mother of Counties" was as large as the other three combined. (1) In 1863, the Board of Supervisors of Yavapai County formed the Phoenix election precinct. (2) Maricopa County was born from its mother, Yavapai, in 1871. Other counties were gradually formed until there were fourteen in Arizona as contrasted with 63 in Colorado; 17 in Nevada; 29 in Utah; 67 in Pennsylvania; 62 in New York; 31 in New Mexico and 254 in Texas. (3) Arizona has followed the modern trend made possible by modern communication and transportation facilities of having a minimum of large county governmental units. The county is usually considered to be "the dark horse of American politics." There are 3,000 counties in the United States.

Maricopa County had a population of 185,000 in 1940, which is 37 per cent of the total population of Arizona. The area of Maricopa County is 8,891 square miles. The population density in 1940 was approximately 21 people per square mile, as contrasted with 17 per square mile in 1935. About 4800 square miles, or 54 per cent of Maricopa County is in federal reserves which include National Monuments, Military Reservations, National Forests, Indian Reservations, etc.

Maricopa County has increased in value from \$7,975,000 in 1893 to \$108,602,948 in 1940. This does not include \$68,667,000 in tax-exempt property. The natural resources of Maricopa County are essentially climate, agriculture, water, and some mining. The tourist trade amounts to some \$35,000,000 in the Valley of the Sun annually. (4).

A breakdown of Maricopa County's wealth for 1939-40 would be illuminating. (5). The county assessor states that irrigation districts, canals, bridges, dams, laterals and equipment amount to \$38,556,166, which represents about 24 per cent of the total wealth of the county. This suggests that Maricopa County is very much an agricultural section. The Salt River Valley Water Users Association claims that they invest in irrigation power and other works around \$43,000,000. This would include, of course, Roosevelt Dam, which, with its power plant, cost \$5,560,000; Horse Mesa Dam on the Salt River with its power plant, which cost \$5,248,000; Mormon Flat Dam on the Salt River which cost \$2,497,000 including its power plant; Stewart Mountain Dam and power plant which cost \$2,839,000; and Bartlett Dam on the Verde River which cost \$4,000,000 as

well as Granite Reef Diversion Dam, Intake Dam, Cave Creek Flood Control Dam, etc.

Maricopa County is fortunate in having such cities as Phoenix, Mesa, Tempe, Chandler, Tolleson, Scottsdale, Glendale, Peoria, Buckeye, Wickenburg, et. al. The assessor lists city lots and their improvements at \$58,582,492. Irrigated and desert lands are valued at \$17,648,075. Industrial plants were listed at some \$2,802,000, farm machinery at \$2,098,000 and banks at \$7,415,000, merchandise at \$3,344,000, furniture and fixtures at \$3,344,000, motor vehicles at \$1,960,000, and railroads were valued close to \$11,000,000. Utilities, including telegraph and telephone, amounted to more than \$10,000,000. The total value of Maricopa County is approximately \$175,000,000, less \$67,000,000 exemptions. These exemptions include cemeteries, \$68,000; churches, \$3,807,000; cities, \$2,291,000; county, federal and civic property, \$3,381,000; governmental wards and hospitals, \$1,000,000; irrigation districts, \$39,000,000; schools, \$7,000,000; State Highway Department, \$325,000; universities and colleges, \$1,104,000; other state property, \$3,357,000; and property of veterans and widows, \$5,200,000. Maricopa County, like other counties in Arizona, is administered by a board of three supervisors. The 1940 general election named John Foote, Charles H. Fields and George Frye as Maricopa County Supervisors, with James E. DeSouza as clerk of the board. (6). The powers of the Board of Supervisors are very clearly enumerated in the Arizona Revised Code Supplement of 1936. (7). The supervisors are clearly authorized to do the following: To supervise the official conduct of all county officers; and officers of all districts and subdivisions of the county charged with assessing, collecting, safekeeping, management and disbursement of all public revenues; to see that they faithfully perform their duties, and when necessary, require renewals of official bonds and make reports and present their books and accounts for inspections.

To administer the affairs of the county the supervisors have set aside \$16,560 for the fiscal year 1940-41.

The County Courthouse and City Hall are combined in a commodious structure six stories high and a block square, between Washington and Jefferson streets and between First and Second avenues. The scientifically planned Courthouse and City Hall was erected at a cost of \$1,063,528 in 1929.

The major divisions of the Maricopa County government are located in the Maricopa County Courthouse. (8).

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- (1) The second territorial legislature in 1863 divided Mohave County by a line east and west calling the northern part Pat-Ute. The U. S. Congress transferred Pah-Ute to Nevada in 1863.
  - (2) Phoenix was originally in Yavapai County.
  - (3) There are some 3,000 counties in United States. 'Municipal Index and Atlas' Pages 30-121—Published by American City Corporation, New York, 1940-41.
  - (4) M. E. Bemis, Chamber of Commerce, Phoenix, Arizona, February, 1941.
  - (5) Annual Report in Clerk of Board of Supervisors—1939, p. 4.
  - (6) Each of the three supervisors and the clerk receive \$2,400 annually. The chairman receives \$300 extra annually.
  - (7) Arizona Revised Code, 1935, Chapter 16, Paragraph 774, pp 124-5.
  - (8) The west wing of the Maricopa County Court is the City Hall which houses the administrative divisions of local government.

On the ground floor are the engineering, record and custodian rooms; criminal division of the sheriff's office; East and West Phoenix Municipal Courts; and the Maricopa County Library. The county treasurer, assessor, and recorder and the civil division of the sheriff's office are to be found on the main floor. Superior Court Judges Niles' and Speakmans' courts; county school superintendent, juvenile probation and delinquency departments and the clerk of courts are on the second floor. Judge Phelps' court, the adult probation department, Maricopa County Bar Association law library, Judge LaPrade's court and Judge Windes' courts are on the third floor. On the fourth floor are the county attorney's office and the office of the Maricopa County Board of Supervisors. The fifth and sixth floors are utilized by the county and city jails. The wide scope of public administration in Maricopa County is suggested by the following budgeted items, 1935-39:

**TABLE XXVII—COMPARATIVE STATEMENT OF DEPARTMENTAL OPERATING EXPENSES FOR MARICOPA COUNTY 1935 AND 1939 (9)**

	1935	1939
Board of Supervisors .....	\$ 18,404.41	\$ 16,090.16
Court House Maintenance .....	41,025.11	47,797.58
Miscellaneous county .....	41,357.65	56,286.07
Elections .....	11,933.91	2,461.03
Centralized Accounting Department .....	32,870.85	28,086.39
County Assessor .....	60,984.36	69,454.01
County Treasurer .....	43,671.61	41,776.65
County Attorney .....	29,551.84	43,190.42
Superior Court .....	92,941.43	100,970.37
Justice Courts .....	48,206.47	54,066.95
Clerk, Superior Court .....	30,915.76	35,240.04
Sheriff .....	78,409.02	123,033.60
Recorder .....	35,495.68	39,059.97
Registration of Vital Statistics .....		3,161.50
Auto License		
Plate Department .....	26,353.69	28,578.96
Dog License .....	269.98	8.50
Old Age Pensions .....	69,815.35	
Adult Probation Office .....	6,173.90	13,194.39
Juvenile Probation Office .....	26,363.72	42,998.81
Health Department .....	141,440.01	353,713.82
Health Unit .....	11,520.84	22,573.96
Home for the Aged .....	16,890.99	
Children's Home .....	8,037.43	
County school superintendent .....	12,132.58	12,778.41
County Free Library .....	10,125.78	16,932.35
Special Levies .....	6,724.32	15,493.91
Highway Department .....	351,679.90	529,871.97
Public Welfare Board .....	58,380.00	
Interest Paid on Registered Warrants Expense Fund .....	22,693.93	80.57
Salary Fund .....	265.00	
Old Age Pension Fund .....	1,175.75	4.24
General County .....	3,654.00	
Hospital Construction Fund .....		13,515.38
Total .....	\$1,339,465.27	\$1,710,339.01

Courthouse maintenance alone costs \$46,225 annually. Miscellaneous county expenses such as re-writing back-tax rolls, repairs and replacements, insurance compensation, examination of the insane, burial of estrays, etc., add up

to some \$56,160 annually. Another duty of the Board of Supervisors is to "divide the county into such districts or precincts as are required by law and create others as convenience requires, appoint inspectors and judges of elections, canvass election returns, declare results and issue certificates thereof."

The first election for county sheriff occurred in Phoenix in 1871 and was an exciting affair. Jim Favorite of East Phoenix and J. G. Chenowith of West Phoenix ran for sheriff. Chenowith was ahead but he killed Favorite. He was acquitted but retired from the race. East Phoenix put up John Moore and West Phoenix put up Tom Barnum. Barnum was elected the first sheriff of Maricopa County. Captain John Hancock had served unofficially as sheriff until the election.

The responsibility for county elections entails an expenditure of \$4,500 for the administrative purposes, and \$50,500 for other election costs, every other year. The supervisors are also required by law to declare cash judgments against individuals or corporations delinquent in taxes as well as to examine the accounts of all officers who have the care, collection, management and disbursement of money belonging to the county, or appropriated by law for its use and benefit. This demands a centralized accounting department which has a budget for 1940-41 of \$29,640.

The function of the assessor is rather obvious. He is responsible for making an annual abstract of the assessment roll of property in Maricopa County. His estimate, for example, on Maricopa's total wealth for 1940-41 was about \$175,000,000. He, too, must give the assessed valuation in terms of realty, improvements, personal property, gross valuations, exemptions and net value of all common school districts and high school districts. Another duty of the assessor is to determine the assessed valuation of cities and towns within the county. The estimated expenditures in the assessor's office for 1940-41 is \$67,950. (7).

The county treasurer is provided for as an elective official in the county government. (8). He is entrusted with the handling of, and is responsible for the collecting and disbursement of all county funds. His office has an estimated budget of \$45,400 for 1940-41.

The county attorney is required by law to "direct and control the prosecution and defense of all accusations in which the county is a party, and compromise the same." The county attorney's office has a budget of \$40,400. (9).

Another major arm of justice in Maricopa County is found in its Superior Courts and five Superior Court judges who receive an annual stipend of \$2,750 each from the county, and \$2,750 each from the State of Arizona. Operation of the Superior Courts include reporters, interpreters, jury fees and mileage, outside judgments and witnesses, bailiffs, etc., will entail expenditures in 1940-41 amounting to \$99,660. The clerk of the Superior Court has a respon-

(9) Annual report of Clerk of Board of Supervisors—Maricopa County, 1939. Total cost of government in Maricopa County is about eleven million dollars.

(7) The county assessor's salary is \$2,207.

(8) The county treasurer's salary is \$3,000; Chief Deputy \$1,800.

(9) The county attorneys salary is \$3,000.

sibility for executing all the details of court procedure, records, judgments, etc. An estimated expenditure for the fiscal year 1940-41 of \$37,040, is budgeted to his office. (10).

The sheriff's office in Maricopa County is a very important one, however, full consideration has been given to this under the Chapter of Law, Crime and Punishment. The sheriff's office is budgeted at \$117,560 for 1940-41. (12).

The county recorder, whose office is elective, is responsible for the complete recordings of all realty, improvements, personal property, of all business and residential properties in the county and must record all official transactions in which property ownership is transferred or becomes encumbered. The recorder's office will be allowed \$40,180 in 1940-41. (12).

The county feels that registration of vital statistics such as births, marriages, divorces, together with making a complete record of the diseases which cause deaths of the county's citizenry is a sufficiently worthy cause for the expenditure of \$3,500 annually.

The importance of juvenile delinquency has made itself felt throughout the entire county as a subject meriting the attention of civic, religious, educational and political groups. Judge J. C. Niles of the Superior Court and Russell Jackson, juvenile probation officer, have made meritorious records in the handling of juvenile probation. During 1939 some 922 cases, of which two-thirds were boys and one-third were girls were administered. (14). Handling juvenile delinquency costs the county \$40,740 annually. (15). Adult delinquency has received much less attention than juvenile delinquency. However, Judge M. T. Phelps gives a considerable amount of his time to consideration of this problem. Walter T. Norris, as adult probation officer, officially directs this work. The adult probation office for the county is budgeted at \$13,620. The 1936 Revised Code Supplement charges the Board of Supervisors to "adopt provisions for the preservation of health of their respective counties as necessary and provide for the expenses thereof." Every county has a superintendent of health with a staff of physicians, and hospitalization and drugs are provided for those in direct need of same. Hospitalization alone cost Maricopa County \$164,000 in 1939-40. Burials of those who are without funds is another responsibility that the county has assumed. Drugs and medicines for the sick cost Maricopa County \$2,500 a year. In 1939-40 the County Health Department spent \$301,870. However, in the 1940-41 budget, the County Health Department was drastically cut to \$222,000. In addition to the health department the county operates a hospital at a cost of \$86,500. Due to the large amount of tuberculosis in Maricopa County, a county health unit is operated at an annual expense of \$27,300. In justification for the expenditure of

public health and medical care, the 1936 Arizona Supplement states that the supervisors are to "Provide for the care and maintenance of the indigent, sick and poor of the county; erect and maintain hospitals therefore."

Maricopa County is proud of her school system, which it values at more than \$7,000,000. E. D. Ring, for some years has been County Superintendent of Schools and one of the great moral influences in the county. (16). The office of the school superintendent is allowed \$12,920 for the year 1940-41. This office is provided for by the Arizona Constitution as an elective office. (17).

Another service which the county has entered into has been the county free library which provides intellectual stimulus to the 185,000 citizens of Maricopa County. An annual expenditure of \$15,040 is budgeted for the county free library for 1940-41. (18).

The Justice Courts consist of a justice of the peace and a constable. The justice receives a salary in such communities as Tempe, Chandler, Buckeye and Glendale of \$1,200 annually, and the constable the same. In smaller places, such as Gila Bend, Gilbert, Peoria, Scottsdale and Tolleson, the justice and constable each receive \$900 per year. The two magistrates in Phoenix receive \$3000 each and the respective constables \$2,100 each.

The county is also expected to keep up the county roads. Maricopa County spent \$28,700 on highway maintenance and construction. This amount will be reduced in 1940-41 to \$365,000. But in addition to this, \$120,000 will be expended on bond redemption.

The Maricopa County Treasurer states that 55 per cent of the county tax dollar in 1939-40 went for school maintenance and operation. Some 13.5 per cent for school bonds and interest, 12 per cent for the state government; 14.5 per cent for county government. It is to be noted that this is the distribution only of the tax dollar and does not take into consideration revenues other than taxes, which will be thoroughly treated in the chapter on taxation and finance. The sources of county revenue for all purposes in 1937-38 were 66.77 per cent from property tax; 13.06 per cent from fuel tax, and 19.17 per cent from sales tax, leaving miscellaneous at 1 per cent.

The total governmental expenditures in counties, schools, cities and school districts in Arizona was 36.53 per cent for school costs, with 63.5 per cent for other governmental costs with counties. The administration of Maricopa County, governed by its Board of Supervisors, is tremendously important as one realizes when they compare the 1939-40 budgets of Phoenix which was \$2,500,000, Maricopa County \$11,000,000, and the State of Arizona \$22,000,000.

(10) The Superior Court Judge's salary is \$5,500.

(11) The sheriff receives \$4,000 annually—Under-sheriff receives \$2,625.

(12) Recorder's salary is \$2,700 — Chief Deputy salary is \$2,100.

(14) Juvenile Delinquency will be handled completely in a chapter on Delinquency.

(15) Salary of probation officer is \$2,400.

(16) See chapter on Education. E. D. Ring was elected State Superintendent of Public Instruction in November, 1940.

(17) County School Superintendent receives \$2,400, Assistant receives \$2,100.

(18) Librarians salary is \$2,400 — See chapter on Culture.

## CHAPTER XXIV

# ARIZONA STATE GOVERNMENT

Arizona history might properly start with the end of the Mexican War, when the Treaty of Guadalupe Hidalgo was signed in 1848. This vast empire of cactus studded desert was sparsely populated but potentially wealthy in natural resources. In 1850 New Mexico and Arizona were formed into a joint Territory, with the capital at Santa Fe.

It was in 1853 that James Gadsden was sent to Mexico to negotiate a treaty by which the United States boundary line could be extended southward to the Gulf of California, if possible. He was successful in purchasing from Mexico a strip of land south of the Gila River totaling 29,670 square miles, for the sum of \$10,000,000. Concerning this purchase the Honorable John R. Murdock has said:

"It has been a matter of never-ending regret that at that opportune time we did not get a port on the gulf of California. Now the Mexican Constitution forbids any further disposal of her territory. Since that time we have made many offers to Mexico to buy just enough land to give us a Gulf port." (1).

Arizona Territory was organized in 1863 by congressional action in the midst of the Civil War. (2).

Abraham Lincoln appointed a number of "lame duck" congressmen to administer the new Territory. A number of "lame ducks" joined Charles D. Poston in an oyster supper in Washington in the winter of 1862 and 1863. Poston was in Washington working for a separate organization of Arizona Territory. The group decided that John A. Gurley of Ohio was to be the first Territorial Governor; that John N. Goodwin of Maine was to be Chief Justice and that Richard C. McCormick of New York was to be Secretary of State. Everybody had a place but Poston (as Representative Murdock tells the story). Poston was made Indian agent. Governor Gurley died enroute to Arizona and Goodwin was appointed by President Abraham Lincoln in his place. (3).

The governor's party came to Arizona through Santa Fe. They reached Northern Arizona in December 1863. Their first stop was at Navajo Springs. Here the Union flag was raised. Secretary McCormick made a short speech and prayer was offered by Reverend H. W. Reed. Chief Justice Turner administered the oath of office to Associate Justices Howell and Allen, as well as to Governor Goodwin and Attorney General Gage. Shortly thereafter Arizona's Territorial "Capital on Wheels" moved to Prescott, the first capital, some 250 miles from Tucson. The Great Seal of Arizona Territory was made by Secretary McCormick and the motto "Ditat Deus," meaning God Enriches, was

adopted. Arizona had seventeen Territorial Governors, the last of whom was Richard E. Sloan. Fifteen of these were Republicans and only two Democrats. The Territorial Governors of Arizona with their political affiliations and their terms of office were as follows: John N. Goodwin, Republican, 1863-66; Richard McCormick, Republican, 1866-69; A. P. K. Safford, Republican, 1869-77; John P. Hoyt, Republican, 1877-78; John C. Fremont, Republican, 1878-81; Frederick A. Trittle, Republican, 1881-85; C. Meyer Zulick, Democrat, 1885-89; Lewis Wholey, Republican, 1889-90; John N. Irwin, Republican, 1890-92; Nathan O. Murphy, Republican, 1892-93; Louis C. Hughes, Democrat, 1893-96; Benjamin J. Franklin, Republican, 1896-97; Myron C. McCord, Republican, 1897-98; Nathan O. Murphy, Republican, 1898-1902; Alexander O. Brodie, Republican, 1902-05; Joseph H. Kibbey, Republican, 1905-09 and Richard E. Sloan, Republican, 1909-11.

Arizona originally had four counties, namely: Mohave, Yuma, Pima, and Yavapai. The last of these has been called "The Mother of Counties." Mohave and Yuma were divided by the Big Williams river, Yavapai and Pima were separated by the Gila River.

The Second Territorial Legislature in 1865 divided Mohave County by a line east and west, the northern part being called Pah-Ute County. Arizona lost Pah-Ute County to Nevada in 1866. The Honorable John R. Murdock, former Political Science Professor at A. S. T. C., Tempe, has pointed out that had Pah-Ute County been left to Arizona, Boulder Dam would now be entirely within the boundaries of Arizona. Today Arizona has fourteen counties.

**TABLE XXIX—ARIZONA COUNTIES BY AREA  
POPULATION AND COUNTY SEATS, 1940. (4)**

Arizona Counties	Area Sq. Miles	1940 Population	County Seat
Apache	11,379	24,076	St. Johns
Cochise	6,170	34,540	Bisbee
Coconino	18,623	18,507	Flagstaff
Gila	4,699	23,934	Globe
Graham	4,630	12,154	Safford
Greenlee	1,878	8,716	Clifton
Maricopa	8,891	185,356	Phoenix
Mohave	13,390	8,552	Kingman
Navajo	9,899	25,173	Holbrook
Pima	9,050	72,932	Tucson
Pinal	5,380	28,825	Florence
Santa Cruz	1,229	9,541	Nogales
Yavapai	8,150	26,266	Prescott
Yuma	8,987	19,227	Yuma

- (1) Murdock, John R., Constitutional Development of Arizona, p. 6, 1930. Arizona had three options. The first provided for the payment of \$25,000,000 for a large part of Mexico. The second provided for the payment of \$15,000,000 for Lower California and for some of the territory at the head of the Gulf of California. The third option was the one taken.
- (2) Jefferson Davis included Arizona as a territory of the Confederacy of Southern States in 1862.
- (3) William F. Turner then became Chief Justice.
- (4) U. S. Census Reports on Arizona Population, 1940. Coconino County is the second largest county in the United States in area.

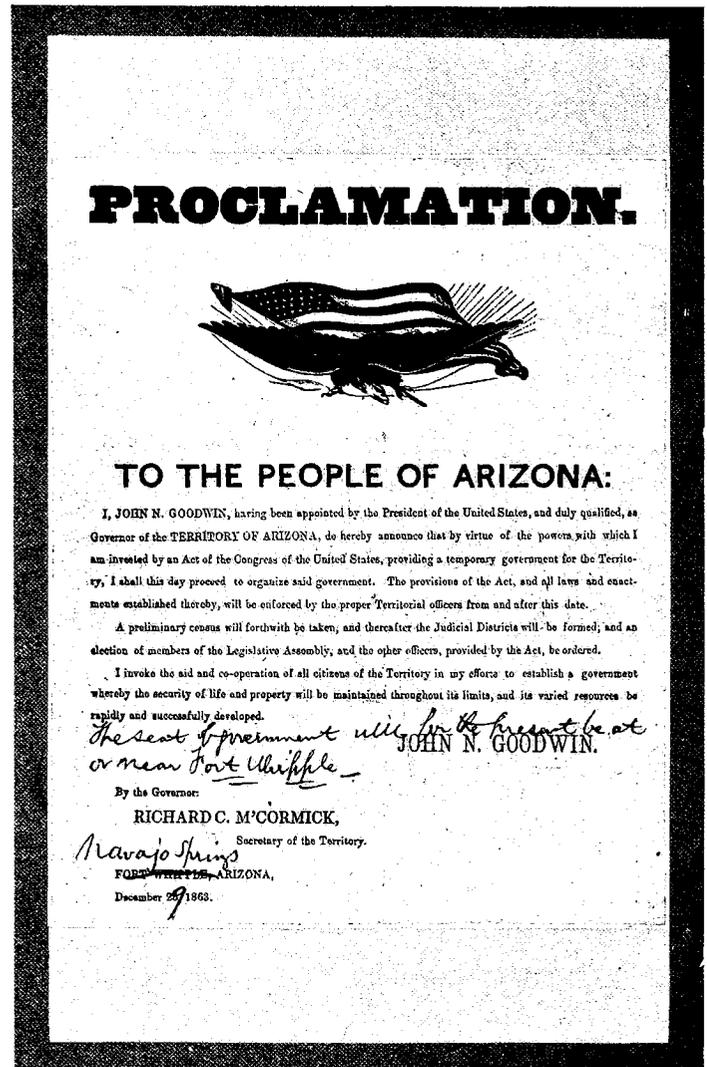
Governor John Goodwin made his first Proclamation when the First Territorial Legislature met in Prescott on September 26, 1864. The first Capitol building was a log cabin on Grant Street. Governor Goodwin urged the establishment of elementary schools, for which the Legislature appropriated \$500.

The Fourth Territorial Legislature changed the temporary Capital from Prescott to a 'permanent' Capital in Tucson. Despite the fact that the Legislature had voted in 1875 to make Tucson the permanent capital, it was temporarily moved back to Prescott in 1877, where it remained for twelve years. When the Fifteenth Legislature met in 1889, one of its first acts was to permanently establish the Capital at Phoenix on January 26. All governmental expenses of Arizona Territory were met by the United States Government. For example in 1863, Congress voted an appropriation for 540 miles of military telegraph from San Diego via Yuma and Phoenix to Prescott and Tucson. The Territorial governments attempted to meet the needs of Arizona's citizenry. Nearly every Governor stressed the need for education. Because of serious Indian problems and the apparent ease with which Indian raids and debaucheries were incited, the Territorial Legislature of 1873 passed a law making it a misdemeanor to sell or give liquor to Indians. The need for the adequate handling of law, crime and punishment led to the establishment of the Territorial Prison at Yuma in 1877. Major Territorial institutions were divided amongst the several cities. Tucson was awarded the University, when and if, it was built. But rumor has it that Tucson would have much preferred the Capital or State Hospital because legislative funds would have been forthcoming immediately from them, while the University was a futuristic institution. However in 1885 the Thirteenth Legislature passed an act forming the University of Arizona, and the Arizona State Teachers College at Tempe. The same Legislature adopted a Civil Code allowing governmental machinery to operate in the Territory.

The Indians, and especially the Apaches, were a constant source of trouble and annoyance from early Territorial days until Geronimo finally surrendered in 1886, and other Indian renegades such as Cochise, Victoria, Natchez, et. al., were rounded up.

Arizona's struggle for statehood lasted for half a century, from 1863 to 1912. Ever since the Constitutional Convention in Phoenix in 1891 the Arizona people were clamorous for statehood. Territories like states are organized under organic acts of Congress. However, in the territory, all major officials are appointed by the president. As a result, even though Arizona was a Democratic state fifteen of the Territorial Governors were Republican and only two were Democrats. Also all major territorial legislation must be approved by the U. S. Congress.

The Constitutional Convention, held in Phoenix in 1891, lasted three weeks. It framed a Constitution which the voters of Arizona approved. Then it was sent to the Congress in Washington. But there it was pigeon-holed



### Arizona's First Territorial Proclamation

and forgotten, even though the citizenry had held high hopes for its passage.

In 1906 Congress passed an Enabling Act which would form Arizona and New Mexico into a joint state with a Capital at Santa Fe, very similar to the Arizona-New Mexico joint Territory of 1850. The Arizona people were very indignant, and they rejected the joint statehood proposal by an overwhelming ratio of sixteen to one. However the desire for independent statehood was kindled anew. The nation seemed to catch the spirit to such an extent, that the achievement of independent statehood for Arizona and New Mexico became an issue in the Presidential campaign of 1908. All this caused pressure on Congress which actually passed an Enabling Act in June 1910 which provided that Arizona and New Mexico should each frame a Constitution which should then be submitted to Congress for approval of same before independent statehood could be granted.

A Constitutional Convention was called in Phoenix on September 12, 1910. Fifty-two delegates were elected, of

which forty-one were Democrats and eleven were Republicans. Judge Franklin of Maricopa County and Mulford Winsor of Yuma County were candidates for the Presidency of the Convention. A deadlock developed between them. A dark horse, George W. P. Hunt of Gila County, was then unanimously elected President of the Convention.

The Arizona Constitution was modelled to some extent after the liberal Oregon and Oklahoma Constitutions. It contained provisions for the initiative, referendum, and the recall. It provided for a powerful Corporation Commission which Professor Murdock has called "the fourth branch of Arizona's government." There was many a stormy session just as there had been at the American Constitutional Convention at Philadelphia in 1787. The delegates had submitted some eighty-three proposals by October 23. For sixty days the delegates under the leadership of President Hunt gave their best efforts in solving such questions as Should it provide for the initiative, referendum and recall? Should it adopt a workman's compensation law? What should it do about education? Should the supreme court be elective or appointive? What should the Constitution say about water rights? The questions were endless. But finally a mutually agreeable series of proposals was worked out. The Constitution was signed by forty Democrats and by one Republican. (5) When the Constitution was sent to Congress in Washington for adoption, President Howard Taft assailed the recall provision and prevented its adoption by Congress until such was removed. The troublesome clause was eliminated. President Howard Taft proclaimed Arizona to be the baby state of the Union February 14, 1912, Valentine's day.

Dr. R. K. Wyllys, A. S. T. C. historian, provided "A Historical Sketch of Arizona" (1846-1940) for this Survey which follows: (6).

"The year 1846 brought the outbreak of the Mexican War, one objective of which was the acquisition of California and the intervening territory between it and Texas, for the United States. That portion of the conflict which most immediately concerned Arizona was the march of General Stephen Watts Kearny's 'Army of the West' from the Missouri River by way of the Santa Fe trail to the conquest of New Mexico and the capture of Santa Fe on August 18, 1846. General Kearny then set out for California by way of the Rio Grande and the Gila Trail, down which his pack-train and party of a hundred dragoons traveled in October and November, meeting no opposition and ignoring the Mexican garrison in Tucson. Following Kearny's expedition came Lieutenant Colonel Philip St. George Cooke, in command of the Mormon Battalion which had been raised in Iowa from among the followers of Brigham Young. Cooke was seeking to establish a wagon-trail from Santa Fe to California, and so his route lay by way of the region of Guadalupe Pass, in the extreme south-eastern corner of Arizona, and thence through the San Pedro and Santa Cruz valleys. He captured Tucson on December 16 and raised the American flag there for the first time, the Mexican garrison quietly withdrawing at his approach. Cooke's Wagon Road became the route used by thousands of emigrants. The other military expeditions through Arizona during the Mexican War were of no great importance.

"By the peace treaty of Guadalupe Hidalgo, signed near Mexico City on February 2, 1848, all of Arizona north



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of the Gila became part of the United States, and on September 9, 1850, by the Texas and New Mexico Act passed by the United States Congress, this area was included in the new Territory of New Mexico. Disputes over the location of the boundary, a desire to gain the Gila Valley for a possible railway route along Cooke's Wagon Trail, and other questions arising between the United States and Mexico, led to the making of the supplementary Gadsden Treaty, by James Gadsden, in 1853, by which, as it was finally proclaimed by President Franklin Pierce on June 30, 1854, the portion of Arizona now south of the Gila River was purchased for \$10,000,000. During the next year the new boundary was run, much as it is today, and on March 10, 1856, United States cavalrymen took final possession of the new Gadsden Purchase at Tucson, as the Mexican garrison withdrew.

"Even before that final transfer, Anglo-American settlement was proceeding as a rapid pace, chiefly south of the Gila. In 1852, New Mexico had extended the boundary lines of six of her counties to run in long parallel lines across Arizona north of the Gila, and in 1855 the Arizona portion of the Gadsden Purchase was made part of Dona Ana County, of New Mexico. But the restless settlers were not satisfied with this arrangement, and as early as September of 1856, a convention of them meeting at Tucson petitioned Congress to create a new territory out of western New Mexico. Sectional and other disagreements prevented this movement from achieving success, although in 1860 New Mexico did create what was called Arizona County, to consist of the Arizona portion of the Gadsden Purchase, with Tubac and later Tucson as its county seat.

"By that time the Civil War was at hand. For the moment it was a blasting disaster to Arizona, as the federal garrisons were hastily withdrawn from Forts Breckenridge and Buchanan in the summer of 1861; and partly in resentment, partly in triumph, the secessionist sympathizers in Tucson held another convention and in August tried to link the proposed Territory of Arizona to the Confederacy. The Confederacy was quite willing to accept this gold-

(5) One Democrat and ten Republicans refused to sign the Arizona Constitution.

(6) Copyright by Dr. R. K. Wyllys, 1940.

bearing region, as President Jefferson showed in his proclamation creating Arizona Territory on February 14, 1862; and already a Confederate force was approaching Arizona from Texas by way of New Mexico's southern counties, to take possession. But the defeat of the Confederate invasion of New Mexico by Colorado troops near Santa Fe was matched by the eastward advance of the California Column of Unionist soldiers from Fort Yuma under command of General James H. Sarleton. The Confederate cavalymen who had taken possession of Tucson in February of 1862, were forced to retire in April of that year, after a brief little battle with the Californian's advance guard in Picacho Pass on April 15. General Carleton set up a provisional territorial government for the Territory of Arizona, which was more or less confirmed by action of the United States Congress when on February 24, 1863, it created the new federal Territory of Arizona. Then a campaign was instituted against the troublesome Apache, and the forts were reoccupied and others established.

"During 1863, President Abraham Lincoln appointed a group of territorial officials for Arizona, and the governmental party, headed by Governor John N. Goodwin, entered Arizona on December 27. Two days later, in camp at Navajo Springs, the territorial government was formally installed, and the first capital designated as Fort Whipple in Chino Valley. In May the fort was moved down to where a town named Prescott had been started in the spring of 1864. September, 1864, brought the first territorial legislature into session, after the necessary population census and an election in July. This legislative session marked out Arizona's first four counties, Pima, Mohave, Yavapai and Yuma. Next year a fifth county was provided for, Pah-Ute; but since it lay in what is now the tip of Nevada, it was destined to be lost when Congress assigned it to the State of Nevada in 1866. The first Arizona legislature also adopted a code of laws and in general set the machinery of government in operation. As was natural, for the first years of its existence, the territorial government was very dependent upon military men, since Arizona could not afford to raise and maintain a militia force adequate to cope with the Apache outbreaks which troubled the Territory for nearly a quarter-century after the Civil War was over.

"In the opinion of most outsiders during that quarter-century, Arizona was most famous because of the Apache wars, which really consisted chiefly of raids and pursuits rather than warfare on as large a scale as some previous American Indian wars. The Apache was probably as much sinned against as sinning, but he was an obstacle in the path of progress and sooner or later was bound to yield. One of the first phases of his last resistance to the white man was Kit Carson's ruthless conquest of the northern brethren of the Apache, the Navajo, whose fastness were penetrated by Carson's volunteers in 1864. After that the war swung southward, the Apaches of New Mexico and many of those of Arizona were taken to reservations in New Mexico. The surrender of the Chiricahua Apache chieftain, Cochise, in his stronghold in the Dragoon Mountains in 1872, following close upon the Camp Grant massacre of 1871, brought a large group of Apaches under some degree of control, as they were further hunted down by General George Crooke's army, and persuaded to yield by such clever Indian agents as John P. Clum. Reservation life could never be tolerable to the wilder spirits among the Apaches, however, as was shown by the constant escapes and raiding careers of the young men under such leaders as Geronimo, Victorio, Natchez and Nana. Some of these parties were disposed of by Mexicans below the border; and a United States-Mexico treaty of 1882 facilitated the rounding up of still others. Geronimo finally surrendered to United States officers pursuing him into Sonora in September of 1886, an event which practically ended the Apache warfare, as the most incorrigible chiefs and warriors were sent off to be guarded in Florida and Oklahoma.

"Despite the Indian troubles, population steadily flowed

into Arizona, even during the Civil War. Mormon settlers founded small towns along the northern boundary, and thence spread their towns southward into the Little Colorado Valley and throughout the upper and middle Gila Valley. The pioneers arrived during the Civil War, led by such frontiersmen as Jacob Hamblin. The establishment of a military post, Fort McDowell, in the lower Gila Valley in 1865, brought a number of settlers to live in its shelter; and in 1867 a group of pioneers were making their homes on the site of present-day Phoenix, which was laid out as a townsite in 1870, became the seat of the new county of Maricopa in the next year, and was incorporated as a city in 1880. Near by there sprang up the town of Tempe in 1870, and the Mormon settlement of Mesa in 1878. Other agricultural centers of early Arizona were Safford, founded in 1872; St. Johns and Holbrook, in 1880; while the growth and spread of the Territory's commerce, as well as its mining, lumbering and cattle-raising, could be traced in the founding of such towns as Ajo in 1854, Wickenburg in 1864, Florence in 1866, Bisbee, Globe and Tombstone in 1877-1878, Williams and Kingman in 1880, Flagstaff, Nogales, Willcox and Winslow in 1882, Douglas in 1900 and Miami in 1907. Some idea of the spread of settlement is to be gained from the creation of the newer counties, after the original five: Pinal in 1875, Apache in 1879, Cochise, Gila and Graham in 1881, Coconino in 1893, Navajo in 1895, Santa Cruz in 1899 and Greenlee in 1909.

"The Territory several times attempted to secure statehood during the later nineteenth century. In September of 1891 a convention for the purpose of seeking statehood met in Phoenix, to which place the territorial capital had been recently transferred from Prescott, and a constitution was drawn up and presented to the voters. Their approval was insufficient to make Congress see the need of statehood for Arizona, and other efforts to bring about statehood were also failures, in 1893 and 1901. But after the federal census of 1900 showed the Territory's population to be 122,931, statehood was not to be denied much longer. An effort to give Arizona and New Mexico statehood as one State was rejected by the voters of Arizona in 1906. In the presidential campaign of 1908, statehood for each of these territories was a nissue and two years later, June 20, 1910, President William Howard Taft approved Arizona's enabling act. A constitution drawn up by a convention late that year, however, was disapproved by the president, probably because it provided for the recall of judges. When the troublesome clause was removed, presidential approval was forthcoming, and by proclamation of February 14, 1912, Arizona became legally a State, although the recall provision was later restored to her constitution.

"Much of the development of both Territory and State depended largely upon agriculture. Citrus growing, introduced first near Yuma, was being tried out successfully in the Salt River Valley in 1889; and cotton, forage crops, and garden produce were soon as flourishing sources of wealth as were oranges and grapefruit, as the long warm, growing season of the Salt River Valley became appreciated. Naturally, a demand arose for a better and more controlled irrigation water supply; and to meet this demand the Roosevelt Dam, dedicated by President Theodore Roosevelt on March 18, 1911, inaugurated a series of six great dams and reservoirs on the Gila, Salt and Verde rivers.

"Mining, however, remained a powerful factor in Arizona's prosperity. Copper, gold, silver, lead, zinc and other metals had made the Territory first widely known, since the days when Ajo's copper mine, first opened in 1855, and the early mines started by Charles D. Poston and others, seeking gold and silver had brought the early rush of settlers.

"Statehood meant a marked upward rise in prosperity, and distinct progress politically, economically, socially and culturally. The population rose from 204,354 in 1910, to 435,573 in 1930. An excellent system of schools and colleges developed. The governors of Arizona have been George W. P. Hunt, 1912-1918, 1921-1928, and 1931-1932;



As President Taft Signs Arizona Statehood Bill, February 14, 1912

Thomas E. Campbell, 1919-1920; John C. Phillips, 1929-1930; B. B. Moeur, 1933-1936; R. C. Stanford, 1937-1938; and R. T. Jones, 1939-1940; Sidney P. Osborn, 1941-?

"The construction of Boulder Dam (completed March 1, 1936) and other control and storage dams on the Colorado River, gave promise of a new source of power and greater reserves of water for the State. In recent years the climatic advantages and scenic and tourist attractions of Arizona have made it a center for pleasure travelers from all over the United States, both in winter and summer, and have thereby appreciably added to its prosperity. A number of touches of the old, romantic West still linger in Arizona, and cowboys, guest ranches, Indians, and a flavor of Old Mexico, as well as "desert rats" and prospectors out in the hills, all lend color to the State, and attract a never-ending stream of visitors to enjoy its charms. But in her resources, both above and below the ground, Arizona has greatest reason to trust in looking forward to a substantial and glowing future."

Arizona became a state on February 14, 1912 with a population of some 210,000. All but two of its state governors have been democratic as contrasted with the fact that all but two territorial governors were Republicans.

George W. P. Hunt came to Arizona from Missouri in 1881 riding a Missouri burro. One of his first jobs was that of a waiter in a Chinese restaurant. He was also a miner in the Old Dominion Mine. He became Globe's leading merchant and banker. He was, perhaps, the most influential man in Arizona's political history.

G. W. P. Hunt served as governor during the years 1912-1918, 1921-1928, and 1931-1933, or seven two-year terms, before his death in 1934. He was a humanitarian and a man of the people. He believed whole-heartedly in the initiative, the referendum, and the recall. The development of the Colorado River was his major campaign issue year after year. He believed in state aid for education. Fundamentally he was concerned with domestic issues. During Woodrow Wilson's administration he was Minister to Siam.

Governor Hunt, together with Fred T. Colter, should be given credit for the enactment in 1919 by the State Legislature of the water code, which carefully defined Arizona's water rights.

Governor Hunt felt that the Legislature should make appropriations to provide funds with which to fight the Santa Fe compact and the construction of Boulder Dam. He felt that the Santa Fe compact was selling out Arizona's fundamental water heritage, its most priceless possession.

Governor G. W. P. Hunt's salient features of a program (7) were as follows:

On Unemployment and Economy, he recommended the amendment of the Highway Code, so as to restore the full privilege of the state highway department. The red tape and delay necessary in calling for and rejecting of bids

(7) Governor Hunt's annual reports 1912-32

twice before work can be done on "force account" should be eliminated, he said.

Governor Hunt felt that one of the pressing needs in order to lighten the burden of taxation was to have every bill before the legislature carefully examined as to its necessity and timeliness.

He continually stressed that strict economy must prevail and every expenditure of public monies should meet the test of necessity. However constructions of highways and enlargements and improvements of state buildings should be carried on as the situation warranted.

Concerning Citizen Labor, he said, "I urge an enactment by this Legislature which will provide statutory penalties for state, county, or municipal officials who knowingly permit the employment of aliens on public works."

The Colorado River was Arizona's salvation and future, he said. The Legislature should make an appropriation to become available immediately to fight the Boulder Dam case in court. Water and power should never be divorced. This was Arizona's greatest issue and woe to the Judas who sold Arizona's birthrite for a "mess of pottage."

On Taxation, he recommended an amendment for the employment of financial experts to make surveys and recommendations for putting state needs on a financial basis, including a budget that is based on the ability of Arizona's people to pay.

He thought that functions of State Tax Commissioners as a board of equalization should be abolished and provisions made for an independent State Board of Equalization to have final jurisdiction over valuations.

Private financing of the state would result in a financial dictatorship, he said, and urged an enactment of the Legislature making acceptance of private and unauthorized loans by future administrators sufficient grounds for impeachment of the chief executive or other State officers responsible for such action.

On Election Law, he advocated a revision of the Primary Election Law and to abolish payment of per capita fees to special registration agents by the counties. The registration of voters was to be accomplished by the staff of county recorder and various justices of the peace. Election activity by party workers, candidates, or their representatives on election day was distinctly taboo, and would be drastically punished, he said.

Governor Hunt recommended that the Legislature petition Congress of the United States to transfer title to all unappropriated public domains within its borders to the state.

As to Old Age Pensions, he believed that old pioneers should be allowed a direct pension from the state, but that pensions should be given only to deserving and actually needy aged citizens.

When Governor Hunt addressed the Tenth Legislature on January 12, 1931, he said, "In the interest of economy the legal representation of all departments of the state

should be consolidated in the Attorney General's office. I have deplored the tendency to create commissions for the discharge of governmental functions. Commissions for long terms of office invariably drift into bureaucratic policies and procedures. I recommend that the present Highway Commission be abolished, and in lieu thereof one commissioner be appointed, who will have charge of the highway department. I also recommend that the State Game Commission be abolished. The idea behind the establishment of the Game commission was further to preserve and protect wild life. The results strike me as having been the opposite.

"I recommend that the present prison walls be extended into another and separate yard so that the young first offenders can be segregated from the old hardened prisoners. This improvement will also relieve the evil effects of overcrowding now existent in the Prison.

"New legislation is needed to remedy defects in the stock laws. The industry is suffering from great losses occasioned by thefts. A revision of the law is needed to cover the transportation of live stock both on foot and dressed, in order that adequate protection may be afforded to the live stock industry." (7)

He recommended the issuance of bonds of the State to the amount of five million dollars: three millions available for highway construction and two million for public buildings; and that such bonds be redeemable through amortization of the present highway revenues in the case of the highways; and in the case of public buildings bonds to be redeemable from proceeds of a luxury tax imposed by the state.

George W. P. Hunt was a true son of Arizona. Both he and his wife were buried in Papago Park encased in a concrete and tile prospectors tent in the form of an Egyptian pyramid

In 1919 Thomas E. Campbell, Republican, took the "helm" of Arizona's "ship of state," 1919-23. He was known as Arizona's traveling salesman and did much to advertise the state. No state auditors questioned traveling expenditures in those days when its governor served as a publicity and official spokesman for the baby state. Campbell was introduced to Arizona by Herbert Hoover.

John C. Phillips, Republican, served from 1929-31. He was definitely a business man who advocated a program of economic public administration.

The administration of Messrs. Campbell and Phillips were punctuated by additional administrations of G. W. P. Hunt. Of the 29 years of statehood, 1912-41, Governor Hunt was in office one-half of the time.

Dr. Benjamin Baker Moeur of Tempe, Democrat, served two terms, 1933-37. He was a member of Arizona's Constitutional Convention in 1910, submitting the liberal article on education. He was elected by an overwhelming vote in 1932 and was widely thought of throughout the state.

Governor B. B. Moeur's message to the Eleventh State Legislature is summarized as follows:

#### A. Bonded Indebtedness of the State.

The direct bonded indebtedness of the state is \$252,000. The State is obligated for \$1,250,275 as guarantors of bonds issued by counties during territorial days.

### B. Budgeted and Appropriations Bill.

1. He made a request that a general reduction of 20 per cent be made on wages, traveling expenses, and salaries and the operating costs of each department. 2. He also recommended that a single appropriation be made to cover all traveling expenses and placed under the control of a designated officer until such time as travel at the expense of the State is necessary. 3. He felt that a single appropriation should be made to cover all operations and maintenance of the state, to be disbursed by a special officer, i. e., a business manager. 4. He suggested that the mill tax be abolished and the highway department should be required to maintain itself on the Gasoline Sales Tax and other sources of revenue allotted to it. 5. There should be a consolidation of boards and commissions to cut expenses. 6. There should be no appropriations for any capital investment, for purposes of erecting new buildings or additions to any state institution this biennium. 7. The three state educational institutions shall have appropriations reduced 20 per cent and be required to operate within this limit. 8. The law creating the office of Legislative Examiner and the Research Board should be repealed. 9. The appropriations to the National Guard should be reduced to just such an amount as to sufficiently retain the Guard in Arizona. The Government expended \$140,000 to the unit which the state needed to keep. 10. The appropriations made to the State Hospital should be increased.

C. On legislation to accomplish budget saving, Governor Moeur recommended: 1. There should be an act to amend the highway code eliminating the continuance of the mill tax appropriations. 2. An act should be passed consolidating the boards, offices and commissions. 3. There should be an act passed abolishing the offices of Legislative Examiner and Research Board. 4. There should be an act amending the existing school law. 5. The legislature should pass an act amending the workmen's compensation act.

D. Tax relief was fundamental in Arizona, he thought, and recommended emergency legislation remitting all penalties and interests accrued and accruing on delinquent taxes. The amount of such delinquent taxes to July 1, 1935 and providing that such tax payers be permitted to pay the delinquent principle in monthly or other installments.

E. Common schools needed certain legislation. He thought that the common school law should be amended. He recommended: 1. Remove the minimum appropriation to be made by the state for common schools. 2. Remove the minimum appropriation to be made by the respective counties for the common school. 3. Abolish all county truant or attendance officers. 4. Eliminate kindergarten, accomodation and night school as a basis of computation of the average daily attendance. 5. Centralize control of the special districts levels and expenditures in the office of the county school superintendent. 6. Place the burden of the kindergarten and accomodation and night schools directly on the local school districts. 7. Limit the special tax rate which any school district might levy.

