

# REPORT

OF THE

## ACTING GOVERNOR OF ARIZONA.

EXECUTIVE DEPARTMENT OF ARIZONA,  
*Phoenix, September 25, 1891.*

SIR: In compliance with your letter of instructions dated July 28, 1891, I have the honor to submit the following report of the affairs, progress, and development of the Territory of Arizona for the year ending June 30, 1891.

### POPULATION.

The Eleventh Census, taken last year, placed the population of Arizona at a trifle less than 60,000 souls, exclusive of Indians and others living on reservations. From a careful revision of the work of the enumerators it is evident that 65,000 would have been more nearly correct.

There being no immigration bureau in the Territory nor source of statistical information as to the increase in population since the last report from this office was submitted, the estimate can only be approximated; there is good reason to believe, however, that the increase has been considerable, and that the population of Arizona will number 70,000 people before the close of the current year. There has been quite an influx from Kansas during the past few months, the immigration being attracted by the great agricultural advantages of the southern valleys of the Territory. These people, who have come for the purpose of making permanent homes, will add largely to our prosperity and fixed population.

While mining is still the leading wealth-producing industry of Arizona, agriculture will, no doubt, soon rank first in importance, and the transient prospectors and migrating miners will be largely outnumbered by men of families, making homes and engaging in pastoral pursuits, this without any diminution of mining interests; to the contrary, they are increasing and more prosperous than ever before.

As previously reported in regard to the character and nationality of the population of Arizona, Americans are very largely in the majority, and they have come from every locality and corner of the nation. Our pioneers were brave men and true, who firmly planted the banner of civilization on a remote and dangerous frontier, and made the rapid growth of this young empire in the western world possible.

Many of the original pioneers of Arizona still survive, having outlived the hardships of early frontier life and cruel war with treacherous Apaches. They live in comfort and honor, and view with complacent pride the fruition of their labors in the spectacle of a magnificent state forming around them, rich in commerce, natural resources, and

social advantages; a sturdy commonwealth, with a population equal in moral worth and mental strength to any in the nation. Bordering on the Republic of Mexico and having been, previous to the "Gadsen purchase," a part of that country, it is not strange that Arizona has quite a number of Mexicans among her people. They are, however, not so numerous as in our sister Territory, New Mexico. They are mostly naturalized citizens, law-abiding, in sympathy with and obedient to American laws and customs, and interested in the education and elevation of their race. There are comparatively few Chinese in the Territory, and although objectionable, they are not sufficiently numerous to disturb the labor question. As the Territory of Utah forms the northern boundary of Arizona, it is natural that we should draw a considerable portion of our population from that source. It is estimated that there are at least 12,000 Mormons in the Territory, engaged principally in agriculture and grazing. The population of Arizona, taken as a whole, will compare favorably with that of any other subdivision of the country.

TAXABLE PROPERTY.

The following tabulated statement shows the kind and quantity of taxable property, and valuation thereof, in the Territory, according to the report of the Territorial Board of Equalization for the current year:

Counties.	Acres.	Value.	Value of improvements.	Value of city and town lots.	Value of improvements.
Apache .....	1,950,076.00	\$461,143.14	\$544,549.20	\$31,837.30	\$101,436.50
Cochise .....	87,887.00	90,753.00	319,959.00	77,575.00	217,508.00
Cocconino .....	462,827.50	229,216.17	14,060.00	68,404.00	75,296.00
Graham .....	32,846.00	349,291.30	335,703.00	33,570.00	72,116.00
Gila .....	9,552.00	328,825.00	112,313.60	26,487.00	79,955.00
Mohave .....	670.00	17,565.00	111,835.00	8,235.00	49,980.00
Maricopa .....	236,927.00	2,072,815.00	251,434.00	1,127,830.00	554,535.00
Pima .....	290,044.00	386,974.00	189,330.00	807,047.00	711,858.00
Pinal .....	46,703.00	308,106.00	272,870.00	58,084.00	146,000.00
Yavapai .....	325,209.97	299,320.89	149,151.00	203,547.70	325,380.00
Yuma .....	11,924.00	58,111.50	1,010.00	29,635.00	13,360.00
Total .....	3,364,668.00+	4,602,121.00	2,302,214.20	1,972,252.00	2,347,424.50

Counties.	Horses.	Value.	Mules.	Value.	Cattle.	Value.	Goats.	Value.	Hogs.	Value.
Apache .....	5,210	\$119,839.00	90	\$2,250	74,132	\$630,122.00	174	\$174.00	414	\$1,212.00
Cochise .....	3,321	68,106.00	232	7,085	95,850	756,992.25	215	215.00	250	762.30
Cocconino .....	5,028	140,844.00	30	1,620	55,062	405,825.00	47	59.00	138	833.00
Graham .....	3,416	82,344.60	167	6,325	66,730	585,718.50	442	464.00	371	1,121.92
Gila .....	3,558	85,083.00	183	5,925	58,645	496,470.45	443	450.00	256	788.75
Mohave .....	1,404	35,671.52	25	700	29,360	252,155.00	1,300	1,300.00	49	166.80
Maricopa .....	5,602	170,501.25	236	10,085	26,509	254,350.95	380	380.00	2,048	6,077.25
Pima .....	5,725	117,552.08	307	8,076	121,377	960,892.12	167	206.00	588	1,737.40
Pinal .....	2,723	63,970.00	251	7,477	48,565	403,551.78	.....	.....	422	1,280.40
Yavapai .....	11,685	298,528.00	146	6,365	142,460	1,205,057.70	300	331.50	830	2,537.50
Yuma .....	240	5,738.00	90	3,065	2,250	19,461.60	.....	.....	94	282.00
Total .....	47,912	1,188,168.45	1,757	58,973	720,940	5,970,597.35	3,468	3,570.50	5,460	16,829.32

Counties.	Sheep.	Value.	Asses.	Value.	Miles of railway.	Value.	All other property.	Total valuation.
Apache .....	105,684	\$21,460.00	92	\$344.00	111.60	\$558,450.00	\$161,450.00	\$2,634,288.14
Cochise .....	3,601	6,800.00	.....	.....	171.00	1,108,625.77	327,588.00	2,981,769.32
Cocconino .....	184,899	201,898.00	34	939.00	126.67	578,867.00	258,114.81	1,975,975.98
Graham .....	2,620	5,252.18	219	1,817.10	45.00	161,397.99	62,676.35	1,687,797.94
Gila .....	2,100	3,780.00	307	2,530.00	.....	.....	166,626.00	1,309,235.20
Mohave .....	3,750	6,800.00	136	1,151.75	114.377	574,885.00	87,135.00	1,147,580.00
Maricopa .....	39,118	57,496.50	99	806.00	94.57	596,727.79	606,826.00	5,709,864.74
Pima .....	1,472	2,643.60	87	596.00	125.65	778,781.15	615,588.00	4,081,279.85
Pinal .....	2,215	4,116.00	144	1,171.95	79.79	521,761.41	179,586.00	1,967,974.54
Yavapai .....	5,269	10,551.00	355	2,482.00	133.84	720,620.00	810,265.00	4,034,137.90
Yuma .....	.....	.....	25	187.50	80.00	544,891.91	64,822.00	740,564.51
Total .....	288,727	320,597.28	1,498	12,025.30	1,083.00	6,145,008.02	3,330,678.36	28,270,466.28

According to the foregoing tables the Territory has the following assessed taxable property :

3,364,668 acres of taxable land.....	\$4,602,121.00
Improvements thereon.....	2,302,214.20
City and town lots.....	1,972,252.00
Improvements thereon.....	2,347,424.50
720,940 cattle.....	5,970,597.35
283,727 sheep.....	320,597.28
47,912 horses.....	1,188,168.45
1,757 mules.....	58,973.00
1,498 asses.....	12,025.30
3,460 goats.....	3,579.50
5,460 hogs.....	16,829.32
1,083 miles of railroad.....	6,145,008.02
All other property.....	3,330,676.36
	<hr/>
	\$28,270,466.28

The average valuation is :

Land per acre.....	\$1.37
Cattle per head.....	8.28
Horses per head.....	24.79
Sheep per head.....	1.11
Mules per head.....	33.36
Asses per head.....	8.03
Goats per head.....	1.03
Hogs per head.....	3.82
Railroads per mile.....	5,674.06

The valuation of improvements and other property is correspondingly low. The rate of taxation varies in the different counties, but the average rate in the Territory for all purposes is \$3.28 + on \$100. The total assessed valuation of the taxable property in the Territory as given above is \$28,270,466.28. There is unquestionably \$70,000,000 of taxable property in Arizona, and fully that amount would be stated if proper assessments and valuations were had. The present system of low valuations and high rates is injurious and misleading and calculated to create false impressions with intending immigrants and investors. Notwithstanding the heavy debt of the Territory, our financial condition would be good if our property were properly assessed and valued, and we would not be continually required to explain why the rate of taxation in Arizona is higher than the rate of interest required for money on call loans in some parts of the East. The truth is, not over one-third of our property is assessed, and very little property except real estate is rated at over one-half its actual value.

It is conceded by all who are acquainted with the facts that if all the property of Arizona were assessed, and at its full value, the rate of taxation would be as low here as in many of the most prosperous States.

It is very necessary for the Territorial welfare that these facts be understood and appreciated throughout the country.

The total assessed valuation of the Territory has increased nearly a quarter of a million of dollars since last year, notwithstanding a reduction of over \$470,000 in railroad valuations.

FINANCIAL CONDITION OF THE TERRITORY.

The following official statements show the bonded and floating indebtedness of the Territory, life of the bonds, amount of annual interest, and

rate of interest on bonds and warrants; also the county and municipal indebtedness, valuation of property, rate of taxation, etc.:

*Territorial bonds and floating indebtedness.*

Names of the bonds.	Date issued.	Amount.	Rate of interest.	Annual interest.	When mature.
			<i>Per cent.</i>		
Territorial prison bonds.....	Mar. 1, 1879	\$15,000	10	\$1,500	15 years; first issue.
Do .....	Mar. 1, 1880	15,000	10	1,500	15 years; second issue.
Gillette-Tiger Mine wagon road	Apr. 1, 1879	20,000	10	2,000	15 years.
Florence-Globe City wagon road	do	10,000	10	1,000	Do.
Tucson-Globe City wagon road	do	10,000	10	1,000	Do.
Agua Fria-Camp Verde wagon road.	Aug. 1, 1879	10,000	10	1,000	Do.
Yuma-Ehrenberg wagon road...	May 1, 1881	10,000	10	1,000	Do.
Territorial redemption.....	June 1, 1883	214,000	7	14,980	*\$260,000, issued 20 years; \$46,000 redeemed to date.
Insane asylum .....	Mar. 9, 1885	100,000	7	7,000	20 years; part in 10 years if surplus in fund.
Wagon road bridge.....	Nov. 1, 1885	12,000	8	960	15 years.
Gila bridge.....	May 15, 1885	15,000	8	1,200	Do.
Arizona University .....	Jan. 1, 1887	25,000	7	1,750	20 years; part in 10 years, if surplus in fund.
Territorial funding.....	Jan. 15, 1888	150,000	6	9,000	25 years.
Total.....		606,000		43,890	

\* Provisions for proportionate redemption after 5 years.

General fund warrants outstanding September 12, 1891.....	\$190,030.53
Interest on general fund warrants at 10 per cent. accumulated so far this year.....	15,360.80
Territorial indebtedness, bonded .....	606,000.00
Interest thereon .....	43,890.00
Floating.....	190,030.53
Interest .....	15,360.80
Total .....	855,281.33

*County indebtedness.\**

Counties.	Debt, floating and bonded.	Rate of taxation for all property.	Counties.	Debt, floating and bonded.	Rate of taxation for all property.
Apache .....	\$149,000.00	\$3.00	Pima.....	\$334,485.57	\$2.89
Cochise .....	155,000.00	3.50	Primal.....	175,723.27	3.21
Cocouino.....	153,000.00	2.85	Yavapai.....	381,500.00	3.00
Gila.....	38,581.55	3.50	Yuma.....	112,000.00	4.85
Graham.....	200,315.05	3.25	Total.....	2,175,605.44	
Mohave.....	120,000.00	3.30			
Maricopa.....	317,000.00	2.75			

\* Total valuation of each county is given in table of taxable property.

*Indebtedness and valuation of incorporated cities.*

Cities.	Indebtedness.	Valuation.
Phoenix.....	\$52,000.00	\$1,820,000.00
Tucson.....	32,000.00	1,600,000.00
Prescott.....	*90,000.00	*1,600,000.00
Tombstone.....	14,989.00	370,553.95
Total.....	198,989.00	4,790,553.95

\* Approximated.

The average rate of interest throughout the Territory for all purposes is \$3.28; 71 cents of this tax is applied for Territorial purposes, and is insufficient to defray the expenses of government, pay interest, and provide for proper redemptions. It is also believed that a sufficient tax levy is not made in the different counties. The reason for this, however, as stated by responsible parties, is, that the increase of property and values in the Territory will soon provide for payment of the indebtedness and maintenance of the government without increase of taxation.

The total indebtedness of the Territory, counties and municipalities, is reliably stated as follows:

Territory (bonded and floating) .....	\$855, 281. 33
Counties (bonded and floating) .....	2, 175, 605. 44
Cities (bonded and floating) .....	188, 989. 00
Interest on county and city debt (approximated after allowing for periodical redemptions) .....	180, 127. 00
Total .....	3, 400, 002. 77

The Territorial indebtedness, as above, amounts to about 12 per cent. of the property valuation, or a trifle over \$56 per capita of our people according to the census. This would not be the fact if the property were properly assessed; to the contrary, with a property valuation of \$70,000,000, to which we are entitled, our debt would be inconsiderable.

A law was passed by Congress in June, 1890, entitled "An act approving with amendments the funding act of Arizona." The act provided, under legal limitations and restrictions, for funding all the floating indebtedness, Territorial, county, municipal, and school, and such of the bonded indebtedness as can be lawfully redeemed, at a rate of interest not to exceed 5 per cent. per annum, the bonds to run 50 years, although they may be redeemable after 20 years; the Territory, under the act, assuming the obligations of the counties and municipalities, and all securities that can be funded made Territorial, the Territory being protected by equalized taxation.

The Territorial legislature at its last session, by enactment, made the life of the bonds 50 years instead of providing for redemption after 20 years as the act of Congress authorizes, and it was believed that such action would make them more salable.

The principal advantages of funding the Territorial debt under this law are the reduction of interest and placing the affairs of government—county, Territorial, and municipal—for the future upon a cash basis. A great saving would accrue to the Territory from the placing of these bonds, and as the Territory has never repudiated its obligations nor defaulted interest, its bonds being all held at a premium, it would seem that these bonds ought to be in demand, although the rate of interest is low. As the interest on the floating debt (outstanding warrants) is in nearly every instance 10 per cent., the saving on the floating debt, when the same is funded, will be 5 per cent.; but as the average rate of interest paid by the Territory on all of its indebtedness, Territorial, county, and otherwise, is 8 per cent., the computation of saving should be made on that basis.

The board of loan commissioners of the Territory, through Governor John N. Irwin, its chairman, has been making strenuous efforts to negotiate these funding bonds, and the governor has visited the money centers of the East for that purpose, and he is now in New York endeavoring by every means in his power to promote the Territorial interests in this matter; so far, however, he has not met with success, and it is possible that further legislation may be necessary by Congress

before the bonds can be placed, although I believe them desirable for investors now.

That the financial condition of the Territory be relieved is very important, as will be seen by an analysis of the foregoing statements, and should further legislation on this subject by Congress be necessary, I earnestly recommend that it be had.

#### SETTLEMENT OF LANDS.

In reference to this subject full information is contained in the following reports by United States land offices of the Territory:

UNITED STATES LAND OFFICE,  
Prescott, Ariz., September 12, 1891.

Hon. N. O. MURPHY,  
*Acting Governor, Phoenix, Ariz.:*

DEAR SIR: Complying with your request of the 7th instant, we make the following statement of the business done in this office during the fiscal year ending June 30, 1891:

The preëmption and timber-culture acts, as you are aware, were repealed in March last, consequently there was but little done under either of these laws. There were, however, a few sundries or filings under each, leaving the record about as follows:

	Acres.
27 coal-land filings, about.....	4,000.00
97 preëmption filings, embracing about .....	15,000.00
4 original timber-culture entries .....	480.00
80 homestead entries.....	12,261.97
35 final homestead entries.....	5,479.99
21 cash entries .....	2,120.01
2 original desert-land entries.....	120.00
1 final desert-land entry .....	420.00
1,650 quarter sections, railroad selections.....	263,923.46
16 final mineral-land entries .....	306.00
<b>Total.....</b>	<b>303,931.43</b>

Respectfully submitted,

T. J. BUTLER,  
*Receiver.*

UNITED STATES LAND OFFICE,  
Tucson, Ariz., September 18, 1891.

Hon. N. O. MURPHY,  
*Acting Governor, Phoenix, Ariz.:*

DEAR SIR: I have the honor to transmit herewith, as per your request, 7th instant, a full and complete record of the agricultural and mineral entries made in this office, for the year ending June 30, 1891.

Original entries.	No.	Acres.	Final entries.	No.	Acres.
Homestead .....	162	22,619.03	Homestead.....	96	14,106.54
Desert land .....	139	36,734.93	Desert land .....	80	28,880.86
Preëmtions .....	93	12,224.50	Cash.....	103	12,651.39
Timber culture .....	51	7,224.50	Timber culture .....	2	240.57
Mining applications.....	21	342.35	Mineral.....	16	267.57
<b>Total.....</b>	<b>466</b>	<b>79,120.81</b>	<b>Total.....</b>	<b>259</b>	<b>56,146.93</b>

#### RECAPITULATION.

	No.	Acres.
Original entries.....	466	79,120.81
Final entries.....	279	56,146.93
<b>Total .....</b>	<b>745</b>	<b>135,267.74</b>

The foregoing does not include some 10,000 acres of land passed under special letter of the Department, because of ex-Receiver Smith's defalcations.

Very respectfully,

HERBERT BROWN,  
Register.

In addition to the foregoing, the following information furnished by the United States officers of the Gila land district is instructive and interesting:

The Gila land district, of which the United States land office is situated in Tucson, is comprised of the counties of Cochise, Pima, Pinal, and Gila, and portions of Maricopa, Graham, Apache, and Yuma. The line of demarkation between the Gila and Prescott land districts is the first correction line north, or the first standard parallel north of the base line of Arizona which passes through the confluence of the Gila and Salt rivers, easterly and westerly, commencing on the Colorado, 72 miles in an air line north of Yuma, and runs directly east, passing north of Phoenix, 12 miles south of Wickenburg and 20 miles north of Globe, and strikes the New Mexican line 42 miles north of Clifton, Ariz. The area of this district comprises 45,318 square miles, or nearly 30,000,000 of acres, exceeding in size the great State of Pennsylvania 318 square miles, or 203,520 acres; but notwithstanding the enormous size of the Gila district; it is less than the Prescott district by 23,000 square miles, or 14,720,000 acres.

A casual glance at the foregoing shows Arizona to be not an estate, but an empire, capable of great and unlimited possibilities when its vast resources, now practically untouched, shall have been developed. Inclusive of the lands contained in the Indian and military reservations the approximate amount of land entered at the office in this district amounts to but one-thirtieth of the whole area. The room for profitable investment in Arizona is equalled by no other State or Territory in the Union. The little that has been done is indicative of what can be done, and sooner or later will be done. The deserts of Arizona will disappear under the rose bush and the dread of the Apache under the sod. The world will yet marvel at the greatness of Arizona. Let the following figures be carefully considered:

Approximate quantity of public land unsurveyed, exclusive of military and Indian reservations, *subject to settlement* under existing laws, July 1, 1891, in each county in the Gila land district, Arizona:

County.	Acres.	County.	Acres.
Apache .....	27,760	Gila .....	410,020
Graham .....	2,230,440	Maricopa .....	3,600,900
Cochise .....	2,501,280	Yuma .....	4,165,790
Pima .....	5,065,119		
Pinal .....	2,220,466	Total .....	20,221,775

Approximate quantity of public lauds subject to entry or filing July 1, 1891, exclusive of military or Indian reservations in each county in the Gila land district, Arizona, is as follows:

County.	Acres.	County.	Acres.
Apache .....	13,440	Gila .....	40,780
Graham .....	620,630	Maricopa .....	377,680
Cochise .....	1,327,416	Yuma .....	526,810
Pima .....	1,204,000		
Pinal .....	762,494	Total .....	4,873,250

The following is the approximate quantity of public lands entered under the several land laws of the United States in Gila land district:

County.	Acres.	County.	Acres.
Apache .....	138, 240	Maricopa .....	414, 720
Cochise .....	60, 864	Yuma .....	115, 200
Pima .....	184, 320		
Pinal .....	100, 000	Total .....	1, 032, 344
Gila .....	10, 000		

#### RAILROADS—COMMERCE AND PROGRESS.

The following railroads are now being operated in the Territory:

	Miles.
Southern Pacific of Arizona .....	333
Atlantic and Pacific .....	393
New Mexico and Arizona .....	87
Prescott and Arizona Central .....	73
Arizona and New Mexico .....	41
Arizona and Southeastern .....	36
Central Arizona .....	35
Maricopa and Phoenix .....	34
Total .....	1, 082

The Southern Pacific passes along the southern part of the Territory from Yuma, on the Colorado River, to the eastern boundary of Cochise County, passing through the counties of Yuma, Maricopa, Pinal, Pima, and Cochise.

The Atlantic and Pacific crosses north of the center of the Territory near the thirty-fifth parallel and passes through the counties of Apache, Yavapai, and Mohave.

The New Mexico and Arizona runs from Benson on the Southern Pacific, in Cochise County, to Nogales, in the same county, at the Mexican line.

The Prescott and Arizona Central runs from Prescott Junction on the Atlantic and Pacific to Prescott and is all in Yavapai County.

The Arizona and New Mexico runs from Clifton, in Graham County, to the Southern Pacific at Lordsburg, N. Mex.

The Arizona and Southeastern runs from Bisbee, Cochise County, to Fairbanks, on the New Mexico and Arizona, in the same county.

The Maricopa and Phoenix runs from Maricopa, Pinal County, on the Southern Pacific, to Phoenix, Maricopa County.

The Central Arizona runs from Flagstaff, on the Atlantic and Pacific, southward for 35 miles in the pine forest, and is projected to extend to Globe, in Gila County, and possibly to Phoenix, Florence, Tucson, and Calabasas, in southern Arizona. This road was formerly known as the Mineral Belt, and is not now being operated except for logging purposes by the Arizona Lumber Company. The extension of the road as projected would be of the utmost advantage to the Territory. Railway communication from north to south is absolutely necessary to the proper welfare and progress of Arizona. Several north and south roads are being projected and the people of the Territory are very desirous for their success.

What was said in my former report on this subject is also applicable now.

The physical formation of the country is such that with the present transportation facilities an interchange of home products is barred.

The Atlantic and Pacific traverses an upland plain (Colorado plateau)

at an average elevation through Arizona of over 5,000 feet, and the Southern Pacific crosses the valleys and agricultural sections of the southwest.

One variety of products is tributary to the Atlantic and Pacific, another variety to the Southern Pacific, and it is absolutely necessary to the welfare of the country that they be interchanged. The people of the north, who are engaged principally in the production of the precious metals and lumber and in stock raising, are forced to go abroad for their agricultural supplies, flour, hay, barley, etc., and pay a double price for them, because they have no road to the rich valleys of the south, where grain is stored unsold for want of a market, and the people of the southern valleys could, with the aid of a railroad, get lumber and other timber, coal, etc., in the north for about one half what it now costs them. The consequences are that the natural resources of this part of the country can only be partially developed. Mines can not be worked and made productive which, with cheaper supplies, would yield riches, and the other industries of the neighborhood are comparatively retarded.