F. Highway Department. The Highway Commission should be abolished and the Governor given power to ap-

point a State Highway Engineer and a State Highway Comptroller; each to be resident of different counties and these two along with the Governor would constitute the Highway Commission.

He also advocated consolidation of these departments.

Mrs. B. B. Moeur, in honor of the memory of her husband, gives annual scholastic rewards to deserving students at Arizona State Teachers College at Tempe. The Womens Activity building at A. S. T. C. in Tempe was dedicated to former Governor B. B. Moeur during the academic year 1939-40.

Judge Rawleigh C. Stanford, Democrat, served as governor from 1937-39. His program was considered to be the most idealistic and complete of any territorial or state governor in Arizona. He was swept overwhelmingly into office.

Governor R. C. Stanford (9) in his address to the 18th Legislature on January 11, 1937, said "To reduce expenditures I recommend passage of a bill requiring the state examiner to make a thorough examination and survey of every state office or department, and report to the governor of the state in all cases where there can be saving of money expended." A summary of his program follows:

On taxation Governor Stanford advocated amending the sales tax law to eliminate and exempt from its provisions:

(1). All foodstuffs; (2). Wood, coal and fuel oil; (3). Men's suits and overcoats selling at retail up to \$30; (4). Shoes that sell up to \$5 retail; (5) (6). Men's shirts at \$2 or less; (7). Men's and Women's hose up to 75 cents or less a pair; (8) Underwear up to \$2 or less; (9). All purchases of the state or any of its sub-divisions; (10) All purchases of charitable institutions.

On crime detection he recommended the legislature to consider the Interstate Commission of Crime's Uniform act providing for fresh pursuit of criminals, interstate extradition, out of state witnesses in criminal proceedings and use of state parole supervision. Segregation of first offenders of a premature age, from old hardened criminals for prevention of crime. If a person is convicted the third time for a felony he should be sent to the state penitentiary for life. There should be the requirement of a license for all persons dealing in fire arms. There should be provisions made for an adequate and substantial pension for police officers. The highway patrol should be equipped with radios.

As to Liquor Control he felt that there should be provisions made for an Intoxicating Liquor Control Commissioner to be appointed by the Governor, to regulate and to issue the liquor licenses.

For State and Land Department he recommended that the legislature should have more efficient and proper selection of State Lands and that all selections should be subject to approval of the Governor.—Funds derived for school lands and all permanent funds should be audited annually and the audit published.—The legislature should make provisions for the liquidation of delinquent loans.

On Mining he recommended the continuance of the Copper Tariff Commission and for them to use every means that may be found at its command for furtherance of the good work of the Commission. He recommended that the duties of the Commission be broadened to include effort to stimulate the silver market.

On Agriculture he proposed that one department of the state be formed which would control all agricultural and horticultural and livestock interests in the state.

As to the Colorado River he recommended that legislature to make appropriations to allow the State Water Commission to make a survey and compile statistical data on water rights of the state and their potential development. This was one of his major issues.

On State Institutions he suggested that the legislature make appropriations for the construction of an addition to the State Capital building through federal funds to be matched by the state also a cooling system to be placed in the Capital and in the State Hospital for the insane. There should also be a new building for the State Hospital and an enlargement of the State Prison.

Concerning Elections he thought that the primary law should be amended to provide for run-off primary elections or such other methods as will result in nomination of candidates by a majority vote.

As to Inheritance Tax he felt that the exemption of all estates of less than \$50,000 and all estates with appraised value of less than \$25,000. The state shall accept the appraisal of the board appointed by the probate court and require no separate appraisement.

In regard to social security he advocated the continuance of the allotment of luxury tax for the purpose of relief.

In regard to education he advocated that the per capita tax be increased in order to maintain free schools for all.

Appropriations should be made for the proper care and protection of the Hunt Monument and provisions for the fencing of it should be made.

There should be added to the duty of the State Purchasing Agent the duty of making all State purchases for all various departments and State agencies, including the highway department, industrial commission and the State schools.

Governor Robert T. Jones served from 1938-40. He reorganized the Highway and the Liquor Commissions. For the first time Arizona ratified the Santa Fe pact made by the seven states in regard to the Colorado River. He was defeated by Sidney P. Osborne in the 1940 primaries.

Governor Jones' Message to the 14th Legislature, in part.

As to advertising Arizona he felt that to advertise Arizona as a scenic spot of the nation would bring in new revenue. A qualified non-political agency that is sectionally impartial should handle the advertisement. This venture should be financed by allocation of a portion of

the gasoline tax. This money is an investment and should not be charged to expenses as it will bring in new wealth by increased business and highway travel. A state fair should be held. The legislature should appropriate money for this affair. The fair will pay for itself.

On Reorganization and Consolidation he said it seemed to be necessary to coordinate some of the state activities to avoid duplication and achieve greater efficiency.

"1. There should be consolidated into one department of the state, Superintendent of Public Health, the State Laboratory, the State Dairy Inspector and the State Veterinarian.

"2. There should be the elimination of the office of State Historian and the transfer of its function to the Department of Library and Archives.

"3. I recommend that the Motor Vehicle Division of the State Highway Department be set up as an independent agency to include the Highway Patrol, the Bureau of Criminal Identification, and the Collection of truck fees, the latter being vested now in the Corporation Commission.

"4. The liquor control should be vested in an independent agency to better control the sale of liquor without infringing upon the constitutional rights of either vendor or purchaser. These recommendations are for speeding up the machinery of the government and making it more efficient."

"The selection of officers and personnel for our state institution is up to me and I will get the highest quality of officers possible. The restoring of physical plants of the institutions and improving and enlarging their facilities for the care of state wards is your problem."

As to mining he felt that there should be a retention of the four cent import duty on copper. The present revenue act expires this year and he urged the necessity of memorializing the Congress of the United States to again pass this measure favorable to small mine owners and organizations.

On Agriculture he recommended that the legislature continue its policy of appropriating funds for protection of agriculture against infection by harmful insects and pests and for control of destructive rodents.

Concerning Legislative Salaries he advocated a constitutional amendment placing legislators on a yearly salary basis put before the people for vote, also a four year term of office for state and county officials. 1. Would increase executive responsibility. 2. Would cut in half the present cost of elections. 3. Would enable representatives to carry a continuing program unhampered by re-election campaigns.

On Public Lands and Stock raising he suggested the following: 1. Better remuneration for and an increased number of livestock inspectors. 2. Period of leases on state lands should be extended for longer period of time. 3. Should oppose any further creation by the Federal Government of reservations in Arizona.

As to Financial Control he felt that finances should be put under effective economic management in order to cut down taxes. 1. Consolidation of departments with overlapping functions an delimitation of unnecessary bureaus and commissions. 2. Set up a department of finance. (a). Comptroller with real control over finance. (b). A

full time budget director. (c) A purchasing agent who would standardize supplies, materials and equipment and purchase on a business basis.

Sidney P. Osborn became Arizona's ninth governor. He was born in Phoenix on May 17, 1884. His grandfather, John P. Osborn came to Arizona in 1864 the year after Arizona became a U. S. Territory. He settled in wild and woolly Prescott for six years and then moved to the equally wild and woolly Salt River Valley. His father, Neri Osborn was very active in Territorial politics. Sidney Osborn has the unique distinction of being the youngest member of the Arizona Constitutional Convention when it met in Phoenix in 1910. He is a man of the people, who thoroughly understands the problems confronting the State. He represents the great mass of Arizona's citizens, the common people.

On January 13 1941 Governor Osborn presented his program to the Fifteenth State Legislature. His program is one of economy. He would achieve this by abolishing such boards as the Board of State Institutions; by transferring duplications to one specific department; and by merging other departments. This program is demanded by the people in order to reduce the cost of state government. Said the governor:

"Not only must such responsibility be centralized in a single authority to bring about the desired result, but the administration of the executive department must be stern and uncompromising in carrying out the proper functions of the government, if we are to effect either economy or efficiency in the measure we seek.

"For that reason, I recommend that you grant the governor authority to reorganize the agencies of our state executive department by executive decree. I realize that certain limitations and safeguards to that authority are desirable. Whatever reorganization plans are carried into effect must be made subject, of course, to review by the legislature at its next regular session."

The governor recommended that the reorganization authority be limited as to time so that it may be accomplished within the next two years.

Other high lights of the chief executive's recommendations to the legislators included:

Direction into and appropriation from the general fund of all funds accruing to the state; an all-inclusive general appropriation bill to eliminate special appropriations, avoid congestion and "bickering" and adoption of the general appropriation bill as soon as possible to do so.

Granting to the governor of immediate authority to abolish the board of directors of state institutions, the functions of that agency to be incorporated in the executive office.

Establishment of a state department of agriculture.

Enlargement of the functions of the state resources board.

Creation of a home guard.

Provision in the workmen's compensation law for just compensation for disability due to silicosis; removal of management of the insurance feature of the law—the compensation fund—from the industrial commission, and legislation to expedite hearings and trials on restrained orders and injunction cases in labor disputes.

Legislation to conserve the permanent school funds, set professional qualifications for the state superintendent of public instruction, to care for mentally retarded children and for retirement of teachers.

An appropriation for construction and maintenance of a state children's colony, "beginning this year".

Placing of the state hospital administration under a citizens board of control.

Legislation to allow increase of old-age assistance payments from \$30 to \$40 per month.

Creation of a traffic safety division within the highway department and increase in the personnel of the state highway patrol.

Placing of all law enforcement agencies immediately under the merit system, and submission by legislative resolution to the people at the next election of a proposal for civil service for all state departments.

Creation of a water and power authority.

Arizona is a strong Democratic State. Therefore most of the elections are determined in the Primary. In the primary election held on September 10, 1940, Sidney P. Osborn defeated the incumbent governor, Robert T. Jones, by some 5,000 votes. However in the November election, Mr. Osborn defeated his Republican opponent, Jerry Lee, by a vote of 94,991 to 49,072. Arizona is divided into 430 precincts. Maricopa County has some 87 voting precincts.

Arizona is represented in Congress by Senator Carl Hayden and Judge W. McFarland and Representative John R. Murdock. Arizona presumably will be entitled to a second representative in the U. S. Congress in 1942 on the basis of 500,000 population. The salary of U. S. Senators and Representatives is \$10,000 each plus 20 cents a mile one way traveling expenses.

Arizona has an elected Supreme Court judiciary, consisting of three Supreme Court judges with terms of six years and \$8500 salaries. Each of the fourteen counties elect their own Superior Court judges for four year terms. The State pays half of their salaries and the respective counties pay the other half. Maricopa has five Superior Court Judges with salaries of \$5500 each. Alfred C. Lockwood is chief justice of the Supreme Court, and his two Associate Judges are A. G. McAllister and Henry D. Ross.

The Governor in Arizona (Sidney P. Osborn), is elected every two years. The gubernatorial salary is \$7500. He is responsible for the administering of the affairs of the "Ship of State". Other elected officials in the Statehouse are: Harry M. Moore, Secretary of State; Joe Conway, Attorn-

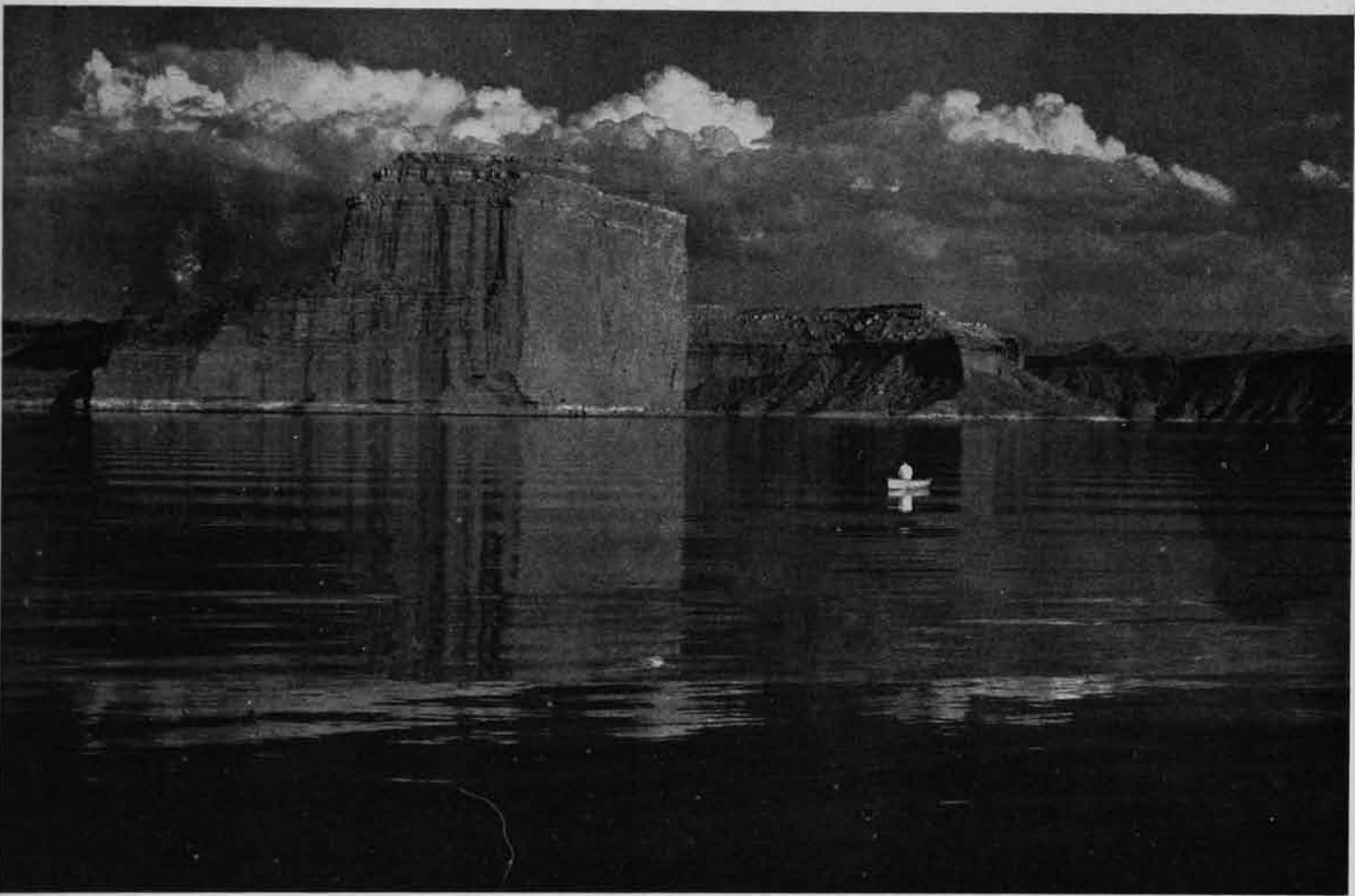
ey general; Joe Hunt, Treasurer; Ana Frohmiller, Auditor; E. D. Ring, Superintendent of Public Instruction; and Tom Foster, Mine Inspector. The Tax Commission and the Corporation Commission, each consisting of three members are elected. (11) There is no Lieutenant Governor in Arizona.

Arizona has a bi-cameral Legislature consisting of a Senate with nineteen members, and a House with fifty-two members. They are in session for a sixty day period each bi-ennium (every two years). Special sessions are limited to twenty days. Both Senators and Representatives receive salaries of \$8 per day plus 20 cents a mile one way for traveling expenses. Maricopa County had two Senators and nineteen Representatives in 1940.

The cost of operation of Arizona State Government in

1939-40 was \$24,760,896.19 according to Ana Frohmiller. (12). This included some \$3,275,601.74 of Excise Tax, however. The breakdown of the other items follows: General Government \$768,903, or 3.1 per cent; Health and Sanitation \$235,676 or .95 per cent; Welfare and Correction \$7,299,352 or 29.48 per cent; Education \$4,486,203 or 18.12 per cent; Natural Resources \$289,369 or 1.17 per cent; Debt service \$173,485 or .7 per cent. The Miscellaneous including Apportionment of Excise Tax was 13.58 per cent. An analysis of the budget will appear in a later chapter.

Arizona has tremendous mining, lumber, agriculture, water and climate resources, a population of 500,000 and an area of 113,000 square miles. The U. S. Government controls 59.6 per cent of Arizona lands; the state owns 14.7 per cent; and privately owned lands amount to 25.8 per cent. Arizona has a future if she can get cheap power and water from the Colorado River.



Lake Mead above Boulder Dam. Largest Man-made Lake in the World

(12) Annual Report of the State Auditor, for Fiscal year ending June 30, 1940, p. 21.

(11) Salaries of elected officials are as follows: Secretary of State, \$5,500; Attorney General, \$5,000; Auditor \$4,500; Treasurer, \$4,500; Superintendent of Public Instruction, \$4,500; State Mine Inspector, \$3,500.

CHAPTER XXV  
FEDERAL AGENCIES



President Franklin Delano Roosevelt

The Federal Government has its headquarters for Arizona essentially in Phoenix and the Valley of the Sun. Of the 438 United States officials in Arizona some 167, or 38 per cent, were located in Phoenix and vicinity whereas 281 were to be found in the rest of the state (1).

There are some 25 Federal Agencies and their divisions in Phoenix.

The economic, social, and political life of the city of Phoenix, Arizona is influenced materially by the presence of a large number of Federal Agencies of various descrip-

tions and functions. In addition to the more common agencies such as the Post Office Department, Forest Service, Justice Department, etc., there are also many others including the Works Progress Administration, Bureau of Reclamation, and Civilian Conservation Corps. While many of these have headquarters or sub-headquarters in Phoenix it is still very evident, considering the large proportion of Federal land in Arizona, that this city should be more of a center for United States governmental activities than it is at the present time.

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(1) Political Science Division, Arizona State Teachers College, Tempe, Arizona, 1941.

The U. S. Treasury State Disbursing Office in Phoenix, Arizona, employs six people in handling disbursements from Emergency Relief Appropriations. During the fiscal year 1939, its disbursements aggregated approximately \$8,280,000.

The Treasury State Accounts Office, located in Phoenix, Arizona, employs eleven people, one of whom is the Accountant-in-charge. It handles field accounting for funds allotted and disbursed from Emergency Relief appropriations. This has involved maintaining accounts for some 1,497 projects.

The U. S. Treasury Procurement Division maintains but one office, located at Phoenix, in the state, which employed eleven people during the fiscal year 1939. The total expenditures for the office during the year, inclusive of all operating costs, salaries, travel, rent, communication, etc., amounted to \$18,871.

During the fiscal year 1939, this office made purchases for various Federal activities amounting to \$1,083.71, but these purchases would be reflected in expenditures of the activities concerned.

In the local Department of the Interior offices are headquartered such agencies as the Division of Grazing, General Land Office, and Office of Indian Affairs. The last includes the C. C. C. Indian Division, Indian Sanatorium, Phoenix Indian School, Pima Indian Agency, and Indian Public Works Construction. The Indian Affairs office is quite in line with the extensiveness of Indian activities in Arizona. The regional headquarters is located in Phoenix—next higher headquarters being in Washington, D. C.

The Indian Service has some 30 physicians and more than 60 nurses to give medical attention to the some 50,000 Indians in Arizona.

A statistical picture of the Indian population in Arizona as of 1938 under the jurisdiction of the office of Indian Affairs embraced 46,255 as follows: Colorado River Agency, 1,212; Cocopah Reservation, 42; Colorado River Reservation, 826; Fort Mohave Reservation, 344; Fort Apache Reservation, 2,811; Hopi Reservation, 3,325; Navajo Agency, 22,264; Piute Agency, 87; Kaibab Reservation, and Pima Agency, 6,250; Fort McDowell Reservation, 195; and the Gila Reservation, 4,752.

The United States Department of Agriculture sub-agencies include the Bureau of Agricultural Economics, Bureau of Agricultural Engineering, Bureau of Entomology and Plant Quarantine, Forest Service, Bureau of Public Roads, and Weather Bureau. Each of the offices with the exception of the Forest Service is small. The Forest Service office is the headquarters for the Tonto National Forest, one of nine such forest subdivisions located in Arizona and consisting part of the Southwestern Region of the U. S. Forest Service with headquarters in Albuquerque, New Mexico. As is true with a number of governmental agencies the regional headquarters of the Department of Agriculture sub-heads are located in other cities than Phoenix. The total number of employees in Department of Agriculture Phoenix offices is thirty-five and the monthly payroll approximates \$7,000.

However, with the Division of grazing the situation is quite different as the Phoenix office for this agency is merely a sub-agency for Albuquerque, New Mexico and Salt Lake City, Utah, regional offices. When consideration is taken of the fact that Arizona is a large grazing state, it should follow that Arizona should have a state office of the Division of Grazing subordinate only to the head office in the Department of the Interior in Washington, D. C. The total number of workers employed on Department of Interior activities in Phoenix, Arizona, is sixty-two with a monthly payroll of approximately \$9,300.

The state offices of the Works Progress Administration are located at the State Fairgrounds and the Maricopa County offices are located in downtown Phoenix. This agency has been responsible in Phoenix as well as in all other cities for distributing innumerable jobs to needy people and in purchasing large stores of material, usually of a type used in construction work. Federal money has literally been 'poured' into Phoenix and the state of Arizona through this agency during the past five years. The number of employees has fluctuated from time to time, and an average of approximately 1,400 residents of Phoenix have been on the W. P. A. rolls constantly. Salary scales vary considerably within this organization. The lowest classification which applies to laborers is \$44 per month, and the highest salary, that of the state director, is \$400 per month.

The Arizona District of the Civilian Corps maintains headquarters in downtown Phoenix. In addition to the head business office there is also a garage and warehouse. This headquarters serves the twenty-seven individual camps in the state. There are sixty-two civilian employees in this organization and twenty-three army officers stationed in Phoenix. The monthly payroll averages \$13,000 per month the year round.

There are also several other Federal Agencies in Phoenix including the Mines Bureau, Interstate Commission Bureau of Mountain Carriers, Federal Housing Administration, Civil Aeronautics Authority, Home Owners Loan Corporation, Federal Surplus Commodities Corporation, National Emergency Council, Department of Labor, Veterans Administration, Social Security Board, and Reconstruction Finance Corporation. Each of the above maintains a small office with an average monthly payroll of \$14,000.

The Post Office department is well represented and was housed two years ago in a new two story post office building. There are 95 employees and the average monthly payroll is \$14,000.

The Bureau of Reclamation, an agency of the Federal Government in charge of irrigation and related projects, has a fairly large office in Phoenix. Bartlett Dam, the Salt River Valley Water Users Association Irrigation Project, Roosevelt Dam, and Coolidge Dam come under its jurisdiction. The payroll of this organization was increased during the construction of Bartlett Dam but is now gradually being reduced to normal. There are 53 employees with the Bureau of Reclamation and the average monthly payroll approximates \$5,800 per month.

ments within the state, making a grand total of \$26,372,327.-05 spent by the Federal Government in Arizona in 1939.

The National Youth Administration has a staff of 15 persons in the state office and an average of 300 Phoenix youths are employed on its many projects. The monthly payroll of the staff of 2,400 and that of the youths employed is \$4,500.

A gross aggregate of the average Federal Government monthly payroll in Phoenix is \$130,000 per month and \$1,560,000 per year. In addition such Federal allowances as soldiers' bonus, soldiers' pensions, old age compensations, and unemployment allowances are paid to many of its citizens. The monthly allotments of over three hundred CCC enrollees are not included in the above figure. The last amount approximates \$7500 per month.

While the importance of having Federal agencies in the city from an economic point of view is generally determined by the aggregate monthly payroll, the income to property owners through rentals and sale of goods for housing of and for use by these organizations exceeds generally that of Federal salaries. Building materials, office supplies, groceries, vegetables, clothing, and innumerable other goods are purchased by these agencies in large quantities. Hundreds of houses are financed through the Federal Housing Administration. The Bureau of Reclamation, Division of Grazing, Forest Service, Works Progress Administration, the Indian Service, and Civilian Conservation Corps spends \$1000 per day for food alone in the city limits of Phoenix, Arizona. The total for sale of goods alone in Phoenix is easily 10 million dollars per year for all Federal agencies.

Unfortunately the new Post Office Building when being planned and constructed was made a tool for political subterfuge. While on the surface it appeared that Phoenix was going to have an excellent Post Office, actually this project merely served to enable an eastern Republican politician to receive a handsome price for the lot on which the post office now stands; in fact, by the time the lot was paid for, there was insufficient funds left to build an adequate building. The result is that the present structure is not half large enough to house all of the Federal Agencies in Phoenix. This situation is, however, a boon to office building and warehouse owners in Phoenix. The monthly rental collected from Federal Agencies by property owners is in excess of \$20,000. In many instances owners of rental business buildings have been able to save their holdings because of Federal aid received through rentals. Federal employees lease and buy houses for their personal use and through this procedure become materially responsible for a goodly portion of the rapid growth of Phoenix.

The social effect of Federal Agencies is beneficial in most respects to the city. These agencies give employment to all classes of workers. A large percentage participate in and support social institutions such as churches and clubs. As individuals they do not present a crime problem in any sense and as a whole they are reputable in their dealings. They are definitely an asset from a social point of view, because of their steady incomes partly, at least, they constitute stable and desirable citizens.

By law and custom Federal Employees are not permitted to participate in political activities. As a rule they exercise their right of suffrage and due to their above average intelligence and judgment their influence as voting citizens is of great value.

The Federal Agency group in Phoenix represents one of its largest economic and social groups in that its spending power is more than 10 million dollars annually—twice that of the tourist trade. However, its scope of operation is not as extensive as it should be. In far too many cases the Phoenix office of a Federal agency is merely a sub-office of regional officers of the same agency usually located in such cities as Albuquerque, New Mexico, Denver, Colorado, or San Francisco, California. Albuquerque definitely owes much of its expansion and constant growth to the large number of Federal Agencies located within its limits. Regional offices of the Forest Service Division of Grazing, Bureau of Reclamation, and many others should be in Phoenix. If that were the case the payroll of the city would be materially increased and the governmental purchases would be expanded. Merchants and business men of the city would benefit proportionately.

Another move that would aid Phoenix involves the War Department. At the present time the only military establishment in Arizona of any consequence is Fort Huachuca located near Bisbee, Arizona, about ten miles from the Mexican border. This Fort houses the 25th Infantry, an organization made up of about 1600 enlisted men and 82 officers. In addition there are several civilian employees and wives and families of the enlisted men and officers. The entire unit represents a total of 2400 persons. Their purchasing power is quite extensive. This Fort should be in or near Phoenix. The fact that such a move would aid Phoenix from a business point of view is obvious, the underlying reason, however, is one of military tactics. The mission of this particular military unit is to defend the Mexican border. In order to do this and in order for any extensive military campaign to be successful the problem of supply and transportation must receive primary consideration. While thirty years ago the distance of travel from Phoenix to the Mexican border would obviously eliminate Phoenix as the logical location for a general headquarters, today with its excellent, modern transportation facilities, Phoenix is the most advantageous choice for a location of that kind. In the first place, the Salt River Valley is able to provide food stuffs of practically all kinds. In the second place its transportation facilities are more convenient and logical. The rail road lines and highways in southern Arizona parallel the Mexican border and are quite vulnerable in event of war to enemy attack by air or artillery. In fact, United States military strategists during the 1938 Third Army maneuvers in southern Arizona did not plan on drawing any supplies over either of these two routes. The unanimous choices were the highways and railroads from the north through Phoenix, Arizona. To Santa Fe Railroad would furnish practically all of the transportation of men and supplies for any such military campaign. This is logical. These arteries of travel are not vulnerable to attack because they run perpendicular to the probable zone of action and are also connected with the heart of the nation, the Midwest, East, and Pacific coast. Phoenix would be

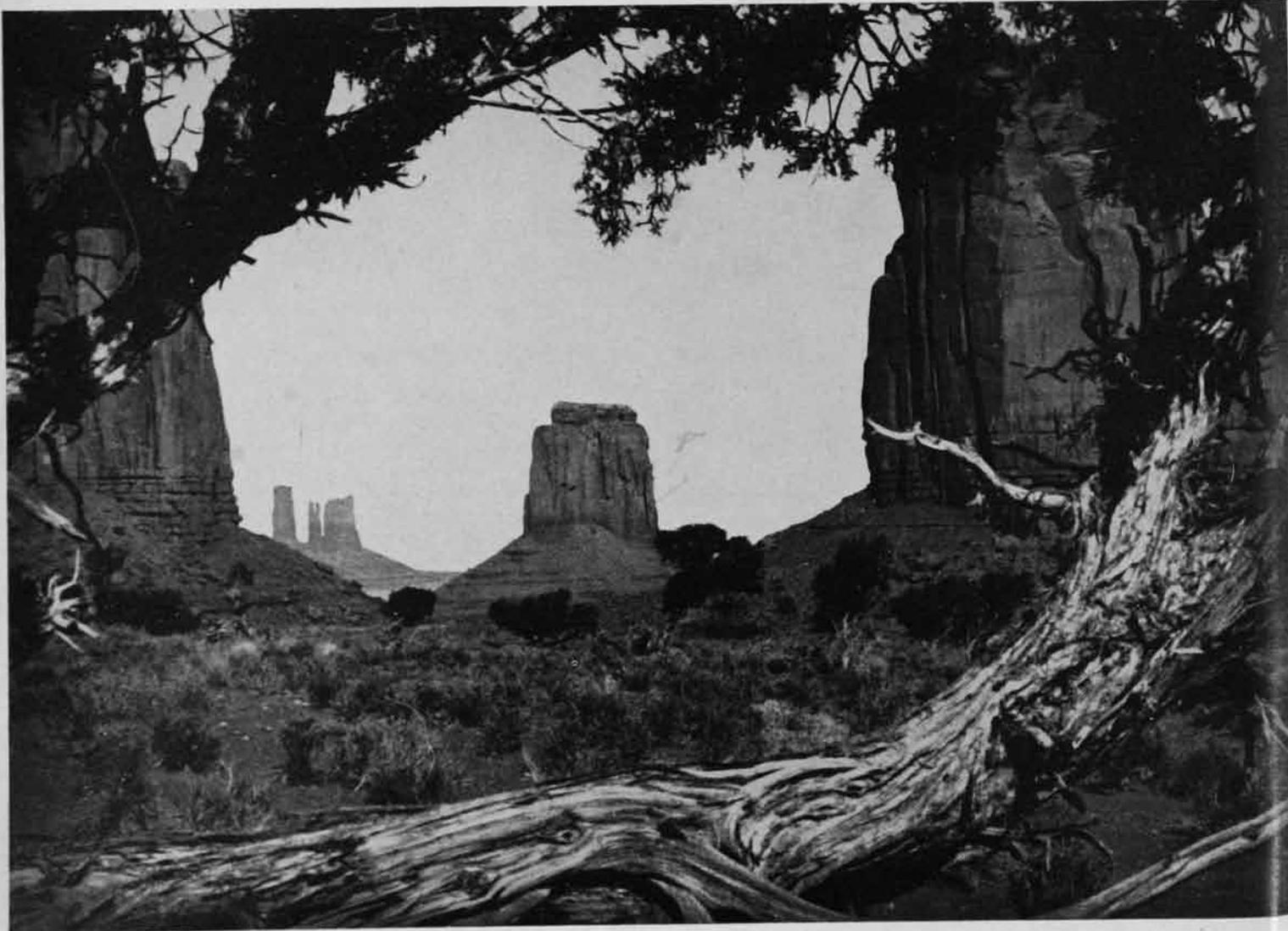
the distributing point and center of supply and operations. Why shouldn't it be that during peace time as well? Another drawback to the location of the troops at Fort Huachuca is the shortage of water. This form of supply is a primary essential in military operations during peace or war. Phoenix has an abundant supply. Phoenix politics should get busy on this matter and it is believed that it would not require a great amount of effort to bring about the change in location of the 25th Infantry from Fort Huachuca to Phoenix, Arizona.

The State National Guard is under the direction of Major General A. M. Tuthill and other ranking officers. The State National Guard has been located in Phoenix and has served as the core of U. S. military work in the state. Major Tuthill also headed the conscription service in Arizona.

Federal agencies have played a big part in the growth of Phoenix. During depressions and good times the income from this group has materially aided the merchants and business men of the city. It is apparent that the city fathers are not entirely aware of this source of income as little or

no effort is made to increase the number of agencies or to keep those that are already here. The most active public office holder of Arizona in obtaining Federal Funds for employment of Arizona citizens and in the locating of headquarters for Federal agencies in Arizona has been U. S. Senator Carl Hayden. His advantageous position as one of the ranking members of the Senate Appropriations Committee gives him opportunity to render invaluable service to the state in this field.

An official transcript from the U. S. Treasury Department showing all grants to and expenditures within states etc. providing direct relief, work relief and other aid, exclusive of loans, indicated that Arizona received \$724,025.93 for Forest Service, \$468,567.79 for the Bureau of Public Roads, \$1,262,518.00 for the Farm Security Administration, \$4,172,099.25 for the Agricultural Adjustment Program, \$255,796.12 for the National Guard, \$4,859,128.97 for the Civilian Conservation Corps, \$2,120,847.40 for the Federal Emergency Administration of Public Work Grants, \$268,050.47 for the National Youth Administration, \$7,704,994.39 for the Works Progress Administration, \$21,836,028.32 for total pay-



Monument Valley—Supervised by Federal Government



Republic and Gazette building, left, houses two of Arizona's finest newspapers.

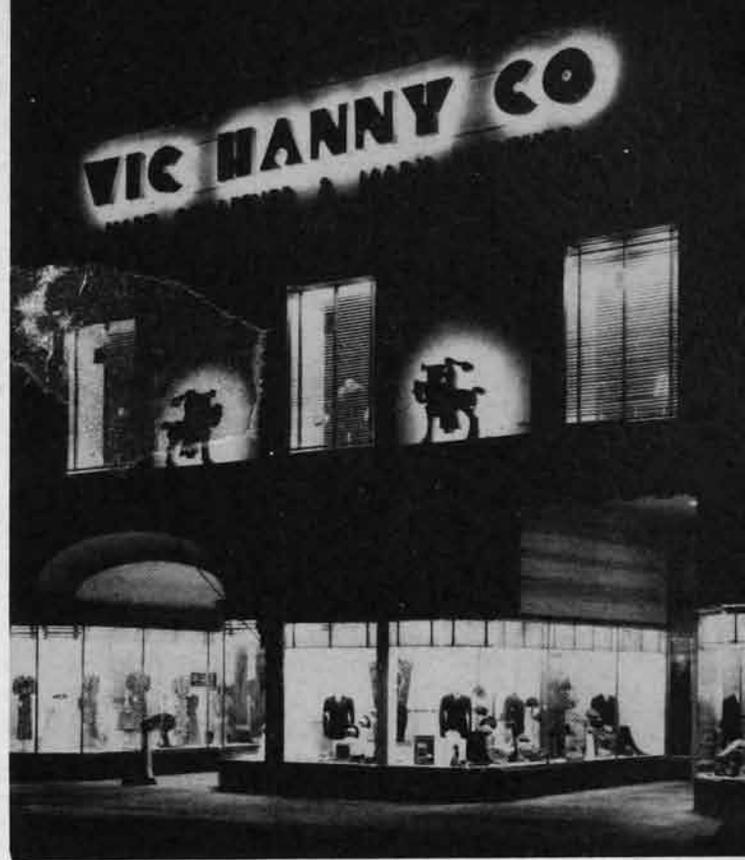
Night view of a modernized variety store, right.





N. Porter Company, leading saddlery and western outfitters in the Southwest, above;  
the new Montgomery Ward Store, below.





Phoenix has one of the most attractive business centers of its size in the nation. Walgreen's, upper left; Vic Hanny's, upper right; Sears' new streamlined department store, below.





Brophy College, Spanish-style architecture, above; Phoenix is on the main line of the Southern Pacific Railroad, below.





Air view of North Phoenix High School, above; P.U.H.S. is one of the finest high schools of the nation, below.





Sub-debs at Camel-  
back Pool, above;  
C. S. Berryman, head  
librarian of Maricopa  
County Free Library,  
lower left;  
Marie Barnett, "Miss  
Arizona," student at  
ASTC, Tempe.





Easterners enjoying the winter climate in the Valley of the Sun, above; Lon Jordan receiving "world's champion steer roper" trophy at Tucson, while his horse nods approval.





Luhrs Tower is one of the finest office buildings in Phoenix.

Night Scene of Arizona Hotel, below.



# TAXATION PROBLEMS IN ARIZONA

The rapid rise of public expenditures has been the dominating fact in the recent financial experience in every country in the world. The United States has been no exception. In 1890 public expenditures amounted to about 15 per cent of the national income. In 1932, when earning power had been greatly curtailed, public expenditures had increased to about 36 per cent of the national income.

There have been many factors contributing to the increase of public expenditures in local, state and federal governments; namely, building highways; controlling traffic; enforcing sanitary and fire prevention measures; maintaining parks, playgrounds and recreational centers; constructing bridges, tunnels, aqueducts; and securing adequate water supply, sewage disposal and police protection. Governmental expenditures for these purposes—local, state and national—have greatly increased from \$885,000,000 to \$15,500,000,000 annually.

By 1938 there were 16 national, 78 state, 221 county and township, and 223 city and neighboring tax organizations. One of the major groups is the Taxpayers League in New York City. There are 167,699 taxing districts in the United States (1). There are also some 20,000 assessing units in the nation. In Arizona, the fourteen counties are assessing units. In Iowa there are more than 1600 assessing units because the villages, towns and cities are each independent units. There is a national trend toward abolishing village, town and city assessing units. Units should be large enough to justify employment of full time officials.

Assessors should be appointed rather than elected, as efficiency rather than vote getting is the quality desired. The assessor should have ownership and land value maps, an assessors manual, an appraisal record, mechanical addressing and calculating machines, and photographic material to make photostatic maps if possible. Carefully devised forms for the recording of individual property appraisals should be followed. The Wisconsin classification has received much praise because it is so complete and logical. Assessments are made of residence, mercantile, agricultural, and manufacturing property. Accurate statistics should be kept for marsh, cut-over, waste, and timber lands. One of the great assessment problems in Arizona is to get uniformity in assessed valuations of the several counties. Some tax experts believe that there are enough kinds of taxes in Arizona, but that the problem is two-fold: having a uniform system of tax appraisals; and an equalization of the tax burden. State equalization of assessed valuations has been occasionally necessary in Arizona. (2)

The highway situation is one of the focal points of attention to tax experts. In 1940-41 the Arizona Highway Department is budgeted for some \$9,000,000 or nearly forty

per cent of total State expenditures. But highway costs have also increased throughout the nation. In 1900 there were 8,000 registered motor vehicles in the United States, and there were no special automotive taxes. Car drivers bounced over dirt roads and through narrow streets which were also used by horse and buggy vehicles. By 1930 the number of motor vehicles had increased by 3500 per cent; total rural mileage by 50 per cent; paved mileage by 350 per cent; and top surface mileage by some 87,000 per cent. By 1936 there were 24,197,685 cars; and 4,023,606 trucks, making a total of 28,221,291 cars and trucks in the United States. The cost of rural highways alone has increased from \$181,312,000 in 1913 to \$1,587,658,000 in 1930. From 1923 to 1932 various special taxes on automobiles in the nation amounted to \$7,312,000,000 while total expenditures in the United States for construction and maintenance of streets and highways was \$16,587,000,000. Automobile taxes the country over have fallen far short of covering street and highway costs. Who should bear the highway costs? It should not be by means of special assessment. The most suitable devices for making the vehicle owner pay for highway benefits are through gasoline and registration taxes. People engaged in motor transportation should pay general taxes as property owners. Counties and municipalities should also inaugurate gasoline taxes or share in receipts. Municipalities will receive 10 per cent of county gasoline receipts in Arizona. Commercial motor vehicles should pay for the additional highway costs which they create.

Property taxes have been completely eliminated by some nine states, while thirteen others have eliminated real estate taxes. Two of these states have abolished all personal property taxation both for state and local purposes. In 1930, the average state tax on property throughout the nation was 19.38 per cent. By 1939 the average state tax on property was 6.22 per cent. The state property tax in Arizona according to the 1940 Auditor's report was 17.20 per cent of the states total revenue. (3). There is no property tax in New York, Delaware, Oklahoma or Vermont. Former Judge E. G. Frazier, student of taxation problems in Arizona states that the 1940-41 state tax on property in Arizona will be some 14 per cent. He believes that the property tax should be completely eliminated in Arizona. The property tax is 1.74 per cent in West Virginia, 7.56 in Wyoming; 23.5 in Nebraska; and 37.27 in Nevada.

The cost of Arizona State Government for the year ending June 30, 1940, was \$24,760,896.19. The breakdown made by Ana Frohmiller, State Auditor, follows: General Government, \$768,903.21 or 3.10 per cent; Health and Sanitation, \$235,675.63 or .95 per cent; Welfare and Correction, \$7,299,351.74 or 29.48 per cent; Education, \$4,486,202.76

(1) Survey of Realty Tax Delinquency, Bureau of the Census, Washington, D. C., 1934.

(2) Tax Policy League, Tax Policy Bulletin, p. 2, December, 1939, Vol. 4, No. 2, N. Y. C.

(3) Annual Report of the Department of State Auditor for the Fiscal Year Ending June 30, 1940; published October 1, 1940.

or 18.12 per cent; Protection to Persons and Property, \$595,113.92 or 2.40 per cent; Highway Department, \$7,550,-971.03 or 30.50 per cent; Development and Conservation of Natural Resources, \$289,368.62 or 1.17 per cent; Debt Service, \$173,485.19 or .70 per cent. The Miscellaneous item included the sum of \$3,275,601.74 representing the Apportionment of Excise Tax to the fourteen counties. Other Miscellaneous Expense amounted to \$86,223.25. The Miscellaneous items including the Excise Apportionment amounted to 13.58 per cent of the budget. In former years the apportionment of Excise taxes (motor vehicle tax) to counties was deducted from the cost of State Government. If this were done, the cost of Arizona State Government for 1938-40 would be \$21,485,294 as compared with \$19,227,708 in 1938-39; \$18,359,403 in 1937-38; \$15,583,329 in 1936-37; \$12,170,604 in 1935-36; and \$9,744,212 in 1934-35.

Certain facts concerning the tax situation in the Valley of the Sun and in Arizona have made it one of the most vital subjects which concerns the citizenry of the state.

1. Arizona pays the highest state per capita taxes in the nation (4).

2. The total taxes for all purposes in 1916 were \$6,783,863.88. In 1939 the total taxes for all purposes amounted to \$28,462,173.09 or an increase in 24 years of four hundred and twenty per cent. The average tax rate per \$100 valuation to apply on property was 1.4039 in 1916 and increased to 4.7992 in 1939. (2)

3. The assessed valuation of mines in Arizona has dropped from \$468,000,000 in 1920 to some \$90,000,000 in 1938.

4. In 1918 the mines paid more than half—some 56.11 per cent of the ad valorem or property tax; while in 1938 they paid only about one-fifth, or to be more exact—some 22.42 per cent of the ad valorem or property tax.

5. The total net assessed valuation of Arizona dropped from \$884,000,000 in 1920 to some \$390,000,000 in 1940. (4)

There was no sales tax; no luxury tax; no income tax; and no liquor license; or motor vehicle fuel tax prior to 1934. These new taxes lessened the tax load in 1934, when they were originally introduced by Dr. B. B. Moeur, governor. The motor fuel tax was first instituted in Arizona in 1921 when it amounted to \$87,920. The sales tax, luxury tax, income tax, and liquor license taxes were all inaugurated in 1934. In 1939 taxes for all purposes in Arizona amounted to \$28,462,173.09. The average tax rate per \$100 valuation was 1.4039 in 1916 and 4.7992 in 1939.

Arizona's assessed valuation reached an all time high of \$884,455,682.50 in 1920. From 1920 to 1939 the assessed valuation of Arizona dropped, \$512,979,303.50 or 58 per cent. The assessed valuation of Arizona was \$884,455,682 in 1920 with a tax rate of \$0.475; and assessed valuation of \$640,895,855 in 1925 with a tax rate of \$.78; an assessed valuation of \$714,945,809 in 1930 with a tax rate of \$.80; an assessed valuation of \$355,482,661 in 1935 with a tax rate of \$.78; an assessed valuation of \$393,279,571 in 1940 with a tax rate of \$.86.

Former State Senator C. M. Menderson was interviewed on the matter of relative state tax rates. He stated that Arizona had a much higher tax rate than had the neighboring states. In 1936, he said, Colorado had an estimated valuation of \$1,103,563,605 with a tax rate of only \$.30; Idaho with an assessed valuation of \$389,458,074 in 1938 also had a tax rate of only \$.30; New Mexico with an assessed valuation of \$310,791,170 and had a state tax rate of \$.5625; Utah in 1936 with an assessed valuation of \$525,000,000 had a state tax rate of \$.60; and Nebraska with an assessed valuation of \$2,033,302,482 had a state tax rate of \$.268. Arizona's state tax rate in 1939 was \$1.25, but was reduced to \$.86 in 1940.

Ana Frohmiller made history in her unique analysis of Arizona Governmental Expenditures for the year ending June 30, 1940. (5) Her report indicates that \$8,603,629.70 or 34.75 per cent went for current expenses; \$11,657,260.40 or 47.08 per cent for fixed charges; \$4,408,206.09 or 17.80 per cent for Capital Outlay; and \$91,800 or .37 per cent for Redemption of Debt Payments. Rather astounding was the Personal Service item of \$5,784,117.91 or 23.36 per cent of the total.

The most amazing part of the State Auditor's report was that State Educational expenditures for the year 1939-40 amounted to only 18.12 per cent of the total State Expenditures.

The State Auditor indicates that some \$26,906,810.97 was raised from all sources in Arizona for the fiscal year ending June 30, 1940. How much revenue is raised from taxes in Arizona? How much from sources other than taxes? What portion of the State's revenue comes from property taxes? From fuel taxes? From sales taxes? What are the sources of state revenue other than taxes?

During the fiscal year 1939-40, some \$18,929,539.63 or 70.35 per cent of Arizona State revenue came from taxes, while \$7,977,271.34 or 29.65 per cent came from sources other than taxes. (6)

Property, fuel, and sales taxes are the big three sources of State taxation revenue. The breakdown includes: Property taxes—\$4,628,883.56 or 17.20 per cent of the State's total revenue; Fuel Taxes—\$4,609,844.49 or 17.13 per cent; Sales taxes—\$4,033,142.58 or 15.0 per cent; Luxury taxes—\$1,482,883.90 or 5.5 per cent; Income taxes—\$1,319,964.64 or 4.9 per cent; Unemployment taxes—\$2,109,054.75 or 7.84 per cent; and other miscellaneous taxes \$745,765.71 or 2.77 per cent.

Federal contributions, grants and aids form the major sources of non-tax State revenue, amounting to \$5,504,232.64 or 20.46 per cent of the total state revenue in 1939-40 license fees, fines and permits amounted to \$1,798,010.30 or 6.68 per cent. University and College collections totaled \$353,676.19 or 1.31 per cent. Earnings on state lands and investments added up to \$266,556.80 or .99 per cent. All other non-tax sources resulted in some \$54,795.41 revenue or 0.21 per cent.

(4) Arizona Tax Research Association, Heard Building, Phoenix, Arizona, 1940.

(5) Annual Report of the State Auditor, Ibid, 1940, p. XIX.

(6) Ibid, p. XV.

The State Tax Commission indicated that some \$3,382,204 represented the state property taxes for the fiscal year ending June 30, 1940. (7) Expenditures of this property tax levy for the fiscal year 1939-40 was as follows: Education—\$1,755,332 or 51.90 per cent; Social Security—\$721,552 or 21.34 per cent; State Institutions (other than education)—\$338,298 or 10.0 per cent; Administration—\$276,660 or 8.18 per cent; Agriculture and Livestock—\$177,475 5.25 per cent; Legal Legislative and Judicial—\$68,722 or 2.03 per cent; Military—\$43,426 or 1.28 per cent; and Special Appropriations \$739 or 0.02 per cent. However it is advisable to remember that the total cost of Arizona State Government was some \$26,906,810.97 and not \$3,382,204 upon which the distribution of property tax levies was based.

Total taxes collected by the State of Arizona (8) for the fiscal year ending June 30, 1936 totaled \$13,944,074; 1937—\$17,856,481; 1938—\$18,006,574; and 1939—\$18,717,432. Certain trends in the collection of Arizona taxes during the last few years indicate a slight increase in property, fuel and sales taxes; decline in mechanical amusement taxes; decline in corporate income tax; elimination of cosmetic and sporting goods taxes; and average trend in the other taxes.

The ad valorem tax rate for the state of Arizona for 1940-41 was set at \$.86 per \$100 valuation by the state tax commission. The assessed valuation for 1940 was \$393,279,571. (9) Some \$3,382,204.64 of the operating cost of state government for 1940-41 will be raised through ad valorem taxes. This is approximately 14.71 per cent of the total cost of Arizona state government for 1940-41, which was estimated at \$23,000,000. The \$.86 state tax rate represents a considerable reduction over 1939-40 when the state tax rate was \$1.25 and the assessed valuation of Arizona was \$371,476,379. (6)

One of the most outstanding governors in relationship to taxation was Governor B. B. Moeur. In 1934 he introduced a series for excise taxes which in the same year brought in the following income: sales tax—\$1,129,380.10; luxury tax—\$580,155.61; income tax—\$235,202.89; and liquor license—\$132,662.50. Governor Moeur made reductions in taxes in practically every area. He effected a reduction of \$1,539,949.00 or 27.12 per cent in state property over Governor G. W. P. Hunt's last administration; a reduction of \$276,286.00 or 34.90 per cent in land and improvement taxes; saving of \$613,938 in city lot improvements; and some \$67,000 in all other property. Doctor Moeur also made great reductions in taxes in all phases of state government amounting to 25.03 per cent in grade and high schools; 28.09 per cent in the institutions of higher learning; 29.03 per cent in state institutions; 29.03 per cent in administration, 39.03 per cent in agriculture and livestock; 29.07 per cent in legislative and judicial expenditures; 20.8

per cent in interest and redemption; and 39.4 per cent in military expenditures. He completely eliminated special appropriations and spent nothing on highways and bridges. However, he introduced old age pensions which costs the state \$600,000. His record has been unexcelled by any other governor in terms of an economical administration, and sound taxation and finance.

Ad valorem or property taxes account for 62.64 per cent of the taxes for all purposes. Excise taxes or taxes on commodities, such as fuel tax, retail sales, etc., amounted to 37.36 per cent for all purposes, including for all state, county and city properties. Ad valorem state taxes increased from \$1,945,626.00 in 1916 to \$4,643,454.00 in 1939. General ad valorem taxes increased from \$3,099,301.00 in 1916 to \$6,273,299.00 in 1939.

Total school district ad valorem taxes increased some \$837,966.00 in 1916 to \$4,119,516.00 in 1939. Cities and town ad valorem taxes increased from \$857,048 to \$2,791,764.00 in 1939. Total ad valorem taxes for state, county, school district, city and towns increases as has been mentioned, some \$6,739,942.00 in 1916 to 17,828,033 in 1939.

A word might be said as to tax rate concerning the city of Phoenix, Maricopa county, the state of Arizona and education. The Phoenix tax rate per \$100 of assessed valuations was set at \$1.70 in 1940. It was \$1.72 in 1939 and \$1.76 in 1938. Maricopa County had a tax rate of \$1.86 in 1940 which represented a reduction from \$2.47 in 1939 and \$2.12 in 1938. The state of Arizona tax rate was set at \$.86 in 1940, as compared to \$1.25 for 1939 and \$.77 for 1938.

The total tax rate for Maricopa County for 1940-41 was \$1.86 per \$100 of assessed valuation which was \$108,602,948. (11) The tax rate represents a reduction in the county rate of \$.61 from the \$2.47 rate for 1939. The 1940 levy was computed on a budget calling for \$2,013,679.52 to be raised by property taxes and all general and county school purposes this year. According to the county treasurer a tax collection from January 1, to December 31, 1939 in Maricopa County amounted to \$7,190,454.47, whereas receipts other than property taxes totaled \$3,240,512.07. Total receipts amounted \$10,430,975.54 The actual expenditure for 1939 in Maricopa County were \$11,462,211.33. Approximately 69 per cent of all receipts in Maricopa County are received from tax collections.

Wickenburg continued to be the one city in Arizona which had no city levy. Wickenburg according to the state tax committee pays her own way from profits from municipally owned electric and water plants. Miami had the highest tax levy in Arizona with \$10.687 per \$100 of the assessed valuation in 1940. Miami also had the highest rate for the combined state, county, and city tax rate with

(7) Fifteenth Biennial Report of State Tax Commission of Arizona for December 31, 1940, p. 19.

(8) Tax System, Eighth Edition, Tax Research Foundation, p. 325, 1940.

(9) There is still \$111,230,860 in Arizona property which is exempt from taxation in 1940 Public property and the property owned by non-profit organizations exempt from taxes totaled \$96,716,820 in valuation. There were 7,817 widows who have \$7,596,687 worth of tax exempt property and 7,943 veterans with \$6,917,353 in property valuations receiving similar exemptions under provisions of the law.

(10) This did not include motor vehicles which had an assessed valuation of \$15,000,000 in 1939.

(11) The total exemptions from taxation in Maricopa county for 1940 to 1941 amounted to approximately \$68,000,000 of which included irrigation totals in Maricopa county valued at about \$40,000,000.

\$14.1056 as compared to Williams with \$3.6627 the lowest in the state county rates, according to the state tax commission varied from \$3.30 in Graham County to \$.60 in Greenlee county. The combined rates for municipal, county, and state tax rates varied a great deal for some cities in the state according to the State Tax Commission. These are listed alphabetically below for 1939 and 1940:

Benson \$1.85 and \$5.84; Bisbee \$2.65 and \$4.61; Douglas \$2.08 and \$4.87; Flagstaff \$2.9238 and \$5.4898; Nogales \$2.2716 and \$7.3089; Phoenix \$1.70 and \$6.06; Prescott \$2.59 and \$6.63; Tombstone \$2.00 and \$5.98; Tucson \$2.0174 and \$5.6828 and Yuma \$1.50 and \$5.305.

#### VALUATION AND TAX RATE FOR CITIES AND TOWNS IN MARICOPA COUNTY, 1940

	Valuation	Rate
Buckeye .....	375,604.00	\$2.09
Chandler .....	670,589.00	2.08
Gilbert .....	185,517.00	1.38
Glendale .....	1,259,531.00	2.49
Mesa .....	1,816,910.00	1.07
Tempe .....	1,122,440.00	1.77
Tolleson .....	102,846.00	1.15
Wickenburg .....	299,581.00	No Levy
Peoria Volunteer Fire Department .....	184,515.00	No Levy

Mesa with a tax rate of \$1.07 was low in the county, whereas Glendale with a tax rate of 2.49 was high.

The combined rate for city, county, state, and school tax for property owners in Phoenix for 1940 and 1941 was \$6.06 as compared with \$7.15 in 1940.

There is a great variation in county rates. In 1940 these varied from \$3.30 in Graham county to .69 in Greenlee county. The following are the 1940 county rates for

Arizona: Apache \$2.436; Cochise .74; Coconino .6119; Gila 1.5604; Graham 3.30; Greenlee .60; Maricopa 1.86; Mohave 1.9465; Navajo 2.0803; Pima 1.2772; Pinal 1.60; Santa Cruz 2.826; Yavapai .78; Yuma 2.12.

The ten year average for each of these several counties did not greatly change the picture, as is indicated in the ten year average rate for the respective Arizona counties: Apache \$2.40192; Cochise 1.126; Coconino 1.07446; Gila 2.1563; Graham 3.242; Greenlee 1.345; Maricopa 2.37; Mohave 2.12552; Navajo 2.37079; Pima 1.6177; Pinal 1.78922; Santa Cruz 2.71404; Yavapai 1.07014; Yuma 2.2218.

The Board of Supervisors of Maricopa County made the following distribution of the tax dollar for the Phoenix school district: School maintenance and operation 55.0 per cent; school bonds and interest 13.5 per cent; State government 12.0 per cent; county bonds and interests 14.5 per cent; county government 3.3 per cent; health and juvenile delinquency 1.7 per cent. It is to be noted that this was based on the tax dollar alone on the basis of 1.25 per \$100 of assessed valuation. The property tax for 1939-40 would amount to \$1,265,524.00. However it took \$11,000,000 to operate Maricopa county during 1939-40.

It is a mistake to put too much emphasis upon the tax dollar alone. Rather should emphasis be put upon the distribution of the total expenditures.

Phoenix has an assessed valuation of some \$70,500,000. The tax rate in Phoenix for 1940-41 was set at \$1.70 as compared with \$1.72 for 1939-40 and \$1.76 for 1938-39. The budget requirements for operation of Phoenix for 1940-41 will amount to \$2,494,312.51. The estimated revenue will approximate \$1,295,800.00 or slightly more than 50 per cent. This leaves \$1,198,521.51 to be raised by taxation. Approximately \$1.00 of the \$1.70 is used to reduce bonded indebtedness. This leaves .70 for the current operation of Phoenix.



Ramadas for Picnics Arizona's Famous Highways form a Major Taxation Problem

## CHAPTER XXVII

# LAW, CRIME AND PUNISHMENT

### CASE OF MURDER IN THE DESERT

A youthful stranger appeared at Consolidated Motors Company in Phoenix, Arizona, on April 29, 1939. He requested a demonstration of a new car, as well as an appraisal of his old wrecked 1929 model Ford. Two of the company's salesmen took the tall, light complexioned, individual for a demonstration ride, from which they never returned alive.

Several days later it was learned that a young college student had disappeared at approximately the same time. This student had sent himself a telegram from Phoenix, stating that his father in Seattle, Washington, was desperately ill and for him to come home at once. Other circumstantial evidence pointing to his guilt were the passing of bad checks, purchasing of a gun, and an old Model T Ford car from the Ed Rudolph car lot. This old car was found abandoned with the license plates stripped off. The key for the car was located in a neighboring canal near Phoenix.

On May 5, the bodies of two salesmen were found, trussed and riddled by bullets in a desert wash 15 miles southeast of Phoenix, near the Indian Village of Guadalupe.

The 22-year-old young man was immediately charged with the murder of Koury and Peterson, the salesmen. A nation-wide alarm was sent out for his arrest.

It was believed the murders occurred on April 29. Four days later, May 8, the murderer was captured in Johnson City, Tennessee. In his possession were found the stolen car, a gun, a notebook belonging to Ellis Koury, and college credentials of B..... L..... The student was captured in front of the First Christian Church where he had attended Sunday School and Church services. It was revealed by William D. Dubbs, at whose home he had stayed, that one of the Dubbs boys had met L..... at the Tennessee State Teachers College, which L..... had planned to enter; made friends with him; and because L..... could not find a place to stay, had brought him to the Dubbs home, where he had been for several days. Mr. Dubbs suspected L..... when he read of the murder in the paper. He then searched L.....'s baggage and found that he was the suspected murderer. Mr. Dubs then notified the authorities.

Maricopa County's District Attorney, Richard Harless, and Sheriff Lon Jordan left immediately for Johnson City, Tennessee, and brought him back. En-route to Phoenix the youth confessed the crime to Harless and Jordan at Globe and was spirited secretly to the Maricopa County Jail to avoid growing mob violence. The trial was set for June 26, but it was June 30, before the jury could be sworn in. The lad's father, a noted former prosecuting attorney of Seattle, Washington, aided in the defense trial.

On July 10, the youth took the stand and made the startling announcement that he was innocent and blamed an unnamed "pal." He claimed that Peterson recognized his accomplice when they met him on the desert which led his frightened "pal" to shoot Peterson and Koury, and hide the two bodies in a shallow wash. The lad returned to his room and packed his bag hurriedly, changed the license of his car, and left the state. The trial lasted eighteen days. On Monday, July 17, the judge instructed the jury to find one of four possible verdicts: (1) guilty of murder in the first degree with the death penalty; (2) guilty of murder in the first degree with life imprisonment; (3) not guilty; (4) not guilty by reason of insanity. The jury returned the verdict that the college youth was guilty of murder in the first degree and that death penalty should be administered.

On October 18, six volumes of the transcript of his trial were filed with the Arizona Supreme Court, after he had requested an appeal of the case. The case was given wide publicity throughout the nation.

The Arizona Supreme Court after reviewing the complete transcript of the youth's case declared him guilty of murder in the first degree and sentenced him to die in the lethal gas chamber. The execution was carried out at the Arizona State Prison in Florence, August 9, 1940.

Murders in Phoenix have many causes. M....., colored, for example, was convicted of murdering his friend T....., 22, colored, after quarreling in a Phoenix cafe over a twenty-five cent debt. One of the most notorious murders in 1940 in Arizona was the slaying of a young Greek girl by her father. He killed his daughter, 17, in a fit of rage because she refused to obey him in relationship to dating boy friends. He said on one occasion that he "shot her . . . I don't know why I did it," and again declared that she grabbed at the gun and it went off. After two juries had become hopelessly deadlocked he was sentenced to two years probation. The triviality of a disagreement over a dance orchestra engagement caused a young colored man, former Police Department janitor, to shoot a colored orchestra player to death on January 2, 1940. During the last few years colored individuals have been especially involved in valley murder cases. (1).

Phoenix's first and only legal execution occurred on November 26, 1880 when Dametrio Domingoris was hung for a stage coach robbery and murder.

A murder occurs in Phoenix every 2½ months as contrasted with 20.6 murders each day in the United States, where, in 1939, some 1.7 murders occurred every two hours. The F. B. I. stated that 223 cities of over 25,000 inhabitants, representing a total population of 27,907,962, reported a gradual reduction in murders from 2,045 murders in 1931 to 1,638 in 1939. Negligent manslaughter in the same cities was reduced from 1,711 in 1931 to 1,021 in 1939.

(1) Colored people in the United States were involved, during 1939, in criminal homicide at the rate of 31.5 per cent per 100,000 of population as contrasted to the white involvement of 8.1 per cent per 100,000 population.

Some 69 robberies occurred in Phoenix in 1939 according to the Federal F. B. I., Uniform Crime Reports.

In the nation robbery decreased 6.8 per cent from the 1939 figure. In all cities statistics on robbery were gathered from 2,105 cities having a population of 100,000 inhabitants representing nearly 64,000,000 people in 1939 and some 35,276 cases of robbery were reported with a rate of 52.2 per 100,000. Another interesting compilation was made for all cities of the United States with 25,000 inhabitants or more, in terms of crime statistics. It was found that in this population group, that robbery decreased from 26,984 cases in 1931 to 15,961 in 1939. Within the same size city, group auto theft decreased from 119,400 cases in 1931 to 65,274, in 1939, a reduction of 52.9 per cent. Phoenix police department reported 335 auto thefts in 1939. (2).

Insanity is frequently a factor involved in murder cases.

#### TRUNK MURDERESS CASE

In October, 1939, a murderess, escaped from the Arizona State Hospital. The Phoenix Gazette, on October 26, recalled the story of her crime. (3).

Attaches of the Southern Pacific depot in Los Angeles were curious about a couple of trunks that had arrived on the morning train from Phoenix. They were unusually heavy and something that looked suspiciously like blood was dripping from one of them.

"Looks funny," mused an employee. "We'd better investigate."

So when a fashionably dressed young woman appeared a short time later and asked for the trunks she was told she must open them for inspection. She appeared startled for a moment, but quickly regained her composure, and explained that she would have to get the keys to the trunks from her husband. She walked out of the station baggage room and disappeared.

After the good looking stranger had failed to return some time later, depot officials ordered the trunks opened. Thus, on Monday, October 20, 1931, was uncovered the nation's most ghastly and shocking double murder, the Phoenix trunk slayings.

In one trunk was the nude body of a beautiful woman. In the other, a smaller trunk were the head, limbs and other dismembered parts of another woman.

A second shocking discovery followed the opening of the trunks. A matron in the ladies' lounge of the depot came upon an abandoned hatbox and suitcase. In them were stuffed the remaining parts of the dismembered body, a revolver, and a bloody butcher knife.

Ace detectives of the Los Angeles police force were rushed to the depot to begin an investigation of the horrible case. Searching the trunks they found an assortment of feminine clothing and two photographs. One picture, readily identified as the likeness of one of the dead women

bore the name of H..... S..... The other had no identifying mark but it clearly was not the picture of the second woman.

Officers found that the trunks had been shipped to Los Angeles from Phoenix, having left here the night of October 19. They had been sent, the records showed, by a person giving the name of "B. J.....," and were addressed to a Los Angeles address, later found to be fictitious, but carrying the request, "Hold for call."

The investigation immediately turned to Phoenix where police lost no time in identifying the murdered woman. An attractive brunette, about 25 years old, and a former school teacher, was found to have come to the city several months previously for her health. She had been living in the 2900 block on North Second Street with another woman. Both women were missing from their homes. One was a divorcee, and was employed at the Grunow clinic as an X-ray technician.

No one seemed to know where the two women had gone after they suddenly dropped from sight. One had failed to report for work the previous Saturday and efforts to locate her had failed.

Meanwhile, the railroad officials and police detectives checked the trunks here and found that the owner of the apartment house in the 100 block on East Brill Street, had delivered them to the depot Sunday afternoon. He told the investigators he had taken the trunks to the depot from one of his apartments at the request of a tenant, a Mrs....., who had been missing since Sunday afternoon.

From various sources it was learned her full name was ....., that she was the wife of a physician and was closely associated with the two missing women. In fact, she had lived with them in the North Second Street house for a month before moving to the Brill Street address early in October. She was employed as an office assistant at the Grunow Clinic.

Officers searched her apartment with a fine tooth comb but they could find no evidence of foul play that would help solve the mystery.

The North Second Street house, a duplex, was even more of an enigma to investigators, who found everything in disarray. That afternoon, someone else declared positively, the quarters were neat and clean.

A resident of the neighborhood declared he heard shots fired Friday night, October 17, but another reported hearing someone shouting in the house Saturday morning. Officers found the apartment clean and tidy. Only in the bedroom were their suspicions aroused. A piece of the carpet had been laboriously cut away with a pair of manicure scissors and apparently burned in the fireplace. On the floor were some stains which appeared to be dried blood.

(2) Robbery includes stealing or taking anything of value from a person by force or violence, such as highway robberies, stick-ups, armed robbery. Stiff prison sentences are usually given for robbery because the threat to kill is involved.  
 (3) Phoenix Gazette, Oct. 26, 1939, provides story essentially as stated herein.

The missing women were last seen alive at 9:45 o'clock Friday night at which time, a friend bade them goodnight after having dinner with them. Then Richard M. Swartz, a deliveryman, made a startling revelation. He disclosed that he had been called to the dead women's apartment by a young lady, whom he identified by a photograph as the murderess and directed to haul a trunk which was in the bedroom to the depot. Estimating that the trunk weighed more than 200 pounds, Swartz said he told the woman it was too heavy to be taken to the depot, whereupon she had him deliver it to the East Brill Street apartment.

Important clues continued to develop in the case, especially when the second picture in the trunks was identified as Mrs. .... and when most of the clothing in the trunks was found to belong to her. The second body found in the trunks was identified as the remains of Mrs. .... Soon the entire nation was searching for the attractive 27 year old Mrs. .... whom officers were convinced was the "Trunk Murderess". But she remained at large despite the frantic efforts of hundreds to apprehend her.

Finally, appeals were carried to the newspapers urging the woman to surrender. Mrs. ...., who had been hiding for three days in Los Angeles, accordingly gave herself up at a Los Angeles mortuary. She was dazed, semi-hysterical, and almost incoherent.

To the officers she babbled her story of having shot her friends in self defense during a fight. Fearing punishment, she packed the bodies in the trunks, dismembering one to make it fit, and sent them to Los Angeles where she hoped to dispose of them. She had carried on the train to the coast city the hat box and suitcase containing the parts of one of the bodies not placed in the trunks.

Mrs. .... asserted the fight started when she called at the woman's home to remonstrate with Miss. .... for some "nasty things" she had said about Mrs. .... From the plumbing of the Los Angeles store, detectives retrieved a letter purportedly written by Mrs. .... stating the fight had actually started over a quarrel arising from her introduction of a man to a young woman whom Mrs. .... and Miss. .... did not like.

Mrs. .... was returned to Phoenix, October 30, to face first degree murder charges. She pleaded not guilty and went on trial in January, 1932, before Judge Howard Speakman for the murder of Mrs. .... The state contended that jealousy and strained relations had existed between the three women, that Mrs. .... had shot and instantly killed Mrs. .... in her sleep, that Miss. .... awoke, attempted to seize the revolver from Mrs. .... and was shot in the hand and chest, then in the head. Mrs. ....'s defense was based chiefly on insanity with self-defense as a secondary issue. The jury received the case February 8, and deliberated two hours and forty minutes to find Mrs. .... guilty and sentenced to hang. At a

sanity hearing in Pinal County a short time later, however, Mrs. .... was adjudged insane and was committed to the State Hospital in Phoenix.

Mrs. .... escaped twice from the hospital and was recaptured both times, the second time in December, 1939.

In the United States 151.3 per cent of robberies occur every day or 6.3 per cent each hour. A robbery occurs in Phoenix every five days.

The reporting of an auto theft at the Phoenix Police Department is practically a daily occurrence. Every day some 487.7 per cent of automobiles are stolen in the United States. This means 20.3 per cent automobiles are taken each hour or one every three minutes.

During 1939 Phoenix reported twenty-one cases of aggravated assault. The increase in the United States was 4.4 per cent over 1938. A case of aggravated assault is filed on the police blotter every seventeen days in Phoenix. In the United States, however, 127.4 per cent offenses of this nature occur each day. This makes 5.3 per cent cases of this nature each hour.

In the two hundred and twenty-three cities which had over 25,000 inhabitants in 1939 there were 13,266 cases of aggravated assault.

The Phoenix Police Department reported eighty-six cases of grand larceny and 100,232 cases of petty larceny to the Federal Bureau of Investigation in 1937. (4).

A case of grand larceny occurs in Phoenix every four days whereas three and four cases of petty larceny are brought to the attention of the Phoenix Police Department daily. In the nation, in 1939, 2391.7 cases of larceny occurred every day or 99.7 cases each hour. This meant that a case of larceny or theft is reported every 45 seconds in the United States.

More than half (58.1 per cent) of crimes reported in the United States in 1937 were larcenies. More than one-third of the larcenies involved thefts from automobiles. Two-thirds of the larcenies involved property ranging in value from \$5 to \$50; in 24.2 per cent the property was valued at less than \$5 and in 10.2 per cent if the cases the property involved was valued at more than \$50.

Some 282 burglaries occurred in Phoenix in 1939. (5). Burglary increased 4.7 per cent in 1939 over 1938. In 223 cities with a population of 25,000 or over there were 97,825 burglaries in 1929. In the United States in 1939 there were 852.3 per cent burglaries committed daily or 35.5 per cent offenses committed each hour. This means a burglary is committed in the United States ever 45 minutes.

During the first six months of 1940, 3,253 persons were jailed and prosecuted in Phoenix. Of these, 1900 were native Americans; 677 were Mexican and 305 were colored persons; 306 women were among the native Americans.

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- (4) Grand larceny is defined as theft (except auto theft) of \$50 and over in value, while petty larceny represents under \$50 in value. Larceny includes pocket picking, purse snatching, shop lifting, or the stealing of property or fraud.
- (5) Burglary means breaking into or entering, and includes house breaking, safe-cracking, or any unlawful entry to commit a felony or theft.

Only three Orientals and one Japanese were arrested during this period.

Seventy-seven boys and ten girls younger than fifteen were arrested for offenses varying from vagrancy to burglary. Of this number sixty-six boys and eight girls were accused of burglary. In the adult worst offender group, 466 men and 38 women were jailed on charges of rape, robbery, burglary, assault, larceny, forgery, prostitution, narcotics, vagrancy and drunkenness. According to J. B. Mackey, Superintendent of Police Bureau of Identification:

Two persons, a foreign-born American, and a colored man were arrested for murder. Native Americans led in rape, aggravated assault, burglary, petty theft, auto theft, forgery, stolen property, vagrancy and gambling.

An exhaustive study of the police records in Phoenix from 1930-39, inclusive, indicates that there were 166,714 arrests made in Phoenix during this ten year period. This number included traffic violations. An average of 1667 occurred each year during the 30's. This meant an average of 1,390 arrests each month or 46 arrests each day. This means that the Police Department has made an arrest every thirty minutes day in and day out.

Total number of arrests for Phoenix Police (including vehicle) from 1930-39 inclusive totaled 166,741. In 1930 there were 15,934; 1931, 17,205; 1932, 8,324; 1933, 8,139; 1934, 10,597; 1935, 12,169; 1936, 14,560; 1937, 19,051; 1938, 24,082; 1939, 36,680.

The greatest cause of arrests during this ten year period was overwhelmingly for traffic violations. In as much as traffic violations are not considered criminal, the following shows that 68,931 arrests were made in Phoenix excluding traffic violations. The yearly average was 6,893. Most of this occurred during the winter months. The total number of Phoenix arrests (excluding vehicle) from 1930-39 inclusive, totaled 68,931. In 1930, there were 5,222; 1931, 5,778; 1932, 4,064; 1933, 4,797; 1934, 4,921; 1935, 7,098; 1936, 7,825; 1937, 8,926; 1938, 10,897; 1939, 9,403.

Phoenix has a modernized police force consisting of 101 men and women who believe that the horse and buggy days in Phoenix are at an end.

The Phoenix Police Department plays an extremely important part in municipal administration. Upon the policeman society depends for its protection. He is expected to preserve the public peace. His presence as "the law" acts as a restraining influence upon the lawless elements who would endanger life and property.

**Police Chief:** The Phoenix Police Chief is appointed by the city manager with the approval of the city commissioners. He is charged with the enforcement of all laws and ordinances, and with the maintenance of the proper discipline and efficiency of the force. He directs and supervises the activities of the police department. The chief's salary is \$300 per month.

The only information that can be brought to the chief has to be obtained through records. The Phoenix Police Department has established a system of records that provide for a complete, comprehensive, consolidated report which the chief may have at a minute's notice. Records are recorded in Phoenix by the month as far back as 1916.

**Applicants:** In Phoenix the Police Department operates under the merit system, persons desiring admission to the police service are required to make formal application to the Civil Service Commission. These applications must be made on a prescribed form in the applicant's own handwriting and must be accompanied by such certificates as the service considers necessary.

In Phoenix the applicant must be between 23 and 25 years of age, be in good health, weigh at least 150 pounds, and be 5 feet 9 inches tall. There are about 101 men on the police force, and it is customary for every man to serve six months as a probation appointee. During this time the superior officers make careful notes on these new officers.

**Promotions:** As the merit system is used in Phoenix, each man is graded by three men every three months. Individual acts of bravery may be treated as elements necessary for merits. When a man gets on the force he is first a patrolman, then in line of succession are the sergeant, the detective, the lieutenant, and last, the captain.

Phoenix has several departments under the city police, foot patrol, motor patrol, automobile, lieutenants, sergeants, captains, detective, clerical and the chief. The city is divided into several precincts. In the daytime there are the North, South, East, and West side precincts. At night the precincts are spread in different sections of the city. There are also two special patrols, the City Park Patrol, and the Morning Patrol on South Madison Street.

**Special Training:** Phoenix has sent several officers to various police training schools throughout the country. One man was sent to Washington, D. C., where he took a special course in fingerprinting, and several men are at Tucson. Two men have attended the Northwestern Police Training School in Illinois. Every six months a federal inspector inspects the force and the city jail.

**Police Salaries:** The sergeant receives \$187; chief, \$300; lieutenant, \$197; patrolman, \$110; captain, \$220; detective, \$185; superintendent of radios, \$195; matron, \$105.

**Pensions:** Phoenix pays a police pension to retired policemen. Money for the pensions is included in the yearly budget.

**Police Department Budget for 1939:** Salaries, \$127,560; transportation, \$14,000; telephone and telegraph, \$1,100; public utility, \$850; supplies, \$7,000; under-cover expenses, \$1,000; feeding prisoners, \$11,000; ammunition, \$600; radio replacements, \$700; contingencies, \$1,000; police pensions, \$16,500; new equipment, \$4,000; total, \$185,310. (6).

(6) Parking meter revenue for this year was \$75,000. It is used for traffic problems.

**Radio Department:** The radio is a modern and necessary part of the police system. Through it is handled a major part of the total communicative intercourse. In brief, it is the means by which nearly all orders and complaints are received, dispatched, or transmitted to the other departments.

In Phoenix, the radio room is located in the main building of the Police Department. It contains a very small section just opposite the jail. Both are on the fourth floor. This special location is necessary because of the close connection necessary with the aerial facilities atop the building.

The division is well equipped with RCA installations. The equipment is modern and in close keeping with other leading cities in the country. It is valued at \$10,000. This valuation does not include three police automobiles containing two-way sets, two typewriters, and a mimeograph machine. The many reports which are received, recorded, and sent to other departments or districts, necessitates the extra equipment.

The personnel of the department is made up of a chief technician, Delbert Hall, and three subordinates. Two emergency men are available from other departments. The three subordinates handle the board in alternating shifts: 10:00 to 6:00, 6:00 to 2:00, and 2:00 to 10:00.

**The Bureau of Identification:** The Bureau of Identification of the Phoenix Police Department was established in 1919. Besides handling the records of identification, it also has charge of the records of arrests and of stolen property.

All arrests that are made by the Police Department are filed for future use and are part of the system of identification. The nature of the crime for which the arrest was made; the time as near as possible that the crime occurred; the time of arrest; place where arrest took place; name or names of persons arrested; and the name of the officer making the arrest complete the report.

Upon receiving a report of stolen property, a systematic description of the property, including identifying marks or brands, time and place of loss are filed for future use. Through this system of keeping a record of every arrest and stolen property, the bureau is often able to ascertain to a remarkable degree of certainty who committed the crime.

The Phoenix bureau has the fingerprints and descriptions of 80,000 persons who have passed through the hands of the Phoenix Police Department. A copy of these is sent to the state and federal bureaus of identification and also to any city that asks for a copy. However, all who are fingerprinted are not criminals. Some are arrested for vagrancy, or picked up on suspicion. Almost everybody lodged in the city jail is photographed and fingerprinted. Two photographs of each subject are taken—a full face, and a profile.

The personnel of the bureau is under civil service. The head of the department has been with the Phoenix bureau for ten years. Under him are one assistant and

two clerks. The salaries are: head of the department, \$200; assistant, \$180; clerk, \$140; and a new clerk, \$110.

The Phoenix bureau is ahead of most cities of the same size in the matter of efficiency. There is the opportunity to work up in the department which acts as an incentive to the personnel.

By July 1, 1939, some 51,102 persons had been fingerprinted by the Arizona law enforcement officers in the State Bureau of Criminal Identification. In addition to this, some 20,000 out-of-state criminal records are on file besides nearly 8,000 fugitive cards sent in by officers in other parts of the state.

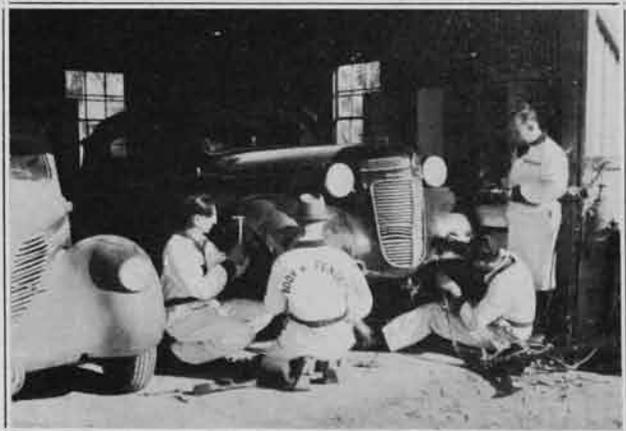
The sheriff's office, which is located in the Court House, in the city of Phoenix, has as its head, Lon Jordan. Under him he has a group of trained men, which are picked. All these men cover every phase in crime detection.

In recent years, with the aid of the F. B. I., the men have been trained further in the ways to solve crimes. The men are regularly sent to a school which is under F. B. I. rules and teachers. This school lasts from three to four weeks. The men are admitted to the school after a series of tests. The men who show up best in these tests are given the privilege of attending the school.

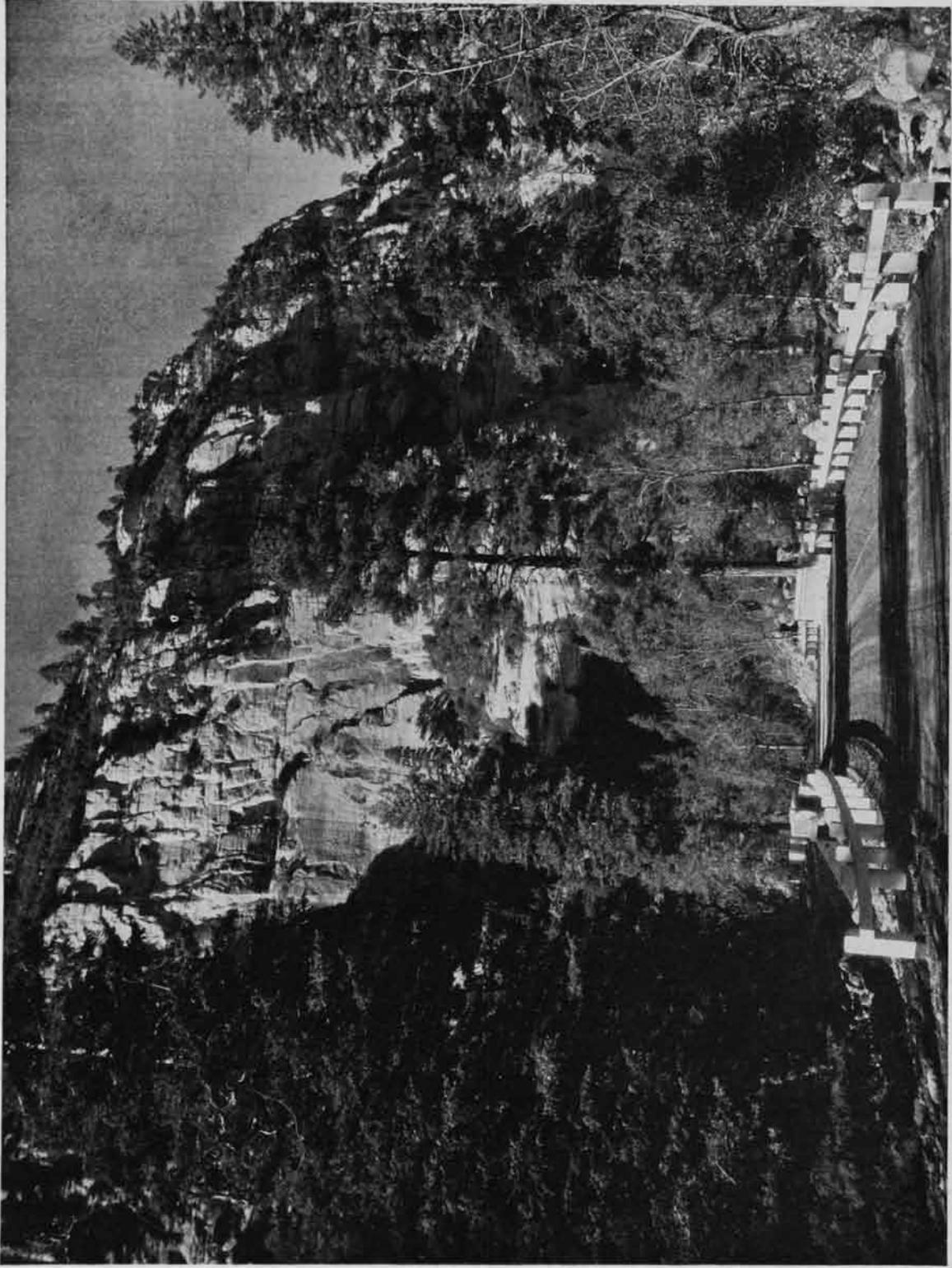
The sheriff's office handles all of the cases committed in the County of Maricopa and some in the City of Phoenix. Since his inception into office, Sheriff Lon Jordan has been very active in cleaning up gambling.

In his own words, "The law is only as good as the men who enforce it, the officer must play no favorites, for that makes him as bad as the man who breaks the law." He also stated that with the latest in crime detection, the rate of crime is falling.

The sheriff's office handled 740 prisoners in 1939. Most cases are under twenty-one years of age. Men commit more crimes than do women, 92.9 per cent of all crimes are by men.



Vocational Education Class in Phoenix—This is an Excellent Preventive to Crime.



A view of Arizona's Beautiful Oak Creek Canyon

## CHAPTER XXVIII

# JUVENILE DELINQUENCY

The concept of delinquency as an entity at present remains undefined. This subject covers numerous subjects and fields. The classification of offenses, according to children's court procedure are: (1) assault; (2) robbery; (3) burglary; (4) unlawful entry; (5) stealing; (6) disorderly conduct; (7) peddling or begging; (8) ungovernable behavior; (9) desertion of home; (10) truancy; (11) violation of railroad law; (12) violation of corporation ordinances; (13) unclassified. This is a wide range and theoretically, any child under the age of sixteen who does anything which might come under one of these headings is subject to being officially registered as a delinquent child. The following cases suggest the problems involved.

### 1. THE CASE OF George A, 16 year-old—Nov. 9, 1938

Referred by sheriff's office in—Arizona.

Mr. F. Collier reported the boy as having stolen three cases of beer and sixteen pints of whiskey. George A was accompanied by Lee B and Roland C. Lee B claimed he owed Mr. Collier \$10.00 and paid him \$2.00 on account. On returning he said that Mr. Collier told him he owed him \$12.00.

Roland C., 19, was given suspended sentence of five years before Superior Court.

#### George A's Statement:

"On Friday night, July 21, we got together in Laveen and went over to Mr. F. Collier's beer parlor in Chandler. We got there about three o'clock on Saturday morning. Lee and I cut the screen, we went through the hole and unlocked the door. Roland stayed in the car and watched. Lee and I took three cases of beer and sixteen pints of whiskey. We left there and went home. They got Lee and Roland first and then they picked me up."

#### George's schooling:

Mrs. A stated that she knew George has never been in trouble in school and that his work has been satisfactory. However, from this worker's observation, I would say Mrs. A is unable to cope with George. She does not seem to be alive to the modern trend of things and therefore is unable to grasp the situation.

#### Previous Record:

George was first brought to the attention of the Juvenile Probation Office on June 17, 1936 as a result of his entering the cotton gin at 15th Avenue and Highland Road along with Tom T, and his brother W. D, and Biss S and stole 9 fire extinguishers and went to the canal where Joe G was and asked him to sell them for them. Joe sold them to the Efron Junk Company for \$4.50 and they divided the money. At that time he was placed on unofficial probation.

He was brought to our attention again on December 7, 1938 as a result of his participation along with Rex E in stealing wire from the Bartlett Dam. He was required to pay \$10.00 damages. This amount has been paid.

#### Economic Conditions:

Mr. A is a zanjero and earns \$150.00 per month. They pay \$7.50 per month rent.

#### Impressions:

George made an effort to do good work when the purpose of the test was explained to him, thus overcoming a suspicious and non-cooperative beginning. Reaction time is rapid, concentration good, auto-criticism good. This boy

is resentful of his present situation, but discussed it with great freedom and friendliness after his confidence had been won.

#### Recommendation:

That he be committed to the Arizona State Industrial School.

### 2. CASE OF CONSTANCE, 18 years old.

The truant officer of ..... Arizona on calling at this home found the mother living with a Philipino. Constance was also living with a Philipino and had been since she was fifteen. She was placed in the Crittendon Home and her baby, Virginia, was placed in the children's home.

Constance made the following statement to the County Attorney:

Constance stated that she was born in Rochester..... in 1920, that her father was a painter and carpenter and they lived on a farm and had a nice home until 1934 when her mother became sick and had to move to California. She stated that the paternal grandmother had caused domestic trouble between her mother and father. The mother took the children and the father came and took three of the girls with him and left Constance and Virginia with her mother. When in California, her mother met Guy Green and they lived together for several years but were never married. Constance stated that there were rumors about Virginia being his child. However, that she did not know. Green was sent to San Quentin for raping Constance when she was thirteen years of age. Mother then moved to El Centro, California and it was there I met Jack ..... and lived with him up until the date I was picked up. Mother lived with Taffie..... Constance stated that her father was Ray ..... a navy officer. She stated that her mother went with this navy officer and that her grandmother would not allow her to marry him, that she married Mr. Brown and Mr. Brown would not let anyone know that Constance was not his child.

#### Recommendation:

On Wednesday, May 3, Constance was placed on the bus to go to El Centro, California, to the home of her mother and father, who have recently gone back together.

### 3. THE CASE OF VIRGINIA—DAUGHTER OF CONSTANCE, 11 years old—October 4, 1938.

#### Virginia's Statement:

Information obtained March 11, 1939—Virginia is an illegitimate child. Her father's name is Guy Green. He is now at San Quentin prison for rape of Constance. Virginia's mother married Mr. Brown and had four children. They quarreled frequently and he threatened to kill her. She left him and took all four children with her. He stole them back and they had lots of trouble about them. Mrs. Brown then met Guy Green and lived with him about two years and became pregnant with Virginia. Green did not want children, he refused to marry her and ran away. Mrs. Brown went back to her husband. She lived with him until Virginia was six years old. They quarreled and she went back to Sutton and took Virginia with her. She lived with him until she became pregnant and again returned to Drushall. A baby boy was born which died within a few days after birth. She returned to Green again and lived with him until he was sent to prison for raping Virginia.

When Virginia was six years of age she was raped by her father, Mr. Green. He threatened to kill her if she told her mother. He watched her when she talked to her

mother. Through fear she kept it from her mother until he was sent to prison. She is very much afraid that he will find her and kill her after he gets out of prison.

Recommendation:

That this child be committed to the State Board of Social Security and Public Welfare.

4. CATHERINE, 14 years, May 7, 1939.

Reason For Referring:

Mrs. Marie A. mother, found that her daughter was pregnant and the father, Phillip A., was responsible for her condition. Mrs. A. reported this to the County Attorney's office and a warrant was obtained for his arrest. He was picked up and placed in the County Jail.

Mr. Sherman plead guilty but later changed his story.

When this matter was first brought to the attention of the County Attorney's office they did not report the girl to the Juvenile Probation office. We learned of the girl's condition when Mr. John H. Walker, Deputy Probation Officer made an investigation in the home on October 18, in behalf of this girl's brother, James A. age ten. When an officer from the Juvenile Probation office endeavored to pick up the girl the mother stated she was in California.

On October 31, 1939, Mr. Al Lillard of the County Attorney's office called our office and asked that we pick up the girl and bring her to their office for questioning. The girl was picked up and later placed in the Convent of Good Shepard pending hearing.

Girl's Statement:

"My mother was supposed to see a man Monday at 1:30 and he told her over the telephone to tell me to say these about my father was not true because if I did they wouldn't do anything to him. I think it was my mother's lawyer that she was talking to. The first time I had intercourse with my father was when I was 12 years old. My mother had gone to church and my two sisters had gone to the show. My brothers were gone someplace too. My father told me to get on the couch and I said I didn't want to, but he began gritting his teeth like he always does when he is mad, so I got on. My father made me do this about once a week. He told me not to tell my mother because if I did they would send him to the pen. He always forced me to do this with him. The first time I had ever had intercourse was with my brother Robert. My mother had gone to California. The first I knew I was pregnant was about three weeks ago. I am five months pregnant now."

Mother's Statement:

"I took the girl to the doctor and he told me she was five month's pregnant. The girl told me it was her daddy that done it to her. On October 13 I called Lon Jordan and then I came to the County Attorney's Office. They picked him up and put him in jail. Then she changed her story and said it wasn't her daddy and said it was a boy by the name of John. Up in the County Attorney's Office he said he did it. If he didn't do it I wouldn't want him punished but if he did I want him punished."

The public attention is being turned more and more to the problems of the adolescent child. Especially in the last ten years large steps have been taken to meet the problem of the delinquent juvenile. Numerous playgrounds have been built, clubs organized to give the child something to do in his spare time. The old adage, "An idle mind is the devil's workshop" still holds true, especially in the case of the growing child. People are now beginning to realize the only way to overcome this evil in children is to find a beneficial substitute.

Supervision of play is also very important. Definite projects should be created for the delinquent children. Many of these children have no home life whatsoever. They have

no feeling of responsibility—they have absolutely nothing to do but to get into mischief. They have had no training at home so it is not their fault—it is society's problem. If these children had definite places to play and that they were really needed. It is up to every individual to play his part—to help bring the good out of these children instead of casting them aside as if they were lepers. There is no such things as total depravity. Everyone has some good points—but many have never been given a chance to develop them.

Many of the parents of delinquent children are divorced and the children are the true sufferers—they are cast from one parent to the other—neither parents really wanting them; and it is only natural that these children develop some sort of a complex. The children are easily influenced by friends and at first they sneak around and take little things here and there, and if they get by with these petty crimes they tackle the larger ones—and soon they become a menace to society—Why?—because society has not cared for them or tried to help them in any way. They have had no kindness, love, or training. This life of crime has been exciting and thrilling and had been very tempting to these children. They had no alternative; and then when they really did some big damage they were rushed off to a reform school. Some reform schools are beneficial and some are not. Often times the child resents being sent to the reform school and he plans revenge immediately when he gets out. So again the problem comes up—What to do with children to prevent delinquency?

Judge J. C. Niles, in Phoenix, has come in contact with every sort of case of delinquency, and he has seen what a great necessity it is to carry out a plan to prevent delinquency. Russell Jackson is the Chief probation officer with three assistants—J. Arthur Miller, Albert K. King, and Lydia Riffel (girls probation officer).