To induce the construction of the much needed north and south lines, the sixteenth legislature of Arizona passed the following very liberal act exempting railroads constructed under its provisions from taxation for twenty years:

No. 41.

AN ACT to encourage the construction of railroads within the Territory of Arizona:

*Be it enacted by the Legislative Assembly of the Territory of Arizona:*

SECTION 1. That, for the purpose of encouraging the building and construction of railroads within the Territory of Arizona, by any person or persons, association or corporation, all railroads built without subsidies and in accordance with the provisions of this act shall be exempt from taxation for the period of twenty years from the passage of this act. And any person or persons, association or corporation, wishing to avail themselves of the provisions of this act, shall file their intentions with the secretary of the Territory within six (6) months after the passage of this act, setting forth the initial and terminal points of the proposed railroad and probable length of the same, and the actual construction of said proposed railroad shall commence within six (6) months from the filing of such notice of intention, and no railroad or any part thereof shall be exempt from taxation as provided by this act unless the entire road shall be built, equipped, and in running order from the initial and terminal points, as filed with the secretary of the Territory, as provided by this act.

SEC. 2. As soon as any road is built, and before it is open to the public for carrying of freight or passengers, the constructors or owners of said road shall notify the supervisors of the county or counties through which such road is built, that such road is complete and ready for business; and it shall be the duty of such supervisors to appoint a competent engineer or engineers, who shall inspect such road within such county, and if upon his or their report the road is declared to be completed, the board of supervisors may declare the road open to the public, and the franchise, right of way, road bed, bridges, culverts, rolling stock, station grounds, depots, water tanks, coal bins, turn tables, roundhouses, machine shops, station houses, telegraph lines, and the personal property used in the operation of such railway shall be exempt from taxation for twenty years after the passage of this act.

SEC. 3. This act shall not apply to any road that is not a public carrier and not built for public use, nor to any road not supplied with first-class accommodations to the traveling public, and to no road not built at the rate of fifty (50) miles per annum, or work done in the construction of said road equivalent to the completion of fifty (50) miles per annum of said road from the time of commencement until completed; provided, that any road built under the provisions of this act shall run one train per day each way along said line for the accommodation of passengers and freight from and between the terminal points; and provided further that the benefits of this act shall not apply to the shifting or change of road bed of any road now built, equipped, and in running order within the Territory of Arizona.

SEC. 4. All acts or parts of acts in conflict with the provisions of this act are hereby repealed.

SEC. 5. This act shall take effect and be in force from and after its passage.

Approved March 16, 1891.

Several reliable companies have signified their intention to build on account of the above act, and it is now believed that Arizona will soon be afforded the relief so much desired.

Improved transportation facilities will stimulate every industry of the Territory, and I believe involves the most important conditions precedent to wealth, population, and independent self-government.

#### AGRICULTURE AND IRRIGATION.

Arizona's arable lands, for depth and richness of soil and for quality, variety, and quantity of products, can not be excelled if equaled anywhere in the Union.

The following tables compiled from authentic information will give a fair idea of the progress of agricultural development in the Territory, although only those localities giving particular attention to agriculture and irrigation are presented.

#### MARICOPA COUNTY.

Maricopa County is the most important agricultural district of Arizona and at present has irrigating canals and acreage of reclaimed land as follows:

Canals.	Length.	Reclaimed land.	Canals.	Length.	Reclaimed land.
	<i>Miles.</i>	<i>Acres.</i>		<i>Miles.</i>	<i>Acres.</i>
Arizona.....	41	50,000	Utah.....	6	10,000
Grand.....	27	-----	Farmers'.....	5	21,000
Maricopa.....	26	45,000	Total.....	181	182,000
Salt River Valley.....	26	-----	Increase current year.....	-----	20,000
Tempe.....	19	25,000			
Highland.....	22	18,000			
Mesa.....	9	13,000			202,000

The foregoing canals are in the Salt River Valley and have been operated for several years, although their extent and capacity are being enlarged with the increased settlement of the lands under them.

#### Canals on the Gila, in Maricopa County.

Canals.	Length.	Reclaimed land.	Canals.	Length.	Reclaimed land.
	<i>Miles.</i>	<i>Acres.</i>		<i>Miles.</i>	<i>Acres.</i>
Buckeye.....	30	20,000	Gila River.....	8	5,000
Palmer.....	22	12,000	Total.....	86	48,000
Enterprise.....	12	6,000			
Citrus.....	14	5,000			

While these canals are already in operation, another, on a very large scale and more important than all the others in operation on the Gila, is now being constructed by the Gila Bend Reservoir and Irrigation Company, and of which the following is a description:

The dam of this company is located on the Gila River, about 22 miles north of Gila Bend station, on the Southern Pacific Railroad; its line of canal is down the east side of the Gila River until near Gila Bend station, when it turns to the west, as does also the Gila River, and runs parallel with the railroad for about 10 miles, when it turns south, crossing the railroad and then continuing in a southwesterly direction, covering one of the most fertile and beautiful valleys in Arizona, having an area of several hundred thousand acres.

In speaking of the Gila and Salt River Valleys, the United States Senate committee on irrigation said that "An analysis of the soil showed it to be richer than the Nile earth." Hon. J. De Barth Shorb, probably the highest authority in California, says that these valleys "are superior to any in the known world."

Active work is now in progress on the dam, and it is expected to have water out by January, 1892.

When completed the canal will carry water enough to irrigate from 175,000 to 200,000 acres of land; there being ample water in the river at all seasons of the year for that amount of land.

Oranges, lemons, figs, raisins, and all the other fruits raised in southern California can be raised under this canal, and the seasons are fully a month earlier than in southern California.

Those interested in the promotion of this canal will set to fruits fully 10,000 acres during the coming year.

Another very important irrigation enterprise has been inaugurated about 35 miles northwest of Phoenix, in Maricopa County, on the Agua Fria, by which it is proposed to reclaim at least 100,000 acres of land. The property is owned by the Agua Fria Land and Water Company, and the prospects are favorable to the early and successful operation of the projected reservoir and canal.

There are 55,000 acres bearing crops this year under the Arizona, Grand, Maricopa, and Salt River Valley canals, as follows:

	Acres.
Alfalfa .....	13,000
Orchards and vineyards .....	5,000
Grain .....	37,000

and there has been raised under these four canals this year fully 40,000,000 pounds of grain and 200,000,000 pounds of alfalfa. Of the 5,000 acres in fruit 500 acres are in oranges.

A great deal of the land under the Tempe canal, on the south side of the river, has been cultivated in wheat and barley together. The yield of wheat under the Tempe canal this year was nearly 3,000,000 pounds and the yield of barley 3,500,000 pounds. There are about 10,000 acres in alfalfa. There were 30 tons of peaches raised at Tempe, or rather under the canal, and 15 tons of apricots, and the grain averaged about 1,000 pounds to the acre.

The Mesa canal has under it 10,000 acres in cultivation, of which 3,000 acres are in alfalfa, 3,500 acres in vines and fruit trees, and 3,500 acres in grain. Grapes average 2½ tons to the acre, and grain about 18 sacks to the acre. The Mesa canal is being extended and its capacity being increased to supply the newly occupied lands under it. Under the Highland canal there are now 8,000 acres in cultivation, 2,500 acres in alfalfa, 50 acres in fruit, and 5,450 acres in grain.

All the canals in the valley were more or less injured by the heavy floods last winter and spring, but were quickly repaired and ready to supply the settlers. The fruit culture of Maricopa County was given a decided impetus during the past year by the operation of drying and packing establishments at Tempe and in the neighborhood of Phoenix. The country surrounding Tempe on the south side of the Salt River has attracted a great deal of attention from immigrants of late, and a number of colouists from Kansas have settled in that neighborhood; and although the advantages for agriculture in that section are superior, no benefits can be claimed over other localities in the magnificent Salt River Valley.

No data has been furnished this office as to the crops of the Indians

in this country for this year, but a statement of their productions for last year makes a creditable showing for them, which will no doubt be equaled if not exceeded in 1891.

The following is a statement of the Indian crops for 1890 :

Acreage cultivated.....	4,000
Wheat produced.....pounds..	4,000,000
Corn produced.....do.....	12,000
Barley produced.....do.....	85,000
On Papago Reservation:	
Wire fence made.....rods..	7,840
Hay made.....tons..	150
Wood sold.....cords..	1,200
On Pima and Maricopa Reservation:	
Horses.....	4,000
Cattle.....	3,500

As my report of last year was very full in regard to agriculture and irrigation it is only necessary at this time to note such conspicuous changes as have occurred within the year.

Fruit culture will evidently soon take precedence as the most prominent industry in the agricultural sections of the Territory, and the following statement by a prominent writer is becoming generally accepted as true:

There are few countries that possess a soil and climate so well suited to the business. Already farmers are discovering that there is more money in fruit than in the raising of grain and grasses. The rapid growth and the marvelous yield is a prime factor in inducing people to engage in this pursuit. In the Gila and Salt River Valleys the product is ripe and ready for market fully a month before that of southern California. Fruit-raisers can readily see the advantages which this gives them. Fruit from these valleys can be laid down in the seaboard cities earlier than from any other section of the Union. This means ready sale and high price.

The yield is phenomenal. The fig, which succeeds in so few places in the United States, seems to be indigenous to the valleys of southern Arizona and grows as strong and thrifty as the cottonwood tree. It yields two and sometimes three crops a year. This seems hardly credible, but it is an actual fact. The fruit is large, rich, and luscious, and has only to be tasted to be appreciated. Grape cuttings from California will bear in 18 months, and two crops a year is not uncommon. During the present season apricots have been shipped from the Salt River Valley to Los Angeles a month before the fruit was ripe in that section.

One of the most profitable fruits grown in the United States is the raisin grape. Few localities are adapted to its cultivation. The curing of the fruit requires a dry climate, and this Arizona possesses. There are only two or three places in California suited for raisin-making, and even in them the conditions are not altogether satisfactory. The largest raisin producer in the United States has recently visited southern Arizona and, after making a thorough examination, declares that there is no part of the United States equal to it for raisin-making. He secured an extensive tract of land which he will plant next season. When it is remembered that over 90 per cent. of all the raisins consumed in this country are imported, the opportunities here presented will be fully understood.

Besides the orange and lemon, the olive and the banana thrive in Maricopa County.

Grape-picking begins 40 days earlier in the Salt River Valley than in California, and the first raisins packed anywhere in the United States this season have been packed in this country. Both figs and raisins are now being packed for export. One party alone has a fig farm containing 120 acres, and there are many other smaller farms where figs are raised in abundance. The fruit when prepared for shipment presents as fine an appearance as any to be found in the world. It is large, rich, and juicy, and as good as it looks. Raisins are also being dried and packed in large quantities. They are excellent in quality, and can be grown and prepared for market at the minimum expense on account of superior climatic advantages. Of the 5,000 acres and upwards of fruit in Maricopa County, figs and rasins lead in quantity, although oranges,

apricots, peaches, pears, plums, blackberries, and strawberries are abundantly produced. The Salt River Valley is very much in need of more fruit packing and canning establishments, which will soon come with the increased production and cheapened transportation. Maricopa County, with her immense area of marvelously productive land, her abundance of water, and variety of products, can successfully compete with the most favored agricultural districts of the country.

Bee keeping is one of the most profitable industries in the Salt River Valley. The climate is well adapted for the business, and the blossoms of the alfalfa plant, the mesquite tree, and the sunflower are excellent honey producers. The bees are always healthy, and require but little attention. The product is equal in quality and flavor to any made on the coast. It is white and clear, and readily commands the maximum price. There is a good market all over the Territory, and a great deal is now being exported. Eight carloads have been exported this year.