The people of the community are now coming to realize the need for a preventive program for our youth. Practically all of the organized groups and clubs in the community are contributing to or sponsoring some youth program. Some of the highlights in the probation department during the past year have been: increased office space and equipment, a new detention home, and a very fine new children's home, a Juvenile Court Week, sponsored by the Community Chest, a weeks' visit by Charles L. Chute, Director of National Probation Association, and a film which has been prepared to show the procedure of the department.

The W. P. A. has been assigned to assist in the prevention program and Sheriff Lon Jordan has appointed Charles S. Stough to be his Juvenile Officer. George Pruitt heads the Juvenile Department for the city police. The Community has awakened and all the social agencies thru coordination of effort brought about by a forceful and efficient coordinating council have cooperated with the probation department, which has a bright and promising future.

The workers in Juvenile Department believe that if there were a department within the school system to adequately handle children with problems when first symptoms of mal-adjustment are indicated such as playing hookey constantly, and not being interested in school, a large part of the work of the probation department could

be eliminated in later years. Such a department in the school system would keep a record of the child over a period of years; this record would be made available when the child went on to higher grades and it would be a great aid to the child's future teachers. The teacher would have a record of the child's scholastic standings, his likes and his dislikes in school work his attitude toward studies—and with this information the teacher would be able to plan the child's course so it would be more beneficial to him.

Workers forming such a department could go into the home as representatives of the school and the parents could go to the school department to plan for the child. The program would be carried on in the summer as well as in the winter and numerous systems could be established for behavior. A merit system is practical and after obtaining a definite amount of merits the child would be rewarded such as being selected from a group to be a representative at a free summer camp. If this program were carried out it would coordinate all community effort, would act as a clearing house and would forever be subsidizing initiative and effort on the part of organizations, clubs and private individuals.

Dr. Harvey Taylor says that "Character patterns are more often fixed in the individual by what happens in the early years of his life than at any other time." Thus the home and its environment must be recognized as vital forces in helping to start youth on its way to good citizenship. The experiences at home enter into the habit patterns, built into the life of every child, and have more influence than any other factor

Every child should have a place to play. If parents would provide playgrounds for their children they would be able to study the child's character and disposition, and they would find their weaknesses and be able to correct and help them. By encouraging the neighborhood children to come and play the parent could help the child develop a pleasing personality and the timid and backward child would soon gain confidence in himself. If a child had a playground at home it would give the child much better cooperation than would be obtained at a public park, because the feeling of ownership would be at home. If the family would encourage the children to play together and each member of the family cooperated it would be a very satisfactory unit. It is generally true "That the family that plays together is the family that stays together." Parents are the ones that can help the children. Every member of the family should have some amusement or should find some interest in the family play yard. Early training is the most essential and the most important, and if parents can create this backyard interest the child will be greatly benefited and the Juvenile Delinquency list will be greatly decreased.

As a result of a stringent campaign the 14th legislature passed an enabling act which allowed Arizona to participate in the United States Housing Authority. Phoenix made application for this project and it was approved. This will give the people on the wrong side of the tracks a chance to make a clean and fresh start. The large families will be given adequate room space, and the child will have a decent chance to play at home instead of running loose on the streets.

Outside of the home the basis programs for the child are the church and the schools. Broad and interesting church programs are necessary. Many organizations in Phoenix are taking part in the problem of preventing delinquent children. The Community Chest and its various agencies are doing outstanding work beginning with the very young at the Phoenix Day Nursery, giving play ground supervision at several centers aided by the W. P. A. The P. T. A. with its many other programs for children have begun a very worthwhile project of furnishing free lunches on the south side of Phoenix.

Outstanding work is being done by the various play centers such as Father Emmett's Mission, Madison play ground, Optimist Club House, Christian Center, Pilot's Club project for girls. Rotary project at Harmon park and Sunny Slope. The play centers are recognized throughout the Community and have been the chief reason for the decrease in delinquency in the district.

The Kiwanis Club helps the crippled and underprivileged children while the Loins' Club is especially interested in defective eyes—they also contribute to many other causes. This city provides a fine park system. The N. Y. A. and C. C. C. provide employment for youths needing outside aid. The Boy Scout and Girl Scout organizations have been old and reliable sources in aiding the future men and women of America.

The Elk's Club is sponsoring a soft ball league for youths under 18 this summer. Mesa has an outstanding all round recreation program. Chandler recently started its boys community service gangs, such as Sons of Troy etc. Tempe has a very nice program built around the Tempe Beach for its youths, recreation of all sorts is provided for them. This Community has started a new, interesting and worth while project, which is definitely bound to get favorable results.

The child Welfare Department of the Maricopa County Board of Social Security and Welfare cooperates with the County Juvenile Court and probation office in their Delinquency prevention program. The Child Welfare Department places neglected children in foster homes and at present is caring for 209 children in 8 homes. It also makes inquiries and investigations in the adoption of children. The Social Service Center has long been known for its beneficial aid to the youth of the Community. The Junior Chamber of Commerce sends children to summer camps as many other organizations do.

The Coordinating Council, with Vic Householder as its Chairman has done marvelous work in this field. The Council is made up of authorized representatives of various Community agencies, public, private, civic and religious. It is a cooperative and coordinated effort on the part of all agencies now existing in the Community. It seeks to encourage "to do a better job and secure public support to enable it to do so. Its purposes are to establish better and more effective service to children and youths—and to make the Community a better and happier place to live in. It seeks the prevention of delinquency and crime and has been successful so far. It is not partial to certain classes of children, but seeks to help all children. It realizes that character and good citizenship should be an objective for all classes and

all ages, it also seeks support and cooperation of the public in the extension of the character building services.

Juvenile delinquency is steadily increasing. There were 346 cases on hand January 1, 1938—294 boys and 52 girls. There were 355 cases filled during the year of 1938—202 boys and 152 girls. The main offenses of the boys were burglary, grand and petit larceny, and neglect. The main offenses against the girls were neglect, runaways, Sex, truancy, and incorrigibility. In Mental tests of delinquents 61 per cent were not tested, and 18.8 per cent were of normal intelligence and 9 per cent were dull, the remaining percentage varied above and below normal.

The majority of homes that these delinquent children lived in were below normal, and the income of the family of 36.6 per cent was under \$500 and 36 per cent was under \$500—\$1,000 per year. In considering race 70.1 per cent were white; 21 per cent were Mexican; 7.5 per cent were colored; and 1.4 per cent were Indian.

Even though Juvenile Delinquency has increased during the past ten years, with this wide program in the Community, I am almost certain that if the people would back the probation department as well as the various clubs and organizations that delinquency would decrease, and rapidly—probably as rapidly as it increased.

Parents especially have more of a responsibility and they also have more influence. They can watch the children and see their difficulties and help them overcome them before it is too late. The probation department in Arizona has a larger and broader field in delinquency than ever before and the results are bound to prove satisfactory—if society accepts this new plan and backs it to the fullest extent.

When we consider that in Maricopa County alone the number of boys and girls who have been labeled delinquents since 1928, would make a fair sized town. To be exact the population of this delinquent town would be 6,502. This gives a clearer conception of the enormous problem in our own Country. In 1938 there were 355 children who came to the attention of the Probation officer, of this number 153 were girls and 202 were boys. An amazing thing to me is the ages of these delinquents, 39 were between the years of one and eight; 35 were between nine and twelve; 78 between 13 and 14; 135 were between 15 and 16; and 68 were 17 years of age.

When this data is presented the first question asked is: How are these cases handled?

Under the present organization Maricopa County has three institutions which are used for detention work. These are: The Convent of the Good Shepherd, the Florence Crittenden Home, and the Jamison Detention Home. Of these three institutions two are devoted entirely to work with girls. The Florence Crittenden Home is concerned mostly with young unmarried mothers. Here girls may go and earn their room and board by helping with all its duties of carrying on an institution. After the birth of her child, a girl may remain three months and during this time must care for her baby and perform certain household duties. During her stay in the home she finds comfort and advice which greatly helps her in after life. There is every attempt made to locate the out going mother with some means of livelihood

for herself and child. If she wishes to adopt her child into some family, she may do so only after her stay in the home. Children are adopted out of the home only under rare circumstances such as death or the escape of a mother. At the time of my visit at the home there were 15 babies and 7 expectant mothers. One young mother-to-be was only 13 years of age, and several were between 15 and 17. When a girl enters the home every effort is made to ascertain the father of the baby, and then if possible he is located—if he is able he is told to pay for the care and confinement expense of the mother. In this way much money is procured which the home would otherwise not have. This institution seems to be run by the highest type of women. They seem competent, kind and motherly. They have the best of equipment in the hospital and lab. room. It is truly a haven for outcast girls and is doing a splendid job of helping correct many delinquent problems.

The Convent of the Good Shepherd, a Catholic Institution is also a rescue home for girls who have committed any antisocial act, or who have come to the attention of the probation officers. There were 111 girls cared for by this institution alone in 1937 but this gave an overcrowded condition and the best of results were not achieved. This Home offers the best of religious influences and few girls come out not afflicted or inspired by the Sisters' treatment and influence.

The Jamison Detention Home institutionalized 558 boys during the year of 1937. Here likewise the problem of overcrowding was very detrimental. It interfered severely with the corrective measures that should be adopted. An adequate activity program was hardly adequate. Here as well as in all the detention institutions they believe in "learning by doing." Through doing this the child delinquent can be shown the possibilities of a happier, more normal life, in contact with the work that is pleasing to him; and consequently he will probably have a better chance of straightening his character because of his learning something through doing work in that field.

Besides the detention institutions the "follow up" work is employed as a means of correction. This refers to the ordinary probation method of checking up on the parolee or probationers after their release from the court investigations. This type of handling is not approved as being the best for it is in no way conducive to the proper adjustment of the individual either before or after his incarceration or after his release.

In Phoenix there are eleven organizations which are now engaged in delinquent prevention but each acts independently of the others. They are the Boy Scouts, Camp Fire Girls, Desert Mission, East Madison Street Settlement, Crittenden Home, Friendly Home, St. Monias Community House, Salvation Army, Social Service Center, Y. M. C. A. and the Y. W. C. A. The Community Chest and its various agencies are doing outstanding work beginning with the very young at the Phoenix Day Nursery, giving play ground supervision at several centers aided by WPA with medical care at some. The P. T. A. has begun a worthwhile project by furnishing free lunches on the south side.

Outstanding work is being done by various play centers such as Father Emmett's Mission, Madison Play Ground,

Optimist Club House, Christian Center, Pilots Club Center for girls, Rotary project at Harmon Park and Sunny Slope. These play centers are organized throughout the Community for having decreased delinquency in their particular areas. The work of the Kiwanis Club, particularly with crippled and under-privileged children also, and is especially interested in eye cases. The city provides a fine park system and has good programs in most of them.

Realizing the fact, that conditions other than the most favorable may make delinquents many steps have been taken to place babies and young children in better environments than that offered by their homes. The Childs Welfare Department of the Maricopa County Board of Social Security and and Welfare Cooperates with the County Juvenile Court and Probation office in their delinquency prevention program. Children found by the Court or the Probation Office to be neglected and in danger of becoming delinquent through living in immoral, unfit or vicious surroundings are either referred or committed by them to care, custody and control of the State Board of Social Security and Welfare and are placed in foster homes by the county. This department at present is caring for 202 children in 86 foster homes. It also has the responsibility placed on it by the Juvenile Court of making intensive investigations in adoptions and presenting its findings to the Court.

By Community interest a great number of children will be given a vacation under healthy conditions and with good food in the cool pines of Northern Arizona. It will be the first trip out of the Valley for many of the children. Camp fire girls, Girl Scouts, Y. W. C. A., Trinity Cathedral and other organizations are sending girls to summer camps. The Kiwanis Club are sending their Scout Troops to Camp the summer, and the Optimist Club will send around 125 under privileged boys to camp as they did last year. The Junior Chamber of Commerce have recently raised funds to send both boys and girls that otherwise would not have an opportunity to go.

The W. P. A. has introduced supervised play to various parts of the County. This project has meant a great deal to Maricopa County youngsters, and promises to be a reducing factor in juvenile delinquency.

Much criticism has been made of the County Juvenile Probation Department in regard to the impersonal method of handling cases which come to their attention. Conditions are not what they should be but we realize that such a department correctly carried on demands money and trained personnel. A study of the finances of the Juvenile Probation Department brings forth the knowledge that the entire department operates on a yearly budget of \$35,000 with this we cannot expect individual case study, and activities which are necessary for the best results.

The coordinating council made up of authorized representatives of various Community agencies, public, private, civic and religious. Individual citizens who are especially interested in delinquency work, are also included. The purpose of this Council is to coordinate service in behalf of children and youth in an effort to prevent duplication in some areas of service, with consequent neglect in others. To encourage better and more effective service to children and youth on the part of agencies charged with that re-

sponsibility. Realizing that character and good citizenship should be an objective for all classes and all ages it seeks to support and cooperation of the public in the extension of character building services. Not only to the underprivileged but to all children and youth. It seeks not only the prevention of delinquency and crime but attempts to mobilize the resources of the Community to the end that all children may have fuller opportunities for "abundant living" and that the Community may become a better place in which to live.

The problem of adult probation has been under emphasized in Maricopa County. George W. Norris, Maricopa County Adult Probation Officer, made the following statement for this survey.

"Adult Probation may be defined as the suspension of final judgment in a case, giving the offender an opportunity to improve his conduct while living as a member of the community, subject to conditions which may be imposed by the Court, and under the supervision and friendly guidance of a probation officer.

"The general public has been slow to grasp the purposes and methods of Adult Probation. It has been regarded as a gesture of leniency by the Court and a mere surveillance requiring the technique of the police officer or detective in discovering any misconduct by the probationer and surrendering him to the Court for sentence, and used largely as a collection agency to enforce the payment of restitution, costs, and orders for support for dependent wives and children.

"Probation stands for a great deal more than leniency or surveillance or the collection of payments ordered by the Court, though all these have their proper place. It means personal supervision by a trained probation officer whose duty it is to plan and execute a program tending toward the rehabilitation of the probationer. The development of probation marks an important phase in the progress of criminal law and administration. It evidences the emergence of three fundamental changes in our attitude toward the delinquent: Social treatment instead of vindictive punishment; individual instead of mass treatment and a waning faith in imprisonment as a reformatory or deterrent measure. The deterrent effect of prison and especially a prison of mixed population as most of our state prisons are, has been exaggerated. The fact is overlooked that many professional crooks and degenerates are there ready to teach the youthful and first offender the ways of crime, to defile and rob them of their self-respect and render them less desirable as citizens than when they went in.

"As understanding grows of the underlying purposes and principles of Adult Probation, its development progresses and takes its proper place in our system of dealing with crime, more attention is given to the two distinct functions of the probation department: (1) Investigation for the court before sentence. (2) The supervision of defendants placed on probation. Considerations of economy are also having an effect. Probationary supervision even with sufficient staffs of adequately paid competent probation officers is much less expensive than institutional care. Institutional treatment costs from ten to twenty times as much as probationary supervision and the rehabilitation service provided through Adult Probation cannot be measured by dollars and cents.

"Four divisions of the Superior Court in Maricopa County are handling criminal cases and administering Adult Probation. The probation staff consists of four officers and an office assistant. At the present time they are supervising five hundred probationers and since the inception of Adult Probation in Arizona in 1927, this department has received on probation and supervised two

thousand cases. Seventy three per cent of the completed cases have responded to probation treatment, re-adjusted their lives, and are making good citizens, and less than ten per cent have actually returned to criminal practices.

"When this record is compared to sixty per cent 'repeaters' in penal institutions, the question should no longer be asked—Does Probation Pay?"

#### PREVENTION IN CRIME IS THE BEST THERAPY FOR BOTH JUVENILE AND ADULT DELINQUENCY

The first step in prevention is to overcome ignorance. If each adolescent boy were a member of a self governing boy's club, he would learn the nature and necessity of law, police, and courts. He would frame laws and enforce them in his service on the club's cub police and jury.

Attractive neighborhood playgrounds should be equipped with amusement halls for dances and entertainment, providing an opportunity for young people, especially those whose home surroundings are unpleasant and unattractive to have a pleasant social life under guidance.

It is still true that "the devil finds work for idle hands." Unless the energies of growing children are canalized into healthy activities, they will seek unwholesome and anti-social channels.

Existing community agencies and institutions should be used to their fullest capacity.

But still better it is possible to build resistance to evil influences by sound education and wholesome recreation.

If all lives were kept full of worthwhile creative interests morbid impulses would be crowded out.

Clever direction may make the gang into a club for athletics; Loyalty to the gang, a virtue, though so often misdirected, is made subordinate to a higher loyalty—to the settlement, the school or neighborhood. The gang then ceases to be a liability. It has been made an asset. There should also be strict control of low-class picture houses, dance halls, and poolrooms.

#### IS THERE A REMEDY?

A few of the things that are being done to avert delinquency in almost every American city, follow:

1. Medical and Dental Treatment to children through schools by social agencies.
2. Club and Group affiliations in the form of Boy Scouts, Girl Scouts, Campfire Girls, Woodcraft League of America; Kiwanis Brother and Dads; Optimist International Boys' Work Council, Rainbow Girls, Demolays; Junior Red Cross and many more.
3. Church Organizations.
4. Hobby Clubs.
5. Economic Aid to Families.
6. Education and Social Contact Made for Families.

Phoenix and the Valley of the Sun are fully aware of the problem of Juvenile Delinquency. More attention should be given to Adult Delinquency.



Modern Desert Trails

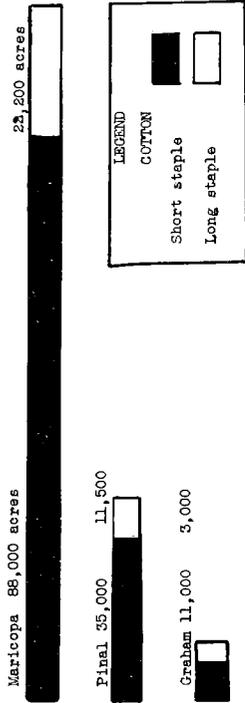


Fig. 12. Arizona's Long and Short Staple Cotton acreage in 1939 in bales by counties. Source: Barr et. al: Arizona Agricultural Situation, University of Arizona, 1940

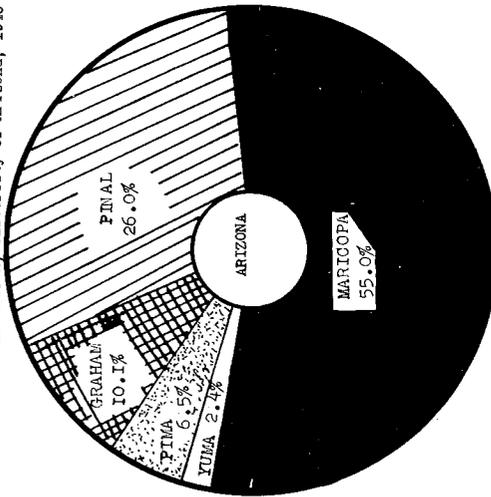


Fig. 13. Running bales of cotton, both long and short staple, ginned in Arizona, prior to December 13, 1939, by counties. Source: Barr et. al: Arizona Agricultural Situation, University of Arizona, 1940

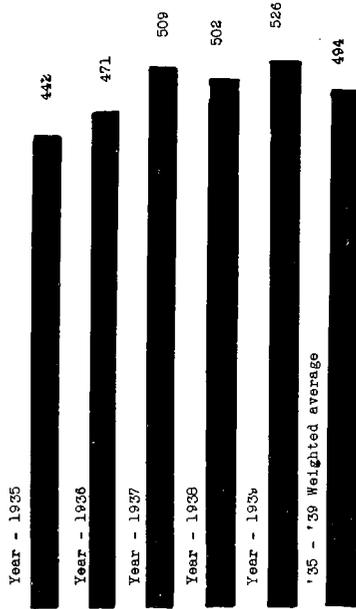


Fig. 10. Yield in pounds per acre of short staple cotton in Maricopa County, 1935 - 1939, inclusive. Source: "Arizona Agricultural Situation for 1939," University of Arizona, 1940.

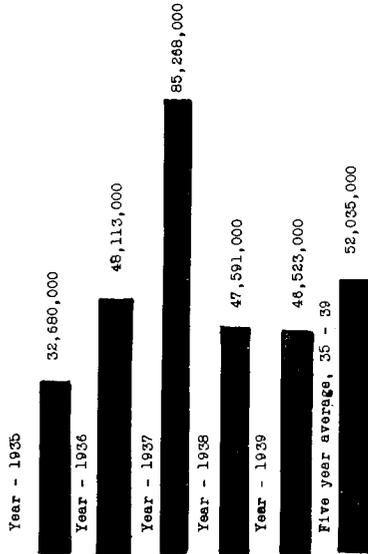
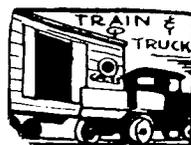
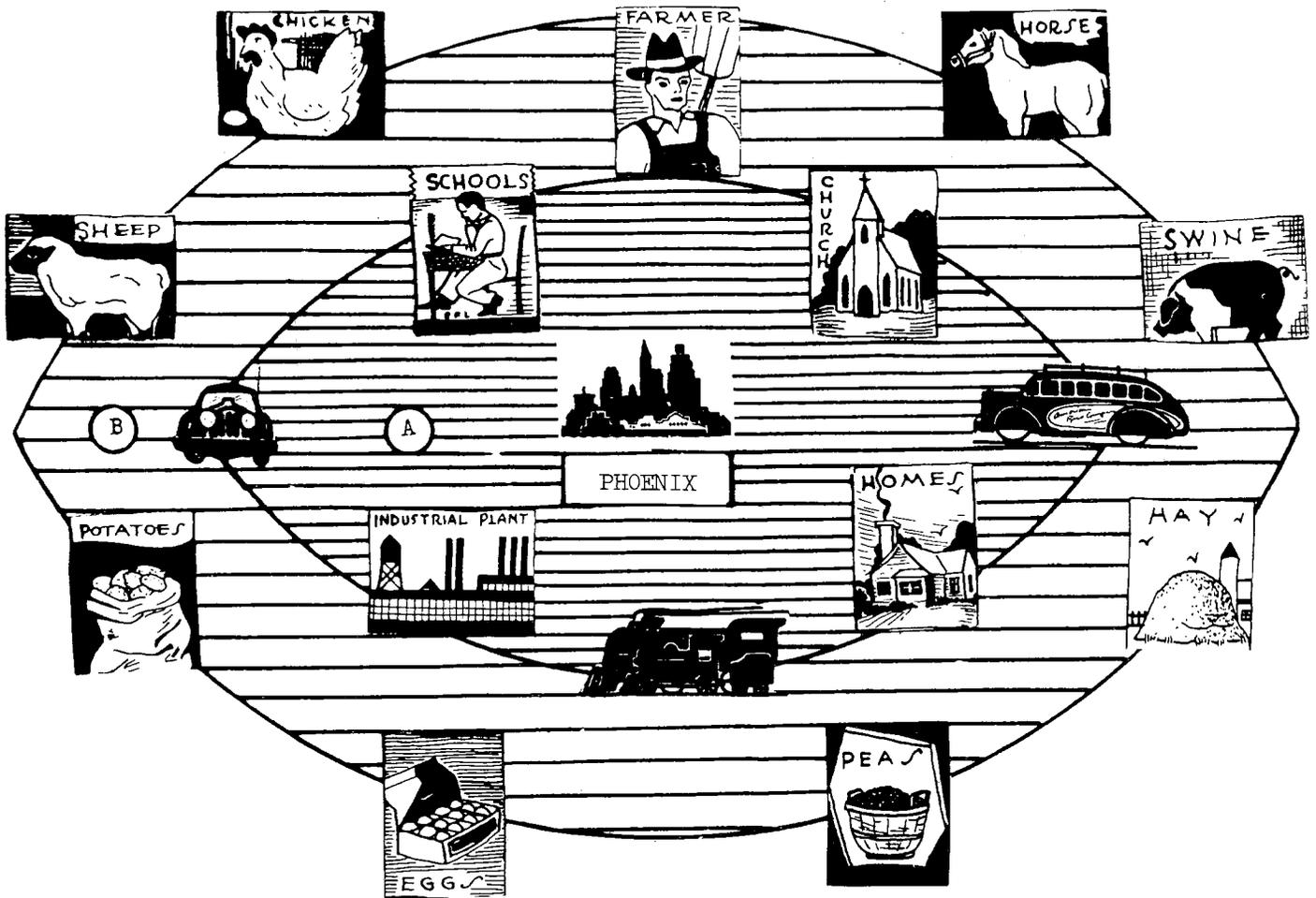


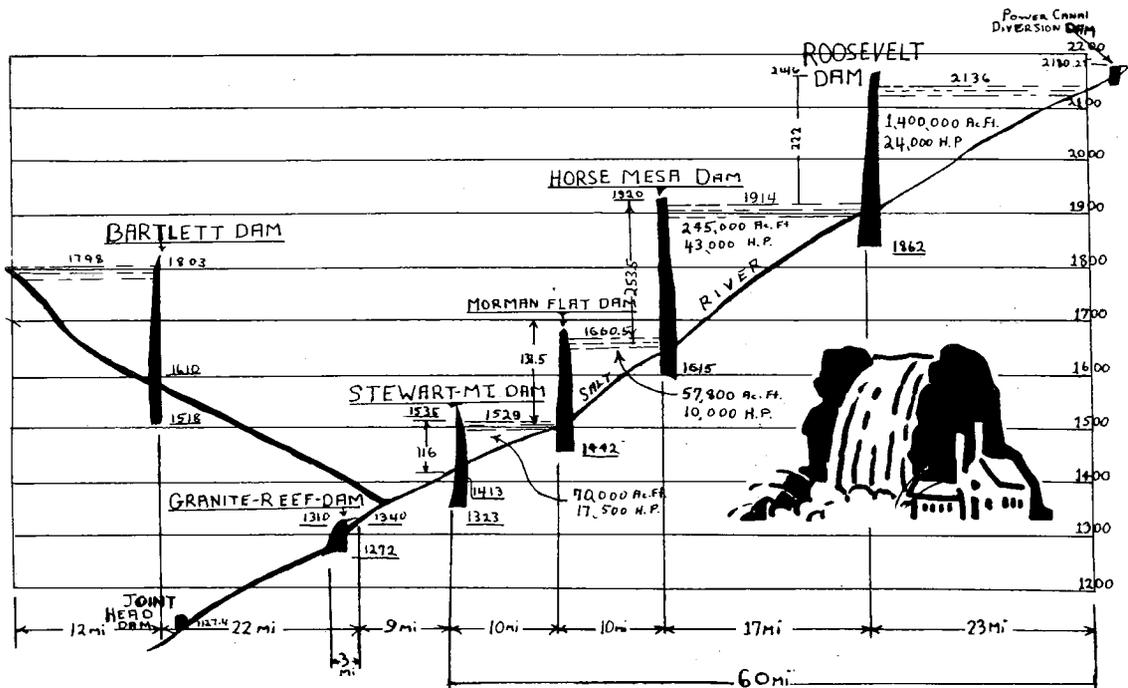
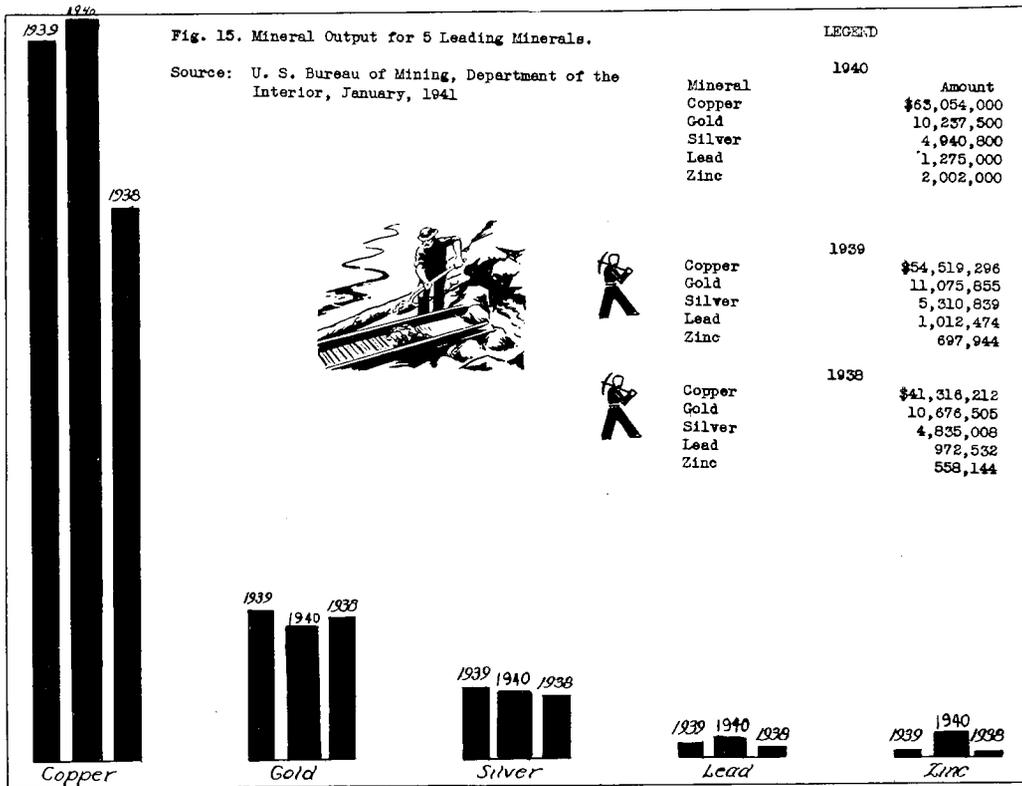
Fig. 11. Production of long staple cotton in Maricopa County from 1935 - 1939, inclusive. Figures in pounds. Source: "Arizona Agricultural Situation for 1939," University of Arizona, 1940.



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 A. Retail area: radius of 75 miles. population of 300,000 (estimated).
- 
 B. Wholesale area: entire state, population of 500,000.

Fig. 14. TRADE AREA OF PHOENIX, ARIZONA

SOURCE: Social Studies Department, A.S.T.C., Tempe



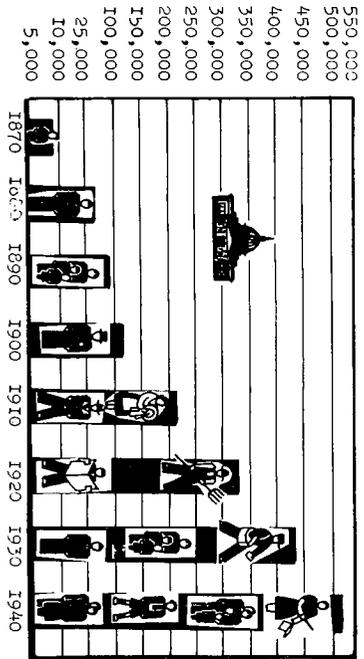


Fig. 17 Arizona Population Growth 1870 - 1940

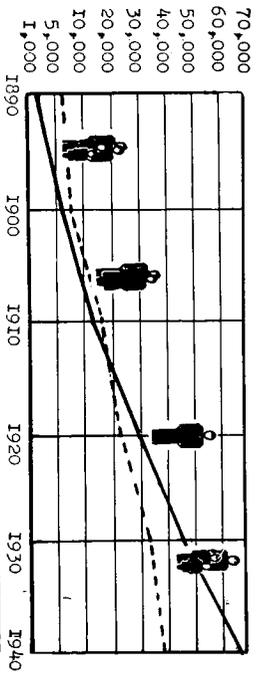


Fig. 18. Comparison of Population Trends Between Phoenix and Tucson

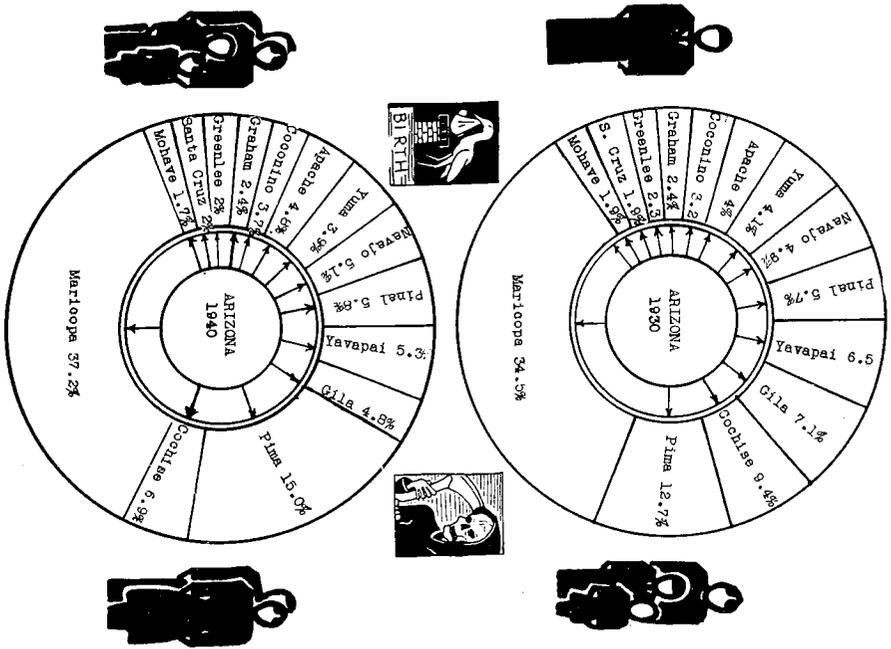


Fig. 19. Distribution of Arizona's Population by Counties, 1930 and 1940.

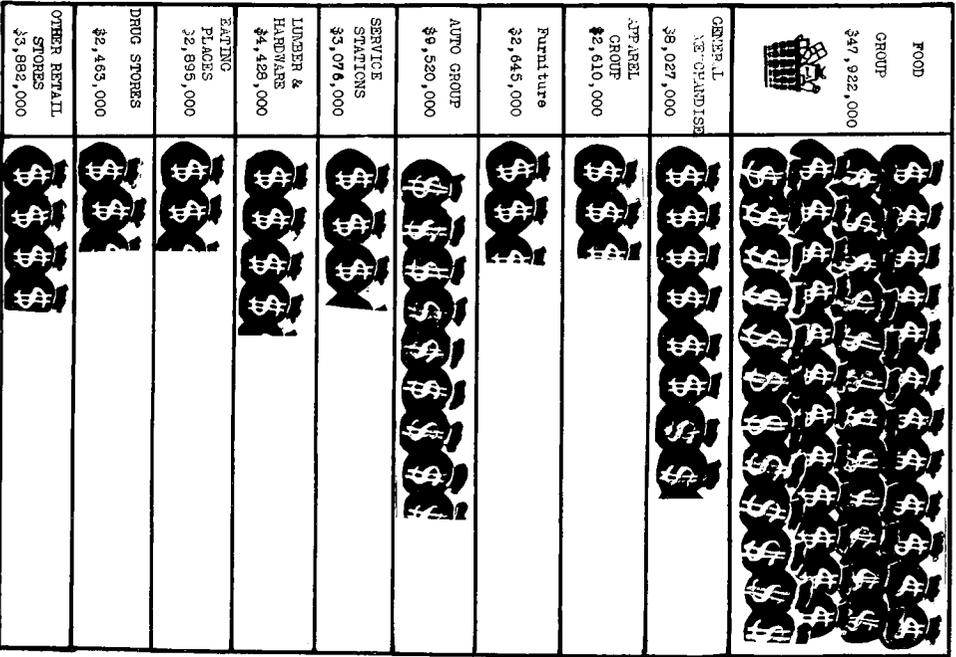


Fig. 20 Income From Retail Businesses in Phoenix, 1939  
SOURCE: 1940 U. S. Census.

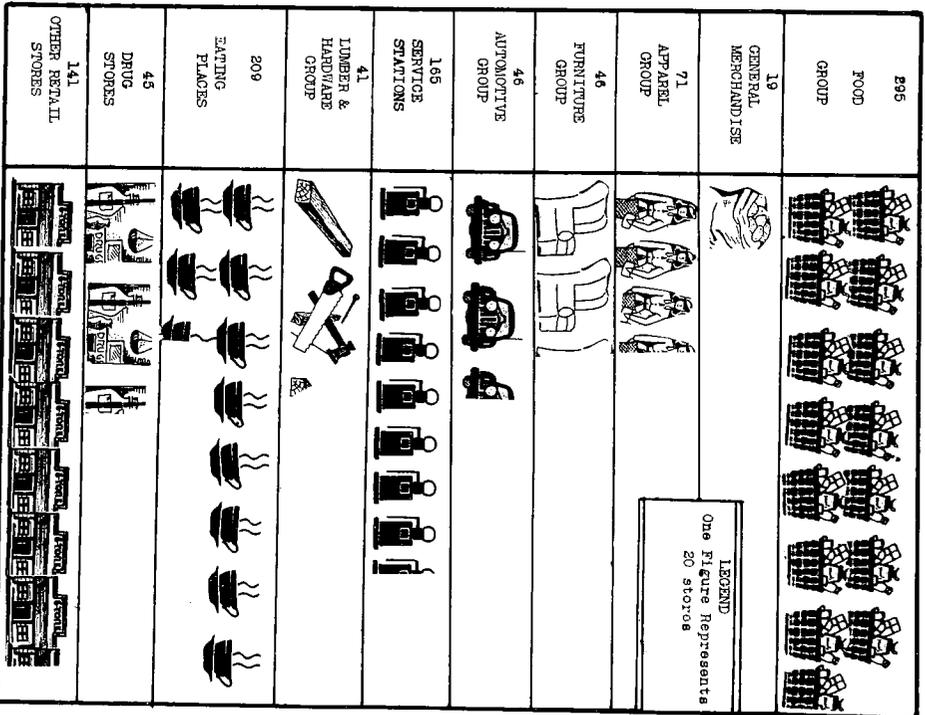


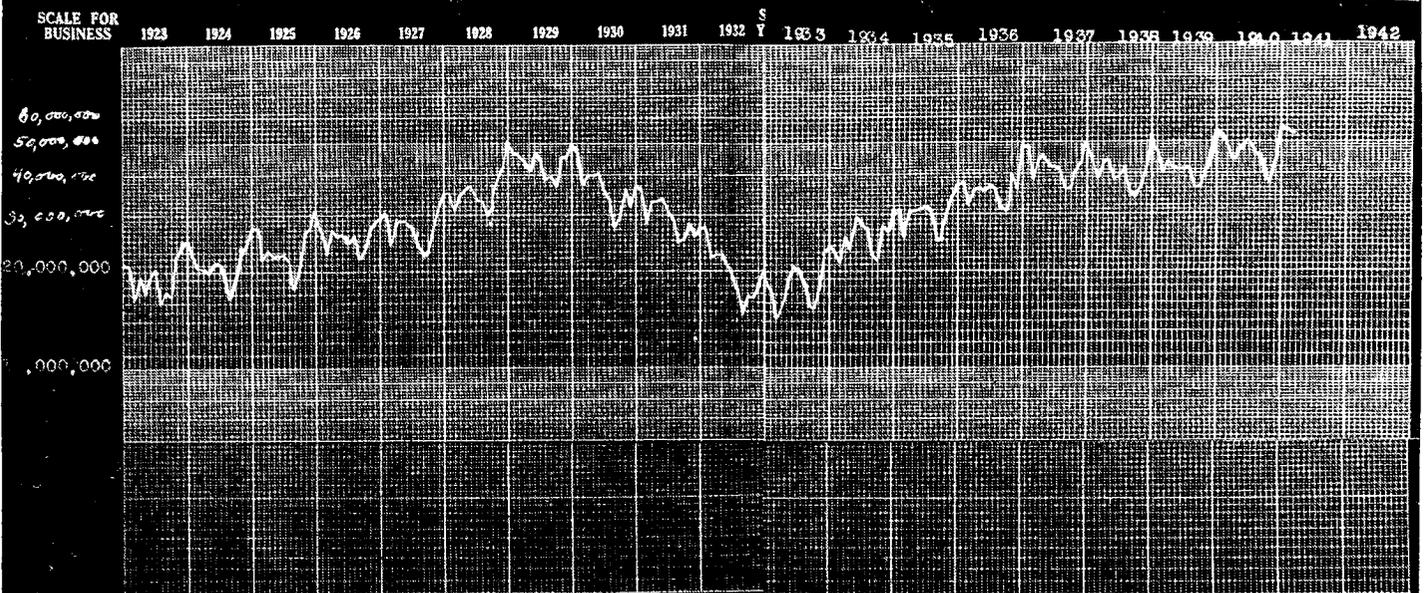
Fig. 21 Distribution of Retail Stores in Phoenix  
SOURCE: 1940 U. S. Census

FIG. 22. COMPARISONS AND FORECASTS - 150 U. S. Cities, JAN. 1941

	Value of Business				Apr. 1941 Fore- cast	vs. Yr. Ago		Value of Business				Apr. 1941 Fore- cast	vs. Yr. Ago
	Nov. 1940 (000 omitted)	vs. Yr. Ago	Dec. 1940 3 weeks (000 omitted)	vs. Yr. Ago				Nov. 1940 (000 omitted)	vs. Yr. Ago	Dec. 1940 3 weeks (000 omitted)	vs. Yr. Ago		
Aberdeen, S. Dak. ...	\$5,584	+ 9%	\$4,289	+24%	+ 5%		Louisville, Ky. ....	\$183,849	+19%	\$144,457	+12%	+10%	
Akron, Ohio .....	76,933	+14	63,582	+ 4	+10		Lowell, Mass. ....	15,649	+ 5	10,831	+ 5	+ 5	
Albany, N. Y. ....	246,772	+52	139,301	+14	+ 5		Macon, Ga. ....	19,411	+ 8	15,161	+13	+ 5	
Albuquerque, N.M. ...	20,043	+10	14,342	+11	+10		Madison, Wisc. ....	6,755	+13	4,830	+15	+10	
Altoona, Pa. ....	11,222	+ 9	9,200	+17	+ 5		Manchester, N. H. ...	17,458	+18	17,786	+ 1	+ 5	
Atlanta, Ga. ....	251,918	+15	189,774	+11	+10		Memphis, Tenn. ....	213,841	+25	148,224	+ 4	+10	
Augusta, Ga. ....	22,430	+17	17,116	+17	+ 5		Milwaukee, Wis. ....	277,223	+16	225,423	+ 1	+ 5	
Austin, Texas .....	32,794	+12	29,035	+14	*		Minneapolis, Minn. ...	338,265	*	258,648	- 1	-10	
Baltimore, Md. ....	429,178	+21	346,003	+17	+10		Mobile, Ala. ....	46,112	+21	38,826	+27	+10	
Bangor, Me. ....	15,707	+14	12,415	+14	+ 5		Montgomery, Ala. ...	29,363	+12	19,748	-12	+15	
Binghamton, N. Y. ...	22,280	+10	16,121	+ 5	*		Nashville, Tenn. ....	92,350	+ 2	73,961	+ 1	+ 5	
Birmingham, Ala. ...	107,657	+17	82,360	+18	+ 5		Newark, N. J. ....	341,554	+11	285,146	+ 6	+ 5	
Boise, Ida. ....	20,651	+ 6	14,804	+ 7	+ 5		<b>New Bedford, Mass.</b>	<b>27,933</b>	<b>+35</b>	<b>19,048</b>	<b>+46</b>	<b>+15</b>	
Boston, Mass. ....	1,487,577	+ 5	1,209,662	+25	+ 5		New Haven, Conn. ....	84,201	+ 9	62,682	+12	+10	
<b>Bridgeport, Conn.</b> ...	<b>70,269</b>	<b>+34</b>	<b>47,844</b>	<b>+33</b>	<b>+20</b>		New Orleans, La. ...	239,601	+ 7	180,528	- 8	+ 5	
Buffalo, N. Y. ....	247,260	+ 8	184,148	+ 5	+10		New York, N. Y. ...	14,952,033	+15	12,181,253	+ 2	+ 5	
Burlington, Vt. ....	11,584	+ 8	8,316	+ 6	+ 5		<b>Norfolk, Va.</b> ....	<b>64,884</b>	<b>+25</b>	<b>49,794</b>	<b>+26</b>	<b>+15</b>	
Butte, Mont. ....	24,630	+ 9	16,331	+10	+ 5		Oakland, Cal. ....	117,615	+16	87,581	- 3	+ 5	
<b>Canton, O.</b> ....	<b>47,624</b>	<b>+21</b>	<b>34,278</b>	<b>+13</b>	<b>+15</b>		Oklahoma City, Okla. ...	98,685	- 1	71,030	- 6	*	
Cedar Rapids, Ia. ...	27,403	+ 6	21,900	+17	+ 5		Omaha, Neb. ....	153,490	+10	113,688	+ 9	+ 5	
Charleston, S. C. ...	21,482	+21	16,963	+11	+ 5		Passaic, N. J. ....	36,491	+19	28,603	+22	+10	
Charleston, W. Va. ...	54,195	+ 4	42,639	+11	+ 5		Peoria, Ill. ....	74,254	+16	53,066	+19	+10	
<b>Charlotte, N. C.</b> ...	<b>86,845</b>	<b>+30</b>	<b>69,061</b>	+11	+ 5		Philadelphia, Pa. ...	1,437,136	+15	1,195,146	+10	+10	
Chattanooga, Tenn. ...	47,293	+ 9	40,304	+11	+ 5		Phoenix, Ariz. ....	44,645	+ 2	35,053	+ 2	*	
Cheyenne, Wyo. ....	9,781	+19	6,769	+10	+ 5		Pittsburgh, Pa. ....	759,131	+ 9	571,458	+ 2	+15	
Chicago, Ill. ....	3,072,839	+11	2,410,599	- 6	+10		Portland, Me. ....	34,845	+ 4	26,650	- 2	+10	
Cincinnati, O. ....	369,761	+ 8	284,705	+13	+10		Portland, Ore. ....	176,170	+11	123,136	+ 1	+10	
Cleveland, O. ....	712,108	+14	570,080	+18	+15		Providence, R. I. ....	152,220	+ 6	115,953	+17	+10	
Colo. Springs, Colo. ...	17,594	+ 8	10,915	- 6	+ 5		Pueblo, Colo. ....	19,100	-19	11,796	+16	*	
Columbia, S. C. ....	37,278	+32	27,634	+47	+10		Quincy, Ill. ....	10,056	+14	6,877	+ 6	+10	
Columbus, O. ....	199,610	+ 9	157,772	+ 7	+ 5		Reading, Pa. ....	44,220	+ 9	34,964	+12	+ 5	
Dallas, Tex. ....	281,346	+11	211,756	+ 3	+ 5		Reno, Nev. ....	14,795	+24	10,493	+19	*	
Davenport, Ia. ....	24,162	+17	16,868	+ 4	+10		Richmond, Va. ....	175,920	- 6	130,334	+ 5	+ 5	
Dayton, O. ....	79,051	+20	59,726	+17	+10		Roanoke, Va. ....	32,962	+17	24,045	+10	+10	
Decatur, Ill. ....	23,725	+ 6	15,975	+ 8	+ 5		Rochester, N. Y. ...	119,951	+ 3	95,846	+ 1	+ 5	
Denver, Colo. ....	170,691	+ 4	122,818	+ 2	+ 5		Rockford, Ill. ....	29,217	+14	23,076	+16	+10	
Des Moines, Ia. ....	99,360	+13	73,034	+ 8	+ 5		Sacramento, Cal. ....	150,592	*	100,012	+26	+10	
<b>Detroit, Mich.</b> ...	<b>1,235,666</b>	<b>+33</b>	<b>873,498</b>	<b>+26</b>	<b>+15</b>		St. Joseph, Mo. ....	27,915	*	22,365	+ 8	+ 5	
Duluth, Minn. ....	56,086	- 1	31,536	- 3	+ 5		St. Louis, Mo. ....	627,970	+ 4	505,700	+ 5	+ 5	
Durham, N. C. ....	38,342	- 5	25,733	- 3	+10		St. Paul, Minn. ....	171,361	- 2	135,052	+ 9	- 5	
E. St. Louis, Ill. ....	43,872	+20	32,358	+15	+10		Salem, Ore. ....	16,476	+ 1	12,550	- 1	*	
El Paso, Texas .....	42,569	+34	35,650	+51	+10		Salt Lake City, Utah ...	79,540	+ 6	58,639	+ 1	+ 5	
Erie, Pa. ....	30,948	+ 7	24,091	+ 7	+10		San Antonio, Tex. ...	76,946	+17	56,332	+ 9	+ 5	
Evansville, Ind. ....	35,101	+18	25,544	+ 8	+10		San Diego, Cal. ....	63,752	+22	55,013	+27	+10	
Fall River, Mass. ...	23,523	+15	16,133	+23	+10		San Francisco, Cal. ...	859,307	+ 1	689,723	+ 7	+ 5	
Fargo, N. D. ....	25,778	+21	17,562	+20	+10		San Jose, Cal. ....	26,051	+ 6	19,974	+11	+ 5	
Flint, Mich. ....	32,452	+19	24,683	+22	+10		Savannah, Ga. ....	32,433	+15	25,808	+ 9	+10	
<b>Fr. Smith, Ark.</b> ...	<b>14,436</b>	<b>+20</b>	<b>10,889</b>	<b>+21</b>	<b>+15</b>		Scranton, Pa. ....	45,029	+ 6	34,231	+ 3	+ 5	
Fort Wayne, Ind. ...	35,898	+ 8	26,937	+ 2	+ 5		Seattle, Wash. ....	236,437	+19	183,130	+20	+10	
Ft. Worth, Texas ...	87,810	+ 6	65,235	+11	*		Shreveport, La. ....	46,063	+ 1	34,871	- 9	+ 5	
<b>Galveston, Tex.</b> ...	<b>38,463</b>	<b>+31</b>	<b>29,616</b>	<b>+61</b>	<b>+15</b>		Sioux City, Ia. ....	41,231	+ 8	30,102	+ 9	+ 5	
Gary, Ind. ....	20,473	+ 8	14,334	*	+10		Sioux Falls, S. D. ...	20,157	+ 6	15,066	+14	+ 5	
Grand Rapids, Mich. ...	62,593	+11	47,105	+ 7	+ 5		So. Bend, Ind. ....	49,950	+36	36,433	+19	+10	
Green Bay, Wisc. ...	16,639	+13	11,759	+15	+ 5		<b>Spokane, Wash.</b> ...	<b>67,147</b>	<b>+29</b>	<b>52,562</b>	<b>+45</b>	<b>+15</b>	
Greenville, S. C. ....	24,722	+25	18,281	+18	+10		Springfield, Ill. ...	26,865	+12	20,904	+10	+10	
Harrisburg, Pa. ....	41,222	+11	31,120	- 1	+ 5		Springfield, Mass. ...	77,000	+ 2	51,386	+ 5	+10	
Hartford, Conn. ....	237,267	+29	174,458	+12	+10		Springfield, Mo. ....	16,018	+15	11,973	+15	+10	
Houston, Tex. ....	270,909	+13	189,469	+ 3	+10		Springfield, Ohio ...	18,709	+16	14,157	+16	+10	
Huntington, W. Va. ...	18,710	+ 4	15,054	+ 7	*		Syracuse, N. Y. ....	96,259	+14	63,194	+ 6	+10	
Indianapolis, Ind. ...	233,248	+14	189,959	+10	+10		Tacoma, Wash. ....	43,368	+18	32,548	+14	+ 5	
Jackson, Mich. ....	17,259	+26	12,717	+ 5	+15		Tampa, Fla. ....	38,809	+36	26,333	+11	+10	
Jackson, Miss. ....	30,673	- 1	23,369	-15	+ 5		<b>Toledo, O.</b> ....	<b>153,272</b>	<b>+21</b>	<b>122,401</b>	<b>+12</b>	<b>+15</b>	
Jacksonville, Fla. ...	93,469	+21	83,616	+35	+10		Topeka, Kan. ....	16,302	+ 5	12,000	+ 6	*	
Johnstown, Pa. ....	17,496	+ 4	12,880	+ 4	+10		Trenton, N. J. ....	86,965	+ 5	72,976	+10	+10	
Joplin, Mo. ....	9,903	- 5	7,072	-16	*		Tulsa, Okla. ....	131,455	*	93,844	-12	+ 5	
Kalamazoo, Mich. ...	27,578	+20	19,953	- 2	+15		Utica, N. Y. ....	31,978	- 1	22,346	- 3	*	
Kansas City, Kan. ...	19,119	+20	13,091	- 1	+10		Washington, D. C. ...	304,470	+16	236,248	+ 9	+ 5	
Kansas City, Mo. ...	316,830	+ 7	242,696	+ 1	+ 5		Wheeling, W. Va. ...	29,849	-10	22,462	- 2	+10	
Knoxville, Tenn. ....	33,551	+20	27,058	+ 9	+10		Wichita, Kan. ....	46,988	+19	38,522	+ 8	+ 5	
Lansing, Mich. ....	27,297	+13	21,967	+ 9	+10		Wilkes-Barre, Pa. ...	24,068	+ 9	19,972	+ 3	+ 5	
Lexington, Ky. ....	20,954	- 1	22,910	+14	*		Wilmington, Del. ...	117,857	+27	128,407	+ 3	+10	
Lincoln, Nebr. ....	27,902	- 7	21,280	+ 2	*		Winston-Salem, N.C. ...	48,359	+ 6	40,956	+19	+10	
Little Rock, Ark. ...	48,745	+25	36,658	+18	+10		Worcester, Mass. ...	64,738	+13	48,273	+17	+10	
Long Beach, Cal. ...	39,639	+ 9	31,079	+ 4	+ 5		York, Pa. ....	25,291	+12	19,631	+ 7	+ 5	
Los Angeles, Cal. ...	915,050	+11	726,795	+ 7	+10		Youngstown, Ohio ...	57,374	+ 5	42,682	+ 7	+10	

\* No Change. Ten Leading Cities In Italics.

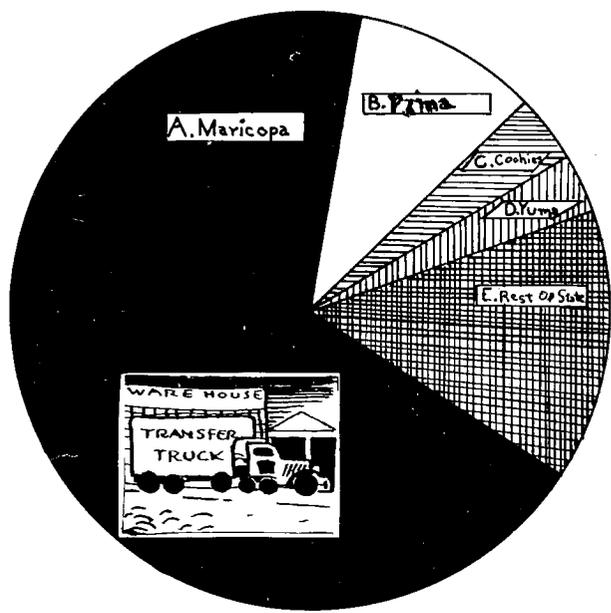
MONTHLY VOLUME OF BUSINESS IN PHOENIX, ARIZ. 1923-41. FIG. 23 MONTHLY VOLUME OF BUSINESS IN PHOENIX, ARIZ. 1923-41



Babson's Statistical Organization, Wellesley Hills, Mass.

NOTE: The decimal point as many places as desired in an above scale, provided it is made in all the readings of

Babson's Statistical Organization, Wellesley Hills, Mass.



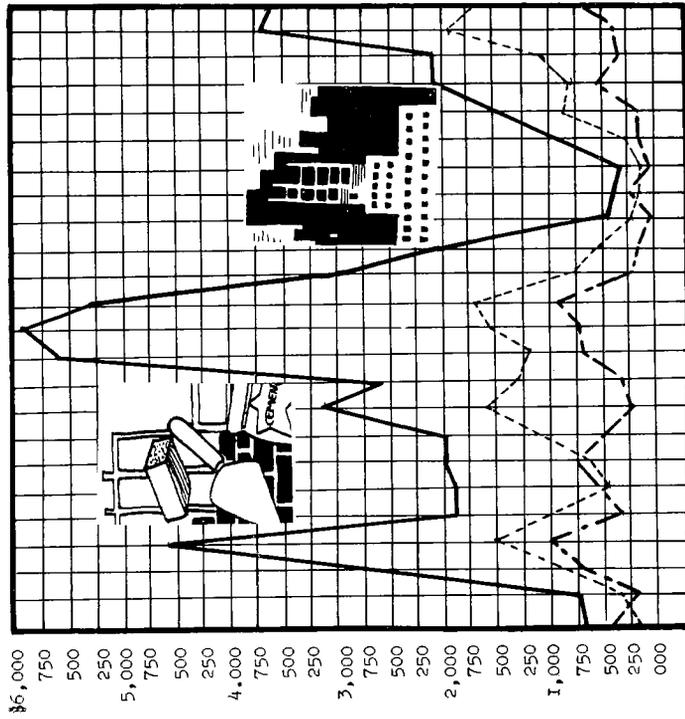
A	Maricopa County	\$61,235,000	63.44%
B	Pima County	13,462,000	13.96%
C	Cochise County	4,059,000	4.20%
D	Rest of state	13,814,000	14.30%
E	Yuma County	3,958,000	4.10%
Arizona Total		96,528,000	

30	Manufacturers		<p>LEGEND</p> <p>Each figure represents ten stores</p>
3	Petroleum Bulk Stations		
30	Agents, Brokers & Assemblers		
11	Automotive Wholesalers		
15	Beverage and Tobacco Dealers		
33	Farm Produce Wholesalers		
20	Groceries		
22	Lumber, machinery & hardware dealers		
14	Electric, chemical & paint wholesalers		
16	Other Wholesale Dealers		

Fig. 25 Distribution of Wholesale Stores in Phoenix SOURCE: 1940 U. S. Census

Fig. 24 Wholesaling by Counties in Arizona, 1939. Source: 1940 U. S. Census Report

(Add. 000)

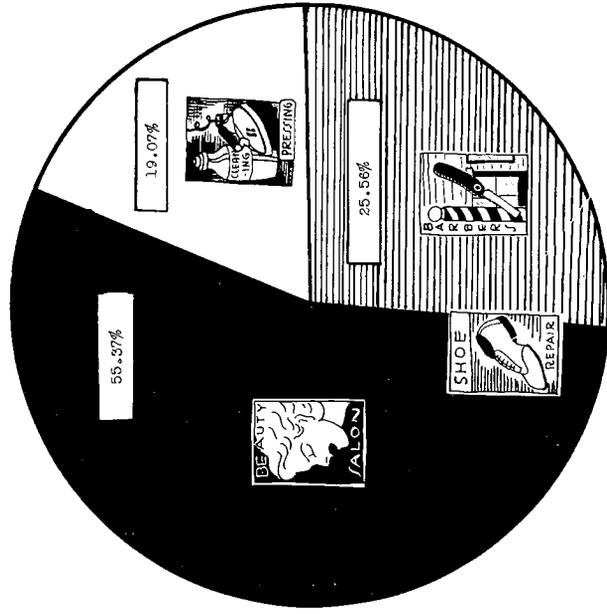


17 19 21 23 25 27 29 31 33 35 37 39 40

I. Includes all repairs-alterations & additions & new buildings.  
 II. Does not include apartments, courts hotels, or repairs, alterations, or additions.  
 III. Does not include hotels, apartments, courts or repairs, alterations or additions.

I. TOTAL VALUATION ISSUED  
 II. NEW RESIDENCES VALUATION  
 III. NEW BUSINESS VALUATION

Fig. 27. VALUATION & NUMBER OF BUILDING PERMITS - PHOENIX - 1917 - 1940



LEGEND

A Karicopa County \$6,084,000

B Pima County 2,075,000

C Rest of state 2,761,000

Fig. 28. Service Establishments in Arizona, 1939. Source: United States Census for Service Establishments, 1940

## CHAPTER XXIX

# PROBLEMS OF GAMBLING, LIQUOR AND VICE

Many individuals contend that gambling could be made the source of revenue for public administration for Phoenix and Maricopa County. They allege that gambling will go on in any case and, consequently, it should not be banned from the community. Gambling, they say, is a characteristic of the far west, which is a tradition going back to early pioneer days. Many of the guest ranches and hotels as well as resorts and recreation centers such as the Phoenix Country Club, feel that it would be advantageous to the community to permit legalized gambling.

On the other hand, majority of business men in Phoenix and throughout Maricopa County feel that gambling takes far more out of the community than it brings in; that taxes and fines on gambling are difficult to establish and collect; vice and drinking accompany gambling to a more or less degree and to encourage gambling would encourage the accompaniments. Realtors contend that property values would go down if gambling were permitted. An examination of the income from fines, gambling and so forth in 94 cities having over 100,000 population indicates that the total revenue from this source was only .03 per cent of the total receipts of these municipalities, whereas general basic taxes amounted to 63 per cent of the municipal receipts. The loss in value in property could never be compensated by the increase of fines, forfeits and fees from gambling; consequently the community is much better off if gambling does not occur within the immediate confines or neighborhood vicinities.

War has been made on gambling in which a crusade has been entered into by the churches under Episcopalian leadership, the educators, civic leaders, the newspapers, and both the Phoenix police department and the sheriff's office.

The sheriff, Lon Jordan, together with his many deputies, have been very active in their war on gambling. Former City Manager Roy Hislop and former Police Chief E. C. Moore ordered all gambling establishments padlocked. Former Mayor Walter J. Thalheimer also entered the fight to clean up the situation. The fact that Phoenix and Maricopa County have such a fine climate, drawing a wealthy clientele with time on their hands, complicates the issue.

The moral interests—civic, religious, and educational—have been highly incensed against the possibilities of wide-open gambling in Arizona because of the moral hazards at stake. They feel that great detriment and harm can result to the Phoenix and Maricopa County communities if gambling machines are placed promiscuously in food and drinking establishments forming enticing lure to youth and old age alike. They greatly fear that liquor consumption and promiscuous sex relations will accompany large-scale gambling operations.

Frank Williams, member of board of regents of the University of Nevada, made the following statement about legalized gambling in Nevada:

"The legalization of gambling in 1931 has caused a direct money loss to our State University of about \$100,000.00. This is due to the lessened attendance of out of state pupils. Such pupils pay a tuition of \$150.00 per year.

"While our University's loss is probably more apparent, Nevada itself, has been cruelly hoaxed. Gambling pays in State, County and local licenses, about \$300,000 per year. In order to pay this \$300,000 the gambling interests must take from the people at least \$2,000,000.00 each year. In short, we levy a tax of \$2,000,000.00 upon our State, and then pay the gamblers \$1,700,000.00 for collecting it.

"Proponents of gambling vociferously insisted that gambling would materially reduce taxes, and bring "lots of money" to our state. Today our tax rates are considerably higher than they were in 1931, and our state has lost over \$18,000,000 in assessed valuation. The only "growth" from gambling seems to be forty per cent increase in our state prison population."

A committee against legalized gambling was organized in Phoenix under the general chairmanship of P. D. L. McLaurin. They reported that the majority of business men in Phoenix were opposed to gambling. "This is a moral issue and as such the churches and other groups interested in good citizenship will oppose gambling strenuously, for open gambling in Arizona will break down much of their work for 50 years past. Contrary to the belief that many tourists will be attracted, many of the present tourists will go elsewhere, and a new group will come in—a less desirable group—and bring with them an aftermath of crime, pickpockets, burglars, confidence men, dope peddlers and the like. Good citizenship work among boys and girls will get a setback such as Arizona has never seen," Mr. McLaurin said.

"Arizona has experience to fall back on from a business standpoint. Business men claim that during pari-mutuel horse racing, customers drop their time payments. Even department stores, specialty shops, food and grocery stores feel this pressure. Also all types of credit business, which takes in automobiles, refrigerators, radios, stoves, jewelry and furniture shops, complain. Payments on homes also become delinquent; many of these are never made up, and repossession is necessary," Mr. McLaurin added.

## LIQUOR CONTROL

Liquor has always been a problem in Arizona. Phoenix has been no exception since the establishment of Mike's Brewery in 1871, when the population of Phoenix was 300. In 1872 there were fifteen saloons, four dance halls and one school in Phoenix. In 1873 a territorial law was passed, making it a misdemeanor to give or sell liquor to Indians.

In 1880, Tom Brown opened the "finest saloon in the territory"; 20,000 pounds of beer were received from St. Louis. A brick sidewalk was laid in front of the Tiger Saloon; and the Maricopa Temperance Society elected officers. The Indian "home brew" was called "Tizwin" and was made from rotted corn or mescal fruit. One of the

last Tizwin debauches was held in 1894 at Gila Crossing. As early as 1900 women were prohibited from entertaining in local saloons, or serving as bartenders. However, boarding houses, saloons and dance halls of local "Brewery Gulches" were filled to overflowing in riotous jamborees. However, on August 8, 1902, most of the moral forces of Maricopa County rejoiced because they believed the liquor problem at last was solved. Prohibition had gone into effect in all of the county north of the river except Phoenix, Morristown, Wickenburg and a few mining towns.

During the first six months of 1940, the Phoenix police arrested 1,105 native American men and 63 women and 545 Mexicans for drunkenness. In addition, 438 Indians were arrested for the same cause, 404 braves and 22 squaws; one Japanese was also arrested for this cause. While not the only cause of arrest of 17 and 18-year-old boys, drunkenness and vagrancy were rated very high. One girl and one boy, each younger than 15, were arrested for drunkenness.

The passage of a new liquor bill in March, 1939, was a definite step in the right direction to solve this state's liquor problem. The superintendent has discretionary powers as to who can qualify for a license upon proper application, and he may also suspend or revoke licenses for cause. His decision in such matters is final, the only provisions for an appeal of his decisions being through the county Superior Courts within 10 days after the superintendent has rendered a decision. Licenses will also be transferable within the same county upon full qualification and the payment of a \$25 transfer fee. Although a great majority of the liquor dealers in the state are good, reliable citizens, who operate clean establishments beyond justifiable public criticism, there is a small minority who are careless in their operations and this latter group will be the principal concern of the Arizona State Department of Liquor Licenses and Control. Those few dealers who not only violate the law, but also the public concepts of good conduct are a reflection on the industry, and constitute a definite detriment to the state as a whole.

The Liquor Association expects to take legal action shortly against wholesalers who insist on selling spiritous liquors to clubs, lodges, etc., who do not have a license to sell such merchandise.

The State Tax Commission collected \$59,078.46 in liquor licenses for Arizona in 1939, of which \$19,692.82 was returned to Maricopa County.

Men drink because of social pressure. They are unable to resist an invitation to drink. They feel that sociability is enhanced; that inhibitions have been removed; and that the feeling of "gemuhtlichkeit" makes for social ease and freedom by releasing the brakes on puritanic inhibitions. Men and women drink to escape worries, fatigue and frustration. Critical faculties become dulled and the subconscious is released into the hilarious personality. Drink helps to drown one's sorrow, or to give vent to exuberant celebration. Men drink because there is an apparent artificial stimulation, even though, in reality, there is

a tremendous slowing down of the ability of the mind to react.

On the other hand, liquor interests, by buying protection from corrupt officials, ruthlessly tread underfoot social welfare and the public interests. The streamlined tavern is taking the place of the old-time saloons.

The modern tavern has an enticing sophistication which has a magnetic influence on recreation-starved youth and adults. Normal society seems to be deficient in providing ample and wholesome recreation for our youth. There is a tremendous moral risk involved to female hostesses in drinking establishments. The environment for bar-room girls, dependent upon themselves for support, is very bad. Liquor advertisements appeal to the younger generation who have come of age after 1920 and who know little or nothing of the horrors of the old saloon.

Drunkenness is the cause of many deaths on the highway by causing blurred or double vision, narrowed or tunnel vision, by shortening the range of sight, and by making one blind to color. Coaches such as Knute Rockne of Notre Dame, Alonzo Stagg of the University of Chicago, and Helen Wills Moody, are definitely opposed to drink. What is the psychological effect of alcohol in beverages? First, it depresses the heart action, although at first the rate of the heart beat is increased; it lowers muscular efficiency by retarding muscular reactions in terms of speed and accuracy; it depresses the higher nerve centers, decreasing intellectual efficiency and relaxing control on speech and action; it reduces resistance to disease and lowers physical and mental vitality and injures the organs of the body in effectiveness and resiliency.

The liquor problem is far from settled. It is succinctly stated by Wayne McFrederick in a Guest Editorial in the Phoenix Gazette on December 1, 1939:

#### What Should Arizona Do About Liquor?

"That Arizona has a liquor problem will, I believe, be admitted by the wet as well as the dry faction. Despite a commendable official effort to clean them up, we still have a large number of objectionable dives.

"Several reform proposals have been made, including statewide prohibition, but this would doubtlessly bring back the back-street speakeasy. As long as human nature is what it is, we cannot have complete prohibition.

"Local option has been proposed. This would simply push the liquor establishments outside of the dry districts, and especially in the cities, would mean little or no law enforcement."

Another proposal is that the state go into the liquor business, as several states have gone. This would mean state-owned, controlled and operated package-goods liquor dispensaries, distributed in the state according to population. Permits could be issued for the purchase of liquor, with a limited amount purchasable during a specified period of time. Beer and wine could be purchased without permits. Several states have obtained large revenues, done away with open saloons and decreased drunkenness to a marked degree by this system.

When we discuss a plan of this sort, the cry goes up that the state would be taking untold thousands of dollars away from private industry. This is true, and it brings the problem home to the doorstep of the retail liquor dealers. They must clean up or the voters of the state are going to demand a new deal in handling the liquor problem.

#### VICE

For many years Phoenix has not been free from gambling and vice. The problem of vice in Phoenix is suggested by the fact that during the first six months of 1940 some 237 women, varying in age from 20 to 49, were arrested for prostitution, although the technical charge was "vagrancy."

In March, 1936, the first notation of a vice squad appears on the police record of the Phoenix police department. With the exception of the month of May, 1936, the vice squad was active until October, 1937, a total of 20 months. Up until the month of December, 1937, the notation "vagrancy" on the police record was divided into two sections, "Vagrancy, Bums, etc.," and "Vagrancy, Prostitutes." Later than this date they were combined under the heading, "Vagrancy," and there was no way to judge the prevalence of prostitution. It may be stated that the average number of vagrants booked by the police during the years of 1938 and 1939 was higher than that of the two preceding years. This fact may indicate that the number of prostitutes during the former two years was the higher, but then again it might mean that the police department was more efficient during these two years than during the latter two.

This vice squad worked in conjunction with the other sections of the police department.

An excellent statement of facts on prostitution in Phoenix occurred in the Arizona Republic on the morning of April 29, 1940, in the article captioned, "Recrudescence of 'Crib District' is Experienced by Phoenix." With sub headings, "Prostitutes Ply Trade in 'Stockade,'" and "Fines Levied for Vagrancy," the story follows (1):

"Three decades after public indignation drove its last predecessor from the city, the 'crib district' has returned to Phoenix.

"It flourishes openly just two blocks east and three south of the business district's geographical center, where it cannot help but be known to civic authorities.

"Surrounded by neat, freshly painted galvanized fences is a row of uniform little houses facing on the opened square formed by the 'stockade.'

"To passersby on Second and Jackson streets the 'stockade' proclaims in neat lettering, 'This property for rent or sale for warehouse site—see owner.' But the owner's name is not given.

"On Jackson street, and on the alley immediately north of it, wide gates open, and are never closed. More often than not, one or more of the seven inhabiting the crib area loll casually just inside the gates, accosting all and sundry passersby.

"Few are missed. A bent and shuffling Mexican, utilizing the two open gates for a shortcut to Jackson street, was importuned by an eager and smiling redhead, who left her crib and walked toward him—and caught by a photographer.

"By day the women lounge in or just inside their doorways or parade the patio in diaphanous lounging pajamas, or peculiar variations of them.

"By night a huge central floodlight, high on a pole, brilliantly illuminates the courtyard.

"Its inhabitants already have paraded into municipal courts. Each has paid a \$25 fine—as a vagrant. This is under the city's interpretation of the vagrancy law—in effect that every man charged with vagrancy is broke and without visible means of support and therefore goes promptly to jail or the chain gang; every woman identically charged with vagrancy is capable of paying a high fine—over and over, once each month.

"A year ago the same women, or women in the same business, were arrested as prostitutes. There is a statute against prostitution.

"But on May 10 last, flat orders were issued to the police department to close every one of the more than a score known houses of prostitution, and to see that every prostitute left the city 'or face arrest without possibility of a suspended sentence.

"Sixty days later every one of the places was operating again, but apparently there wasn't a prostitute left in the city. The only women arrested were vagrants, and it is thus to this day.

"The same feminine vagrants have appeared in the lists of police arrests month after month. Simply charged with 'vagrancy' few notice the monotonous regularity with which they appear and the word 'prostitution' doesn't appear in the police or court registers.

"Less than 12 months after police were directed to abolish prostitution, at least 10 so-called hotels, each with a gaudy neon sign and every one conspicuously hospitable to a certain clientele, are operating openly under the very eyes of the same police department and the same city authorities."

Again on July 8, the Arizona Republic reported:

"Prostitution, placed under a strict ban in Phoenix a month ago, again is flourishing, though its manner is changed. Where once it brazenly flaunted itself, it now is subdued and shadowy.

"There's nothing shadowy about it any more. The lights and the brilliant signs are bigger and more brilliant than ever, and added to them is the new crib district.

"Out of all the hotels, once each month but on a different date for each institution, troop all the inmates and operators. All are charged with vagrancy, and the place of arrest always is given as a street intersection, not by address.

"The uninitiated might find it puzzling that this feminine vagrant is fined \$25, that one \$100. He might find it puzzling that a vagrant—one without visible means of support—could at one and the same time be the operator of a prosperous hotel.

"The explanation is this: The \$25 vagrants are inmates of these houses of prostitution; the \$100 (or larger) vagrants are the operators.

"The operators used to pay a flat \$50, but lately the 'fines' have been changed to a basis of \$25 for each 'resident' of their hotels, making some of the levies \$150 per month. A city that a year ago said it would not tolerate prostitution collected in excess of \$9,000 in 'fines' from these women in the last six months.

"Openly discussed in police circles, as a means of insuring a constant flow of this revenue, is the utilization of a little known weapon, a municipal ordinance forbidding a man and woman to occupy the same room unless they are married.

(1) Arizona Republic, April 29, 1940.

"Girls plying their ancient trade 'on their own'—outside the regularly checked hotels (and the police department has a special detail to check this revenue source) have been arrested along with their companions.

"The men have been fined—the last one was \$10—and the girls dismissed. The point is, word reaches the girls, however, circuitously, that unless they 'get in line' and operate through one of the well-established institutions, their next arrest will mean jail, no matter how much money they have.

"Police records fail to disclose the same girl making the same mistake twice.

"So efficient is the system that one girl's name, appearing regularly on the books, police records, for the last six years, still carries the age of her first arrest—'24'.

"This is because the bookings are made automatically, without benefit of questioning the feminine 'vagrants'. Only routine entries are made, with the information always the same.

"Each arrest of this girl has meant \$25 for the city—\$300 per year, which is higher than any other known license fee paid in Arizona for the practice of any profession.

"The crib district is the latest addition to this infallible source of municipal revenue.

"To date, however, no 'vagrant' appears to have been fined as operator of the 'stockade'.

"This possibly is because 'south of the tracks' gossip says the operator of this enterprise is, in reality, a widely known Phoenix businessman, the quondam operator of various amusement enterprises of a less specialized nature. The same gossip says its preparation for business was financed by an equally widely known character, a man who has had at least one brush with federal law.

"Anyone who doubts that the police are perfectly familiar with the operations of the 'stockade' should consider this:

"Five minutes after a Republic photographer stepped into a wide-open gate and fired away at the row of houses and the women in their doorways, a police reporter was questioned at headquarters as to the purpose of the pictures.

"That reporter didn't even know they had been taken, and the photographer hadn't returned to his office.

"If the police are content that the stockaded crib district should operate, the 'hotel' operators from the same region of the city are not. They are complaining loudly and long because the 'stockade' is 'price cutting', the women there charge just one-half what has become established as a standard Phoenix 'fee'.

"Other disreputes already descended on the 'stockade'. Some days ago a federal immigration inspector, seeking information about a suspected alien, was attacked there by one of the inmates, who reached court subsequently on a wholly unfamiliar charge—assault—and forfeited that bond, too.

"It would not surprise health authorities if the already dizzying spread of venereal diseases—18 new syphilis cases and 11 new gonorrhoea cases were reported to the state board from Phoenix last week alone—should take another leap upward.

"A check of the sometimes furtive, sometime open parade of men to the cribs shows almost every nationality and almost every known color.

"At least one resident of the stockade said frankly to a reporter whom she attempted to solicit, and who asked about Filipinos, Chinese and the colored: 'It doesn't make any difference to us, if they have the money.'

"State and federal health authorities have pointed directly to operation of such an institution—typical fixture of such sink-hole cities as Cairo and Port Said, but virtually a forgotten sight in this country—as providing the greatest single menace that could be imagined in America to the concerted drive they are making for control of venereal diseases.

"City health authorities, by their reports made publicly, seem to be ignorant of this situation. The last two monthly reports issued by them, and a report prepared by special request to cover the first half of April, failed to list a single case of venereal disease, although the state reports continue their monotonous listing of two dozen or more every week.

"Meanwhile, Phoenix' more increasingly notorious red-light district, supplemented by the 'stockade', contributes its steady income to the city hall of \$1,500 per month."

When Roy Hislop was city manager he made the following statement in regard to the solution of handling vice, which follows:

"My personal opinions regarding the question can be of no particular value as it has been and is the intention of the city commission to handle this problem in a manner that best serves the wishes of the community in general,

"That the commission has succeeded in doing this may be shown by the fact that up to the recent publicity on the matter, this is the first complaint in an entire year.

"During that time many cities have sent inquiries for information regarding our method of controlling this evil. If the solution were simply that of closing the places, and if prostitution could be eliminated by such action, the problem would be easy and would require little study.

"Ostrich-like tactics of hiding our head in the sand will not make the community a better place in which to live."

There are two definitely established schools of thought among the Phoenix intelligencia as to the way in which prostitution in Phoenix should be handled: One that it should be completely eradicated by elimination of the so-called "red-light" district; the other regards it as a necessary evil, which should be regulated, localized and kept under police supervision. It is impossible to cleanse the city of it entirely, and by driving it out of the business district, it infests the residential section and becomes more of a moral hazard. Perhaps the only satisfactory, practical solution is to allow it to operate under control. At one time a crusade was carried on to stamp out the commercial prostitution and it was found that the rape cases increased five to one. Until recently nine main brothels were situated in the center of Phoenix with one head operator apiece, and two or three inmates to each house. The city police regulate the prostitutes by requiring a fifty-dollar bond of the "landlady" and a twenty-five dollar bond of each inmate, to be brought in each month to the police station and entered as a vagrancy charge. If the girls fail to report, the Vice squad calls at their establishments and picks them up, jailing them until they are able to pay the twenty-five or fifty-dollar fine, or else sentencing them to twenty-five days in jail.

As in every other type of society, there is an upper and lower class among prostitutes. As for racial distribution, there are about 50 per cent whites, and 50 per cent Mexican and Negro, etc., inclusive. At one time, the district was confined to Seventh street and railroad tracks, but now it has well invaded the city of Phoenix.

The handling of the social problems of gambling, liquor and vice demands the best intelligence and cooperative effort of the many social groups of an economic, political and moral character in order that a finer and nobler city and valley will result. The prevention of crime should receive at least as much consideration as the punishment for it.

## CHAPTER XXX

# EDUCATION FACILITIES OF PHOENIX AND THE VALLEY

### ELEMENTARY SCHOOLS

The Elementary Schools are divided into 54 districts, some large and some small, but each the center of one or more schools, with an average attendance of about 44,000 young people and a few adults, according to County Superintendent E. D. Ring. There are about 20 Elementary Schools in the Phoenix District which represent an investment of some 2 million dollars. More than 300 well trained teachers under capable administration compose the staff of the city schools which is under the supervision of Supt. John D. Loper. Some ten thousand (1) pupils go to the Elementary schools in Phoenix annually. Phoenix had its first public school September 5, 1872. The teacher was J. D. DaRoche. There were 20 pupils in attendance incidentally, 15 saloons and four dance halls in Phoenix that Fall. Education, however, in Phoenix goes back to its foundation to the territory which provided liberally for education.

The value of school property including grounds, buildings and other assets of the Elementary School in Maricopa County was \$5,141,895.81.

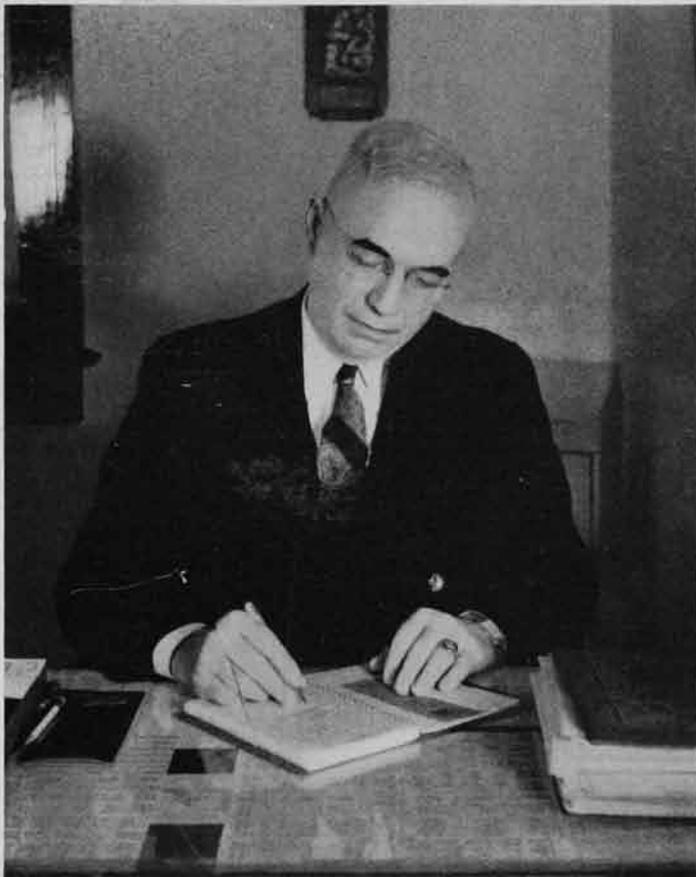
In 1937-38, 85 Elementary School Districts in Maricopa County were staffed by 911 teachers with a total enrollment of 43,248 pupils. The average daily attendance however, according to Supt. E. D. Ring, was 26,697. The per capita cost for the Elementary Schools in 1937-38 was \$68.75. The total expense for the maintenance of one year was \$956,501.02, the assessed valuation of the Elementary Schools in pupil of \$3,350.21 each. The net bonded debt was \$2,275,840 pupil of \$3,350.21 each. The net bonded debt was \$2,275,840. Phoenix and Maricopa County may well be proud of their Elementary Schools. An initiative measure was passed in the November, 1940 elections, providing for \$65 for each elementary school child and \$95 for each high school student.

### PHOENIX HIGH SCHOOLS

The Phoenix Union High School was established in 1895 with an enrollment of 93. The Phoenix Union High School District today serves more than 10,000 students. It consists of the Phoenix Junior College, Phoenix Union High Schools, Phoenix Colored High School, and the Arizona Vocational Schools. Secondary Education is under the supervision of Supt. E. W. Montgomery. The Phoenix Union High School system is valued at more than \$6,500,000. The Phoenix Union High School stadium was erected in 1927 and has a seating capacity of 10,500. Phoenix Union High School proper is one of the largest secondary educational institutions in the land.

In 1928 a bond issue of \$625,000 was voted. From the proceeds, the amount of \$175,000 was expended on a new Junior College building and Junior College class room, \$40,00 was spent on remodeling and heating plant, \$95,000 was used to remodel and enlarge the auditorium to its present seating capacity of 2200. Other striking improvements on the auditorium make it one of the finest in the country. At this time, also \$235,000 was spent in building the new Eighth building, referred to as the Library Building, which was used for the first time in the fall of 1929.

The growth of the school's structural phase has been no more remarkable than the growth of its faculty and student body. The enrollment has grown from ninety students in 1895-96 to 5100 in 1936-37; this is approximately one-third of all high School students in the state of Arizona. There were four teachers in 1895-96; in 1936-37 there were 148 exclusive of administration officers and clerks.



**Superintendent E. W. Montgomery of the Secondary School System of Phoenix and President of Phoenix Junior College**

- (1) Estimate of John D. Loper, Supt. of Schools.
- (2) The Trustees were J. D. Rumburg, W. A. Hancock, and J. P. Osborn.
- (3) The original Phoenix Union High School was part of the school system directed by George Blount.

The Phoenix Union High School has grown from a single unit to a highly diversified secondary school system.

The North Phoenix High School was erected in 1936 at a cost of \$814,000 as a P. W. A. project. Its opening semester enrollment was 1,400. It was erected because of the tremendous increase in the enrollment in the Phoenix Union High School from 90 in 1895 to 5,409 in 1939. The architecture and landscaping of both campuses are of the highest order.

The KTAR School of the air is a very popular Phoenix service under the direction of the Phoenix Union High School.

The Arizona Vocational School, operated jointly by the Phoenix Union High School district, the state vocational department and the federal vocational department, now is in its fourth year. Approximately 720 students were enrolled last year. Courses are offered in sheet metal work, plumbing, electric shop, auto mechanics, body and fender reconditioning, air conditioning, carpentry, salesmanship, garment alteration and repair and various courses in home-making.

The Vocational School educates workmen. It provides for young men and women to learn technical subjects in fifteen different trades. George S. Sanders is the director. It is located at Seventh and Fillmore streets in the quarters formerly occupied by the Junior College. There are no tuition charges except for text books, tools and materials. Diplomas are offered those finishing a two year course. Practical work is stressed. During the year 1938-39 the Vocational School spent \$28,272.

The Phoenix Colored High School has done wonders during the past few years to progress the Education of the Negro.

There is an Evening School which is said to have enrolled 720 students. This school is for the people who have to work during the day and have only evenings free to attend the school.

There is also a Correspondence School which handled about 300 students during the year of 1938. Many have profited themselves through this method.

The Adult Home Management courses had about 548 students during the year of 1938.

In Maricopa County there are thirteen High School districts which encompass fourteen High Schools employing more than 300 teachers. The total enrollment is 850 (4). The per capita cost of High School students of Maricopa County during the year of 1937-38 was \$119.91. Total expenditures for maintenance of all Maricopa High Schools was \$881,956.

With its enrollment more than doubled in two decades, Mesa Union High School now has an enrollment of approximately 1,000. Courses of instruction are on the unit basis, with minimum and optional requirements for each unit. The system takes into account individual differences and allows each to progress according to his own capacity and interest. The school requires four years of English for graduation.

Mesa Union High School is one of the few selected by Stanford University to take part in the Stanford Language

Arts Investigation this year. Outstanding lecturers and directors of the investigation will visit the school.

Rapid expansion of curricula and constant initiation of new teaching methods have been factors in the school's development. Surpassing all previous enrollment records, Mesa grade schools now have more than 1,900 children in attendance at the fine schools of the district, with an average daily attendance of more than 97 per cent.

School children are given complete health examinations and results are kept on a permanent record.

Chandler's increased enrollment has created a necessity for a larger plant for the school system. The average daily attendance for the year 1937-38 was 806.

Glendale Union High School, located at the west edge of Glendale, serves two grammar school districts, Glendale No. 40 and Washington No. 6, which have a combined area of 62 square miles.

The institution ranks in the first division of High Schools of the state and is a member in good standing of the North Central Association of Secondary Schools and Colleges. It has a faculty composed of a superintendent and 21 carefully chosen teachers.

Enrollment is 500, an all-time high. This is an increase of approximately 50 over last year.

The growth and development of Glendale Grammar School from a one-room school of 30 pupils to an annual enrollment of 1,850 is indicative of the rapid expansion of the Glendale community during the past third of a century.

The spirit of progress is typified by a modern curriculum and a well trained staff, consisting of 37 teachers, a nurse and various maintenance employees.

Safety and character training are given emphasis in the school through many types of student organizations and activities such as: Boy and girl patrols, Girl Scouts, and 4H, and hobby clubs.

Under the direction of the principal character building is stressed throughout the school program. With an increased enrollment this year the construction of two additional buildings have been started.

Tempe Grammar School is the only Elementary School in Arizona to be recognized by the National Banking Association, and last year was placed on the National Role of Honor for high banking averages.

Tempe Union High School had the largest enrollment in its history this year. A large curriculum is offered and the teachers are appointed on their ability.

The Public School system of Peoria provides education in both the Elementary and High School grades for pupils from a large surrounding area.

The Elementary School is located North of Peoria and has an enrollment of 160 students with nine teachers. It is a member of the North Central Association of Secondary Schools and Colleges, and offers courses in English, Spanish, Latin, Mathematics, History and Social Sciences, Natural Sciences, Commerce, Vocational Agriculture, Home Economics, Music both Vocal and Instrumental, Mechanical Drawing, and Art.

The system ranks high in educational circles and its 1,500 teachers all are fully accredited under the state law.



Phoenix Union High School

#### JUNIOR COLLEGE (4)

The new Phoenix Junior College was built in the Northwestern section of Phoenix overlooking Encanto Municipal Park in 1939. The plant was built as a \$613,000 W. P. A. project. There are six main buildings of modern architectural design which plan to meet the growing enrollment. The enrollment in 1939-40 was approximately 850.

The Phoenix Junior College was organized in 1920, when it had an enrollment of fifteen students, and its first plant consisted of two cottages on the High School Campus. In 1925, the present Junior College site, then known as the Cottonwood Court was purchased by the Board of Education, and in 1928 the present Junior College was erected and North rooms of the stadium prepared for use of the collegians. By 1926, Junior College enrollment had grown to 141, and when the present building was constructed in

1928, there were 327 students enrolled. Last year, the classes were attended by 613, and prospects are that attendance will reach 775 this year, since the present enrollment is 730, approximately a 30 per cent increase over the same period last year. Since it was organized, the college has graduated 1,279 pupils. The school became a member of the North Central Association of Colleges and Secondary Schools in 1928. That year it also was recognized by a new College law passed by the State Legislature making it possible for the college to attain legal status. It holds membership in the American Association of Junior Colleges and the Southern California Junior College Association. The enrollment in 1937-38 was 787. More than 8,000 have been enrolled in Junior College during the 20 years of its existence. Classes, instead of being of the traditional lecture type are designed instead upon the class discussion method. It offers a full time program of Educational, Cultural and recreational activities.

#### ARIZONA STATE TEACHERS COLLEGE

While the Arizona State Teachers College at Tempe (5) is not within the corporate limits of Phoenix, it is considered a part of the community educational set-up. This college has an extensive and beautiful campus of 75 acres and 20 buildings valued at considerably over \$1,000,000. The enrollment during the 1940-41 was some 1350. The main purpose for which the college was established is the education of teachers, yet extensive offerings in general education are necessarily a part of its program. Students come from every section of the state, many of whom do not expect to go into teaching. Its graduates number about 4,500 including men and women in every walk of life.

The college has a faculty of the highest training recruited from the leading colleges and universities of the country and offers excellent opportunities for general and professional education. Dr. Grady Gammage is president.

Adopting courses of study that have kept pace with the rapid development of educational methods, ARIZONA STATE TEACHERS COLLEGE at Tempe, the state's oldest institution of higher learning, commands a high place in the ranks of teacher training institutions. Full accreditation by the North Central Association of Colleges and Secondary Schools and the American Association of Teachers Colleges attests to the excellent standing of the college. The campus is beautifully landscaped with lawns, trees, shrubs and flowers. The physical plant consists of a group of buildings erected during the early days of the college and another group constructed in recent years, the two being separated by a thoroughfare. During the past two years, more than \$500,000 has been expended for new structures. Under construction



Dr. Grady Gammage, President of A. S. T. C., Tempe

- (4) The per capita cost of Phoenix Junior College for 1937-38 was \$146.17. Total expenditures of maintenance was \$76,070.56 for the academic year of 1937-38.
- (5) Arizona State Teachers College at Tempe has had nine presidents. They are: Bradford Farmer, 1886-87; Robert L. Long, 1887-89; Dayton A. Reed, 1890-92; Edgar L. Stormant, 1892-94; James McNaughton, 1895-99; Joseph W. Smith, 1899-1900; Arthur J. Matthews, 1900-30; Ralph W. Swetman, 1930-33; Grady Gammage, 1933—.



Dormitories at Arizona State Teachers College

at present is a student activity building. Six modern dormitories provide ideal living conditions for out-of-town students. The college also operates a dining hall and maintains an infirmary.

In 1935 the school was raised to the ranking of a standard Teachers College with a four-year college curriculum in education leading to the Degree of Bachelor of Education. The ninth state legislature changed the name of the institution to Arizona State Teachers College at Tempe, and authorized conferring of the degree of Bachelor of Arts in Education. Those receiving this degree automatically are given the Arizona Elementary Teachers certificate. Another step in the progress of the college was taken in March, 1937, when the 13th Legislature authorized the granting of the college the advanced degree of Master of Arts in Education, and Secondary certificate.

A new \$100,000 stadium and 6 new dormitories each costing \$100,000 have been financially arranged with \$350,000 R. F. C. Loan and an additional \$350,000 W. P. A. federal sources.