#### YUMA COUNTY.

The conditions of this county in reference to agriculture and irrigation is most comprehensively presented in the following paper. It is proper to state, however, that several of the more important canal enterprises named were seriously injured by the very disastrous floods on the lower Gila last winter and spring; some of the preliminary work being entirely destroyed. Other enterprises have taken their place, however, and it is by no means certain that the original plans of all will not be carried out. Several new irrigation enterprises have been projected during the year in the neighborhood of the village of Yuma, some of which are in an advanced state of construction, and one—notably the Yuma Pumping and Irrigation company—is in active operation. This company is irrigating a large tract of land from the Colorado River by means of powerful pumps. It is also proposed by a wealthy syndicate to build a very large canal having its head at the Colorado River just below Yuma to reclaim vast bodies of land in southern Arizona and Mexico. There is certainly an unlimited water supply in this great river that may be utilized either by pumps or gravitation.

The general conditions and agricultural advantages of Yuma County as herein presented will apply to all the agricultural region of southern Arizona:

Of the several large irrigation canals operating in Yuma County, but one is completed. The remainder, while only partially finished, are nevertheless in a position to meet the requirements of many acres of bottom and valley lands, with the promise of extending their range of usefulness to many times as much again. All head at some point or other upon the Gila River (except the new enterprises named above), and each is confined entirely within the environs of the valley bearing the same name. The aggregate cost is very great, but proportionate return upon the invested capital will for the first time become apparent during the coming 12 months. Canal building is of comparatively recent origin in the country. A few years since the fertile valleys were almost literally destitute of human inhabitants, while to-day it is safe to say that every acre of valley land along the line of the canals has been filed upon, not to mention considerable mesa land taken up along the line of their projected extensions.

The various works, commencing at Oatman Cañon and extending westerly at intervals to within a few miles of the Colorado River, do not, of course, cover all the arable land in the lower Gila Valley. With no Territorial laws upon the subject of irrigation and ownership of water, excepting the statute that riparian doctrine shall not be recognized, and the prior locator shall hold against all others, it followed naturally that the first comers were the first served. Of the few available sites for canal headings situated upon either side of the river, such as seemed likely to prove the cheapest and most convenient during the periodic seasons of low water, were taken up, leaving those that remained of little value until the time when water can be stored in sufficient quantities to render them of practical consequence.

The names of the most prominent water ways, together with the length, carrying capacity, estimated cost, and number of acres tributary to each, are given herewith.

	Length.		Capacity.	Estimated cost.	Acres reclaimable.
	Miles.	Inches.			
Mohawk.....	35	11,000		\$150,000	40,000
Redondo.....	5	600		8,000	1,500
Farmers.....	13	5,000		15,000	10,000
South Gila.....	22	8,000		45,000	12,000
Purdy.....	10	9,000		25,000	7,000
Contreras.....	7	3,000		9,000	2,000
Sanders.....	10	5,000		35,000	2,000
Araby.....	8½	3,500		10,000	2,500
Toltec.....	3	30,000		15,000	.....
Total.....	120½	77,100		337,000	81,000

In the event of the completion of the above-described works in accordance with the original plans of the projectors, the total length would reach 241 miles, reclaiming 267,000 acres of bottom, valley, and mesa land, at an estimated cost of \$1,318,900. The "duty" of water is not constant, but varies according to the locality. The quantity used per acre under the lower Gila Valley canals is rated at about one-third of an inch. It should be explained that but little of the soil has been irrigated earlier than 18 months ago, and, being virgin soil, requires more water than will be necessary during the coming seasons. For this reason it is fair to assume that the duty per inch will be materially increased. In California an inch will irrigate from 4 to 12 acres, and it is not only possible, but it is also likely, that the wasteful custom of applying more water to the soil than is actually needed, in vogue among the majority of the Yuma County farmers, may have much to do with the apparent deficiency.

It may be stated incidentally that by irrigation the fertilization of land fluctuates according to the nature and quality of the silty matter deposited upon it by the water, and this, it is estimated, is from 30 to 100 per cent. Both the Gila and the Colorado are especially rich in such matter, and therefore the constant fertilization effected through the operating canals renders any further enrichment of the soil superfluous, useless, and unnecessary.

#### PRODUCTS OF THE COUNTY.

Fruit culture has so far been prosecuted upon a limited scale, but enough has been learned from experimental tests to demonstrate the positive feasibility of not only producing an excellent quality of the most profitable fruits, but also the ability to raise them for market from three to six weeks earlier than any section of California.

The orange, lemon, and lime, finding soil and climate congenial, yield in abundance large, clean-skinned, and exceedingly luscious fruit. They color handsomely, contain the requisite acidity and sweetness, and are very juicy.

The warm sunshine of the spring, summer, and autumn days causes the fruit in Yuma to mature early, and gives a delicious sweetness, flavor, and color to the orange, lime, lemon, and other citrus fruits which they can not attain on the coast of the Pacific, where fogs dampen the fruit, mildew is produced, and dust coats both leaf and fruit.

It is undeniable that nowhere upon the globe can a spot be found more favorable for the growth of citrus fruits than Yuma County.

The fig and pomegranate offers a character of fruit that almost stamps them as indigenous. The latter is not recognized to any great extent as yet, but it will certainly become an important factor in horticulture when its economic qualities are better known. As to the fig the most desirable variety has yet to be determined. The true "White Smyrna" would probably prove the best, and that its yield would be prodigious goes without saying, for the tree will bear three crops annually. This assertion is based upon actual productive results of the "Mediterranean White" fig, that is known not to be the true Smyrna.

The grape seizes upon what is proffered to it and becomes hardy, thrifty, and adaptable. The choice naturally inclines to the earliest for table purposes. What those varieties should be is in process of experiment upon a scale that will soon solve the question, but it may be said that all kinds mature from 3 to 4 weeks before they do in California. They attain great size, cluster tightly on the bunches, are firm and highly colored, and possess exquisite flavor. Heavy wines and brandies of a superexcellent quality can be made, but with light wines the reverse is true, for

everything, apparently, goes to saccharine. For ripening wines the climatic conditions are admirable. A quantity of common white wine, costing 45 cents a gallon, was brought here by water years ago, and on being found unsalable was placed in cellars and its history almost forgotten. Nine years later the wine was brought to light, when it was discovered that it resembled brown sherry, rich in bouquet, smooth as oil, and delicious to the taste. It was carefully drawn from the casks, bottled, and sold at \$2.50 per bottle.

The olive grows luxuriantly, and in the future promises to become a most profitable investment. Whatever are its characteristics elsewhere, here it requires water and cultivation—the more the better.

The plum can easily be raised from the seed. It fruits early, though so far the product does not commend itself particularly for table use, but as a stock upon which to engraft prunes, or even superior varieties of plums, it is everything to be desired. An experiment in this line with the best prune in California shows a growth of 23 inches in 40 days from the insertion of the graft.

The date has passed beyond conjecture. The plant produces magnificently, and its cultivation will be prosecuted more extensively this winter than ever before. The soil is in every way suitable, and with occasional cultivation and intelligent irrigation a quick and early growth is assured.

Apricots and peaches have been tested. They mature rapidly, bear choice fruit, and are always healthy, giving flattering indications of future success.

As facilities increase other fruit trees will be introduced, and with the same care that is bestowed upon them elsewhere will, so soon as they become acclimated, come to a yield materially in advance of the place from whence they come. The field is too large to admit of extended comments at this time, but it may suffice to refer briefly to certain other products, which may in time equal if not surpass fruit growing as a commercial proposition; as, for example, cotton, wild hemp, ramie, sugarcane, sugar beets, etc.

Cotton has been tried from time to time for years with varying but always satisfactory results, and even then without care. If watered regularly it becomes a large bush, and if properly pruned a tree, being in flower, boll, and cotton all the year round. These bushes and trees have in instances borne steadily for 14 years. The staple of course diminishes in course of time, but at 10 years it is not inferior to the average staple of western India.

Wild hemp is a textile plant indigenous to the country. It grows freely and luxuriantly to a great height, often averaging from 15 to 17 feet. It has a long, strong fiber, and is frequently worked into nets and fishing lines by the Yuma Indians. Convulsive attempts have been made to utilize this plant, with the practical result of fixing its value among the fibers used in the manufacture of cordage at about \$160 per ton of 2,000 pounds. After proper bleaching and manipulation a beautiful fiber has been produced and manufactured into colored fabrics, taking the dye and retaining the elasticity and luster exactly as well as the fabrics of true flax and ramie. It seeds itself annually, and, immediately following the overflowing of the Colorado River, takes possession of every nook, corner, and open area, to the exclusion of everything else. It covers not less 100 square miles in an unbroken stretch, commencing near the boundary line of the Gadsden Purchase, and extending northward along the river to Hardy's crossing of the Colorado at a point above where the rising tides of the Gulf of California forces back the flow of the Colorado River proper.

The fibrous plant ramie has been given a partial trial. The soil, on analysis, was found to contain all the essential properties to render the most favorable results, but the absence of water, together with injudiciously planting the roots too late, retarded the growth. Enough data was obtained, however, to warrant the belief that this will eventually become one of our most important industries.

Sugar cane has been fairly tested with Sonora cane. The growth was surprisingly great, and the percentage of juice much increased over the yield at the place from which it was originally brought. A superior quality of "panocha" and sirup were manufactured, the prices realized leaving handsome margins for profit. The capriciousness of the water supply, as in the case of ramie, dissolved the industry, and it has not since been revived.

The sugar beet promises better results for the future than many of the products already mentioned as prominent in the same direction. Samples not fully matured polarized 17 per cent. With proper cultivation the percentage can be raised to from 20 to 25, and, besides, will harvest two crops each year.

Wheat does splendidly, but complete data is not at hand from which to compute the average yield. In one instance, however, 483 pounds seeded to 20 acres about 9 miles east of Yuma, on the Gila River, returned 52,750 pounds after having been irrigated five times. This was sold in San Francisco, bringing 5 cents per cental over every kind then in the market. The grain is remarkable for its plump berry-like appearance. The winter and spring are warm enough to insure a vigorous growth, and cool enough in April and May to allow the heads to fill out without shriveling.

It is so perfect as to sell for seed, and, so far as known, is proof against rust. Two crops are raised annually. Barley also does well and will produce two crops, the first yielding from 35 to 40 bushels of barley and the second a large amount of hay.

Corn is produced in great quantity, yields enormously, and can be grown the year round. The "Cocopah" corn is noted for its sweetness, plumpness, earliness, and for its firm and solid grains. Five weeks after planting roasting ears are plentiful. This variety will command a ready sale at higher prices than any other kind.

Alfalfa will cut from five to seven times at an average of 2½ tons to the acre. Eight acres, but one year old, have this year yielded 74 tons, with more cuttings yet to be had. The hay brings \$10 per ton. (This price is paid for the limited amount sold at Yuma.)

Sorghum, raised for feed, is both valuable and prolific. It frequently reaches 15 feet in height, yields from 15 to 20 tons per acre, and worth \$15 per ton. Several crops can be harvested annually.

Vegetables, kitchen and garden stuff, melons, etc., grow all the year round in unlimited quantity and excellent quality. Some time since a Gila valley farmer planted 15 pounds of Irish potatoes on one piece of bottom land that had been overflowed, from which he harvested over 700 pounds, and it is believed, has rarely, if ever, been excelled. The sweet potato produces enormously, and equals the choicest brought from California.

Peanuts mature rapidly and abundantly, yielding a nut both plump and toothsome.

Wherever there is sufficient moisture the natural flora abounds in profusion and variety. They are of rare beauty and delicious fragrance, the bulbous plants particularly. The lily surpasses the famous "Japan." It has been claimed by experts that at no distant period opium will be manufactured from the poppy, and attar from the rose; both flowers thrive vigorously. There are but few trees capable of adorning the surrounding of the lovely modern home that can not be successfully grown.