#### GOVERNMENTAL, COMMERCIAL AND PRIVATE SCHOOLS

Listed as one of the Nation's outstanding Indian institutions of learning, the Phoenix Indian School, just North of the city, this fall started its 47th year with approximately 500 students enrolled. The school, with its \$750,000 plant, is the boarding center for Indian children in the first to 12th grades inclusive and offers a thorough vocational training program designed to assist students after graduation. Girls learn Home Economics, Sewing, Cooking, Housekeeping and Infant and Child care. Vocational instruction for boys is in an even wider field. They may take courses in Agriculture, Carpentry, Plumbing, Masonry, Printing, etc. The institution covers 187 acres and its buildings include classrooms, dormitories, a hospital, a gymnasium, vocational training building and residences of the superintendent, Sharon Mote, and the faculty. It was established in 1891.

A number of commercial schools provide for the needs of a large group of young people who desire effective and concentrated training in business pursuits. Among these are Lamson's Business College, the Arizona School of Commerce, Greatwestern Business College and the Cox Commercial Schools.

The St. Mary's Parochial School is the largest parish school in Arizona and one of the largest in the Southwest. More than 700 Grammar School boys and girls and about 100 High School girls are enrolled. It was founded 46 years ago by the Sisters of Mercy and turned over in 1903 to the Sisters of the Precious Blood, Catholic teaching order, when the other order took over direction and operation of the St. Joseph's Hospital.

St. Mary's Boys High School, a \$90,000 institution, is under the direction of Supt. Father Knauff, O. F. M. The annual enrollment has totaled 110 students which will be increased with approximately 150 now with the addition of a senior class. A stadium at Roosevelt and 20th streets will hold 3,000 people.

High class private schools such as the Jokake School for girls and the Judson School for boys provide facilities for boys and girls from 9 to 19 years of age.



Supt. E. D. Ring

It attracts students from the wealthy people of America and has enjoyed a capacity enrollment during the last several years. Jokake (meaning Adobe House) specializes in Art, Music, Dramatics and Dances, together with the wholesome out-door sports. It is a girls preparatory school for college. The Judson School for Boys, established by Mr. and Mrs. George A. Judson on a desert ranch in 1928, has grown from its original three buildings to comprise a complete, modern plant.

The Arizona Educational Association has N. D. Pulliam as its full time executive secretary, who integrates the Educational system in Arizona. E. D. Ring plays a prominent part in State Educational affairs as Superintendent of Public Instruction. He is past president of the Salt River Valley School Masters Club and is beloved by the Elementary School children for his annual Maricopa County Hobby-fair for children. The Salt River Valley High School Principals' Association is headed by Hershel Hopper and the Elementary Principals by Supt. E. L. Riggs. He is also important in the County Elementary Schools.

According to Anna Frohmiller, State Auditor, the cost of education for the State of Arizona for the year ending June 30, 1940 was \$4,486,202.76, or 18.12 per cent of the total state expenditures. (6) The widely distributed tax charts of the State Tax Commission have given forth an erroneous concept of the costs of education in the State of Arizona for the year 1939-40. For example, education was listed at \$1,755,332 or 51.9 per cent of the total distribution of the property tax. However, the total amount of the property tax for 1939-40 was only \$3,382,204 which was only a small portion of the total state expenditures. (7)

(6) Annual Report of Department of State Auditor for the fiscal year ending June 30, 1940, pp. XXI. Total governmental costs by function were \$24,760,896.19. This included, however, the apportionment of excise tax.

(7) Fifteenth Annual Report of the State Tax Commission of Arizona, December 31, 1940, pp. 19.

## CHAPTER XXXI

# RELIGION

Indians of the Yuman, Athapascan and Uto-Aztecan linguistic tribes in Arizona had their own animistic religion characteristic of the primitive nomad.

Christianity was introduced to Arizona in 1539 by the first white man to set foot on its soil, the Spanish priest, Fray Marcos de Niza. Four hundred years of Spanish missions followed (1539-1939) (1). However, it was not until 1687 that Father Kino (Eusebio Francisco Quino), Great Apostle to the Pimas, arrived in Arizona and established four missions: (1) San Juan de Dolores, (2) San Ignacio de Caborica, (3) San Jose de Imures, and (4) Los Remedios. Father Kino made his homes in an Indian village, Cosari, where he also established the mission "Lady of Sorrows." The mission of San Jose de Tumacacori was likewise constructed in Arizona along the course of the Santa Cruz river by Father Kino. The Mission San Xavier del Bac was inaugurated near Tucson by the Spanish Padre.

In 1710, six years after Gibraltar was taken by England from Spain, the Padre Kino died, having baptised some 48,000 Indians according to the historian, J. H. McClintock (2) who says of him: "In all his journeys he carried no other food than roasted corn; he never omitted to celebrate Holy Mass and never slept upon a mattress. As he wandered about he prayed incessantly or sang hymns or psalms. He died as saintly as he lived." Father Kino had devoted twenty-six years of his life to missionary work in Sonora and Arizona.

In 1768, Franciscan missionaries arrived to replace the Jesuits who had for so long given up material comforts to dwell among the aborigines and spread the faith to them. That was the year that San Xavier Mission was demolished by hostile Indians. Three years later Francisco Garces went down the Gila River to the Colorado, whence he descended to its mouth. He arrived in Casa Grande in 1775, when the first blood of the American Revolution was shed, and when Tucson, Arizona was founded as a Spanish settlement.

Padre Garces, a Franciscan who was equal to the Jesuits in zeal, rebuilt the beautiful San Xavier Mission in Franciscan architecture. He was undoubtedly the most outstanding Franciscan to serve San Xavier during its long career. Father Garces was murdered by hostile Indians in 1781, the year of the great revolt of the Yuma Indians, who killed every Spaniard they captured. In 1810, remittances from Spain for the Southwest's missions ceased. It was in 1823, the year that the Republic of Mexico was established and the Monroe Doctrine, that the Spanish missions were abandoned.

The Roman Catholic Church in Arizona was now firmly established. Some sixty-three per cent, or 96,471 of the 153,086 church members in Arizona were Roman Catholics (3). The 1926 census indicated that Phoenix was overwhelmingly Catholic with three main churches having a membership of 9,400 as contrasted with 1,680 Presbyterian, 1360 Mormons, 1,274 Episcopalians, 425 Jews and 1,976 Baptists.

One of the loveliest Catholic churches is the Saint Francis Xavier Chapel (4) in North Phoenix. In the gardens of St. Mary's Church is to be found the Fray Marcos de Niza monument symbolizing four centuries of achievement by the Franciscan Fathers in Arizona.

The first Catholic Padre came to Phoenix in 1872. The first Catholic Church was called the Immaculate Conception, St. Mary's. From 1870 to 1881 the Otero Home on First Avenue and Washington Street was used for a chapel. An adobe edifice, the Sacred Heart of Saint Louis, was erected at Third Street and Monroe and was accepted by the Franciscan Fathers. The present Church was built in 1813 and is of Spanish architecture. The second Catholic Church to be built the Immaculate Heart of Mary, was the Franciscan Order. It was principally a Mexican Church, but represents all Catholics regardless of race or nationality. Its architecture is Roman. (5)

Saint Monica's Community Center was organized in 1935 for the colored race. It is a mission of the Immaculate Heart of Mary. The present building was erected in Spanish architecture. It has a health clinic sponsored by the U. S. Health Service. Its pastor is Father Emmet McLoughlin, and it serves about sixty families. Saint Matthew's Chapel, of the Franciscan Order, has some two hundred enrolled and is the newest chapel. Father Emmet's mission is the greatest example of Social Service work in the Southwest.

The largest non-Catholic religious group in Arizona is the Mormons or Latter Day Saints, who have 16,891 adherents. The Mormons first entered Arizona in 1846 as a group of missionaries to the Hopi Indians. Then came the Mormon Battalion, a group of brave and gallant men who brought the Book of Mormon permanently to Arizona. The first Mormon colony, Tubac, was founded in 1852. The Mormon name for the Territory of Arizona was the State of Desert. It was to be an ideal state, inhabited and civilized by Mormons; and a place where they could live and worship as they saw fit. (6). However, it was not until 1867-68 that the first Mormons came from Idaho and Utah into the Salt River Valley. Mesa was settled by the Latter Day Saints from Bear Lake Country, Idaho and

(1) See Chapter I, "Milestones of Progress."

(2) McClintock, James H., Arizona, the Under State, 1916, p. 64, vol. 1.

(3) U. S. Department of Commerce, Religious Census of Arizona.

(4) It was donated in 1928 by Mrs. Will H. Brophy of Bisbee. It is of Spanish architecture. In 1929 it became a high school for boys. In 1934 the Jesuit Fathers took charge of the parish; Rev. Felix Rosetti is the head. A grade school was opened there in 1936 by the sisters.

(5) It is located at 909 E. Washington St. in Phoenix. The Rev. A. G. Nebria officiates.

(6) Ward R. Adams, "History of Arizona."

from Salt Lake City, Utah (7). They traveled by wagon, using Lee's ferry and coming over the forested countries to Camp Verde. They discovered an ancient canal dug more than a thousand years ago. These pioneers, at a cost of about \$48,000, built this irrigation project. Mesa was incorporated on July 15, 1883.

The Mormon settlement of Tempe started July 23, 1882. Charles Trumbull Hayden, a pioneer merchant, befriended the Mormons. The Maricopa Stake was organized December 10, 1882 when David T. LeBaron was presiding at Tempe. On June 12, 1884, Tempe was organized as a ward. Patriarch B. F. Johnson died in Mesa, November 18, 1905, at the age of 87. His descendants and those married into the family numbered 1,500, probably the largest family within the Mormon membership.

Mesa is the site of the beautiful Mormon Temple, completed in 1925 and dedicated in 1927, having been opened to the public during the intervening years. Visitors were first permitted to view the building on May 16, 1925, and more than 150,000 visitors registered in the four great books provided for that purpose, and which are now vested in the appointed place within the four great walls. The dedication ceremonies started on October 23, 1927, and lasted two days. Thereafter the Temple was closed to the public. Only communicants of the faith are permitted to enter therein. The Temple cost \$800,000 (8). It is the ninth such structure to be built by that church. The Temple is situated on a well-landscaped acre tract of land within the Mesa city limits. The Temple is surrounded by many varieties of plants trees and shrubs. The 1926 Federal Religious Census indicated that there were some 1,360 Mormons in Phoenix, and some 16,891 Latter Day Saints in Arizona. The Mormons have developed a missionary gospel that is carried to all parts of the earth. Phoenix now has a stake in its own right with three large ward churches, with Bishop J. R. Price as head.

The Methodist Episcopal Church was the first Protestant organization to establish itself permanently in the Salt River Valley. In 1870, the Rev. Alexander Groves, while on his way to Prescott, stopped at Phoenix where he was told that a church would soon be built and a minister needed. In 1871, Rev. Franklin McKeen of the same denomination came to Phoenix to begin his work.

In December of 1871, the first Protestant congregation in Phoenix was organized and work was soon started on the present Central Methodist Church building. About this time the Catholics of the city starting holding their services in a private residence. It is evident that the Catholic influences of Old Spain and those of New England Protestantism mingled in the village from its inception.

Until a church was built in Phoenix on the Southwest corner of Center and Monroe streets, meetings were held in the open air. The first church conference ever held in the valley was that of the M. E. church, South at the "Mesquite" in May, 1872. Since that time the Methodists have accomplished much in promoting civic enterprises,

which included building churches and furthering the cause of education and culture.

The Presbyterian, Baptist, Congregational, Christian, Seventh Day Adventist, and many other denominations have made valuable contributions to the growth and culture of Maricopa County. Without the incentive of a deep religious conviction to establish houses of worship, the founders of these various churches would not have endured the trials and hardships of the early pioneer days. The courageous leaders of the many churches, with their faith undaunted, dug mesquites and canals, cleared the land, built homes and cultivated farms and set the wheels of industry going. They wanted homes and a country where they could worship God without the interference of opposing forces.

The Episcopal Church of Arizona has under way in Phoenix an elaborate program of social and religious work among the Mexican and Spanish-American population, as well as its far-flung missions in the remote corners of the state. Most of the religious meetings in mission centers are conducted in Spanish. Emphasis is laid on Americanization and social work. Many Mexican men and women have been coached toward passing the naturalization examination by patient mission workers. Youth programs, kindergarten work, Boy Scouts, girl reserves, girls friendly societies, women's sewing clubs, emphasizing humanitarian and educational activities, are encouraged by the churches. Why? Because they develop Christian Character.

The First Baptist Church in cooperation with the American Baptist Home Missionary Society has established and sustained several missions in Phoenix. The Mormons especially have a deep religious and missionary zeal.

In the Phoenix metropolitan district there are 24 Baptist congregations; 12 Methodist; four Roman Catholic; four Churches of Christ; one Christian; one Christian Science; five Church of God; three Congregational; six Episcopal; two Hebrew; three Latter Day Saints; two Lutheran; one Missionary; two Nazarene; four Presbyterian; three Salvation Army; two Seventh Day Adventist; and one each, Holiness, Apostolic, Assembly of God, Spiritualistic, Bethel Assembly, Evangelical Covenant, Unity Truth Center, United Lodge of Theosophists, as well as several missions and independent congregations such as the Patrick Park Union Church and Christ's Church. Phoenix has a splendid Y. W. C. A. and Y. M. C. A. as well. These represent the institutional side of religion.

The Phoenix Ministerial Association (9) was established about forty years ago by a group of energetic city pastors. The city of Phoenix at that time was 'wild and woolly,' being in the heart of the West during a period that was noted for its roughness its lawlessness and its tough men.

At present the Ministerial Association has nearly sixty-five pastors as members, some of whom represent suburban towns. There are approximately eighteen denominations represented. The largest number of members from

(7) The group consisted of 83 individuals. They left Idaho on September 14, 1877.

(8) See Chapter XXII on Cities of Valley—Mesa.

(9) Data secured from Phoenix Ministerial Association, 1940.

any one denomination is eighteen from the Methodist group. The institution plays a large, indirect part in the carrying out of religious movements, because of the many people its members can reach.

Some of its work includes participation in United Dry Campaign, work among migrants, etc. Its Inter-Racial Committee fosters understanding among racial groups. A 15 minute morning devotional program is given over the radio daily—occasional radio programs, and Sunday sermons are printed in the "Arizona Republic." The association sponsors the Union Encanto Park Summer Sunday Evening Services, and with the Young People's Federation, the Easter Sunrise Service in Papago Park. One year it sponsored a state-wide missionary conference and a Festival of Sacred Song and Pageantry.

Preamble to the by-laws as amended June 8, 1936 reads as follows: "We, the ministers of the various congregations of the Salt River Valley, together with other ministers connected therewith, in order to advance the welfare of our community, enhance the glory of God, present a united front on moral issues, provide an opportunity for inspirational and educational addresses, discussions and conferences, generally to promote our efficiency as religious leaders, . . .".

Standing committees are: legislative, press, program, public welfare, radio, social action, union services, inter-racial relations, and helping the hard of hearing.

The church is a social institution which has social duties to perform and social relations to establish and maintain. As a means of molding public opinion, however, it has numerous competitors in the form of newspapers, magazines, movies, books, sign boards, etc. Today the church as a whole seems to have failed in its efforts to be the center of social life, although it has extended its activities by providing club rooms, games, dancing, etc., for its members. Also the population is more fluid and mobile. Congregations are scattered over city and suburban areas resulting in the decline in numbers of neighborhood churches.

In Phoenix and the Valley of the Sun are located more than one hundred church organizations representing twenty-three leading denominations in addition to miscellaneous organizations such as missions and theosophical groups, all of which have been influenced in the same manner as the churches throughout the nation by social changes.

Every church in Phoenix has some sort of a young people's society in which it places its faith, hopes, and trusts for the continuation and growth of the church. Most of them provide quite an extensive social program along with its religious education in order to attract and hold the young people and thus compete with outside interests. In other words, the modern churches have become more secular, have realized that along with religious education and indoctrination must go social adjustment and character building.

There are four parochial schools in Phoenix, three of which are under the jurisdiction of the catholic church. These include a grammar school of about 700 students, a girls high school of 130 students and a boys high school of 170. The other parochial school is the Arizona Academy maintained by the Seventh Day Adventist Church.

For a short time during the summer months many churches of Phoenix conduct daily vacation bible schools which reach a good many children whose families are not church members, thereby extending religious education somewhat. However, the attendance at these vacation schools is relatively small.

Phoenix is subject to a very fluctuating population since it is both a winter and health resort. This makes for quite a rapid turnover in church membership. However, this condition does give the church a big opportunity to do a great amount of work among the sick.

Another problem with which the churches in Phoenix must contend is the climate. During the winter all the churches in Phoenix are well attended, but with the first signs of warm weather church attendance begins going down hill. The lovely weather begins to beckon people away from the church.

Religion has played a very important part in the field of education. The first founders of education were religious leaders and it was to educate their people or religious leaders. Education controlled or intertwined with religion makes for better learning. The outgrowth of education came from religion. Religion provides the dynamic and education the techniques for a better social order.

For the past several years the different denominations' leaders have been looking forward to the time when there could be an organization at A. S. T. C., Tempe, to bring the churches closer together and give guidance to students at A. S. T. C. During the summer and fall of 1938 the various leaders of the different churches met to discuss this problem in detail and they drew up a constitution which was adopted on November 22, 1938. W. Ray Gorsage (Baptist), Charles L. Kau (Baptist), Otho C. Moomaw (Christian), Philip K. Swartz (Congregational), Phillip W. Jaffa (Jewish) Martin Mortensen (Latter Day Saints), Norman W. Taylor, (Methodist), Roy D. Ford (Methodist), Arthur F. Gramer (Catholic), and Rollo C. LaPorte (Presbyterian), were all charter members. It is connected with A. S. T. C. at Tempe. Courses in religion are offered by it.

A Phoenix Church census took place in October, 1940, directed by Rev. R. N. Merrill, chairman of a committee of 10 prominent clergymen. The area covered from Mission Drive on the west to 32nd Street on the east; from Bethany Home Road on the North to the Salt River including Sunnyslope on the South. The city was divided into eight districts and 435 sections. Two people canvassed each section. Each card filled out represented one family with an average of four people. Catholic figures are not available, but they represent the largest group in Phoenix, the Valley and the State.

(10) Rabbi Phillip W. Jaffa has been succeeded by Rabbi A. L. Krohn.

Number of cards from each Protestant group follow with number of families: Apostolic Temple, 31; Assembly of God, 55; Bahai, 2; Baptists, 3413; Lutheran, 525; Methodist, 3364; Millennial Dawn, 5; Missionary Church, 60; Mennonites, 4; Mormons, 618; Nazarene, 118; Orthodox, 31; Pentecostal, 129; Presbyterian, 1426; Salvation Army, 21; Seventh Day Adventists, 158; Spiritualists, 17; Trinity Reform, 11; Unity, 119; Miscellaneous, 23; those families not contacted, 2092.

Religion is a fundamental factor in the Valley of the Sun to lead the valley into paths of individual righteousness and social justice.

The Catholics and the Mormons represent the two

largest groups in Phoenix, and next would come the Baptists and the Methodists. Three churches with a very large membership in Phoenix are the First Christian with 2,024 members; the Central Methodist with 1,190; and the First Methodist with 1,138. A questionnaire was sent to all the Phoenix churches and data was received from 41 per cent. These represented a church membership of 13,087 with Sunday School attendance of 3,157 and a total annual offering of \$60,491. From this the estimate was made that the total church membership would total about 38,000; the Sunday School membership about 8,000 and the annual offering about \$165,000. Phoenix is a community of many beautiful churches, in both the corporate and in the surrounding metropolitan districts.



The spirit of Christianity is embodied in the Nationwide Easter Service at the Grand Canyon, sponsored by KTAR, and carried over a nation-wide hook-up of the NBC. It is conducted by J. Howard Pyle.

## CHAPTER XXXII

# CULTURE

Phoenix is one of the outstanding centers of art and culture in the Southwest. A community can be measured by its culture. Some of its more practical phases are: (a) libraries, (b) music, (c) art, (d) lyceum, (e) drama, and (f) museums. Culture, like other phases of life, is organized in terms of clubs, institutions, and foundations.

### LIBRARIES

The Phoenix Public Library, situated in the Carnegie Library Building at Eleventh Avenue and Washington Street, was founded in 1908 with Miss Addie P. Ingalls as librarian.

Jane Hudgins, librarian today, reports that (1) during the fiscal year 1938-30, some 309,712 books were drawn for home reading. Of this number, 119,608 or 38.6 per cent were juvenile. It is estimated that 181,795 books were used in the library, making a total of 491,507 used by library patrons throughout the year. This does not include the use of magazines or reference material, of which no estimate can be made.

During the year 3,940 new membership cards were issued in the entire system. Of these, 1,606 were juvenile. The total number of registered borrowers is 38,891. The total gain of books circulated over last year was 54,414 for the entire system.

The circulation of adult books at the Main Library during the past fiscal year was 234,689. Circulation for the previous year was 205,462, a gain of 29,227. Of this number, 67,102 were non-fiction. The previous year's circulation of non-fiction was 52,459, a gain of 14,553 books. Adult circulation for last year's fiction at the main desk was 86,931, while this year 97,198 fiction books were circulated, or a gain of 10,267. The total gain of adult circulation amounted to 24,820. The fact that non-fiction circulation shows a gain over fiction, is an indication of more serious study and reading on the part of the patrons which is most encouraging.

New membership cards issued at the main circulation desk amounted to 3,433. The total number of books drawn for home reading and books used at the library was 396,693.

The Northeast Branch, which was opened October 1, 1935, with a book stock of 2,575, has increased to 4,100. They now have 2,646 registered borrowers, which is a gain of 782 over the previous fiscal year. The circulation of books for home reading was 43,230, which is a gain of 4,211 over the previous year.

The total number of adult fiction books drawn at the Northeast Branch was 19,540. Last year the adult fiction circulation amounted to 17,193. Adult non-fiction drawn this year amounted to 3,692, while last year's number was 3,134, or a gain of 558, making a total of 2,905 in adult

circulation. Juvenile non-fiction books drawn this year were 1,813, as compared with 1,582 of last year, or a gain of 231. Juvenile fiction books drawn were 18,185, as compared with 17,110 of last year, showing a gain of 1,075. Total gain in juvenile book circulation was 1,306.

New membership cards issued this year were 782. Of this number, 507 were adult and 275 were juvenile. Copies of the newest books which are most in demand, both adult and juvenile, are supplied as they are catalogued.

The library now has 67,087 volumes. During the fiscal year, 5,473 books were catalogued and added to the shelves. Of this number, 4,745 were purchased and 728 were added as gifts. Of these, 2,814 were adult and 2,659 were juvenile. The gain in books for the year was 5,123. There were 4,655 bound government documents in the collection at the beginning of the year. There were 122 new volumes classified and filed in this department the past year, making a total of 4,777.

Sometime has been given to the reorganization of the pamphlet file in which is to be found a great source of valuable material. The unbound pamphlets which have been classified during the past year now number 2,918. There were 300 new pictures mounted for the picture collection. Among these were 95 colored plates of birds of the Southwest.

The children's department has cooperated with the elementary schools of the city in such a manner that teachers and pupils from practically all of the schools either draw books from the main collection or from deposits placed in the several city schools.

During the past year, 10 classes from Adams School, which happens to be located near the library, have made trips to the library every two weeks, under the supervision of their teachers. Many of these boys and girls had not been to the library before. Many of them registered to borrow books, and have been patrons since that time. They are taught to read subjects pertaining to their classroom work, as well as recreational reading.

A collection of 1,536 volumes was loaned to the Monroe School for the duration of the school year. This school branch registered 373 new patrons. Books drawn for home reading and used at the library during the school term amounted to 19,509. This deposit of books was important, because of reading habits established among the young students who had not had access to a library until this one was opened.

Emerson School borrowed 415 books to supplement their library collection. Stevenson School was loaned 284 books for the school term. This school is another in an under-privileged district and much good has been done by making it one of the school branches.

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(1) Phoenix Public Library's report of the librarian, July 1, 1938 to June 30, 1939.

Displays of new books were furnished to several schools and parent-teacher groups during Book Week and at other times during the year. One collection of particular worth was loaned during the Teacher-Librarians' Convention at Tempe, March 31. Teachers and librarians from all parts of the state complimented the library for the fine display. The Training School brought their classes to the main library to see a display of new books as well as new editions of old favorites.

Fiction books drawn in the juvenile department at the main library numbered 59,373. The previous year only 55,014 books were circulated, which means an increase of 4,359 fiction books. Non-fiction books numbered 11,106 this year and 11,058 last year, which is a gain of 48 books. Total circulation gain at main juvenile desk was 4,407. The total juvenile circulation at the main library, together with the Northeast Branch, school branches and settlement houses, was 119,608 books, while last year's figures were 95,581, which shows a gain of 24,027.

Frequently calls were made on the staff of the juvenile department by teachers and teacher-librarians who wished help in selecting the most satisfactory editions at the lowest cost. Teachers were encouraged to build a basic collection in the school libraries. Without this help many of the schools would never have had a school library with properly selected books.

Through the courtesy of the Phoenix Gazette, 500 adult books, both fiction and non-fiction, were reviewed and listed during the year. This may have a great deal to do with the large increase in the circulation of adult non-fiction books.

Three thousand book lists were mimeographed, including fiction, non-fiction, Southwest books, aviation, music and biography. These were distributed at the main desk and branches and at special displays and club meetings.

Posters and book markers were supplied to the library by the Fox Theatre when moving pictures of worthwhile books were to be shown on the screen. This helped to circulate many popular titles.

The Maricopa County Library is located in Phoenix. Evangeline S. Berryman, county librarian, prepared the following article on the Maricopa County Library for this survey:

"The act for the establishment of county free libraries in Arizona was passed by the Ninth State Legislature and approved by the Governor, March 7, 1929. The law became effective June 5, 1929, and on November 1, 1929, the Maricopa County Free Library was established.

"A budget of \$25,000 was allowed for this purpose by the then Board of Supervisors to cover purchase of books, office equipment and supplies, and salaries of four trained librarians.

"Rooms on the second floor of the Court House were allotted to the project and there the first County Library in Arizona began functioning.

"At this date it still occupies the unique position of being the only County Library in Arizona.

"Before giving you a year-by-year record of its growth, it might be well to state the purpose and aims of a County Library.

"The idea underlying any County Library is book service for everyone, regardless of place of residence. Too often the shelf of books in the district school represents the only book supply available to those who live outside the cities.

"Book hunger is none the less keen because of country residence, and the craving for books, not only for recreation, but for inspiration and self-education is satisfied by the County Library service to the rural communities; such as our cities have offered to their residents.

"The books the Maricopa County Library sends to its rural branch libraries are chosen with due regard to the special interests of each community and include books which will develop or meet those interests. The number of volumes sent depends upon the size of the community, the character of the population, and the character of the branch librarian or custodian in that community, for upon the enthusiasm and interest of the custodian depends to a large extent the usefulness of the book collection in that community.

"The Maricopa County Library has had a phenomenal growth and will continue to grow in extent and usefulness if sufficient funds are forthcoming for that expansion. The following tabulation will give concrete evidence of our growth and usefulness in Maricopa County."

The Maricopa County Library has made good progress during the past decade. The families served increased from 165 in 1929-30 to 10,271 in 1938-39. There were 19 rural branch libraries served in 1929-30, and 60 in 1938-39. Rural schools served increased from 9 to 52; total number of books in libraries increased from 6,236 in 1929-30 to 37,225 in 1938-39. Total circulation increased from 8,823 to 301,440, while the entire cost of library decreased from \$25,000 in 1929-30 to \$15,565 in 1938-39.

Beth L. Rogers, the librarian of Phoenix Union High School, states that from the main library of the High School an average number of 390 books were charged out daily to students in September, and some 423 daily in October. The average daily attendance in the main library of Phoenix Union High School was 850.

Phoenix Junior College has a very excellent library.

Another valley resource in books is the Arizona State Teachers College Library at Tempe. (2). The main library occupies the entire upper floor of the Matthews Library and Administration Building. The general reading room will accommodate 200 persons, and the reserve book room, set apart for reserves and other books used for collateral reading, will seat an additional 100 students. The stock room has an ultimate capacity of 86,000 volumes. This library now contains over 23,000 volumes and about 4,100 bound volumes of periodicals. In addition, there are some 7,000 public documents not catalogued. The library is a designated depository for the educational and agricultural publications of the United States Government. At the present time, the library receives regularly 241 general, educational, and technical periodicals. The subscription list also includes the leading daily newspapers of the country and many of the daily and weekly newspapers of the state.

The Arizona State Library, under the direction of Mulford Winsor, director of archives, is another valuable literary resource in the Valley of the Sun. It is located

(2) Arizona State Teachers College Bulletin, 1940-41, p. 28. Dr. Sidney Kramer, is head librarian.

at the capitol. It houses the most complete collection of Arizona's history, books, pamphlets, maps and documents in the state. The collection of historical documents, maps, books, etc., comprise over 8,000 titles in addition to newspapers and many old maps. Books of a wide variety of interest such as travel, adventure, scientific explorations, Indian warfare, missionaries, discoveries, surveys, etc., are to be found encased, also, in addition to the complete Arizona historical records.

Phoenix has an excellent book department at Korrick's, as well as a rental library, which makes it possible for book lovers to get the latest books at a very reasonable cost. There are six major book stores, including circulating libraries, in Phoenix. Most of the public school books, however, are handled by the school book depository.

There is a medical library in the Professional Building for the use of medical students only.

There is an excellent County Law Library located in the Maricopa County Court House in Phoenix, which is kept up to date.

These statistics did not include the 11 English libraries, and the science, home economics, agricultural, industrial arts, and health education libraries in Phoenix Union High School.

## MUSIC

Music in Phoenix is amply provided for. The Arizona Federation of Music Clubs attempts to further musical education and to raise music standards in Arizona by integrating the various musical organizations in the state. It has senior, student and junior clubs. The Musician's Club has a national affiliation in addition to the Arizona federation. There are 18 charter members of Mrs. W. F. Nichols. There are 10 honorary members and 23 privileged active members. Montague A. Machell is the director of the choral departments, in which there are 53 participants and 75 associate members. The object of the club is: (1) the improvement of the musical culture of its members; (2) the advancement of the interests and promotion of culture of musical art in the City of Phoenix.

The Phoenix Symphony Association was organized in 1929 by Ben King, who is now first violinist. It gives two free concerts annually to the public. At present Romeo Tata, of Arizona State Teachers College, is the conductor of the symphony.

Phoenix has a Piano Teachers Association which includes 32 members and 4 honorary members. Each year this organization presents a concert pianist in its program.

Another major musical group is the Oratorio Society, organized in 1933 by E. W. Montgomery, superintendent of Phoenix Union High School. It is a group of high school singers now conducted by Mr. Milton Rasbury. It is the only high school group known to sing oratorios in their original form. There are from 140 to 160 members. It gives a famous oratorio annually. This group has twice sung over the National Broadcasting Company.

The Orpheus Club was organized in 1929, with Mr. L. Douglas Russell as musical director. It is affiliated with Phoenix Junior College, and is now directed by David Murdock.

Music Teachers Association has 68 members and comprises most of Phoenix music teachers. It sponsors the state music magazine, "The Arizona Musician."

The Community Concert Association exists in Phoenix for the purpose of giving Phoenix the opportunity of hearing the best in musical art, as it becomes available. The Community Concert Association was organized in 1931 by Mrs. C. E. Griggs. Its membership has increased from 500 the first year to more than 2,000. It is strictly a civic non-profit organization.

Some of the artists brought to Phoenix by the association have been Charles Kullman, noted tenor; Jascha Heifetz, violinist, who is famous for his radio concerts; Robert Casadesu, French pianist; who is an internationally known artist; Alexander Kipnis, famous Russian basso; Helen Jepson, widely-known opera star; Lawrence Tibbett, America's greatest native-born baritone.

The Cecilian singers were introduced by Mrs. Griggs and Mrs. Simms in 1928. Its membership has always ranged between 35 and 40.

Another musical organization is the B Natural Musician's Club, organized about 20 years ago by Mrs. H. Fenimore and Mr. E. J. Prescott. It is a senior branch of the Phoenix Musician's Club.

The Windsor Club was organized in 1939 with Earl Stone sponsor. It is a group of Junior College students interested in musical compositions and cultural art, and attempts to stimulate interest in original musical work.

In the grammar school there are piano, instrumental, and appreciation courses and each school has an orchestra.

The high schools also stimulate music through classes in piano, instrumental music as well as in music appreciation courses and each school has an orchestra.

The high schools also stimulate music through classes in piano, instrumental music as well as in music appreciation. They have organized glee clubs, symphonies, bands, oratorios and other types of orchestras that give students an ample opportunity for music appreciation. The Junior College and Arizona State Teachers College at Tempe, in addition to the usual work given in high school, offer opportunities for its expression of musical talent in recitals by the students of voice, piano, violin, the brass and wood wind instruments, and by the glee clubs, band and orchestra. Each year numerous concerts are presented on the campuses and in cities throughout the state.

Mu Rho Alpha is a music fraternity organized to develop musical ability and to encourage an appreciation of good music.

Most of the churches in Phoenix and the Valley of the Sun have choirs under capable leadership. Practically all of the innumerable business, political and fraternal organizations have song fests. Most of the young people's organizations, whether it be in scouting, De Molay, Rainbow Girls, Y. M. C. A. and Y. W. C. A., have singing as a part of their all-round program.

Mrs Archer Linde during the 1940-41 season brought Fray and Braggiotti, duo pianists, who enthralled the Phoenix public with their music which ranged "from classics

to hot swing" She also brought Kirsten Flagstad, soprano soloist who has been described as the "first lady of the opera" to Phoenix. Her magnificent and glorious performance was considered to be "greater than ever". Ruggiero Ricci, sensational violinist, gave a brilliant performance which electrified his public.

Most of the concerts are held in the Phoenix Union High School auditorium which seats 2100 people.

Several top-flight dance orchestras are brought to Phoenix annually for the dance loving public.

The Arizona public feel that music has its definite place in ceremonies of both festive and serious nature; at weddings and funerals; in civic gatherings; in conventions and clubs; as well as in Easter and Christmas pageantry.

#### ART

Said Manoah Leide-Tedesco of Chicago: "If I were asked from what section of the country I would expect the greatest advances in art, I would say the Southwest. Artists in the Southwest have an advantage in their geographic location. Art in a sense is no more than a part of the landscape—and what a landscape you have here!" It is true that the artists of Phoenix have an abundance of natural and picturesque scenery at easy reach, and with such an incentive art should flourish.

There are three main art organizations of Phoenix: the Fine Arts Group, the Artists Guild, and the Arizona Painters and Sculptors. The Fine Arts Group is composed of artists and patrons and is one of the older groups, to a large extent purely cultural, though they have active artist members. The Artists Guild group is composed of forty members, all practicing artists. The Arizona Painters and Sculptors is a state-wide organization with a branch in Tucson. There are thirty members, all practicing professional artists, sixteen of which are from the Valley.

Possibly one of the most important art organizations in Phoenix was the Federal Art Center, sponsored by the W. P. A. It was founded with the purpose of bringing to rural and more or less sparsely populated areas an opportunity to enjoy the works of art and participate in art activities that have been largely confined to a few metropolitan areas. The Federal Art Project of the W. P. A. has endeavored to correct the unequal distribution of cultural advantages through the organization of community art centers in regions and localities where no such agencies previously existed. In establishing these centers the Federal Art Project not only attempted to provide the public with opportunities to participate in the experience of art, but also to provide useful work for Works Program employment. Since January 1936, the skills and talents of artists on relief have been utilized to organize and staff thirty-eight community art centers in the southern and western states. The Art Center in Phoenix was completed on July 15, 1937. From October, 1935 to January, 1939, there has been a total of fifty-five exhibitions, and 10,876 gallery visitors. The number of adult

students attending the gallery was 4,816, and 5,540 children. The center was one of the most patronized of its kind in the United States. The teachers' salaries are paid by the WPA, and the staff is as follows: Kathleen Wilson, children's division—Minneapolis and Chicago Institute and France; Phillip Sanderson, sculptor—Chicago Art Institute; John Leeper, Otis Art Institute, Los Angeles; Bruce Richards, University of California, student of Frank Lloyd Wright, architect; Burdell Tenney, Phoenix Union High School; Eugene Upton, Chicago Art Institute, Art Student's League, New York, National Academy of Design, New York; Jane Morrissey, fashion designer; and Phillip C. Curtis, director, painter, and graduate of the University of Michigan and Yale University.

Many donations have been made to Phoenix of famous paintings, such as the gift to the Arizona by the Kress Foundation of New York of "Soldiers Playing Cards," painted by Alessandro Magnasco, born in Genoa in 1677.

Several practicing artists in the valley have had their pictures exhibited in galleries and various hostelries. W. Langdom-Kihn, staff artist for the National Geographic Magazine, prepared a series of paintings and sketches of central Arizona Indians for that magazine. Jay Datus has also had work exhibited in various art galleries in the valley.

Stephen Golembeski is a renowned valley artist whose painting "Eats" was one of nine sent to the New York World's Fair representing Arizona Art and artists. Mr. Golembeski, who came to Phoenix six years ago from Worcester, Massachusetts, has overpowered the handicap of losing the use of his right hand through injury in an auto accident, and learned to paint with his left hand.

Reg Manning, "Arizona Republic" cartoonist, has received national recognition on many different occasions for some of his artistic creations and caricatures. He received the National Achievement Award of the Junior Chamber of Commerce in recognition of his ability. His cartoons have appeared in several nationally-known papers. George E. Burr, recently deceased, has contributed etchings and paintings of Arizona life to many museums. John Leeper and Creston Baumgartner are well known for their creation of murals. Frank Lloyd Wright, internationally known architect, designed the Arizona Biltmore Hotel.

The Carnegie's famous collection of art prints and books pertaining to art in the progress of the world was brought to Phoenix for usage in the Phoenix Junior College and secondary school systems by Mrs. Cordelia Perkins, head of the art department of the high school.

Many traveling exhibits of art find their way to Phoenix. Industrial art has been stressed in the Phoenix secondary school system and in the colleges. Every spring an industrial art exhibit takes place at Tempe.

The Indian school of Phoenix is regularly called on for Indian skits of songs and dances. One of the unusual dramas which the Indian school pupils produced in the past year was "The Desert Way", written and directed by Paul Coze, French artist and author.

The building of a new civic center at Central Avenue and McDowell has aroused the interests of all cultural groups in Phoenix. The Phoenix Little Theater, the Artist's Guild, the Junior League, the Arizona Art Center Association, the Arizona Society of Painters and Sculptors, the Arizona Chapter of the American Institution of Architects, the Phoenix branch of the National League of American Penwomen, Arizona Pictorialists, Camera Clubs, Phoenix Writers Club, and others will all be headquartered, presumably, in the new Civic Center. Alfred Knight is president of the Phoenix Art Association.

#### LYCEUM

Every year Phoenix receives its share of outstanding speakers. Some of these come to Phoenix in Mrs. Archer E. Linde's Town Hall Series. During 1940-41, through her efforts, His Imperial Highness Archduke Felix of Austria, spoke on "Is a United States of Europe Possible?" And Boake Carter, world traveler and radio commentator, made a dynamic talk on "National and International Affairs." Eve Curie, the daughter of the distinguished Madame Marie Curie, discover of radium, spoke on March 4, 1941 on "French Women and the War." On March 28, 1941 Sidney Montague related thrilling adventures of the Far North.

Phoenix was privileged to hear H. G. Wells in the fall of 1940. Frederick J. Libby, Executive Secretary of the Council for Prevention of War, arrived by plane from Washington to head an International Relations Conference at Arizona State Teachers College in Tempe. Prominent national and international figures come every year to Phoenix to address clubs, societies, organizations, and conventions. Phoenix is up on its toes on national and international events because of its strategic location on the cultural roads of the nation.

#### DRAMA

The Little Theatre was effectively organized in 1929 when Mrs. Bartlett Heard, Harry Belin, and Katherine McCluskey permanently established the Phoenix players. The home of the Little Theatre was given through the generosity of Mrs. Dwight B. Heard. Every year outstanding plays are produced in the Little Theatre at 100 E. McDowell Road. Among the plays given have been the "Taming of the Shrew," "The Passing of the Third Floor Back," "A Midsummer Night's Dream," "To the Ladies," "Outward Bound," "What Every Woman Knows," and many others.

Mrs. Linde also brought such cultural treats to Phoenix during the 1940-41 season as Cornilia Otis Skinner, noted for her incomparable character sketches, and Jacques Cartier, who by means of drama and dance gave an exciting program saints and kings. The Ballet Russe of Monte Carlo gave a glamorous presentation with full symphony orchestra. Mrs. Linde also brought many interesting programs to Phoenix among which was an excellent musical extravaganza "Puppets on Parade." Also Harold Tarbell, world famous musician, and Eve La Gallienne, who appeared in Ibsen's "Master Builder."

The Phoenix Junior College Masque and Dagger Club offers productions such as "Skidding," humorous episode of the Hardy family.

One of the greatest dramatic productions of the year is always the Masque of the Yellow Moon under the direction of Claudilia E. Perkins. One of the finest of the Masque of the Yellow Moon productions was in 1939 entitled "Caminos del Oro", "Pathways of Gold" in honor of Fray Marcos de Niza. Nearly three thousand students took part. This pageant was staged in the high school stadium by the faculty and students of the Junior College and the high schools. The pageant with its medieval background was in three breath-taking episodes.

Every year a series of plays is given by the dramatic department of the Arizona State Teachers College under the direction of Beryl Simpson. Some of the productions included "Our Town," "Post Road," "It Can't Happen Here," "To Sleep Before Evening," "Julius Caesar" and many others.

Practically all of the high schools produce at least one dramatic production each year.

A children's theatre brings several Clare Tree Major children's plays such as "Rip Van Winkle," "Under the Lilacs," and "King of the Golden River."

#### CREATIVE ART

Every spring the rural schools of Maricopa County participate in a hobby fair directed by E. D. Ring. School children look forward to this event with avid enthusiasm. Everybody has a hobby and many small hobby fairs are held throughout the state. The first Arizona Hobby Fair of state-wide scope was held in November, 1939 in Phoenix under the sponsorship of the Phoenix Junior Chamber of Commerce. It was quite successful and has now become an annual event.

Some excellent collections of silver, china ware, woodwork, porcelain, stamps, shells, international dolls, are to be found in the valley. Most girls and women are interested in some form of domestic handwork, such as cooking, embroidering, etc.; while boys and men turn more towards industrial handcraft, such as making model airplanes, woodwork, etc.

A great deal of creative expression along Major Bowe's type such as singing, impersonations, tap dancing, ventriloquism, instruments, and jitterbugging, has also been abundant in Phoenix. Creative expression should be encouraged.

#### MUSEUMS

The Heard Museum was founded by Mrs. Maie B. Heard, pioneer, in memory of her husband, Dwight B. Heard. This cultural center is located at 2022 E. Monte Vista Road. Here prized and rare relics of the southwest ranging from the period of the explorations of Don Francis Vasques de Coronado to the days of the frontier west are found. Later prehistoric exhibits include items from Egypt, Palestine, Central America, Hawaii, and the South Sea Islands. Phoenix and Maricopa County pupils have free access to the museum to study archeology, history, and art.

Heard Museum started 44 years ago as a small private collection which was a hobby; the treasures which it holds include prized and rare relics of the Southwest. Many of its exhibits have helped archaeologists trace the history of prehistoric civilization. A shrine of painstaking interest and care, the museum's collection has been assembled through the untiring efforts of Mrs. Heard and her late husband. From a small collection started in 1894, the nucleus of the museum's exhibits soon overflowed that portion of the Heard home given over to what at that time was a hobby. Then it became more than a hobby, because the Heards cherished the collection. Today a board of 25 trustees administers museum affairs. The museum is free and open to the public each day except Monday.

The Arizona Museum on West Van Buren houses many remnants of the culture of Indian and pioneer days in Arizona. It is of the Spanish pueblo design and resembles the early mansions of the Southwest. An old locomotive, a reminder of early railroading, stands outside at the east end of the building. The museum was built in 1927. The museum houses many relics of frontier days such as powder horns, pistols, rifles, branding irons, and ox leather shoes. The collection of ostrich eggs dating from that time when Phoenix had its own ostrich industry is to be found there. Many relics of Indian culture such as pottery, arrows, weaving, basketry, silver ware, jewelry, are permanently preserved. The Arizona Museum is of peculiar interest to pioneers.

From the standpoint of archaeology and science, the Pueblo Grande Museum on East Washington Street perhaps deserves the most merit. It is located in the site of an ancient mound. It first aroused the curiosity in 1899 of J. Miller, president of the Arizona Antiquarian Society.

In 1900, the water users obtained permission to work on the property, and Colonel McClintock was also interested in it. In 1914 an effort was made to arouse the interest of the Smithsonian Institute which got no response, as did the attempt to buy the property from Porter Steele, the owner. In 1918 the Department of the Interior became interested in the mound and tried to obtain the title of the land but failed. Then, too, they did not have an abundance of funds with which to carry on the work, due to the war.

In 1926 Judge Armstrong obtained the title to the land and gave it to the City of Phoenix. The first exploration

was carried on in 1926-27 by a man named Schmidt. In 1929 Odd S. Halseth, who had claimed the unique distinction of being appointed city archeologist, drafted plans for the museum building, using a chain gang labor, although he made the excavation of the mound himself. In 1933, the R. F. C. built a wing onto the museum. In 1936 the PWA built the laboratory of the museum. The property south of the plot to the river was then obtained. This was called the Park of the Four Waters because it contains three and possibly four prehistoric canals.

In 1938 the real work was begun with the entailment of the WPA crew. A field survey was conducted throughout the valley, and excavations made through similar mounds. The library has improved and it is hoped eventually that it will become an established source for reference by students, archeologists, etc. The laboratory work is the result of actual field excavation; all of the material is recorded and charts and graphs made. The pieces of pottery are taken from the ruin, washed in a solution of Hydrochloric acid to remove the lime, washed again in water, and the valuable pieces, usually those found on the top surface floor of the house, are recorded and filed.

It is estimated that the original inhabitants of the mound lived around 300 B. C. to 700 A. D., and that the Papago Indians are their descendants. Both the Pima and Papago Indians have legends that they drove the inhabitants of the mound away.

The mound was never used as actual living quarters. The tribe was essentially interested in irrigation and agriculture and the land was so water-logged without an elaborate system of pumps to drain it that they had to build this high edifice to keep their grain from spoiling as it did when they stored it on the ground level. Crude brush huts were built on the mound. Shell bracelets and shells with frog designs on them were discovered, indicating some connection with the Gulf of Mexico.

This project is fostered by both state and national aid, at present the majority of the financial backing coming from the national government.

Phoenix, because of its location, climate, irrigation and agriculture has become one of the outstanding cultural centers in the Southwest.



Arizona's Beautiful Desert

## CHAPTER XXXIII

# COMMUNICATION

Communication is the basis of all culture. In terms of communication, man is a two-way broadcasting system; he gives out ideas and he receives them. The history of elementary education is fundamentally concerned with reading and writing. Even our prehistoric ancestors had to learn how to talk before they could communicate their thoughts and ideas to each other. Spoken sounds came to be words, and language commenced. Centuries rolled on; Indians learned picture-writing; the Chinese made printed characters; and finally Gutenberg invented the printing press.

Communication developed into a science; no longer was it necessary for an individual to be within hearing of a man's voice to receive a message. For years, man has been able to send messages by mail. But modern science, through Thomas Edison, Marconi, Westinghouse, et al., has given man a new knowledge and insight into electricity. Man learned how to make batteries and to send currents of electricity through long wires, the electromagnet and the switch could be far apart with only wires to connect them—the telegraph was born. Then came telephone, radio, television.

Phoenix and the Valley of the Sun have five major types of communication; namely, the newspaper, radio, telephone, telegraph, and postal service. Each one has become such an important part in the life of the Valley resident that he cannot get along without reading his newspaper, listening to the radio, telephoning his associates, telegraphing in cases of emergency, and receiving his mail.

### THE NEWSPAPER

The "Salt River Valley Herald" was the first newspaper in Phoenix. It was published by Charles C. McClintock. The first issue came out in January, 1878. It was renamed the "Phoenix Herald" in September, 1880, and was next known as the "Arizona Republican," (1890), which has now shortened to the "Arizona Republic." Dwight B. Heard purchased control of the "Republic" from the Santa Fe railroad in 1912. It absorbed the "Phoenix Gazette" in 1930. The two papers are now owned by the Arizona Publishing Company. The Arizona Republic has the largest subscription list of the 15 newspapers in the state. Charles Stauffer is the publisher of the Republic. J. W. "Uncle Billy" Spear, dean of Arizona writers, is editor of the Republic. The Arizona Republic has full Associated Press and United Press facilities. It has 30,000 inch columns per day. About one-half of the 80,000 words is in local news; 25,000 words per issue is from the Associated Press; and

15,000 from the United Press. The Republic puts out seven regular editions weekly, one Arizona Progressive Resource Edition, and a Woman's Edition, annually.

The Phoenix Gazette was established in 1880 as the Arizona Gazette and has full A. P. and U. P. coverage. There are 40,000 words of local news, and 30,000 words by each of the two news agencies. It publishes six regular editions a week. W. W. Knorpp is publisher of the Phoenix Gazette and general manager, while Jack Lynch is managing editor of both papers. Both newspapers have played an important part in the growth of the city, valley, and state. (1).

The Arizona Republic and Phoenix Gazette have developed with Phoenix. The circulation of the Gazette increased from 9,738 in 1920 to 20,555 in 1940; the Sunday paper from 13,549 in 1920 to 44,186 in 1940; and the Republic from 12,561 in 1920 to 37,732 in 1940. Employees in the circulation department increased from 4 in 1910 to 50 in 1940. Delivery boys grew in number from 8 in 1910 to 387 in 1940. (2).

Separate individual want ads totaled 306,069 in 1930 and 420,447 in 1939. It takes 100 freight cars loaded with 3,000 tons of paper, and 4 freight carloads of ink each year to produce the Republic and Gazette. The annual Romantic-Progressive edition is one of the finest journalistic achievements of the nation.

The news is supplied by 40 reporters, people who bring in the news; some 90 correspondents, the United Press, the Associated Press, and the International News Service. Twenty-five syndicated services come regularly to the papers, including comics, health articles, news pictures, poems, bridge hints, beauty suggestions, stories, fiction, humor, philosophy, politics, fashions and finance. (3).

The Republic and Gazette have the following departments: general news, sports, society, press, business, engraving, printery, photography, editorial, advertising, stereotyping, composing and circulation. (4).

Frank Ross, feature writer of the Arizona Republic, made the following statement for this Survey on the progress of the Republic and Gazette:

"Largest newspapers in the inland Southwest, newspapers which have their roots deep in the territorial and state history of Arizona, the Republic and the Gazette of recent years have built a new pattern of service which provides, for all Arizona, a program of forward-looking helpfulness, of enterprising usefulness to the state and to the community, and vastly increased opportunities to bring new benefits to Arizona.

- (1) The first newspaper in Arizona was the "Weekly Arizonan," which was published in 1859 at Tubac. A small, crude Washington hand press was used, being transported from the East to San Francisco by boat, and thence by ox-cart to Tubac. It was also used on the "Tucson Star," then the "Tombstone Nugget," and still later on the "Tombstone Epitaph."
- (2) This figure includes newsboys in the Salt River Valley, Globe, Miami, Superior and Safford. Other towns receive papers by mail.
- (3) J. W. Spear, editor of Arizona Republic: "Uncle Billy Reminisces," 1940.
- (4) Statistics supplied by Charles Stauffer, Jack Lynch and Bob Hall.

"This gave Phoenix, and thereby Arizona, an income news service comparable to that received by the nation's largest newspapers, and an invaluable outgoing service taking the news of Arizona to the world. The AP and United Press teletypewriters pour hundreds of thousands of words of news daily into the Phoenix newspapers' offices. Also deserving special comment is the greatly increased use of pictures, world, national and especially local.

"The newspapers completed in May, 1938, an expansion program which gave particularly tangible expression to its new pattern of service, in line with the organization's consciousness of an outstanding state and community responsibility. The Republic and the Gazette completed in that month construction of new and greatly enlarged quarters in the Heard building, large office building strategically situated in downtown Phoenix."

The Arizona Bureau of the United Press Associations opened in Phoenix in 1928. According to Bert Fireman, acting bureau manager:

"The organization supplies daily news reports to newspapers and radio stations, and in some instances to ships at sea and to special business clients. The United Press Association is privately owned, incorporated in New York State, and supplies its service at fixed fees. The Arizona bureau gathers Arizona news for the state clients and distribution over the nation on trunk wires.

The Arizona Bureau is responsible for all of Arizona and the State of Sonora in Northern Mexico.

Among the other publications of Phoenix are the "Arizona Labor Journal," organ of the State Federation of Labor. It is a weekly with about 5,000 circulation. The "Arizona Teacher" has been published monthly by the state educational association since 1917. The "Mining Journal," edited by Charles Willis, is a semi-monthly which circulates among mining men in other states as well as in Arizona. The "Arizona Farmer" is an agricultural semi-monthly with about 14,000 circulation. "The Tribune," a negro race paper, is published monthly and claims a circulation of 10,000. "Dunbar's Weekly," an independent Democratic paper published Fridays by Sidney P. Osborn, has over 2,000 circulation. The "Arizona Builder and Contractor," the "Arizona Stockman," the "Arizona Beverage Journal," "Southwest Beverages," the "Young (Arizona) Democrat," "El Mensajero," a Spanish weekly, and the "Arizona Farmer" are published in Phoenix.

The "Buckeye Valley News" is off the press on Thursdays and was started in 1933. The "Chandler Arizonan," a Democratic weekly, founded in 1912, claims a circulation of 1,600. The "Gilbert Enterprise (Democrat)," was begun in 1929, and has a circulation of 560. The "Mesa Journal-Tribune" was started in 1890 as the "Free Press" and has a circulation of 2,461. The "Glendale News" began in 1912, has a 1600 circulation. Tempe's "Southside Progress" was founded in 1936, and has a circulation of 2100, which covers Tempe, Scottsdale and Kyrene.

## RADIO

### A. Station KTAR. (6).

On June 21, 1922, the Department of Commerce authorized station KFAD to operate with 100-watt power in

Phoenix. The call letters were then changed to KTAR in October, 1929, and the station became the Arizona Broadcasting Company with 500-watt power. In 1925 the station was taken over by the Electrical Equipment Company.

The station was started by McArthur Brothers, the Dodge dealers in Phoenix, who also started the Arizona Biltmore Hotel. The present studios are atop the Heard Building in Phoenix.

The station joined the NBC network in February, 1930. KTAR was among the first 30 stations to be commercially licensed in the United States.

The first program of KTAR was presented on February 4, 1930. On the 15th the station was officially dedicated by a special program known as "Arizona on the Air Parade." It was the first time a program ever was presented in Arizona with every Chamber of Commerce in the state narrating the virtues of their separate communities. It lasted 24 hours.

In June of 1930 KTAR became the first National network in Arizona. The 21st day of June, 1940, marked the 19th year of continuous operation of the station in Phoenix. On January 1, 1941, KTAR quintupled its power and became a 5000-watt station.

Arthur Anderson, chief technician and engineer, built the first radio station in Arizona. Today the station has the finest of Western Electric equipment. KTAR has presented 31 trans-continental NBC programs from Arizona. These broadcasts, if paid for by national advertisers, would amount to \$200,000 for advertising the state. These have cost the state absolutely nothing.

KTAR broadcasts daily about fifty programs, for 17½ hours. United Press, Associated Press, and Arizona Republic and Gazette news is given for 1 hour and 35 minutes daily; 30 minutes is given to financial news of the day; 1 hour of agricultural program; two civic service programs daily; average of 1 hour 45 minutes dramatic program; 30 minutes of religious programs; approximately 30 minutes a day of inspirational non-religious programs; and the rest of the programs are variety programs with lots of music. About 10 hours a day are NBC and the remainder is local.

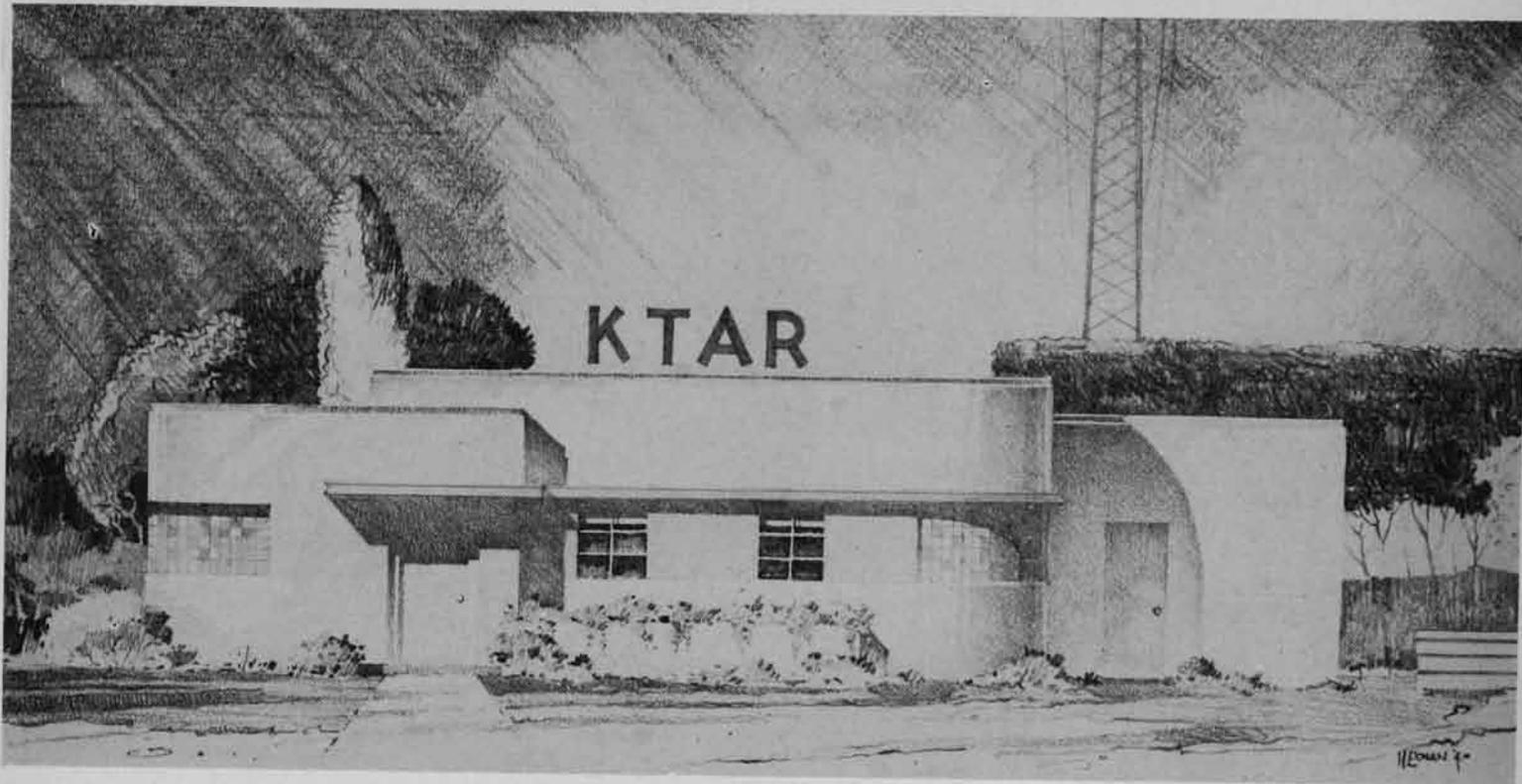
The newest development in radio is the Radio Facimile Presentation of News. A special radio transmitter must be licensed for this type of service. Increase in KTAR staff is as follows: 1930, 8 people; 1940, 24 employees.

In 1931 KTAR started operation with 1,000 watts per day and 1,000 watts night power. On January 1, 1941, KTAR began using 5,000 watts of power.

Various equipment changes have taken place each year in modernizing the KTAR technical facilities and offices; studios, and technical department have been enlarged both in space and in personnel.

(5) Letter of October 2, 1940.

(6) Source for KTAR—Howard Pyle and Dick Lewis.



KTAR's New 5000-Watt Radio Station

For use in conjunction with special events programs from moving cars, airplanes and other mobile equipment, KTAR makes use of its short wave mobile transmitter, KEIM. An increasing number of novel and spectacular programs are being presented through this equipment, which otherwise would not be possible because of the inability of telephone facilities to be used.

KTAR, on February 4, 1939, purchased radio station KVOA, the 1,000-watt station in Tucson, Arizona, operation on 1260 kilocycles. On the following day, February 5, 1939, KVOA became the 168th associated station of the National Broadcasting Company. This association makes possible network programs between Tucson and Phoenix as well as KTAR and KVOA regular release of NBC programs. For Phoenix, Tucson, or other state broadcasts these facilities are known as the ABC Network, which includes, KTAR, KVOA, and KYUM, the new 250-watt station in Yuma, Arizona. KYUM became the 185th associated station of the National Broadcasting Company on March 15, 1940. This now brings to three the number of stations in Arizona releasing programs of the National Broadcasting Company and wired programs of the ABC Network. Supplementary stations of the ABC Network, all individually owned, are KWJB, Globe, 250 watts power; KCRJ, Jerome, 250 watts power; and station KGLU, Safford, 250 watts power.

Radio Station KVOA in Tucson has just recently moved to its new studios at 48 East Broadway, next to the

United States Government Post Office Building. The studios occupy the second floor of the Wyatt Building and are of the very latest design. Modern metal furniture and new RCA equipment and modernistic effect with fluorescent lighting make it a real show place for Southern Arizona. The transmitter location of KVOA, Tucson, is located at Tenth and Lee Streets, facing Miracle Mile on a five-acre tract and utilizes a vertical antenna system approximately 200 feet in height.

Construction of a new 5,000-watt station to supplant KTAR's present 1,000-watt plant at 36th Street and East Thomas Road in Phoenix has been completed. This new building is situated on a 40-acre tract of land which will take care of the ground system and antenna system. The transmitter building houses all the necessary 5,000-watt transmitters.

#### B. Station KOY. (7).

KOY was started as DDYW by Taylor Smith in 1922. Later it became KFBC, then was assigned its current designation. In November, 1936, it was reorganized under the name of the Salt River Valley Broadcasting Company and has carried out a progressive system of improvements. In March, 1937, KOY became affiliated with the Columbia Broadcasting System, bringing to Arizona outstanding programs from both the eastern and Pacific networks. In 1937, it was purchased by a 71-year-old man named Butler. He finished installing the transmitter and was 16 years in Phoenix. Because he was ill and believed the State of

(7) Material from Jack Williams and Fred Palmer.

Arizona gave him life, he bought KOY, the local station, and gave it money and experience. He equipped the studio, and made it the largest studio between the Pacific and the East. The \$200,000 transmitter is located at Camelback and 12th Street. He developed KOY as the station he thought would best serve the Arizona Network. It is affiliated with three Arizona network stations: KSUN, Bisbee; KTUC, Tucson; KGLU, Safford.

KOY was originally owned by Nielsen Radio Supply; second, by Nielsen Radio and Sporting Goods Supply; and now by the Salt River Valley Broadcasting Company (8), and is located in the Arcade Building on North Central. The former locations were near Central and Pierce Streets.

KOY has a telephone line between Los Angeles and Phoenix. It carries programs from Mutual Network, Columbia Network, Columbia Pacific Network, and Don Lee Network.

The majority of Arizona Network programs originates in Phoenix. The station is on the air more hours per week than any other broadcasting station in the state. It is strictly a public service station, and attempts to serve the community by making facilities available for city or state interests.

Station KOY has remote control points all over the state and has permanent lines installed in Phoenix in all auditoriums, stadiums, court house, capitol building and ball parks.

It runs more hours of local paid talent than any station in Arizona. The educative service is carefully planned from the elementary through adult education with their own programs.

KOY has an audience room which will seat 50 persons. The large studio will accommodate 60 orchestra or band members or a 100-voice choir. The small studio has the only pipe organ installed in the state for a radio station.

The commercial schedule of the station is arranged 13 weeks in advance and the sustaining schedule of the station is arranged 3 weeks in advance. Radio programs in Phoenix have been given over this station since the first of the year by 90 civic organizations and institutions.

Before 1930, the station had only one staff member, Earl Nielsen; in 1930 there were 12 members of the staff; in 1941 there is a working staff of 28; and including talent help, there are 40 persons employed.

During a year there are approximately 327½ hours of educational material broadcast; 261 hours of devotional programs; 386½ hours of agriculture; and 116½ hours of civic service (public offices) programs.

KOY weekly programs include the following per cent of total time of programs:

Popular music, 29 per cent; public affairs, 2 per cent; news, 10 per cent; classical music, 9 per cent; sports, 3 per cent; women's programs, 5¼ per cent; children, 4 per cent;

devotional, 4 per cent; dramatics, etc., 4 per cent; agriculture, 6 per cent; education, 5 per cent; special events, 3½ per cent; western music, 5 per cent; miscellaneous, 10¼ per cent; total, 100 per cent.

Another analysis would be: time devoted to local talent, 53 per cent; time devoted to Network, 33 per cent; time devoted to transcriptions, 14 per cent; total, 100 per cent. Approximately 27 per cent of programs are commercial; more of these are national than local.

The first year the new company took over KOY, the station received 24,000 separate pieces of mail; first six months of 1939, station received 36,000 pieces. The station averages 4,500 visitors to the studio and the transmitter every week.

### C. Station KPHO.

KPHO was introduced into Phoenix by M. C. Reese. It has no affiliation. It is purely a local station dedicated to serve Phoenix with 100 per cent Phoenix programs. At the present time there is a commercial manager, John C. Sweeney; studio manager, Sharon Stanford; the station's attorneys are R. C. Stanford of Phoenix and F. Stollenwerck, Washington, D. C.

The power of KPHO is 250 watts and 1,200 kilocycles, both day and night. KPHO is on the air 18 hours daily. It gives news "of the hour on the hour." It brought International News Service to Phoenix.

The history of KPHO began June 30, 1938, when application was made to the Federal Communication Commission in Washington for a new station in Phoenix.

Mr. M. C. Reese showed the Commission, after an extensive survey, that local business needed lower radio advertising rates; that religious organizations needed more time and a definite time for broadcasts; that educational institutions needed time for a more extensive school broadcasting program; and finally, that the growth of Phoenix merits a third station.

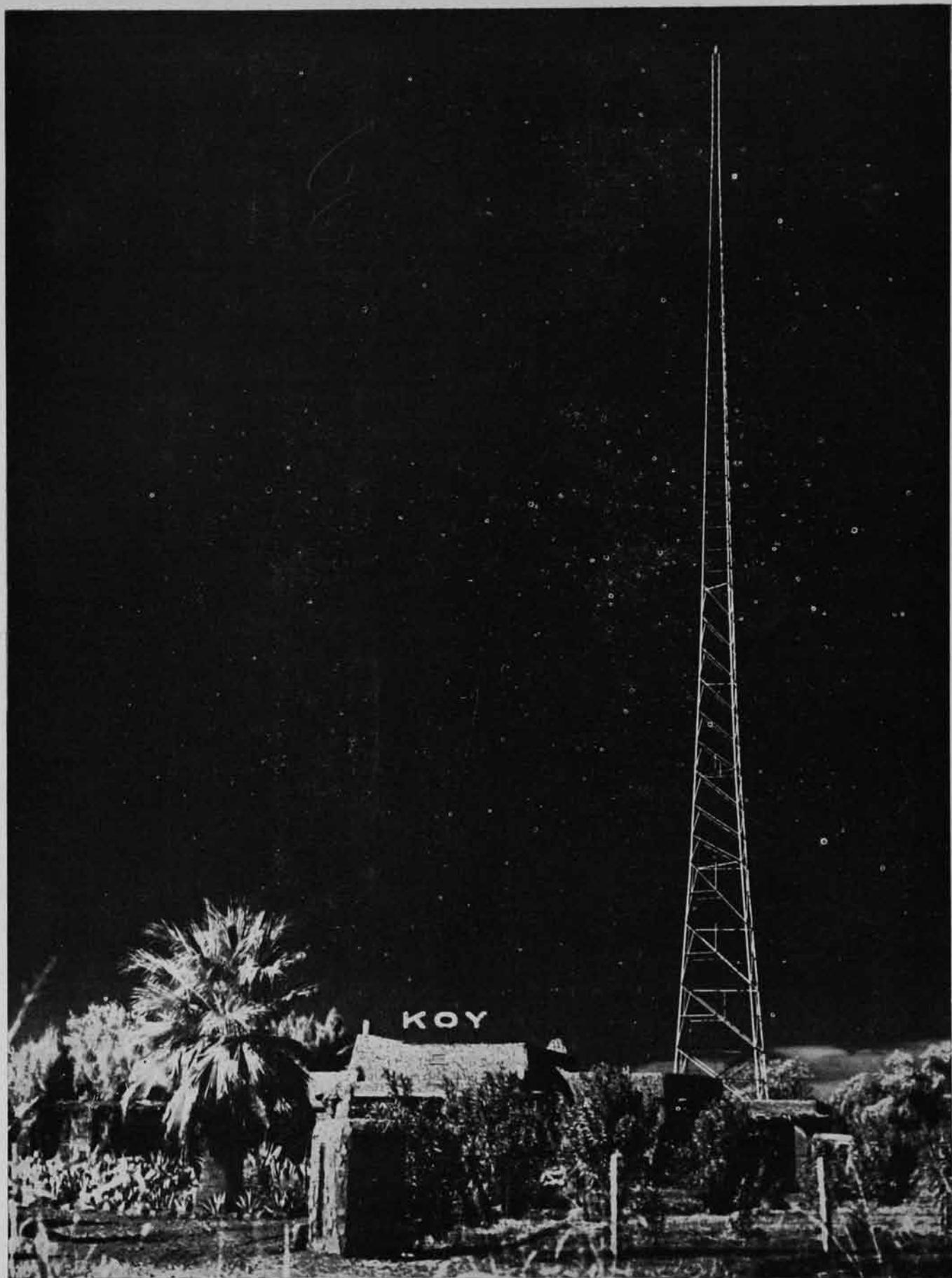
In regard to station support, Mr. Reese showed the Commission \$40,000 worth of advertising contracts (tentatively signed). He also showed evidence that agreements had been made with religious, educational, agriculture, and labor groups, and there was enough existing talent in Phoenix to warrant another station.

In Arizona there are 79,600 radio families. Seventy-seven per cent of the total families living in Arizona own radios. The percentage of automobile radios to home radios in the United States average 18.8.

There are some 150 amateur radio operators, generally known as "hams" in Phoenix, and some 257 in Arizona. Their function is to promote amateur radio. Phoenix has three amateur radio clubs; namely, Coyote Hams, with 30 members; the Phoenix Radio Experimenter's Society, with 48 members; and Phoenix Junior College Short Wave Radio Club, with about 15 members. Vic Clark of Phoenix was the first "ham" to receive national recognition. He

(8) It is owned by Burrige D. Butler.

(9) M. C. Reese, et. al.



KOY's Transmitter at Twelfth Street and Camelback

was given the Percy Maxim Memorial Trophy as the outstanding amateur under 20 years of age. About 12,000 messages are handled per year by the amateurs in Arizona.

#### D. Police Radio. (10).

The Police Radio Station, located on the fourth floor of the Court House, receives on the average of 150 calls daily. A time test is given every 15 minutes.

In November, 1932, the station installed a one-way broadcast. Now it has a two-way system. Three police cars are equipped with two-way sets. The regular four patrol cars work from 10:00 p. m. to 6:00 a. m. when a new group of patrolmen come on duty. The extra patrol car for night duty begins work at 7:00 p. m. till 3:00 a. m. The regular change of shifts for patrolmen are at 6:00 a. m., 2:00 p. m., and 10:00 p. m. The crew of detectives come on at 8:00 a. m. and ride in radio cars furnished by police, (numbering 12 men). The motorcycle patrolmen work six days a week and the radio patrol works every day. The total in the police radio contracts is 22, but only three of these are radio operators. These three are appointed by the city manager and the chief of police after a Civil Service examination.

The first radio operator in Phoenix (now chief technician) is W. T. Hogg. He works three days a week servicing receivers and transmitters in the department, and three days in the police radio room. The radio station has one operator on duty 24 hours a day. These three operators work a six-day shift and are relieved by a fourth man who works on equipment half time. The station is licensed by the Federal Communications Commission.

The radio room was originally on the ground floor; then on the fifth floor; and is now on the fourth floor of the Court House.

The department started radio communications in 1932. In 1933 Civil Service examinations were given for all city jobs. To become a radio operator, it is necessary to complete high school to take the Civil Service examination, but it is not necessary to finish to take the Federal Communications Commission examination. This examination is the prerequisite to the Civil Service examinations and is administered by the Department of Commerce. High point man gets the first appointment.

A frequency test lasts about 10 minutes and a communication test lasts about 5 minutes. The department has run tests to El Paso to the sheriff's office at night; a test to Los Angeles (intercommunication of police); and a test to Arizona State College grounds at Tempe with the two-way radio. All were successful. The radio frequency of this station is 2,430 kilocycles. A broadcast frequency test from Missouri is given once every two weeks at 12:45 a. m. The radio station coverage is 30 miles.

Soon the State Highway Patrol radio station is to be installed with a 1,000-watt power. It will try to have a state network with county, sheriff, and highway patrol co-operating.

## TELEPHONE

Telephone service was first installed in Phoenix in 1907 by the Sunset Telephone and Telegraph Company. The office was at First and Washington in the Irvine Building. There were but two employees. By 1908 there were 12 employees. There were between 300 and 400 subscribers on 10 to 20 party lines. Calls per day averaged 20. A toll line between Phoenix and Tucson was finished in 1908. It cost \$2.00 to talk three minutes. The Old Manual Operated Section Board was used embracing magnet telephones. Service was often delayed by a dust or rain storm. There were no underground or aerial cables and lines were in continual need of repair. Night service was first established in 1908. By 1910 there were two telephone companies with a total of 1000 subscribers. A few automatic telephones were installed that year. By 1913 toll lines connected Phoenix to all points in the state, a circuit to El Paso, and completed a transcontinental circuit to Los Angeles. In 1914 Mountain States Bell System bought and consolidated the dial system. The automatic system was installed.

On May, 1927, there were 11,148 telephones in Phoenix, some 38 per cent of all those in Arizona. On May 1, 1939, the number in Phoenix had increased to 20,303, some 42.5 per cent of all telephones in Arizona. There is an average of 1¼ telephones for each family in Phoenix. There are some 250 employees in the Phoenix system. The average number of daily calls in May, 1939, were (1) local—159,068; (2) long distance—1,750 completed calls. The average time for each toll call (including calls to New York) is 48 seconds. In 1934 the average time for each toll call was 10 minutes.

On May 1, 1939, there were 11,852 residence telephones and 8,721 business telephones in Phoenix. The Phoenix system proper includes an area of 23 square miles. An average of 8 miles of wire is used per customer, making some 162,400 miles of wire in the Phoenix system.

The top salary for linemen in 1907 was \$45 monthly, with a 10-hour day. The minimum in 1939 was \$160 and an 8-hour day.

The Mountain States Telephone Company is a subsidiary of the American Telephone and Telegraph Company and is composed of the following states: Montana, Wyoming, Idaho, Utah, Colorado New Mexico, and Arizona. It is a part of the American Telephone and Telegraph Company. There are 22,500 stations in service in Phoenix.

The quality of the service to customers was maintained at previous high levels and some items improved. Interruptions to service and mistakes on the part of the employees in handling connections were lower than in previous years, and there were fewer delays in answering the calling signals. The average time required to complete long distance calls was 1.2 minutes, and 93 per cent were completed while the calling party remained at the telephone. Service criticisms by the users were the lowest on record. On an average, there is only one criticism in 20,000 calls handled. Reports of trouble were fewer in

1939 than in previous years, and 98 per cent of all out-of-service conditions were corrected the same day reported. The accuracy of customers' bills and statements was further improved during 1940. Phoenix has had telephone service for 34 years.

#### TELEGRAPHY IN PHOENIX

The Morse Telegraph System was used publicly for the first time in the year 1844. About 38 years later the Morse Telegraph System was introduced in Phoenix. Mr. Goldwater was the first telegraph operator in Phoenix.

Phoenix is very well supplied in telegraphy for communicating with the other parts of the world. There are 13 direct wires and 4 trunk line wires running in to Phoenix. Phoenix relays to El Paso, Chicago, and Los Angeles and receives from the same cities. She is a major telegraphic terminal in the Southwest.

There are about 3000 messages received in Phoenix every 24 hours and about 3000 sent out over the same period of time. There are about 6000 messages handled in Phoenix per day. About 60 per cent of the messages are of a business nature, 25 per cent are personal, and 15 per cent are combination business and personal messages.

Phoenix has no direct contact with ships at sea, but contact is made with them from Pensacola, Florida, San Francisco, and New York.

The current for the telegraph wires is supplied by one-horsepower motors. On an average it takes about two minutes per telegram over a period of 24 hours. Of course, some messages are longer than others. Naval observatory time is supplied daily from Washington, D. C. There are some 200 observatory clocks in Phoenix.

There are about 23 messenger boys in Phoenix, including the boys who work days and those who work at night.

Phoenix is served by both Western Union and Postal Telegraph services.

The Western Union alone employs 75 persons, and makes an annual expenditure of \$150,000 in salaries. Some 68 cents out of every dollar is paid out in wages to Western Union employees.

Western Union has branch offices in Phoenix located in the Security Building, Adams Hotel, Westward Ho Hotel, Arizona Biltmore, San Marcos Hotel, and an office at 309 West Washington Street. It has telephone or telegraph connection with 115 points outside of Phoenix, but in Arizona. Of these, 108 or 94 per cent are Western Union offices.

Western Union has its main wires connecting Los Angeles, El Paso, Chicago, and Tucson. All of the messages from Phoenix must be sent through one of these points. It takes seven minutes to complete a message to any point in the United States.

The city of Phoenix is among the nation's high 40 for the number of telegraph messages sent per day, as compared with its population. It employs the modern method of receiving messages. Some 95 per cent of its messages

are received by the automatic typewriting machines, whereas in former years 95 per cent of its messages were received by the Morse code system. The offices here, are also looking forward to the day when the Facsimile method of sending messages will be installed. By this system the actual handwriting of the sender is sent over the wire. This eliminates the rewriting of messages.

One of the foremost advances in communication which has affected the newspapers in Phoenix and all other cities in the nation was recently developed by one of Western Union's engineers. This development greatly aids the sending of news-photographs over telegraph wires. By means of a newly developed paper these news photo's are more distinguishable and therefore, affords the reader a clearer and more precise picture. Telegraphy is of great value in transmitting speedy messages. It is in great demand by business firms.

#### POST OFFICE DEPARTMENT

There are three types of postal service through Phoenix.

The first is a local service serving Peoria, Glendale, Sunnyslope, Mesa, Chandler, and Gilbert. It consists of mail trucks which pick up and deliver daily.

The second is the regular railroad service. Phoenix is served by six daily trains and one that runs twice a week. These trains carry one or two U. S. Mail cars each. Seven stage mails come daily by Santa Fe Trailways stages, et al.

The third service is the airmail. There are seven airmail services each day, both incoming and outgoing.

The Post office is a new two-story, modern building, in Spanish architecture on North Central Avenue, located so as to be convenient to both the residential and business districts. It was dedicated on November 14, 1936 and cost \$1,000,000. It houses many federal offices. There is a branch office in the Luhrs Tower, which is located mainly for the benefit of the business men (1).

Post Master George H. Todd of Phoenix, appointed at the start of F. D. Roosevelt's term. Some 158 persons are regularly employed. Nearly 50 substitutes are available in case of sickness or vacations. Carriers cover 362.68 miles of rural routes, 328 miles of local routes and dispatch nearly 150,000 pieces of mail every day.

The pay roll is approximately \$400,000 a year.

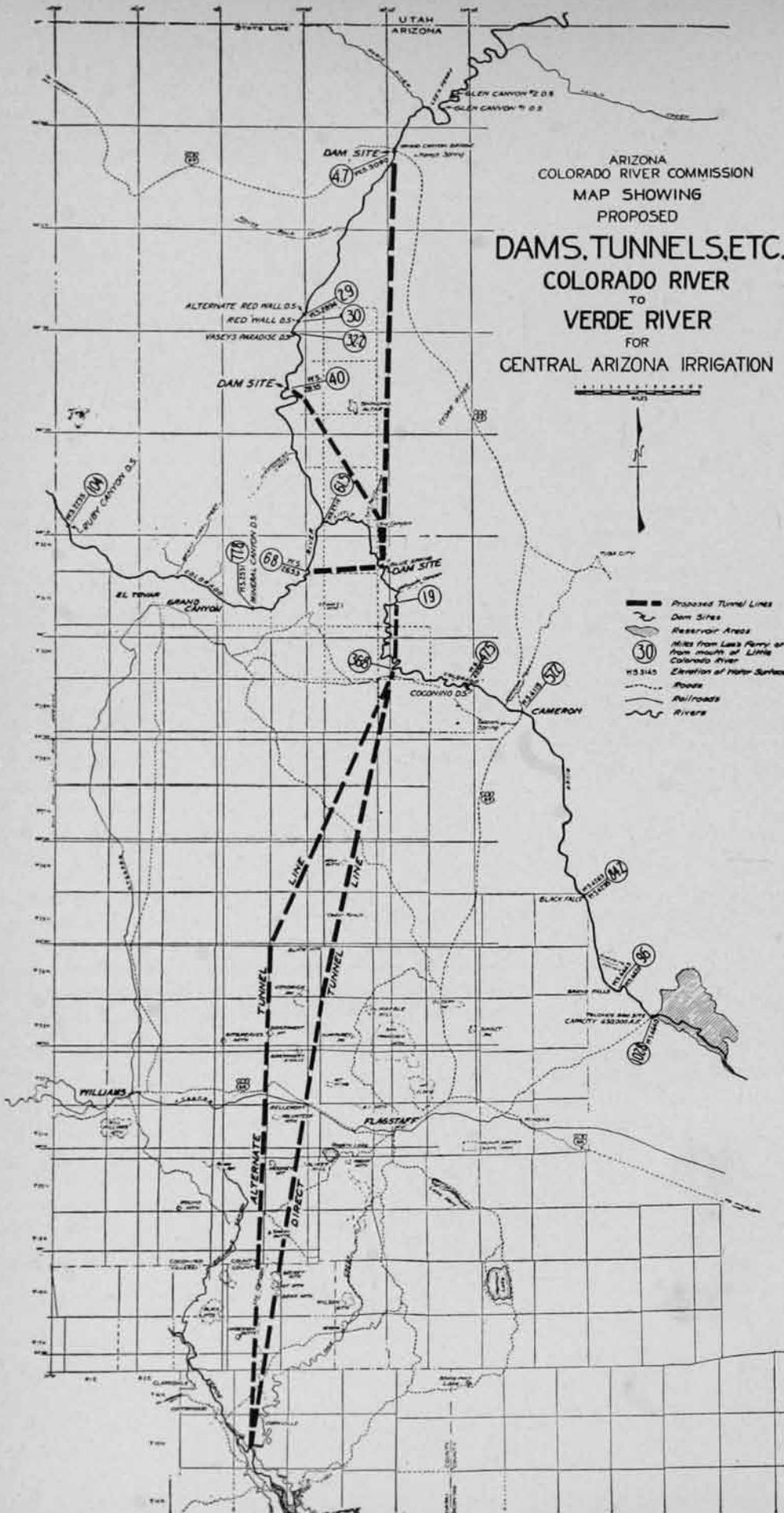
Postal business in Phoenix amounted to \$555,293 in 1930; \$519,891 in 1935; and \$739,110 in 1940 (12). Some 21,578 pieces of C. O. D. mail and 93,103 insured parcels were mailed in Phoenix in 1940. There are 1924 lock-boxes in the main Post Office and 405 at the Luhrs Station on Jefferson Street. Treasury bonds amounting to \$736,781.25, mostly in \$50 amounts were sold in Phoenix in 1939. The present U. S. Post Office is estimated to be some 30 per cent too small to handle the 1941 postal business.

Phoenix has excellent communication facilities in terms of newspapers, radio, telephones, telegraph and postal services.

(11) Four other contract stations are: 1. Luhr's classified sub-station—10 McDowell Road; 1. East End Pharmacy—16th St. and Van Buren; 3. At 210 E. Indian School Road; and 4. Ramona Drug Store, 325 E. Washington St.

(12) Postal receipts in Phoenix for the fiscal year of 1896 were \$17,222.70, and for 1906—\$38,262.42.

ARIZONA  
 COLORADO RIVER COMMISSION  
 MAP SHOWING  
 PROPOSED  
**DAMS, TUNNELS, ETC.**  
 COLORADO RIVER  
 TO  
**VERDE RIVER**  
 FOR  
 CENTRAL ARIZONA IRRIGATION



- Proposed Tunnel Lines
- Dam Sites
- Reservoir Areas
- ③ Miles from Lake Ferry or from mouth of Little Colorado River
- ③ Elevation of Water Surface
- Roads
- Railroads
- Rivers

The future of the Valley of the Sun and of Arizona will be assured if upper Colorado River water for irrigation and power combined can be brought down to Central Arizona to develop Arizona's resources: mining, agriculture, lumbering, manufacturing, farm chemurgics.

Forty Dam sites have been filed on by Fred T. Colter, Arizona's Water Trustee. This diagram shows how upper Colorado water can be brought to the mouth of the Verde River. From there it could be brought down over ten proposed Dam Sites to Central Arizona.

## CHAPTER XXXIV

# TRANSPORTATION FACILITIES

### SKETCH OF EARLY TRANSPORTATION

Transportation in Arizona has a long history. The Indian was the first trail builder. Back in 1540 Melchior Diaz explored the Colorado River as part of the Coronado expedition. And in September of that year Hernando de Alarcon made two boat trips up the Colorado River being the first white man to travel upstream from its mouth. The first white man to completely cross the State of Arizona was Juan de Onate, who explored the northern and western portions, spending 25 years in the Papago country. Many early trails were made which later developed into primitive roads. Some of these were made by Padre Eusebio Francisco Quino (Father Kino), who opened to travelers the treacherous "El Camino del Diablo" (devil's highway) across the extreme southwest corner of Arizona. It stretched from Sonoita, Mexico, on the border to the conflux of the Gila and Colorado Rivers where Yuma now stands. In 1721, Father Juan de Ugarte attempted to find a pass through to the Pacific from the Gulf of California. Padre Jacobo Sedelmair went down the Gila River from Casa Grande to the great bend and thence across to the Colorado to the mouth of the Williams River. He well might be called the "great trail maker" as he visited and named 42 rancherias or villages. The early Catholic missionaries, like Livingstone in Africa, were great explorers and blazed trails for their successors.

In 1822 the Santa Fe Trail in Northern Arizona was discovered by Captain Becknell. By 1826 the first American scouts began to explore Arizona. Captain Jedediah S. Smith was the first white man to enter Arizona from the north, blazing a trail to the Virgin River, near the southwest corner of Utah. However, it was Kit Carson who was called the "greatest of the trail makers." He explored Arizona and New Mexico thoroughly. About that time Sylvester Pattie and his son, James, began making trapping expeditions into Arizona. In 1830 Pauline Weaver entered Arizona along the old Spanish Trail, following the Virgin River into California. Many of the early paths were made by the buffalo, used by the Indians, traversed by the Spanish, and re-discovered by the early American trappers.

The first wagon road across Arizona was made in 1846 when the Mormon Battalion crossed what is now Maricopa County and went down the Gila River to the Colorado River. In 1849, Colonel Washington with 350 men made a trail into Navajo territory. In 1850, A. L. Lincoln established a ferry at the junction of the Gila and the Colorado Rivers. In 1851, G. A. Johnson arrived at Yuma with supplies on the schooner, "Sierra Nevada." The very next year the steamer, "Uncle Sam," under the command of Captain Turnbull, became the first steamboat to navigate the Colorado River.

In 1885, the United States Congress authorized \$30,000 for buying camels to be used for military transportation

in the Southwest. In the following year the camels were landed off the coast of Texas under the guardianship of Hadji Ali (nicknamed Hi Jolly), and "Greek George." After the first gold rush was made to the Yuma placers in 1856, prospectors from all over the United States came to Arizona; especially after gold was discovered in Mohave County near the Sacramento Valley, 1857. That was the year that the first Pony Express rider, Charles Youman, left San Diego for Tucson, and that Beale opened a wagon road on the thirty-fifth parallel. Beale's camel route was soon established via Flagstaff and Holbrook. The famous Butterfield Mail Contract Company succeeded the San Antonio Stage Company, which was the first regular stage line across Arizona. Arizona was now criss-crossed with trails, roads, and routes connecting its towns, villages, mines, missions, etc.

The Atlantic and Pacific Railroad capitalized at \$100,000,000, gave promise of railroad facilities to Arizona at that time.

By 1868, a horseback mail route ran from Wickenburg, connecting with the main route at Maricopa Wells and Florence. Mail was received in Phoenix, a small farming community in the merciless desert. Hayden's Ferry was constructed across the Salt River in 1871 by Charles Trumbull Hayden, founder of Tempe. The United Verde Railroad reached Tucson in March, 1880, in which year two freight trains passed daily through Maricopa County. The Atchison, Topeka, and Santa Fe Railroad reached El Paso in 1881, the year when Phoenix was first incorporated. The Butterfield line, which afterwards became the Overland Mail Company, had 100 Concord coaches, 1000 horses, 500 mules, and 750 employees. It connected Tipton, Mississippi, with San Francisco. The 2759-mile trip was made in the fast time of 25 days. Wells and Fargo Express Company opened its Phoenix office in 1882, the year that Geronimo went on the war path. In 1883, the Santa Fe Railroad was completed. In 1887, the first railroad was built to Phoenix from Maricopa Wells. In March, 1895, the Santa Fe, Prescott and Phoenix Railroad was completed to Phoenix.

The Phoenix street car system started in 1887. This system was electrified in 1895. In 1926 it was taken over by the city. The Southern Pacific main line was completed to Phoenix on January 5, 1926, which became streamlined in December, 1940. The Menderson Bus Lines started in 1928. The American Airlines and Transcontinental Western Airlines have both come to Phoenix. The Santa Fe put a streamliner in Phoenix in 1941.

### MODERN TRANSPORTATION FACILITIES

A modern urban community demands a first-rate system of transportation. Phoenix is fortunate in having a first-class modern airport, two major airlines, two first-

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(1) His first entrance into Arizona was in the Santa Cruz Valley near where Fort Mason was later built.

class railroads, three transcontinental bus lines, and three intra-city bus lines. It has four national highways over which trucks and automobiles pass going to all sections of the state. Phoenix is the center of the state's transportation system.

#### AERONAUTICAL FACILITIES IN PHOENIX

The Phoenix Municipal Airport, known as Sky Harbor, is Arizona's busiest flying field. It has many advantages to its credit. Climatic conditions are such that inclement weather seldom prohibits flying. It is a major step in the American Airlines transcontinental service and has recently become one of the stops for the Transcontinental and Western Airlines. It is a regular stop for mail and express, and has extensive charter plane service. Phoenix Municipal Airport has a greater number of planes per capita than any other airport in the country. (2). Sky Harbor has short wave radio, radio beam, and teletype service for greatest efficiency. (3).

The airport is one mile long and one-half mile wide, with a runway length of more than 4,000 feet and a width of 300 feet. It has the equivalent of some nine miles of oil surfacing. The present runway lies in an east to west position, but a second runway is being planned that will be at right angles to the present one. It also has two smaller auxiliary runways. The airport is fully equipped with standard lighting facilities, including giant beacons. The Administration building at Sky Harbor is the Phoenix headquarters for AA and TWA.

AA has a radio-telephone station, GKUP, and the United States Department of Commerce maintains a similar station, KCCB, at the airport. This means that two-way radio-telephone communication can be maintained constantly with transcontinental and private planes that are equipped with radio facilities.

The Phoenix Municipal Airport, Sky Harbor, is located on the main southern transcontinental route; 2419 miles from New York City, and 369 miles from Los Angeles. It is three and one-half miles from downtown Phoenix. The elevation at the airport is 1100 feet.

A Catholic Shrine has been erected at Sky Harbor by the Junior Chamber of Commerce. The purpose of the shrine is to serve people who wish to be married on a moment's notice. People can take a plane from Los Angeles at 7 a. m., arrive in Phoenix at 10:15 a. m., obtain a license and be married, start back to Los Angeles at 11 a. m., and be there at 12.20. On October 15, 1938, six marriages were performed at the shrine and these are recorded on a copper plate at the base of the shrine.

Sky Harbor is the home of the Robertson Aircraft Corporation. The corporation is named after one of the Lindbergh backers. There are also three flying clubs whose headquarters are at Sky Harbor; the Phoenix Aero-

nautical Club, the Desert Flying Club, and the Mesa Flying Club. (5).

Sky Harbor is administered by the Phoenix Aviation Commission.

Phoenix is on the main route of the American Airlines, Inc. (6). It is made possible for an individual to leave Phoenix at 3:05 p. m., arrive at Fort Worth at 10:45 p. m., be at Washington, D. C., at 7:55 next morning, and reach New York at 9:25 a. m., a flying time of 18 hours and 20 minutes. The "Plainsman" leaves Phoenix at 11:10 p. m., arriving in Los Angeles at 12:29 a. m. AA operates planes from New York and Chicago through Fort Worth to Tucson, Phoenix, and on to Los Angeles. It is planning a direct air route to Denver via Albuquerque.

The American Airlines have a fleet of 101 planes in service. Douglas equipment is used. American Airlines have total assets of \$9,897,824.

AA has named one of its new Douglas Flagships the Flagship "Phoenix." It is one of the five new 21 passenger transports to be added to the service of AA, according to James S. Robb, district sales manager. Mr. Robb stated that up until January 1, 1940, AA had operated 46,895,939 airplane miles carrying some 1,011,697 passengers; some 410,236,966 passenger miles without an accident involving a passenger fatality.