Every plant, vine, or tree mentioned in the foregoing list has been actually proven adaptable to our soil and climate. Many others have been omitted through lack of space. But there seems to be no doubt that time will demonstrate our ability to profitably raise all the semitropic and most of the tropical and temperate productions.

#### PINAL COUNTY.

No particular changes have been reported in the agricultural interests of this county during the year.

There are two irrigation districts in Pinal County, one tributary to the Gila River around Florence, the county seat, the other supplied by the San Pedro, in the south-eastern part of the county. The canals of the county are as follows:

Name.	Length.	Acres.	Name.	Length.	Acres.
	<i>Miles.</i>			<i>Miles.</i>	
Moore.....	3	300	Pat Holland.....	7	1,000
McClellan.....	3	300	Alamo Aramilla.....	7	1,000
The Swiss.....	2	200	Brady.....	4	1,000
Sharp.....	3	160	Adamsville.....	4	1,000
Stiles.....	4	300	White.....	3	200
Brash.....	4	400	Walker and Dempsey.....	3	300
Florence.....	43	60,000			
Montezuma.....	6	15,000	Total.....	96	67,160

All the above ditches are private property, except the Florence, Montezuma, and Aramilla, which are owned by incorporated companies.

There are 3 private ditches on the Gila above Riverside and below San Pedro, as follows:

Name.	Length.	Acres.
	<i>Miles.</i>	
Shields.....	2½	490
Winkleman.....	1½	480
Brannaman & Co.....	1½	820
Total.....	5½	1,250

On the San Pedro, west side, and in their order upstream, are the following ditches:

Name.	Length.	Acres.	Name.	Length.	Acres
	<i>Miles.</i>			<i>Miles.</i>	
Lattan .....	1½	80	Pusch.....	2	640
Harrington.....	1½	480	Dodson.....	2	325
Swingle.....	2	480	Cook.....	1½	200
Waterman No. 1.....	1½	320	Brown.....	1½	160
Waterman No. 2.....	1½	320			
Bates.....	1½	160	Total.....	16	3,160

These are all private ditches. About half the land covered by the above ditches, except the Florence, is in actual cultivation.

The Florence Canal emerges from the river at a rocky point about 1½ miles below the cañon known as the Buttes. Fifteen miles of laterals and service ditches are constructed. The main canal has a capacity equal to a flow of 400 cubic feet per second, and is so constructed that it can be easily enlarged and its capacity increased. A large storage reservoir has been constructed, about 15 miles south of Florence, at a cost of \$100,000, and has a storage capacity of 8,000,000,000 gallons of water. There is a large catchment basin tributary to the reservoir, so that with little trouble or expense the reservoir can be filled at least once, and possibly twice, a year independently of the river supply. There are under cultivation under this canal more than 6,000 acres.

The soil and productions of the land in Pinal County are practically the same as in Maricopa County.

GRAHAM COUNTY.

The irrigation district of this county lies in the valley of the Gila River, and, as will be seen by the following tables, agricultural interests are prosperous and have not materially changed since last year.

IRRIGATING CANALS IN THE VICINITY OF STAFFORD.

Name.	Length.	Acres irrigated.	Under this ditch were grown last year—					
			Alfalfa.	Grain.	Corn.	Vegetables,	Orchard.	Vine.
	<i>Miles.</i>							
Sunflower.....	2	400	175		60	2	1	
Graham.....	4	500	100	200	40	20	3	
Union.....	8	1,200	300	100	100	20	10	5
Brancho of Montezuma.....	10	800	400	90	120	10	20	4
Total.....	24	2,900	975	390	320	52	34	9

CANALS OF CURTIS AND VICINITY.

Oregon.....	5	1,200	50	400	200	50	10	
Curtis.....	5	400	50	200	100	20	20	8
Kempton.....	3	400	100	200	50	10	30	10
Justman.....	2	200		50	10			
Matthews.....	4	400	100	300	100	5	5	5
Dodge.....	4	200	50	200	50	20	20	20
Smithville.....	6	400	200	200	200	5	15	5
Darby.....	3	200	50	50	100	2	5	5
Total.....	36	3,600	700	1,700	910	117	115	53

IRRIGATING CANALS NEAR SOLOMONVILLE.

Brown.....	2½	150	40	40	60	3	1	
Mejia.....	2	500		320				
Gonzales.....	2	200		100	100			
Michelena.....	5	600	6	400	100		1	
Z. Gonzales.....	4	800		400	100			
Total.....	15½	2,250	46	1,260	360	3	2	

It will be seen from these tables that in some cases the area of small grain and corn is larger than the whole area of land irrigated by a canal. This is because two crops follow each other on the same ground, two crops being produced in one season.

## PIMA COUNTY.

This county has heretofore given more attention to mining and grazing than to agriculture, and the cultivation of the soil is comparatively a young industry in this locality. According to the last report the agricultural products of Pima County for the previous year were stated as follows:

There are in all 12,000 fruit trees in bearing, producing the best of fruit, full in size and delicious in flavor. There are 3,000 grapevines in bearing with 1,500 cuttings one year old. The grapes come into bearing in 3 years from the planting of the cutting and in two years from the planting of the rooted vines.

The culture of fruit in this county is an entirely new enterprise, and from the success attained by the experiments made bids fair to become one of the chief industries of this section.

In the valley of the Santa Cruz, from Calabasas to Tucson, there are under cultivation about 3,000 acres, yielding—

5,628 tons of hay .....	\$67,547
854,000 pounds corn .....	12,675
1,374,000 pounds of wheat and barley .....	20,601
300,000 pounds potatoes .....	6,000
380,000 pounds beans .....	8,400
300,000 pounds vegetables .....	15,000
26,000 pounds red pepper .....	1,680
<b>Total .....</b>	<b>131,903</b>

On the Rillito Creek east of Tucson 500 acres of land are in cultivation, producing—

850 tons of hay .....	\$10,200
265,000 pounds of barley .....	3,975
80,000 pounds of beans .....	2,400
100,000 pounds of potatoes .....	2,000
<b>Total .....</b>	<b>18,575</b>

At Crittenden, Reddington, and other points, lands are cultivated to some extent with the same results as the reports above. There are thirty-six ditches of a total length of 52 miles used in irrigating these lands. The lands produce two crops a year—sowing grain in December and January, and corn, beans, and potatoes in July and August. Harvesting hay and grain begins in May and June, and other crops in October, November, and December, except alfalfa hay, which is cut each month from April to September. During the months of October, December, and January alfalfa is pastured, it keeping green and growing slowly during these months.

During the year the Santa Cruz Water Storage Company and the Santa Cruz Valley Land Company have started enterprises which will undoubtedly assure to Pima County agricultural development in the early future many times greater than it now has.

Cochise and Gila counties, although principally engaged in mining and grazing, do more or less farming, and the same is true of Apache, Yavapai, and Mojave counties. In Apache County the valley of the Little Colorado embraces nearly all of the irrigating and agricultural interests, and they are quite extensive and profitable. In Yavapai County most of the farming is confined to the valleys of the Verde, and Augua Fria, although the higher valleys, notably Kirkland Valley, Peoples' Valley, Skull Valley, and the basin of Granite Creek produce hay and grain liberally, and also all kinds of orchard fruits.

A very large ditch has been built this-year in the Verde Valley, by which it is proposed to irrigate about 8,000 acres of new land. Large irrigation enterprises have also been started in Big Chino and Lonesome valleys, Yavapai County.

## STOCK RAISING.

The assessment rolls as reported by the Territorial board of equalization states the number of stock in the Territory as follows :

Cattle .....	720,940	Goats .....	3,468
Sheep .....	288,727	Mules .....	1,757
Horses .....	47,912	Asses .....	1,498
Hogs .....	5,460		

The total valuation being placed at \$7,570,768.90, or an average valuation per head as follows :

Cattle .....	\$8.28	Goats .....	\$1.03
Sheep .....	1.11	Mules .....	33.56
Horses .....	24.79	Asses .....	8.03
Hogs .....	3.82		

It is believed that the above figures do not represent much more than half of the stock in the Territory, and in some cases not half, yet they are official, taken from the assessment rolls and are probably as nearly correct as are the assessment figures of other kinds of property in Arizona. (The financial condition of the Territory would look better if assessments were closer.)

The conditions for stock raising in Arizona are exceedingly favorable, and it can be safely asserted without fear of successful contradiction that the percentage of increase is greater and percentage of loss by disease, lack of food, severity of climate, or for any other reason, is less than in any other part of the country.

The climate of Arizona is not surpassed, if equaled, in the known world for the successful breeding of cattle. Its vast area, embracing mountain, mesa, and plain, gives great diversity, and yet neither the cold of one section nor the heat of the other is sufficient to interfere with constant and continuous growth or certainty of rearing the young, whether born in summer or winter.

The rainfall on all the mountain ranges is usually very abundant, and on the more northern and highly elevated mountain ranges snow falls to considerable depth, supplying pure water on the ranges below as well as fresh and nutritious feed until supplemented by the summer rains.

The lower valleys in the southern part of the Territory depend for water and for grass upon the summer rains, which are usually sufficient to insure good grazing, although this year it is reported that the rains have been very light on the southern plains and that the stock is not looking as well as usual.

It is estimated that 300,000 cattle and 2,000 horses have been shipped from the Territory during the year. The shipments of hogs and wool have not been reported, although they no doubt will reach a very considerable figure.

## MINING.

Mining has always been the foremost wealth-producing industry of Arizona, and the great mineral deposits of our mountains have been demonstrated to be practically limitless. Mining has been very active during the past year, and it is probable that the metal exports for 1891, if they could be definitely stated, would exceed in value those of any previous year in the Territory's history.

As we have no Territorial bureau for the collection and dissemination of statistical information on this subject (the office of the Territorial geologist having been abolished by legislative enactment), it is impossible to furnish reliable data in detail as to the progress of the mining interests. The most conspicuous producers of the Territory of copper, at this time, are the copper mines of Bisbee, in Cochise County; of Globe, in Gila County; the United Verde copper mines, at Jerome, in Yavapai County, and the mines of the Arizona Copper Company, at Clifton, Graham County.

The principal gold producers are the mines of the Harqua Hala district, in Yuma County; the Congress, Crowned King, and Hill Side mines, in Yavapai County, and the Mammoth mine, of Pinal County.

Silver is being produced liberally in every mining county in Arizona; notably at Tombstone, Cochise County; Harshaw, Pima County; the Peck and Tiger districts, Yavapai County, and the Vekol, in Pinal County. The anticipated favorable legislation by Congress on the silver question will no doubt stimulate silver production in the Territory very materially.

While it is useless to attempt to particularize upon the numerous new mining enterprises being projected, some of which are ready for operation, a few of the most important may be mentioned.

The great metal company of Phelps, Dodge & Co., of New York, has expended at least \$1,000,000 upon mining property and improvements in Yavapai County, and extensive works have been erected by this company at Big Bug, Senator, and Copper Basin, consisting of smelting and milling plants for the reduction of copper, silver and gold ore, and the manufacture of sulphuric acid, narrow-gauge railways, tramways, etc.

The Tiger Company, in the Bradshaw Mountains, is developing extensively and putting up expensive works on the famous Tiger mine.

The Yuma Copper Company, in Maricopa County; the Reymert Company, in Pinal County, and many new companies in Pima County are erecting works preparatory to extensive operations.

It is impossible from the data at hand to render a comprehensive statement of all the mines being successfully operated in the Territory, but everywhere in the mining districts activity prevails.

In Mohave County the mining interests are especially prosperous. The following is a statement of the mineral productions of Arizona for the year ending June 30, 1891, approximated as nearly as possible:

*Mineral production of Arizona.*

Counties.	Copper in pounds.	Gold.	Silver.	Total in gold and silver.
Mohave.....		\$200,000	\$300,000	\$500,000
Yavapai.....	3,000,000	500,000	175,000	675,000
Yuma.....		200,000	30,000	230,000
Maricopa.....		40,000	585	40,585
Pima.....		100,000	750,000	850,000
Pinal.....		200,000	205,000	405,000
Cochise.....	9,500,000	57,955	200,000	257,955
Graham.....	10,000,000	10,000	3,000	13,000
Gila.....	7,000,000	5,000	20,000	25,000
Other mines.....	500,000			
Total.....	30,000,000	1,312,955	1,683,585	2,996,540
Returns from smelting and express companies not included above.		300,265	325,467	625,732
Copper.....				4,200,000
				7,791,272

## ONYX.

During the past year very valuable deposits of superior onyx have been discovered in Arizona, the most notable being in the Big Bug district, Yavapai County, and on Cave Creek, Maricopa County. The quality of the onyx has been declared first class by competent experts; the quantity discovered is great, and from the statement of reliable authorities it is probable that the Arizona product will soon take first place in the onyx markets of the country.

## SANDSTONE.

The sandstone quarries of Coconino County, near Flagstaff, are furnishing large quantities of first-class building stone to both Eastern and Western markets.

The red and gray sandstone of Arizona quarries is exciting the attention of builders wherever it has been introduced on account of its superior quality, beauty, resistance to heat, &c. The supply is practically limitless, and notwithstanding the distance from populous markets, the quarrying and shipment of this stone has become a growing and profitable industry. Yavapai County has a large and valuable deposit of very valuable building stone near Prescott.

## FORESTS AND THE PRODUCTION OF LUMBER.

The pine forests of northern and central Arizona cover an area of about 2,700 square miles, or approximately 1,750,000 acres. Detached bodies of timber are found in various parts of the Territory at altitudes above 5,000 feet, but do not exist in large enough quantities to make them of any special commercial value, except fuel. In the larger forests on the San Francisco range the pine trees run from the sapling size up to four feet in diameter. Common saw-timber runs from 12 to 36 inches in diameter usually, the logs averaging about four to the 1,000 feet of lumber.

Arizona has an ample timber supply for the home consumption of a large population for many years. The price of common lumber varies from \$15 to \$40 for 1,000 feet, according to locality. The excessive price is on account of expensive transportation to localities remote from the source of supply; this will be remedied by the construction of railroads.

The principal kinds of timber used for fuel are pine, oak, juniper, and mesquite, and the supply is usually bountiful in all populated parts of the Territory. The principal shipping point for lumber is Flagstaff, on the Atlantic and Pacific Railroad, in northern Arizona. In this connection I submit the following communication from Hon. D. M. Riordan, president of the Arizona Lumber Company at Flagstaff, whose information and reliability on this subject can not be questioned:

In response to yours of the 17th, which is just at hand, I beg leave to say (without having before me all the data necessary to complete accuracy), my belief is that the pine-timber resources of this Territory will be quite sufficient for any population we will have, near or remote, even with wasteful and improvident methods, for at least 150 years; but if properly conserved, they can be made to furnish all the timber needed for wise use by all the people this Territory can support, for all time to come.

I base this upon my knowledge of the timber to this particular forest. The increase by growth is to-day vastly in excess of the quantity being removed.

Conservative judges and estimators of timber who have had greater experience than I, place the quantity of timber on the Colorado plateau at about 8,000 million feet. This includes the Coconino forest, but does not include the forests of the White Mountains nor the timber in the Santa Catalinas, Santa Ritas, nor in any other of the timber covered regions of the Territory.

My observation has been that the pine timber of this Territory is usually found at an altitude between 5,500 and 7,500 feet. Below the 5,500-foot elevation the timber runs into stunted junipers, pinions, and other similar growth, and finally ceases altogether. Above the altitude of 7,500 feet it changes rapidly into Douglas fir, and, in the dark cañons, into spruce and balsam. I have noticed that on isolated mountain ranges throughout the Territory there is a zone of pine encircling the mountains between the altitudes above given.

I believe that the total quantity of pine timber fit for sawing purposes within the boundaries of the Territory will, when all brought into consumption, amount to 10,000 million feet. The ordinary rate of production with us is an average of about 10,000,000 feet per annum; and I do not believe that there are more than 2,000,000 to 2,500,000 feet produced elsewhere within the limits of the Territory.

Based on these presumptions, and without having any actual data to guide me, I have come to the conclusion that at the highest rate of increase of population which the most hopeful and sanguine friend of the Territory has dared to count on, the standing-timber supply would easily suffice for 150 to 200 years, even with present methods of consumption, and making no allowance for growth.

In this connection I desire to make the suggestion, that, as the conditions now permit of the forests being placed by legislation under the control of the people of the Territory without inflicting hardship on any vested interests, and as the future agricultural development of the Territory depends largely upon an abundant and permanent supply of water from the mountains, and as the water supply, in turn, depends upon the proper preservation (particularly from forest fires) and upon the control of the forest conditions, I believe it would be a wise and kindly thing to do for posterity, to frame such enactments as would forever preserve a suitable forest covering for the present timber-growing areas. As to the means by which the needed legislation shall be brought about, I leave that for those who are wiser and more familiar with such matters. But the necessity seems so apparent to me, that I can not refrain from making the suggestion in this connection.

Our present output, as you know, ranges from 10,000,000 to 13,000,000 feet per annum. This is marketed entirely now between Daggett and Albuquerque, a region which you may say is, by natural affiliation and similarity of condition, almost entirely a part of the Territory itself. We employ from 150 to 500 men, according to the season, and disburse annually from \$250,000 to \$525,000. We continually strive to increase the distance to which our products shall go, but we are met by a more abundant supply of timber and lower priced labor at the points above named; and it has seemed thus far impossible for us to compete beyond these points profitably. The higher price of labor and consequent heavy cost of production, as well as the expensive transportation conditions, effectually put a bar to farther progress in either direction at the present. It is hardly necessary for me to state that this forest extends east and west a distance of about 60 miles at a point where the Atlantic and Pacific Railroad crosses it, and extends north from the Atlantic and Pacific about 24 miles. Thence it continues in a general southeasterly course, but narrowing up as you go south to a width of from 3 to 10 miles until it merges into the forests of the White Mountains and so continues on into New Mexico.

The Coconino forest extends about 60 miles along the southern rim of the Grand Cañon, between the Little Colorado River and Cataract Creek, and has a width varying from 10 to 18 miles, an average width of, say, 13 miles.

#### EDUCATION.

Arizona has reason to be proud of her educational system, and in view of the mistaken ideas that seem to prevail in some parts of the east in regard to this subject, and the erroneous publications that have appeared, I desire to present a thorough and reliable statement of the facts.

Hon. George W. Cheyney, superintendent of public instruction; Hon. J. M. Ormsby, secretary of the board of regents of the Territorial University; Prof. F. A. Gulley, of the Agricultural College, and members of the faculty of the Territorial Normal School have furnished me with the following official information which is authentic.

The common-school system of the Territory is firmly established and well maintained by a carefully constructed code of law.

In plan it anticipates a general control by a board of education, consisting of the governor, treasurer, and superintendent of public instruction, of which the governor is president and the superintendent

secretary. On this board devolves the duty of general supervision; the adoption of rules and regulations for the government of subordinate officers; selection of a course of studies and of text-books; granting of life and educational diplomas, and the management of Territorial school funds.

This board meets at the capital of the Territory as frequently as may be necessary, and acts *ex officio* without compensation.

With a Territorial board of examiners, consisting of the superintendent of public instruction and two competent persons appointed by him, rests the duty of fixing the qualifications of teachers. Territorial certificates, valid in all the counties of the Territory, are issued direct by this board, and examination questions, prepared and issued quarterly by them, secure a uniformity in standing of county certificates, which are granted by boards of county examiners, consisting of three, of which the county superintendent is *ex officio* a member and chairman.

All these officers, with the Territorial superintendent, are appointive, the superintendent by the governor, with a term of 2 years, and at a compensation fixed by the legislature. The county superintendent, who is *ex officio* probate judge, is elected biennially in each county. He, in conjunction with county boards of supervisors, divides the county into districts, in each of which three trustees compose a board who manage the schools in their respective districts. Their term of office is 3 years, one being elected annually. At such elections, all property taxpayers and all parents or guardians of children of school age are qualified voters, without distinction as to sex or citizenship. With the board of trustees rests the power of appointing teachers and fixing their compensation, providing necessary supplies, enforcing the rules of the board of education, and with the consent of the qualified electors in their districts renting or building school houses, levying special taxes or bonding their districts. The law contemplates that, while each district shall receive a proportionate share of the general school fund for the conduct of the schools, the purchase or erection of school buildings shall be by the district itself.

Until 1883 the school age in the Territory was from 6 to 21; since then from 6 to 18, and all children between these ages, without respect to sex, race, or color, excepting Chinese and the children of Indians not taxed, are entitled to admission and a free education. If unable to procure text-books, they are furnished them by the district. No religious test or qualification can be applied, either to teacher or pupil, nor is any sectarian, denominational, or partisan instruction permitted. An annual census of children of school age is taken as a basis for apportionment of funds and for the division of counties into districts.

A school month in the Territory consists of 4 weeks of 5 days each, and although in the cities and towns schools are maintained for 9 and frequently 10 months, the average for the Territory is between 6 and 7 months. Districts must maintain a school for 5 months in order to secure the proportion of county moneys to which they are otherwise entitled.

#### FUNDS.

The Territorial fund is the proceeds of an annual levy of 3 cents upon each \$100 valuation of property. Unexpended balances are apportioned semiannually to the counties, in proportion to census children.

The general school fund is the result, mainly, of a direct tax upon all the property of each county, and is fixed by law at a minimum of

75 cents per \$100 of assessed property. To this is added the funds derived from per capita tax, gamblers' and liquor licenses, fines, forfeitures, penalties, etc. These taxes are collected and disbursed by the usual county officers, on warrants drawn by boards of trustees, audited by the county superintendent, and amount to about 25 per cent. of the aggregate expense of county government.

They are proportioned for the use of districts in proportion to the number of children therein, as ascertained by the census, but every district 2 miles in extent and having at least ten census children is entitled to \$400 annually.

It will be seen that the Territory has provided liberally for the education of its children, and has planned that none shall be deprived of an opportunity for improvement.

The school buildings are, in a great many instances, models of convenience and comfort, supplied with the best of furniture and apparatus, and while in the younger and sparsely populated regions not all that could be desired, will compare favorably with those elsewhere.

School libraries are gradually growing, and at the present time twenty-four districts have secured a start. In volumes they number 2,261. The total value of school property in the Territory, including buildings and grounds, amounted in 1890 to \$268,435, having increased since 1887 from \$176,238. Before that time complete records are not available. The cost per child per month has ranged in the past 8 years from \$5.01, the lowest in 1888, to \$7.03, the highest in 1884. This is estimated upon the average attendance, and not the whole number of children. As the attendance increases this amount will be reduced.

*Educational progress in the Territory for the past 8 years.*

Year.	Total receipts.	Total expenditures.	No. of schools.	Average school month.	Census children.
1883	*\$101,390.02	\$77,997.85	104	6	9,360
1884	205,901.28	161,861.57	121	7	9,360
1885	186,666.12	138,164.83	137	7 <sup>1</sup> / <sub>2</sub>	10,219
1886	159,956.14	135,030.39	150	6 <sup>1</sup> / <sub>2</sub>	10,219
1887	120,044.88	117,004.74	169	6 <sup>3</sup> / <sub>8</sub>	10,303
1888	167,707.03	130,212.14	184	6 <sup>1</sup> / <sub>2</sub>	10,303
1889	179,782.35	150,543.41	197	6 <sup>3</sup> / <sub>8</sub>	12,588
1890	201,288.70	177,483.83	219	6 <sup>3</sup> / <sub>8</sub>	12,582

Year.	Average daily attendance.	Daily attendance per cent. on census.	Teachers employed.	Average salary per month.	Cost per child per month.	Value of school property.
1883	2,554	24 <sup>1</sup> / <sub>2</sub>	98	\$75	\$5.09	.....
1884	3,287	35	143	85	7.03	.....
1885	3,226	31 <sup>1</sup> / <sub>2</sub>	131	86	5.98	.....
1886	3,507	34 <sup>1</sup> / <sub>2</sub>	150	78	6.21	.....
1887	3,602	35	175	81	5.28	\$176,238
1888	3,849	37 <sup>1</sup> / <sub>2</sub>	191	80	5.01	222,219
1889	4,293	34 <sup>1</sup> / <sub>2</sub>	199	79	5.48	222,958
1890	4,702	36 <sup>1</sup> / <sub>2</sub>	240	77	5.97	268,435

\* Includes balance from previous year.