Mr. Robb of American Air Lines was asked to make a statement for this survey of the safety features of airplane flying of today which follows:

"The facts about American Airlines' captains and first officers: 90 per cent of American's flying men have had army, navy, or marine corps basic training; 78 per cent are married. Average flying experience: captains, 8,318 hours (more than 594 per cent over government requirements). At least two years college education (graduates preferred.)

"No fatigue is allowed—because American Airlines pilots flying hours are regulated—never more than 8 hours in one day or 85 hours per month.

"Good flying men have a natural born talent and skill in the air. But American, besides picking the 'top layer' to pilot its ships, goes further to make sure that the brains and hands on flag controls are in perfect condition. Strictness in health and personal fitness is a definite and important part of American's conservative policies. The regular pilot examination is compulsory every 60 days. They must be perfect in eye judgment, eye strength, ear keenness, color vision, blood pressure, tonsils and teeth.

"Those who say the weather is unpredictable should examine the working of American Airlines' forecasting system. For nothing is more closely followed than the number of winds, precipitation and temperature changes. On American Airlines, weather analysis is a major factor and has much to do with American's outstanding record of dependable service.

"Regularly, every six hours, weather map information is transmitted. In addition to hourly sequence information,

(2) Department of Commerce statistics (twenty planes are based at Phoenix).

(3) The radio beam is maintained by the Department of Commerce.

(5) Instructors at these clubs are Carl Knier, Charles Hirst and Mrs. Ruth Chalmers. Instructions cost about \$6 per hour while ordinary flying trips cost \$1.50 for about twelve minutes flying.

(6) The main American Air Lines route from Boston to Los Angeles has major stops at New York, Washington, Nashville, Dallas, Fort Worth, Tucson, and Phoenix.

these reports give balloon sounding recordings and observation airplane data on upper air conditions. With this information as a basis American meteorologists prepare complete 'air mass analysis' maps of the country. A 'route forecast' is supplied for each area—specific for the next 6 hours, a general prediction for the following 6. American meteorologists then prepare individual trip forecasts covering at each stop, general flight conditions along entire route, wind and favorable flying levels."

#### TWA—TRANSCONTINENTAL AND WESTERN AIR LINES, INC.

"The Lindbergh Line," Transcontinental-Western Airlines, Inc., surveyed through the Midwest by "the Lone Eagle," crosses Arizona through Winslow and Kingman on its transcontinental route and also operates a north-south line connecting San Francisco and Phoenix with a stop at Boulder City.

The TWA gives Phoenix direct connection by air with Boulder Dam. It enables business men, tourists and winter visitors to connect at Winslow for all points east or west. TWA maintains an office in Phoenix. It has a permanent berth at Sky Harbor. TWA maintains an office in Phoenix. It has a permanent berth at Sky Harbor. TWA permits liberal stop-over privileges. It crosses Northern Arizona over the sunny Santa Fe Trail. It brings New York, Pittsburgh, Chicago, Kansas City, San Francisco and Los Angeles much nearer. In the age of aviation, TWA helps streamline the transportation facilities of Phoenix. Every comfort known to air-liner experts is found in TWA's new Commuter Air Service. It has connections with Chicago and Southern Airlines, Continental Airlines, Pennsylvania Central Airlines, Braniff Airways, Pan American Airways, Western Air Express, United Air Lines, American Airlines, Eastern Airlines, Mid-continent Airlines, Northwest Airlines, Canadian Colonial Airways, and Marquette Airlines. TWA claims to have the natural route—the shortest and fastest from coast to coast.

#### ARIZONA HIGHWAY COMMISSION

Arizona became a separate territory in 1863 and the road situation began to improve at once. The First Assembly in 1864 provided for the incorporation of several toll road companies with the provision that such roads could later be purchased by the territory or its counties. In 1866 the Assembly provided that the counties be divided into road districts with a road supervisor in each district. On August 11, 1927, the Assembly established the Arizona State Highway Commission and the State Highway Department. This was the first systematic code for state supervision of state highways.

The Commission at that time consisted of five members appointed by the Governor with the advice and consent of the Senate. Members served for two years and times were staggered so that no more than two members could be appointed in any year.

Duties of the Commission then and now include: Planning and survey, construction and maintenance, and regu-

lation and use; and the Commission is endowed with such powers as are necessary to the performance of these duties. Mr. W. R. Hutchins, state highway engineer, delivered an address on "The Need for Effective Interchange of Information Between the Public and Federal Agencies," at Arizona State Teachers College, Tempe, a summary of which was made for this survey.

Mr. Hutchins stated: "The general opinion present not only in the public mind, but in the minds of executive officers of many public and federal agencies is that the highway department is only concerned with the construction and maintenance of the State Highway System."

Mr. Hutchins spoke of close contacts existing and the harmonious interchange of information which takes place between the State Highway Department and the United States Department of Labor, the Secret Service, the F. B. I., Public Roads Administration, Parks Service, Soil Conservation Service, Forest Service, Division of Grazing, Dam Certification Board, Civil Aeronautics Department, United States Indian Service, National Youth Administration, Works Progress Administration, Educational Institutions and many others.

He said "Our primary system of highways, although not as perfect as we might desire, would not be as extensive nor as efficient as it is had there been no federal aid or public roads administration to render the valuable assistance to the state which has been rendered by this department of the federal government."

The establishment of a broadcasting station in the highway patrol has been of inestimable value to many governmental agencies as well as to the National Theft Bureau. Due to close cooperation between the latter bureau and law enforcement officers, Arizona last year was able to make a 100 per cent recovery of stolen cars.

The state highway engineer is now appointed by the Highway Commission as is the secretary to the Commission. The superintendent of the highway patrol is appointed by the governor and the legal advisor is appointed by the attorney general upon the request of the Commission. The other 1150 employees are appointed, suspended, directed, compensated and discharged by the state highway engineer with the consent of the State Highway Commission. To date no state civil service department has been established.

Current organization of the State Highway Department (7) includes: (1) the locating division; (2) the right of way division; (3) the materials division; (4) the plans division; (5) the division of bridges and dam certification; (6) the estimating division; (7) construction and maintenance division; (8) the landscape division; (9) the highway planning survey division; (10) the accounting division; (11) the purchasing division; (12) the equipment division; (13) the personnel and office building maintenance division; (14) the highway patrol division; (15) the motor vehicle division; (16) the legal division; and (17) the magazine division.

(7) Arizona State Highway Commission report for 1940-41.

## ARIZONA HIGHWAY PATROL

During 1939 the Arizona patrol traveled 1,154,156 miles. It made a total of 2,016 arrests for all types of violations with 1815 convictions, 111 dismissals and 90 cases yet pending. It issued 567 pink warning tickets to the tourists and local citizens where the violation committed did not warrant an arrest. The patrol, recognizing the well-known fact that defective lighting is the contributing factor in many accidents, has caused 19,809 vehicle lights to be repaired.

On March 8, 1941, some 44 persons had been killed since January 1, as compared with 40 people for the similar period in 1940. The death rate on Arizona highways for the year 1939 was 215 as compared with 207 for the year 1938. This increase was possible due to the shortage of enforcement officers and increased vehicle travel with a total of 390,583 foreign vehicles passing through this state during 1939.

Radio station KNKG was located in the Arizona Highway Office where it was officially put into operation on January 1, 1940. During the first three months of 1940, some 7,000 transmission reports were made consisting of 350 stolen cars, 320 recovered cars, 250 missing persons and 150 wanted persons. Miscellaneous messages were sent to cars and motorcycles and to patrol stations at Yuma, Prescott, Florence, and Tucson, in addition to maintaining a daily schedule of inter-communication with Texas state police.

## ARIZONA STATE HIGHWAYS

The importance of highway construction and maintenance in Arizona is suggested in the fact that more than \$9,119,400 will be spent by the Arizona Highway Department in the fiscal year of 1940-41. The budget contained \$3,624,150 for new construction in addition to \$2,554,700 in carry-over projects. Maricopa County received an allotment of \$431,498 in carry-over projects and \$432,000 for new construction. Maricopa County had the largest amount allotted in carry-over projects but Cochise with \$788,200 received the most for new construction.

In the Arizona State Highway Systems there are approximately 345,751 miles of road. The state highways are built with state or local funds only. Among the different kinds of surface in 1933 were: 11,079 miles of sand-clay, and top soil; 129,216 miles of gravel and shale (treated and untreated); 17,700 miles of waterbound macadams; 20,063 miles of bituminous macadam by penetration; 13,478 miles of sheet asphalt, and bituminous concrete; 77,249 miles of concrete; 2,901 miles of vitrified brick; 93 miles of asphalt block; 22 miles of wood block; 44 miles of stone block. There are 73,906 miles of unsurfaced road.

During 1940 motor vehicle operators' licenses were issued to 20,814 Arizona motorists.

The federal government has greatly helped in the building of Arizona roads, especially during the 4½ years of WPA from July 1, 1935, up to January 1, 1940. During this period it built 1,714 miles of highways, roads and

streets. Of these, 1,441 miles were rural roads, developed to facilitate farm to market movement of agricultural products and transportation in the mining industry, and to assist rural mail delivery and school district bus operation, city streets and alleys surfaced or improved amounted to 123 miles, while 1,497 miles of roads were built in parks and 168 miles done. The federal government through WPA has done a great deal in Maricopa County as they have completed 335.7 miles, or more than one-fifth of the state total in Maricopa County. The 322 acre field at Phoenix Sky Harbor Airport was conditioned according to government specifications by WPA. This included a runway 4,000 feet long and 150 feet wide with a high-type surfacing together with 23,034 square miles of surfacing.

Some 1,054 traffic signs were erected and traffic control lines along 45 miles of highways were painted. Also 58 new bridges were constructed, 11 of which were steel, 3 of wood, and the remainder being of concrete masonry across canals and irrigation ditches. More than 1000 city blocks were improved in Phoenix.

## ROADS AND HIGHWAYS IN PHOENIX AND MARICOPA COUNTY

**A. Phoenix**—Phoenix has some 284 miles of city streets and alleys; 208 of which are in streets and 76 in alleys. It has 116.5 miles of paved streets and some 190 miles of paved sidewalks. During 1940-41 the street department of Phoenix spent some \$264,022. In 1939 a project for the repairing of approximately 1,000 city blocks was undertaken with the cooperation of the WPA. The city's share as sponsor was about \$75,000. City officials have attempted, through the Arizona Municipal League to obtain for the several cities in the state a portion of the gasoline tax revenue of the state, but without success to date. The total expenditure was some \$900,000 for the city WPA program. When this project is complete the combined length of paved streets will amount to 21 miles. One of the major city improvements during 1939-40 was the construction of the \$250,000 South Central Avenue underpass. Paving projects between 1938 and 1939 cost \$446,545, of which 55 per cent was paid by the WPA and 45 per cent by the property owners. The Fifteenth Legislature passed a bill in March, 1941, giving cities 10 per cent of the state gasoline revenue.

**B. County**—Maricopa County is very proud of its road system and the major improvements which have been made on same during the last two years. Maricopa County has some 3,800 miles of road, which consists of: 21,041 in earth improved roads; 242 in surface roads (clay and gravel); 251 in concrete paved roads; 13 in asphaltic concrete paved; 180 in oil paved; 63 in asphaltic surface (thinner coating of oil dust layer); 511 in subdivision roads, not county roads; and some 399 in desert roads. (8). There are some 388.75 miles of state highways in Maricopa County, also 16.2 additional miles of state routes within cities. In 1939, 156 miles of roads were constructed. Most of these were oil paved. Arizona received federal aid in its secondary system on the following basis—mileage other than state highway system in Maricopa was 148.8 while mileage on the state highway system in Maricopa was 79.1.

(8) Total rural mileage in Arizona was 27,547.2 miles.

Tempe engaged in a \$253,000 pavement project in 1939-41, which the WPA was co-sponsor, employing some 150 men. County road improvements are directed by the Board of Supervisors with the exception of the municipalities. In the middle of December, 1939, a WPA allotment amounting to \$1,102,618 was granted for road improvement in Maricopa County. This amount was augmented by \$711,787 in county funds. These funds made available during 1940, grading and oil-paving of 208 miles of road. They constructed some 90 culverts and bridges, and some 800 WPA workers will be working on road projects in 1940. One of the major projects in the county was the WPA project of widening the road four miles east of Mesa on Highways 60, 70, 80 and 89, at a cost of \$452,000. Much paving has been done in the Mesa city limits and a new underpass is under construction on the Mesa-Chandler highway. Most of the cities in Maricopa County are rapidly being paved. There were some 409.8 miles of highways maintained by the Arizona Highway Department during 1939-40 at a cost of \$114,298.50.

#### MOTOR VEHICLES IN SALT RIVER VALLEY

Automobile registration (9) of pleasure vehicles in 1939 in Maricopa County amounted to 45,886, as this was the approximate number of families in Maricopa County. From 1935 to 1939 there was an increase of 9,342 in the number of private vehicles registered in Maricopa County. There were 36,542 private automobiles registered in 1935; 39,870 in 1936; 45,031 in 1937; 45,318 in 1938; and 45,886 in 1939, a steady rise in the number of registrations. In 1939 there were also 627 no-fee license plates issued to municipal, county, U. S. government, State of Arizona, and Mexican officials in Maricopa County.

In Maricopa County for the year of 1939 there were 592 licensed new car dealers, and 208 licensed used car dealers. (10).

In Maricopa County for the year of 1939 there were 59,253 motor vehicles registered. 45,886 of these were privately owned automobiles; 9,263 were commercial vehicles; 173 buses and taxis; 2,467 trailers and semi-trailers; 242 motorcycles; 592 new car dealers; 208 used car dealers; and 449 lost plates. For the State of Arizona as a whole for the same year there were 139,045 registrations, of which 106,875 were privately owned; 24,083 were commercial; 397 buses and taxis; 4,628 trailers and semi-trailers; 440 motorcycles; 1,356 new car dealers; 301 used car dealers; and 965 lost plates. (11).

There are six branches of the Maricopa County Assessor's Office who are authorized to distribute 1941 automobile license plates. These were at Tempe, Mesa, Buckeye, Glendale, Chandler, and Wickenburg.

#### PHOENIX TRANSPORTATION SYSTEM

The Phoenix transportation system began in 1887. The first street car system consisted of a horse-drawn vehicle on a narrow-gauge track. In 1895 the system was electrified.

The system was operated by a private utility, and all of the old-timers can remember the track and equipment. Old No. 21 was pulled by a sway-backed nag that looked like a milk horse, and No. 17 had a flat wheel which could be heard for blocks.

When the streets were nothing but a mass of mud, the newspapers were used as stepping stones to get from the curb to the tracks. At that time a rainy day brought the heaviest patronage to the car lines. Today the slightest touch of bad weather brings out the family car.

The system remained under private ownership until 1926.

The city officials recognized that the prosperity of a city depends on the ability of its people to move about rapidly, cheaply and safely.

The present car tracks were rebuilt in 1927 and laid in the concrete base. Eighteen new street cars of the most modern type with the best safety equipment were purchased. During the next three years the system was highly profitable, yielding a net income to the city over and above all bond charges, interest, operation and maintenance of about \$200,000. The best year was in 1929 when the system carried 6,655,000 passengers and grossed \$298,000 at a five cent fare. With the coming of the depression in 1930 the street railway revenues began to fall off. The officials decided to raise the fares to seven cents. This immediately brought about a large reduction in patronage with a consequent decrease in revenue so that the city soon found that even with seven cents the gross revenue was less than at five cents fare. With the decreasing patronage it was decided to reduce the costs by reducing service but the patronage fell off even more. This vicious circle continued to operate until 1932 when the patronage had decreased to 3,500,000 passengers and the revenues to \$156,000. The fare was reduced to five cents.

Since 1933 the policy of the City has been to render the maximum possible service within the revenues available. The service has been increased as fast as the revenues would justify. This policy has brought the revenues of the street railway from the \$156,000 low in 1932 up to \$315,000 in 1938. Along with this increased revenue there has been an increase in service so that today Phoenix has a better transportation service than it has ever known in the past, carrying 7,600,000 passengers in 1939.

Since 1937 the annexation program has increased the area of the City by 3.5 square miles. To render adequate transportation in these areas it has been necessary for the street railway to extend its routes into these new areas from 28 to 52 miles. Prior to the expansion program the Department operated 18 street cars and 3 old busses.

In the operation of a Street Railway Department three primary objectives are: safety, efficiency and courtesy. The operators contact 25,000 people daily.

(9) This did not count 9,236 commercial vehicles registered in Maricopa County in 1939.

(10) Fifteenth Census of the United States; Retail Distribution-State series—Arizona; page 24.

(11) Arizona State Highway Department Motor Vehicle Division; 1939 Motor Vehicle Registrations.

Roy Hislop, former City Manager recommended transforming trolley cars into stream-lined busses which would render increased service to residents together with an anticipated annual saving of \$13,000 in power costs. This would result in the reduction in the consumption of purchased utility power some 2,000,000 to 1,500,000 kilowatt hours a year. The city transportation lines have been operating at a loss.

#### MENDERSON BUS LINES

C. M. Menderson arrived in Phoenix, Arizona, from Pennsylvania, back in 1927. He recognized the need for a bus line to serve the growing region, and in 1928 organized the system bearing his name, with three 32-passenger busses (one of which he drove himself).

Progress was slowly made. In 1930 the three busses traveled some 325,000 miles, carrying approximately 180,000 revenue passengers.

Mr. Menderson in 1936 placed in service two up-to-the-minute twin-coaches, comfortable 25-passenger vehicles that immediately appealed to the riding public. The fleet now consists of seven 25-passenger and ten 31-passenger twin-coaches. The three latest units placed in service during August 1939, have a new-type suspension and are known as the "Cradle ride," affording maximum comfort and convenience to passengers.

Menderson Lines service and repair their equipment in their own shops at the bus garage, an imposing structure built in 1937. Here expert mechanics and service men keep equipment in first-class condition day in and day out.

Today, Menderson Bus Lines have an annual mileage in excess of 2,156,000 miles and carry an average of 1,750,000 passengers.

They now serve the towns of Glendale, Mesa and Tempe, with other routes to the Arizona Biltmore, Sunnyslope, Mission Drive and Country Club residential districts. This tremendous growth is the result of visualizing a need and working to attain an objective.

#### INTER-STATE AND INTRA-STATE BUSES

Three major bus lines service Phoenix and the Salt River Valley with inter-state and intra-state connecting communities. Ten Greyhounds, two All American, and three Santa Fe Trailways leave for Arizona, California, Texas, and other destinations daily.

The Arizona Corporation Commission stated in February, 1939 that there were 67 scheduled passenger carriers and 33 non-scheduled operating intra-state; there were also ten passenger inter-state lines.

The share-expense travel bureaus were eliminated by the fourteenth legislature.

Phoenix has three big bus lines running through it with from one to five daily schedules each way.

Pacific Greyhound: The Pacific Greyhound Bus Lines run five schedules through Phoenix daily. It makes connections with either its own buses or with other lines for

every part of the United States and parts of Canada serving 45,000 towns traveling over 50,000 miles daily and handling 37 per cent of all transcontinental transportation.

Santa Fe Trail System: The Santa Fe runs north out of Phoenix to Ashfork where it connects up with the mail line running from coast to coast. At Ashfork they either go to Albuquerque, New Mexico to Salt Lake City, Utah, or to the coast. They connect with their own lines at Salt Lake City and Albuquerque for all points in the United States.

All-American Bus Lines: The All-American only runs one schedule each way daily and it is through by Blythe to Los Angeles and east by Tucson, Wilcox and Lordsburg.

#### RAILROADS

Phoenix is on the main line of the Southern Pacific, and on a branch of the Santa Fe. Each maintains an elaborate office and travel bureau to accommodate the heavy passenger traffic of tourists and winter visitors in addition to the many normal business, professional, and governmental individuals who travel by train.

In 1887 a small railroad was built between Phoenix and Maricopa Wells. But in March, 1895 the Santa Fe, Prescott and Phoenix branch was completed. The branch connects with the main line at Ashfork. The streamlined "Santa Fe" pullman passenger train arrives at and departs from Phoenix. Pullman cars from the Chief come to Phoenix and rejoin the Chief for the return trip. There is an overnight Pullman on the Santa Fe between Phoenix and Los Angeles.

The Southern Pacific main land was completed to Phoenix on January 5, 1926, which became streamlined on December 17, 1940. The Southern Pacific streamliner "Arizona Limited" arrives every other day at 11:25 a. m. and departs at 6 p. m. on the same day. Three east-bound and three west-bound passenger trains of the S. P. go through Phoenix daily.

Both the Southern Pacific and the Santa Fe are accommodated at the Union Station on Fourth Avenue at Jackson Streets.

About four freight trains each way pass daily through Phoenix on the Southern Pacific. Each carries the full 70 cars. These are loaded with fruit, cotton, etc., or merchandise. Some ten to fifteen cars leave Phoenix daily on the Santa Fe lines. Each car carries about 30 tons of freight.

Phoenix is well-equipped in transportation facilities—with Sky Harbor Airport, the Southern Pacific and Santa Fe Railroads, three inter-state buses, a fine city transportation system of street cars and buses, the Menderson buses, and four national highways.

## CHAPTER XXXV

# FINDINGS AND SOCIAL TRENDS

A case history of Arizona has revealed certain basic characteristics concerning its natural resources, population problems, and social institutions.

1. Arizona's natural resources are climate, land, water, forests, minerals, agriculture and livestock. There has been little change in natural resources in the past 1000 years. The topography is essentially the same; the climate has varied little. Arizona had much the same type of semi-arid desert in the time of the aborigines as it has today. The amounts of minerals such as copper, gold, silver, lead and zinc, have not changed in quantity, except that with modern power machinery, extraction has occurred at an ever increasing rate.

2. The climate of Arizona attracts both health seekers, winter visitors and tourists from all over the nation. The Salt River Valley is called the Valley of the Sun because it is one of the sunniest spots in the nation. The sun shines in Arizona some 84 per cent of all its possible daylight hours. Air is dry and arid. The forty year average relative humidity in Phoenix is 25.1 degrees. The mean temperature is 70.2 degrees. Rain fell in Phoenix 35 out of 365 days in 1939. The outstanding feature of Arizona's climate is its sunshine.

3. Arizona is the fifth largest state, having some 113,000 square miles, or 72,931,860 acres of land. Coconino County, the largest of Arizona's 14 counties, embraces 18,623 square miles, and is the second largest county in the United States. Federal lands amounted to 53,019,870 acres or 72.6 per cent in 1930. This was reduced to 43,425,419 acres or 59.5 per cent in 1940. The state lands amount to 10,685,500 acres or 14.7 per cent. Private holdings increased from 9,372,734 acres or 12.9 per cent in 1930 to 18,820,941 acres or 25.8 per cent in 1940. Some 26.8 per cent of Arizona is given over to Indian reservations. Some 10,685,500 acres of land have been set aside for specific land grants.

In the Salt River Valley more than 50 types of soils have been classified and chartered by the Department of Agriculture.

Soil erosion has taken a heavy toll in Arizona. The tragedy of waste should not be permitted to continue. A sound conservation program of state planning should be enacted.

4. Arizona has 8 national forests, representing 11,400,858 acres, and has the largest forest of Ponderosa Pine in the United States. Its timberlands in the north represent a lumber wealth of \$50,000,000.

5. Arizona's mineral production of copper, lead, silver, gold, and zinc was \$81,509,300 in 1940. Arizona is the largest copper-producing state, and had an output of 558 million pounds of copper in 1940. Some 2,603 billion dollars worth of copper was mined in Arizona from 1858 to 1937. Arizona's mineral resources, if carefully conserved, should last some 50 to 100 years.

6. Arizona's wild life resources are estimated at \$22,000,000 annually. Its wide-open spaces and small human population density make it one of the natural game refuges of the nation.

7. The development of Arizona is more dependent upon water than upon any one factor. Roosevelt Dam is the key to the irrigation and power system of the Salt River Valley. Arizona dams are used for irrigation, flood control, and power. The Salt River Project includes the Roosevelt, Horse Mesa, Mormon Flat, Stewart Mountain, and Granite Reef Dams.

A flood control dam has been built on Cave Creek. Bartlett Dam and reservoir were constructed on the Verde. A total storage capacity on the Salt and Verde Rivers amounts to 1,927,000 acre feet. It irrigates 242,000 acres, Coolidge Dam has been constructed on the Gila; and Boulder and Parker Dams on the main Colorado. Boulder Dam is the highest dam in the world, but serves California more than it does Arizona.

By 1941 the SRVWUA had developed an excellent system of dams on the Salt and Verde. The Parker Dam Project is a much discussed possibility for reclaiming 600,000 acres of land by irrigation in Yuma and Gila Counties. This plan is to bring 1,000,000 acre feet of water from the Colorado River to Central Arizona. The Central Arizona Light and Power Company gets a great deal of their power from Parker and Boulder Dams.

Arizona has 42 per cent of the irrigation water and 92 per cent of the potential power of the Colorado River, which has 25,000,000 acre feet of water. Fred T. Colter, Arizona's water trustee, has some 41 water findings on strategic dam and power sites on the Colorado River and its tributaries. Complete diligence has been maintained on these up to and including 1941 for the people of Arizona. Arizona's water rights to the upper Colorado River have been maintained by five United States Supreme Court decisions.

Many United States geological and reclamation surveys have been made by such reliable engineers as Sturtevant and Stam, E. C. LaRue, Trott and Parker, et al. All of these advocate an Arizona High Line canal from Lee's Ferry.

Fred Colter has dedicated his life to the fight for the development of Glenn-Bridge-Verde Highline Canal, which project would irrigate some 5,000,000 acres of land. One of the graphs which follows shows the tunneling necessary to get the water to the Verde River. It would flow over 10 damsites on the Verde which would bring the water down to the Salt River Valley and Central Arizona. The project would help provide power for railroads, mines, and manufacturing. The key to the whole Colorado River system according to Fred Colter is through more economic projects and reclamation. The cost of the Glenn-Bridge-Verde Highline Canal would be less than the Parker Dam

project, he contends; and would bring some 10 times the water and six times the power to Central Arizona. The Colorado River and the tributaries have perhaps the most rapid and steepest descent of any in the United States. They have the narrowest and deepest canyons as well, for irrigation and power dam sites.

The Glenn Canyon-Verde Project is perhaps the most practical water route. It is an all-gravity project. It could produce an enormous revenue in terms of power which should make the project self-liquidating. Cheap water and power to Central and Southwestern Arizona would be the result. Cheap power could be provided for the entire state. The Glenn Canyon Dam would be at an elevation of 3600 feet. It is estimated that more than five million acre feet of water could be brought into Central Arizona. The future of Arizona is tied up with the problem of getting abundant irrigation water and cheap power.

Fred Colter might be likened to the nations Abraham Lincoln as far as Arizona's rights are concerned. Like Thomas Jefferson he has made a Declaration of principles. He believes that the Natural Resources, Population Potentialities and Social Institutions should all be used for the people of Arizona. He feels that Humanity is at a crossroads in its development, and that the forces of greed, corruption, graft and selfishness must be eliminated. He feels that Spirituality, Originality and Initiative should be rekindled in order that Political and Industrial Democracy can be brought about.

The future of the state rests with universal suffrage and educational democracy in the achievement of these aims. Because of the semi-arid character of Arizona, Fred Colter, who is Arizona's Water Trustee, feels that the two master wheels of Arizona's future lie in a combination of water and power. Everything should be centered around them.

On March 14, 1941 the Fifteenth Legislature Senate passed the Santa Fe Compact. It might have passed the House, but Representative Fred T. Colter, with a majority of the House behind him, had it effectively tabled.

8. Indian influence has left its marks in Arizona. The Ho-Ho-Kam Indian Village, now the restored Pueblo Grande, between Phoenix and Tempe, dates back to 700 A. D. (circa) by Dr. Douglas' tree ring theory. The Indian Village of Oraibi, Arizona, the oldest continuously inhabited village in the United States was established about 1200 A. D. (circa). The Casa Grande type of dwelling came in about 1300 A. D. There are many Indian Ruins throughout Arizona. Today there are 50,000 Indians divided into 14 tribes in Arizona. Indian Reservations in Arizona amounted to 19,566,339 acres or 26.8 per cent of the total area of the state.

The Indian Culture is unique with its weaving, beadwork, dances, rodeos, jewelry and rugs. The annual powwow held at Flagstaff, Arizona, is one of the finest of ceremonials of the country. The Indian is generally considered a ward of the nation.

9. Spanish and Mexican influence has also conditioned Arizona. Fray Marcos de Niza came in 1539 in search of gold and precious metals in the famed Seven Cities of

Cibola. Melchoir Diaz explored the Colorado River in 1540. He was the first white man to travel up that stream from its mouth. In 1583 Espejo found silver ore on the Bill Williams Fork, at the foot of the San Francisco Mountains. This is the earliest record of prospecting in Arizona. Espejo also found the Verde River salt deposits. Juan de Onate, in 1595, founded San Gabriel de Los Espanoles, one of the oldest towns in the United States. The first Spanish Mission in the United States was built at San Juan, New Mexico, in 1598.

The foundation for Mission San Xavier del Bac was made by Padre Kino in May of 1700. He also built the Mission of St. Dionysius above the Gila's mouth on the Colorado River. In 1705, Padre Kino mentioned the mining of rich silver ores, probably from Santa Rita Mountain deposits. Padre Kino devoted twenty-six years of his life to missionary work in Sonora and Arizona.

Spanish influence is a predominate factor in the life of the Southwest, in food, religion, fiestas and language. In 1821 Mexico gained its independence from Spain. Arizona was strictly Mexican from then until 1848. One-fourth of Arizona's population is Mexican.

10. Early events have conditioned the Valley. The early pioneers formed new population trends. Zebulon Pike, first American soldier known in the Southwest, made a trip into New Mexico, including Arizona, in 1807. The Santa Fe Trail was found by Captain Becknell in 1823 when the Republic of Mexico was declared and the old Spanish Missions were abandoned. The first American scouts began to explore Arizona in 1825, and two years later Kit Carson had his first fight with Apache Indians on the Salt River.

11. Territorial days introduced a new chapter in Arizona. The Treaty of Guadalupe Hidalgo ended the Mexican War. The Gila River was adopted as the International boundary line. Arizona became part of the U. S. A. in 1848. In 1850 New Mexico and Arizona became a joint territory with a capital at Santa Fe. Tucson came into the United States when the Gadsden Purchase was signed on December 30, 1853. The Gadsden Purchase cost the United States \$10,000,000.

The United States Congress passed the bill which made Arizona a Territory in 1863. The Territorial Act was signed by President Abraham Lincoln on February 24. John Gurley was appointed Governor but he died enroute and John Goodwin became Arizona's first Territorial Governor. Temporary quarters were set up for Governor Goodwin at Navajo Springs on December 29, and then in September, 1864 the first Territorial Proclamation was officially made. The First Territorial Legislature met on September 26, 1864. The First Territorial Government was set up on Granite Street in Prescott. C. D. Poston was elected the first delegate to the United States Congress from the Territory of Arizona. Tucson was incorporated by a proclamation of Governor Goodwin. The capital was permanently transferred to Phoenix in 1889.

Arizona's famous Constitutional Convention was held in Phoenix in 1910. A liberal Constitution was produced. President William H. Taft proclaimed Arizona a State on

February 14, 1912.

12. The agricultural income of Arizona was \$54,000,000 in 1940. This included both crops and livestock. In 1939 Maricopa produced a cotton crop worth \$5,750,000.

The Arizona citrus crop of 1939 was estimated at \$3,000,000. Cantaloupes brought \$1,000,000 to the Salt River Valley in 1940. Lettuce returns for the same year were \$2,500,000. Livestock is a two million dollar industry for Maricopa and Pima Counties.

Vast areas of Arizona have been set aside for grazing. An analysis of soil chemistry would be beneficial.

13. The farm cooperative movement is very strong in Arizona. The United Producers and Consumers Cooperative which had its beginnings in 1934 has a membership of 13,000 and does an annual volume of business approaching \$2,000,000. It is especially strong in Maricopa County which has 350,000 acres of irrigated land under cultivation.

Livestock in Arizona in 1940 included 70,000 horses, 11,000 mules, 750,000 cattle, 824,000 sheep, and 38,000 hogs.

The chief crops in Arizona in 1940 by acreage were corn—25,000 acres; wheat—39,000; barley—37,000; oats—11,000... tame hay—218,000; cotton—221,000; grain—sorghums—32,000. During 1940 2,570,000 boxes of grapefruit and 600,000 boxes of oranges were produced.

14. Arizona and particularly the Salt River Valley will always have an important part to play in the production of the nation's food and clothing in both peace and war time. However the progressive efficiency in agricultural production and world over production are occurring at an astounding rate.

One of the major findings in the Survey was the fact that the future of agriculture in the Southwest is definitely tied up with the farm chemurgic trend. There should be increasing cooperation between agriculture, industry, and science. By farm chemurgics is meant the utilization of the surplus products above those needed for food and clothing as the raw materials of industry. Mining is relatively insignificant in Maricopa County. Mines however can become depleted leaving ghost towns in their wake. Agriculture is genetic and reproduces itself each year. The industrial era has increased at a much greater rate than that of agriculture. Now by means of farm chemurgy a new union of agriculture and industry is possible. Iron and steel formed the essential raw materials of industry in the nineteenth century. For many decades other minerals than iron and steel have formed the raw materials of industry but following the World War, chemistry loomed as another major material of industry.

The farmers in Arizona are eagerly seeking a way out of the seemingly hopeless future of agriculture. Farm chemurgy harnesses both education and industry to aid agriculture. The farm chemurgic idea is gradually taking hold among agricultural, educational and industrial circles. Cotton will probably be gradually replaced in the future by the soy bean and tung oil because of the tremendous over-production in agricultural products, especially in cotton.

A government farm chemurgics plant would be an

excellent contribution to the future development of the Valley of the Sun.

15. Population of Arizona increased from 9,658 in 1870 to 500,446 in 1940. The per cent of increase has decreased each decade. Maricopa's population increased from 150,970 in 1930 to 185,360 in 1940. Phoenix increased from 48,118 in 1930 to 65,434 in 1940—the population was 300 in 1870.

There are some 16,500 families in Phoenix, 46,250 in Maricopa and 125,000 in Arizona.

They are 25,000 individuals under 21 in Phoenix proper, 50,000 in metropolitan Phoenix, 74,000 in Maricopa and 200,000 in Arizona. Arizona's greatest problem is to bring up its youth in such a way that it can make satisfactory adjustments in industry, family, government and society.

Arizona's attractions are its climate, natural wonders, Indian Ruins, wild west pageantry, out-of-door life and its proximity to Old Mexico. Some 35,000 winter tourists visit Phoenix in the six months winter season. The annual income from tourists in Arizona is \$75,000,000. About \$30,000,000 of this finds its way into the valley of the Sun.

16. Retailing in Phoenix amounted to nearly \$50,000,000 in 1940. In 1939 Phoenix retail sales totaled \$47,992,000. It is one of the foremost retailing centers of the nation.

17. Wholesaling in Phoenix amounted to more than \$50,000,000 in 1940. Phoenix is the outstanding wholesaling center for Arizona. In 1939 it had 194 establishments with total sales of \$49,519,000.

18. Manufacturing in Arizona totaled some \$35,000,000 in 1940 of which Phoenix produced some \$11,000,000 worth of products. This represents Arizona's industrial weakness.

19. Labor in Arizona received \$83,000,000 in 1940 compared with \$75,373,950 in 1939. Industrial plus railroad payrolls amounted to \$82,941,506 in 1940. Wholesale and retail trade gave labor \$20,488,579 in 1940. Mine wages amounted to \$20,238,405. Manufacturing accounted for \$9,926,155, personal service workers received \$8,802,358, building and construction workers received \$613,656. Labor in the Valley of the Sun is well organized.

20. There are three strong banks in Phoenix which had combined deposits on June 29, 1940 of \$63,696,035, as compared with \$56,215,584 on the corresponding 1939 date. Check transactions in Phoenix banks during the first six months of 1940 amounted to \$285,653,426. The major trend in banking seems to be the matter of personal financing of automobiles and financing retail installment commodities.

21. Phoenix has its share of qualified professional people. It has 212 lawyers, 62 ministers, and 150 physicians. In terms of teaching it has 70 school administrators in the elementary school system of Maricopa County which supervise some 734 classroom teachers. Phoenix is the center of government operations. It has 53.5 per cent of the executive state officers or members of boards or commissions. In Phoenix there are to be found 828 state employees, 615 city employees, 212 county employees, and 664 federal employees. Maricopa County has nearly 15,000

individuals engaged in industry and business. About two-thirds of the people in Phoenix receive a salary of \$1500 or less.

22. Phoenix has 20,453 dwellings of which 93 per cent were occupied in 1940. Building permits in Phoenix in 1940 amounted to \$3,801,075. Phoenix has built some first class educational, business, residential and hotel structures in the last decade. Federal help in terms of P. W. A. and W. P. A. greatly aided the building program. The amazing building program in terms of the secondary system in Phoenix and of that in Arizona State Teachers College at Tempe has been astounding. Phoenix has been engaged in a slum clearance project in which 500 small homes have been constructed for the low income groups. The Valley of the Sun has an architectural school headed by Frank Lloyd Wright called the Taliesin Fellowship. Both the city, county and state have entered into a wholesale street and highway improvement program.

23. Arizona is girding itself for national defense. Fort Huachuca has been the recipient of a \$3,000,000 building program. Arizona has 27 C. C. C. Camps. Both Tucson and Phoenix are developing into major aviation centers. Both Phoenix Junior College and A. S. T. C. at Tempe participate in the C. A. A. program. Major General A. M. Tuthill was in charge of the selective service which took place in Arizona on October 16, 1940. Colonel Power Conway is in charge of Arizona's defense efforts.

24. The City of Phoenix is a \$70,500,000 political corporation which costs some \$2,500,000 annually to operate. It has a mayor and four commissioners who are elected by the Phoenix electorate, they in turn appoint a city manager who is responsible for the public administration of the city. About 50 per cent of the revenue necessary to operate Phoenix comes from taxes, and the other 50 per cent from sources other than taxes. Phoenix has a tax rate of \$1.70 per \$100 of assessed valuation.

25. Maricopa County has increased in value from \$7,975,00 in 1893 to \$108,603,000 in 1940. The latter figure does not include \$68,667,000 in tax exempt property. Maricopa County is administered by a board of three county supervisors.

26. Arizona was a part of Mexico until 1848, in 1850 New Mexico and Arizona were formed into a joint territory with a capital at Santa Fe. The Gadsden Purchase in 1853 to 1854. A strip of land south of the Gila River totaling 29,670 square miles was purchased for the sum of \$10,000,000. Arizona became a territory in 1863. The first capital was at Prescott. Arizona became a state on February 14, 1912. Arizona has a population of 500,000 and an area of 113,000 square miles. Governor Sidney P. Osborn is the chief executive.

27. There are 27 federal agencies and their divisions in Phoenix. Of the 438 U. S. officials in Arizona some 167 or 38 per cent are located in Phoenix. During 1939 the federal government spent \$21,836,028.32 in Arizona.

28. Health and medical care represent a major function of city, county and state government. Phoenix during the year of 1940-41 will spend some \$83,877 on its health department. Of this amount, some \$50,000 is given

to the Board of Public Charities to be administered by them.

The State Board of Health reports there were 16,865 cases of communicable diseases in Arizona in 1939. They were the direct causes of 1502 deaths. Influenza led with 5,139; it was followed by syphilis with 2,415; gonorrhoea came third with 1,440 cases; there were 1,183 cases of tuberculosis and 999 cases of pneumonia in Arizona. Arizona's infant mortality rate has dropped from 1267 cases in 1937; to 1075 in 1938 and to 943 in 1939. Of the 802 deaths from tuberculosis in Arizona for 1939 only 280 contracted the disease. Some 763 of the 802 deaths were due to pulmonary tuberculosis.

Phoenix is well equipped with exceptional medical facilities having two large hospitals, the Good Samaritan and St. Josephs along with the Louis Grunow Memorial Clinic, the City and State Health Departments and the State Welfare Sanatorium for tubercular patients seven miles east of Phoenix near Tempe.

Tuberculosis is the principal cause of death in Phoenix. However, a larger appropriation is made for venereal diseases and other less important causes of death than for tuberculosis.

29. The Community Chest serves as an integrating agency for social welfare and public betterment in the Phoenix area. It is a directory for the following 15 agencies: Boy Scouts of America, Camp Fire Girls, Catholic Social Service, Desert Mission, East Madison Street Settlement, Florence Crittendon Home, Friendly House, Phoenix Day Nursery, St. Monica's Community Center, Salvation Army, Social Service Center, Volunteers of America, Young Men's Christian Association, Young Women's Christian Association and Jewish Welfare Council. It believes that the greatest values are the human values and that nothing is greater than the building of character. The Community Chest is strictly a business organization that conducts a campaign for these agencies once a year. It distributes funds to each agency monthly. Eight of the agencies give nearly 8,000 children special care, such as shelter for the homeless, scientific care for babies, etc. annually. Family welfare and adult service, such as employment, vocational guidance case work, etc., was given by nine agencies to some 25,000. Health service, including hospitalization, clinics, maternity care, health education, and nursing, was rendered by 13 agencies to 22,000 adults and 13,000 children. Eleven agencies engage in character development and delinquency prevention, serving 15,000 adults and 14,000 children.

About \$125,000 was subscribed in 1940 to the Community Chest campaign as compared with \$110,000 in 1939. Phoenix Community Chest funds in 1939 were distributed as follows: child care service, 10.5 per cent; family welfare and adult service, 19.5 per cent; health service, 25.4 per cent; group work, 30.3 per cent; administration department, 6.1 per cent; campaign and year-round public relations program, 3.2 per cent and reserve for delayed collections, 5.0 per cent.

30. Sports and athletics were highlighted in 1940 by the annexing of the worlds soft ball title for girls in the Detroit meet by the P. B. S. W.

The Arizona State Teachers College Bulldogs coached by Coach Millard (Dixie) Howell won their second straight border conference football championship which resulted in an invitation to the El Paso Sun Bowl on New Year's Day. There they played and lost to the Western Reserve Redcats. This game was featured by a 120 yard run with a 94 yard advance by Hascall Henshaw.

Bob Goldwater, former title holder, once more fought his way up to the top in the finals of both the state and Southwestern golf tournaments, but was defeated in the title events of both meets.

The North Phoenix High School was undefeated in winning the 1940 championship, but it did not play several of the major teams. Tucson defeated Phoenix Union High by a score of 10 to 6.

In as much as Phoenix is ideally situated in regards to climate, it has become a year-round sports center. One may find almost any sport desired, other than winter sports. The sports cycle runs from football in the fall to basketball, swimming, baseball and golf, with horseshoes, croquet, handball, ping-pong, pool, and shuffle-board as year-round sports.

Bowling is one of the most progressive sports in Phoenix as it is throughout the nation.

There is a sports stadium for football, baseball, and outdoor sports events. This is besides the two other stadiums serving high schools in Phoenix. There is a race track at the fair-grounds for horse racing, auto racing, dog racing, and rodeo events. There is one swimming pool open the year around and five open during the summer.

31. In the Phoenix metropolitan district there are 24 Baptist congregations; 14 Methodists; four Roman Catholic; four Church of Christ; one Christian; one Christian Science; five Church of God; three Congregational; six Episcopal; two Hebrew; three Latter Day Saints; two Lutheran; one Missionary; two Nazarene; four Presbyterian; three Salvation Army; two Seventh Day Adventist; and one each, Holiness, Apostolic, Assembly of God, Spiritualist, Bethel Assembly, Evangelical Covenant, Unity Truth Center, United Lodge of Theosophists, as well as several missions and independent congregations such as the Patrick Park Union Church and Christ's Church. Phoenix has a splendid Y. W. C. A. and Y. M. C. A. as well.

The Phoenix Ministerial Association was established about forty years ago. It has a group of 65 energetic city pastors, some of whom represent suburban towns, representing eighteen denominations.

A Phoenix Church census took place in October, 1940 directed by Rev. R. N. Merrill and a committee of ten prominent clergymen. The city was divided into eight districts and 435 sections. Each card filled out represented one family with an average of four people. Catholic figures are not available.

Number of cards from each group follow with number of families: Apostolic Temple, 31; Assembly of God, 55; Bahai, 2; Baptists, 3413; Lutheran, 525; Methodist, 3364; Millennial Dawn, 5; Missionary Church, 60; Mennonites, 4; Mormons, 618; Nazarene, 118; Orthodox, 31; Pentecostal,

129; Presbyterian, 1426; Salvation Army, 21; Seventh Day Adventists, 158; Spiritualists, 17; Trinity Reform, 11; Unity, 119; Miscellaneous, 23; those families not contacted, 2092.

32. The collective mind and brain centers in Phoenix exist in its clubs and organizations regardless of an economic, political, social or fraternal order.

During the year 1940 there were in existence in the capitol city of Arizona, Phoenix, more civic women's service clubs than ever in the history of the city.

33. Phoenix and the Valley of the Salt River have five major types of communication; namely, the newspaper, radio, telephone, telegraph, and postal service. Each one has become such an important part in the life of the Valley resident that he cannot get along without reading his newspaper, listening to the radio, telephoning his associates, telegraphing in cases of emergency, and receiving his mail.

34. A modern urban community demands a first-rate system of transportation. Phoenix is fortunate in having a first-class modern airport, two major airlines, two first class railroads, three transcontinental bus lines, and three intra-city bus lines. It has four national highways over which trucks and automobiles pass going to all sections of the state. Phoenix is the center of the State's transportation system.

35. Recreation today is of major significance as a phase of common life in Phoenix and the Valley of the Sun. It may take the form of active recreation, such as participation in base ball, basketball, football, swimming, horseshoes, golf, tennis, dancing, etc. It also may take the form of passive recreation such as attending theatres, movies, lectures, entertainments, football, basketball, and baseball games, tennis matches, circuses, listening to radio.

In the city of Phoenix there are nine theatres, five of which are operated by Richards and Nace. In Phoenix there are the Orpheum, Fox, Rialto, Strand, Studio, Phoenix, Ramona, and the Phoenix Drive-In Theatres. Besides there are the College Theatre in Tempe, the Rowena in Chandler and the Nile in Mesa.

36. Phoenix and the Valley have an excellent educational set-up in terms of grammar, high school, vocational, junior college and teachers college institutions.

37. Cultural facilities are very good in terms of libraries, drama, art, music, lyceum, etc. Cultural headquarters will be in the new Civic Center in North Phoenix.

38. Law, Crime and Punishment are fairly well handled in Phoenix and the Valley by an efficient, well-equipped and modernized staff, considering all factors.

39. The great needs of Phoenix are (1) Manufacturing, (2) Cheap Power, (3) Abundant Water and (4) development along Farm Chemurgic lines.

40. Intelligent planning for Conservation of natural, human and social resources in Arizona and the Valley of the Sun, are needed.