† Census taken biennially; 1883 includes children 6 to 21; 1885 to 1889 includes children 6 to 18.

‡ Includes \$18,000, cost of building new school houses in Phoenix, Maricopa County. Correct cost per child, \$5.42.

As shown by the table, the increase in efficiency of the school system has been uniform and rapid, and while the increase in population has been in the last decade 47.43 per cent., the increase in enrollment of school children has been 85.85 (United States census).

In round numbers, one-third of the children are at school, while the percentage of those who attend a portion of the year is nearly one-half.

When it is considered that in the country districts distances are frequently so great as to render the attendance of children of tender age impossible, and that the school life of the elder is frequently ended before reaching 18, this percentage compares favorably with that in any of the older and settled States. Also, in several of the towns parochial and private schools provide the means of education for a great many: Were data obtainable upon these points it would be shown that our parents are generally alive to the necessity of the schooling of their children.

In 1890 there were in the Territory 187 school districts, containing 219 schools and employing 240 teachers, of whom 93 were male and 147 female. These teachers were paid, as an average, the male \$82.45 per month and the female \$74.45 per month, or an average for all teachers employed of \$77 per school month. The law fixes as a maximum \$125 per month to teachers holding first-grade certificates and qualified to teach a grammar school, and to those holding second-grade certificates \$90 per month. Teachers are liberally paid, with the intent that the best possible talent shall be secured, and that the Arizona public schools shall rank with the highest, and the average salary, while falling slightly from year to year, is equal to if not larger than that paid anywhere, with the result that positions in the Territorial schools are so eagerly sought as to render possible the selection of teachers of the highest grade.

The proportion of enrollment is, boys 100 and girls 85, marking the extreme in the United States, and is evidence of character of population as well as general desire for common-school education.

Text-books and course of study are well up with the times, and in the larger towns a high-school course is provided.

The grammar-school course is so graded that its completion meets the requirements of admission to the Territorial normal school, which, with the university, provides a complete system of public-school education within the Territory.

#### USE OF FLAG.

Without any special legislation, the custom of daily floating the Stars and Stripes over the building dedicated to the cause of education has become almost universal. The appropriateness and beauty of such a patriotic custom appeals to the instincts of every true American and needs no commendation.

The children accept it with enthusiasm, and to Nogales district, almost the extreme of the United States, belongs the honor of having first made the privilege of the morning flag raising the highest reward of merit known to the school. The observance of Arbor Day, designated by proclamation of the governor, was for the first time adopted in 1890.

#### TERRITORIAL NORMAL SCHOOL.

The normal school, established 6 years ago and maintained at Territorial expense, continues to grow in usefulness, and is an important factor in the educational system of the Territory.

The course of study embraces the subjects usually taught in similar schools in the States, and requires a period of 3 years for its completion.

There has been a steady increase in attendance since its organization, in 1886, and at present 64 students are enrolled under the charge of 2 instructors.

The school is supplied with chemical, philosophical, and other apparatus for illustrating the subjects taught, and a library of 500 volumes has been purchased during the past year.

#### TERRITORIAL UNIVERSITY.

The demand for and interest in higher education in the West illustrates one of the most noticeable features of the American citizen. The very great majority of our citizens, foreign born as well as native, believe in fostering education. No matter how new the country or sparse the population, the schoolhouse is considered essential, and high schools and colleges follow the building of towns.

The establishment of the University of Arizona shows that the people of the Territory are not less interested in education than residents of other portions of the country.

The university owes its origin partly to the national demand for educational facilities and partly to the prevalent home sentiment in favor of a school of liberal culture.

In 1881 the Congress of the United States made an appropriation of 72,000 acres of the public lands to Arizona and the same to several other Territories for the support of a university or institution of learning.

In 1882 the superintendent of public instruction made a selection of the lands, but as no immediate revenue could be derived from the land nothing further was done until the spring of 1885, when the legislature of the Territory made an appropriation of \$25,000 to found an institution of learning which should be known as the University of Arizona, and located it "at or near Tucson."

The establishing act provided for the appointment of a board of regents "by the governor of the Territory, by and with the advice and consent of the council, two-thirds of the members of the council concurring therein."

In compliance with this act a board of regents was appointed, the board formally organized, and a beginning made in the organization of the institution.

A tract of land lying just outside of the limits of the city of Tucson was donated to the university and selected by the board as the university grounds. A building was planned and a contract entered into for its erection October, 1887, the building to cost \$37,969.

Owing to lack of funds to complete the building and open the university to students, not much more was done except to continue the work on the building until other funds became available.

In 1887 an act was passed by Congress appropriating to each State and Territory \$15,000 per annum—"to promote scientific investigation and experiment respecting the principles and applications of agricultural science, there shall be established, under direction of the college or colleges or agricultural departments of colleges in each State and Territory established in accordance with the provisions of an act approved July 2, 1862, entitled 'An act donating public lands to the several States and Territories which may provide colleges for the benefit of agriculture and the mechanic arts,' or any of the supplements to said acts, a department to be known and designated as an agricultural experiment station."

In the fall of 1889 the board of regents, acting in conjunction with the governor of the Territory, took the initiatory steps "to establish an agricultural experiment station" in Arizona.

An agricultural college was established as a part of the university, and a director appointed, who was also elected professor of agriculture.

After considerable labor on the part of the board of regents, ably assisted by the governor of the Territory, \$10,000 for Arizona was, by recommendation of the Secretary of Agriculture, placed in a deficiency bill, which included New Mexico and Utah. This amount was made available in June of 1890, and the board entered into contracts covering the full amount allowed for the fiscal year ending June 30, 1890. For the year ending June 30, 1891, Arizona received her full quota, which, with the appropriation for 1890, has been expended in equipping four agricultural experiment stations, one at the university, one at Phoenix, one 3 miles south of Tempe, on the Maricopa and Phoenix Railway, and one near Yuma.

In 1862 an act known as the "Morrison bill" was passed by Congress, appropriating 30,000 acres of public lands to each State for each Congressional Representative, for the support of an agricultural and mechanical college. No funds from this source are yet available, but on August 30, 1890, a supplementary bill which was passed by Congress was approved, which appropriates to each State and Territory, commencing with the year ending June 30, 1890, \$15,000 for the first year and an annual increase of the amount of such appropriation thereafter for 10 years by an additional sum of \$1,000 over the preceding year, and the annual amount to be paid thereafter to each State and Territory shall be \$25,000, to be applied only to instruction in agriculture, the mechanic arts, the English language, and the various branches of mathematical, physical, natural, and economic science, with special reference to their applications in the industries of life and to the facilities for such instruction. With the exception of one-fifth of the appropriation for agricultural experiment stations for the first year, and 5 per cent. thereafter, the acts provide that these funds may not be expended in the erection or repairs of buildings. The first must be used to carry on investigations, the latter to equip and support schools of learning, it being intended that the several States shall supply land and buildings.

Arizona has received the appropriation of \$15,000 for 1890, and \$16,000 for 1891, and these sums are being expended in the equipment and support of the university.

In 1889 the legislature of Arizona passed a bill appropriating three-fourths of a mill on each \$1 of the assessed value of all property in the Territory for the support and maintenance of the university. This act was amended by the last legislature, making the annual appropriation one-half a mill. From this source the university has had placed to its credit to June 30, 1890, the sum of \$33,395.89. The territorial appropriation is being expended in the completion of the university and other buildings.

The university has received to date :

From the General Government for the agricultural experiment station. . . . .	\$25,000.00
From the General Government for the equipment and support of university . . . . .	31,000.00
From the Territory for the equipment and support of university . . . . .	59,245.89

From all sources a total of . . . . . 115,245.89

The Territorial enactment establishing the University of Arizona provides :

[SEC. 10.] The University shall consist of five departments :

- First. The department of science, literature, and the arts.
- Second. The department of theory and practice, and elementary instruction,
- Third. The department of agriculture.

Fourth. The normal department.

Fifth. The department of mineralogy and the school of mines.

The immediate government of the several departments shall be intrusted to their respective faculties, but the board of regents shall have the power to regulate the course of instruction, and prescribe, under the advice of the professorships, the books and authorities to be used in the several departments, and also to confer such degrees and grant such diplomas as are usually conferred and granted by other universities.

The board of regents temporarily organized the agricultural college in the fall of 1889, and on October 19, 1890, completed the organization of the university for the present; and the experiment station, which is made a department of the university, by establishing the third and fifth departments; the school of agriculture and the school of mines.

The university building is nearly completed. The chemical laboratory is equipped and in working order, supplied with gas and water, and it is proposed to have everything ready for students at the beginning of the first session, September 30, 1891.

From the foregoing it will be seen that the university as organized at present includes three departments, two for instruction and one for investigation. The several members of the corps of instructors in the school of agriculture will constitute the working staff of the experiment station, and members of the faculty of the school of mines will give part of their time to investigations looking to the more satisfactory working of some of the refractory ores of the Territory, the examinations of certain deposits, geological surveys, and work designed to aid in developing the mineral resources of the Territory.

#### COURSE OF INSTRUCTION.

The studies to be pursued are similar to those of several of the well-known agricultural colleges and mining schools in the country, modified to suit the special requirements of the Territory. Both courses include a 4 years' curriculum of scientific studies, and the university is well equipped with laboratories, furnaces, and other apparatus for giving students equal advantages with those that may be found in older institutions.

Hereafter, young men of Arizona who desire to follow any branch of agriculture or of mining will not be compelled to go to California or to Eastern colleges to secure an education.

To establish and equip these two schools in first-class condition, the board of regents have wisely determined to concentrate the energies of the university on the two schools, leaving other departments to be established when the Territory becomes a State and we have a greater population and more means.

The instruction in the school of agriculture is designed to impart a knowledge of the natural sciences and their application to the arts of life, particularly agriculture.

Chemistry, botany, horticulture, and the use of water in irrigation will receive special attention, both in theory and in practice. The studies of the class room will be supplemented by laboratory and field-work practice. The university grounds and the several experiment stations in the Territory are to be used as means of illustration.

In addition to the prescribed work of 35 weeks in the university, students will be required to spend 3 weeks at other stations and on the fruit farms of the Territory during the year, studying and practicing the details of experimental and farm work and irrigation under the supervision of members of the faculty.

Facilities will be provided for instruction and practice in the several

branches of agriculture and horticulture, such as surveying, leveling, general arrangement of farms, road making and constructing buildings and fences, care of machinery, laying out canals and ditches, measurement of water, etc.

Provision is made for two regular courses leading to the degree B. S. (bachelor of science), and advanced studies leading to the degree M. S. (master of science), C. E. (civil engineer), and I. E. (irrigation engineer).

#### SCHOOL OF MINES.

The board of regents, recognizing the vast resources of Arizona in metalliferous deposits and the great importance of their thorough and economical development by well-trained engineers, have appropriated a large portion of the available university funds for the establishment and equipment of a school of mines, in which instruction may be given in the theory and practice of mining and metallurgy and related subjects. Dr. Theo. B. Comstock has been elected director of the school of mines, and under his supervision a corps of instructors have been engaged, laboratories and other facilities are being provided, so that it is possible to announce courses of study, and to outline the plans upon which the work will be conducted.

Provision is made at present for two regular courses leading to the degree of bachelor of science. Higher degrees of M. E. (mining engineer) and Met. E. (metallurgical engineer) may be obtained by further advanced study upon terms which will be made known upon application.

#### BOARD OF REGENTS.

The following-named gentlemen constitute the present board of regents of the University:

Merril P. Freeman.....	President.
John M. Ormsby.....	Secretary.
Selim M. Franklin.....	Treasurer.
John Gardiner.....	

#### *Ex officio.*

Nathan O. Murphy.....	Secretary of Territory.
George W. Cheyney.....	Superintendent public instruction.

Several of the chairs of the faculty have been filled; others will be provided for before the time of opening. The men who have been selected have been appointed on account of their special fitness for the work in view. Merrill P. Freeman, chancellor; F. A. Gulley, M. S., professor of agriculture, dean of agricultural college, and director of experiment station; Theo. B. Comstock, Sc. D., professor of mining and metallurgy, and director of school of mines; U. B. Collingwood, M. R., professor of chemistry; V. C. Stolbrand, C. E., professor of mathematics and irrigation engineering; J. W. Toumey, B. S., professor of botany and entomology.

#### REQUIREMENTS FOR ADMISSION.

Candidates for admission into the freshman class of the university must be at least 16 years of age, of good character, and must pass a thorough examination in arithmetic, geography, grammar, and history of the United States, and show evidence that they have sufficient knowledge of language to write a short essay in good English on some assigned topic.

Provision will be made for receiving the graduates of the high schools of Arizona without examination, provided the course of instruction is such as will warrant suitable preparation.

Recognizing the fact that there are in the Territory certain persons of mature age who feel that they can not spare the time to take up a regular course of study, but who feel the need of instruction in certain things that would materially assist them in their callings, the board of regents have made provision for a short course of technical study in the two schools of the university, subject to certain limitations.

This class of instruction must, of necessity, be restricted to those subjects which are not dependent on prior training in special lines.

It is not proposed to encourage superficial work, nor can the time of the faculty be given to those who desire to study a subject for which they are not prepared. For this reason applications of students for a special course must be considered individually, with a clear understanding of all the circumstances.

Applications of students should be forwarded to the head of the school of agriculture, or of the school of mines, stating what is desired, and what qualifications the applicant may have to fit him for the course.

At present the special subjects which can be taught in the school of mines are assaying, photography, drawing, and possibly some others. In the school of agriculture, propagation of plants, budding, grafting, pruning, preserving fruits, destroying injurious insects, irrigation, use of level and compass, laying off ditches, and such work as may be understood without special training.

Applicants may begin such studies at any time during the year when members of the faculty have time for the work. While at the university they will be enrolled as students and be subject to the rules of the institution. No charge will be made by the university for entrance or for such instruction, except for materials used.

No entrance examination will be required as a rule, and no formal certificate of proficiency can be given; but any special student who has complied with all the requirements will be entitled to a written document simply setting forth the facts.

Applicants must be at least 18 years of age, and they will be expected to present references with application in regard to character and industrious habits.

#### PREPARATORY COURSE.

A preparatory course extending through one collegiate year has been provided for, embracing studies in arithmetic, English grammar, history, elementary algebra, physical geography, drawing, and writing.

This course is designed for such students as do not have facilities at home to prepare them for entering the regular classes in the university schools.

In the establishment of this department of the university it is not the intention at present to afford opportunity for a common-school education, but simply a school that will prepare students for taking up the technical work of the schools now organized in the university.

For entrance into the preparatory school students will be required to pass an examination that will show that they have some knowledge of arithmetic, grammar, geography, and be able to write legibly and spell simple, common words correctly.

Students in this department must be not less than 16 years old, and they will be under the same rules and discipline as other students of the university.

The university has ample facilities to instruct a large number of students, but no provision is made for boarding students.

The buildings are within easy walking distance of Tucson, where students may secure rooms and places to board. As soon as means will permit the board of regents contemplate erecting a dormitory on the university grounds for the accommodation of students.

Tuition is free, but all students except those referred to above under "Special students" will be required to pay a matriculation fee of \$5 when entering. The fee is paid but once, and entitles the student to the use of the library and other privileges.

There are to be no other charges, except for books and for materials used in laboratory and for breakage.

#### AGRICULTURAL EXPERIMENT STATION.

##### *Station staff.*

Frank A. Gulley, M. S.....	Director.
Chas. B. Collingwood, M. S.....	Chemist.
Vasa E. Stolbrand, C. E.....	Meteorologist, Irrigation Engineer.
James W. Toumey, B. S.....	Botanist, Entomologist.
James W. Heberly .....	Assistant Chemist.
Mark Walker.....	Horticulturist.
J. Richard May.....	Stenographer.
R. J. Furgeson.....	Engineer.
M. Moss (Phoenix Station).....	Foreman.

The experiment stations in the several States are placed under the control of the directing boards of the agricultural colleges, so that in each State such investigations may be made as will be of most value to the people of the State.

The general scope of the work of the agricultural experiment station of the university is set forth in Bulletin No. 1, which, with other bulletins, will be forwarded free to any applicant who will forward name and address to the director of the station.

It is the earnest desire of the station officials to make their work interesting and of value to the people.

Analysis of soils and of waters of the Territory will be made free of cost when such examination is of public interest, and correspondence is solicited from persons interested in having such work done.

While the experiment station is organized primarily in the interest of agriculture, time will be given to the examination of ores, minerals, and other products when such investigation will be of value to a community in the interest of the public at large.

The equipment of the school of mines includes the necessary apparatus for making such tests.

In its entirety the university promises to be of great value to Arizona. It is an institution our citizens may be proud of, although in its infancy. The influence of its work will make itself felt more and more as time goes on, not only through the students who become a part of it, but it will help to extend and broaden our entire educational system.

The opening of the university marks the era of the change from a pioneer country to a community of homes, and it announces to the outside world the fact that Arizona will give to the newcomer all in the way of good society, law-abiding people, and educational advantages that he may find in the older States. The first session of the university will begin September 30, 1891, and close June 25, 1892.

## SCHOOL LANDS.

This subject is exceedingly important to the educational interests of the Territory, and I repeat my former recommendation in this connection and urge favorable consideration by Congress.

While our educational system is admirable, its maintenance is comparatively burdensome, because no assistance is derived from the school lands on account of our Territorial condition, all expense being born by direct taxation. The sixteenth and thirty-sixth sections in every township, "granted to assist in defraying educational expenses," are of no assistance except in States. It seems unfair that Territories are not granted equal advantages with the States in this respect.

It is also important that the Territories be permitted to select good land in lieu of the sixteenth and thirty-sixth sections when said sections fall upon barren and mountainous localities, otherwise all desirable land will be appropriated by settlers, and the school fund will be insignificant when, after admission to statehood, the school lands become available for educational purposes. The attention and favorable action of Congress in regard to this question is respectfully requested

## LABOR.

This question has not yet required attention in this Territory as bearing upon the public welfare and the conduct of affairs. So far there have been no strikes nor organized movements as against capital.

The supply and demand are fairly equalized, wages satisfactory, and labor contented.

## INDIANS.

The condition of the Indians in the Territory has not materially changed since the rendition of my last report so far as information is obtainable at this office. The United States authorities having full control and jurisdiction and no reports or statistical information being required to be furnished to Territorial officers, whatever I may have to report upon this subject must of necessity be general in its nature. I will say, however, that fewer complaints have been made on account of Indian depredations and crimes during the past year than for any like period of time perhaps in the history of the Territory. A few Indian outlaws, variously estimated to number from eight to thirteen, and who are known to be guilty of many crimes, still continue to evade the military and civil authorities, and are reported to be hiding in the mountain fastnesses across the Mexican border, from which they occasionally raid into Arizona. Three murders during the year in the southern part of the Territory have been directly traced to them. It would seem possible for the United States and Mexican military authorities to agree upon and execute some plan of concerted action whereby these outlaws can be arrested or exterminated. Such action would be a great relief to our people.

A little friction occurred in the northern part of the Territory in the month of July between the citizens and the Navajoes, in regard to which exaggerated and sensational reports were telegraphed over the country. The trouble was quickly quelled without bloodshed or serious consequences. The Navajoes are a powerful tribe, who are increasing in numbers and wealth, and the trouble referred to was occasioned by a case of alleged horse-stealing by Indians off their reservation. It was proven that the Indians were guiltless of the charge and were unjustly

accused, but it is believed that these Indians should be confined within the limits of their reservation and not permitted to roam at will and graze their large herds over the public domain, which may occasion conflicts between themselves and their white neighbors. These Indians are exceedingly jealous of allowing white prospectors upon their reservation, and their objections have been fully sustained by the Government. On the other hand, equal care should, in my judgment, be exercised to confine the Indians within their proper limits. As previously stated, these Indians are powerful, well-armed, and rich in ponies and supplies, and a war with them would be bloody, protracted, and expensive. While their evident inclinations and interests are toward peace, care and good judgment should be continually exercised in intercourse with them, in order to properly guard public interests.

It is still considered very desirable for the progress and prosperity of the Territory that the mineral and coal lands on the San Carlos reservation be segregated and opened for settlement and development. I am informed that the Indian Bureau opposes such action, claiming that it would be encroaching upon Indian rights and property. As this property is not now being utilized by the Indians nor any revenue from it derived by them, it would seem just that the segregation be made, and sale and occupation authorized in the same manner as other public lands are settled, and the Government price of the land placed in a trust fund for the use of the Indians. Schools have been started in different parts of Arizona for Indian education, with flattering results, although a speck of war was threatened near our northeastern border by the Moquis, whose priests objected to the schools of white men. At Phoenix an extensive school has been projected and is now in course of construction. Pending the erection of the building many of the Pimas and Maricopas are being instructed in a temporary house rented for the purpose, with astonishingly beneficial results. The school at Tucson, as well as those upon the San Carlos reservation, are pronounced successes. It has been recommended in former reports that the more warlike Apaches under military surveillance on reservations in the southern part of the Territory be removed from Arizona, this in response to the almost unanimously expressed wishes of our people. It has been demonstrated, however, that this proposition is impracticable, the Government having no more appropriate place to locate them. But it is still contended, and I think with propriety, that these Indians should be disarmed and prohibited from the use and possession of rifles and fixed ammunition. The Indian Bureau, I am informed, opposes this action, on the ground particularly that the poor Indian would be left defenseless against the attacks of lawless white men. Such premises are, in my judgment, false and an outrage upon our people, as well as being inconsistent with the religious education being promoted by the Bureau. A Winchester rifle in one hand and a Testament and spelling book in the other certainly presents a vivid anomaly.

It is also stated that the military authorities of the Government opposed disarming these Apaches, first, because of the difficulty and danger, and second, because it would take away, to a certain degree, their means of obtaining a livelihood. It is respectfully submitted that presenting the question of difficulty and danger appears almost equivalent to a confession of weakness, and as to the use of firearms with which to support themselves by killing wild game, the proofs are ample that game cuts no particular figure in the economy of their living; they are maintained by the Government.

While I do not wish to be captious on this subject, I express the unanimous sentiment of our people in asking that these Indians be disarmed and prohibited from the possession of rifled guns and fixed ammunition. Shotguns are less objectionable, but while thoroughly armed with Winchesters and revolvers they will remain a continued menace to the peace of the Territory.

#### PUBLIC BUILDINGS.

No aid has ever been received from the General Government for public buildings in Arizona. Whether this is chargeable to ungenerous discrimination or incompetent representatives is not clear, but it is true that not a dollar has ever been appropriated by Congress to aid the Territory in this respect, which neglect is unaccountable in view of the fact the Government pays annual rentals for offices for United States officials in sums amounting to more than liberal interest on the cost of suitable buildings for the public service.

The public buildings of Arizona consist of the Territorial prison, situated at Yuma; the Territorial University, at Tucson; the insane asylum, at Phoenix, and the normal school, at Tempe. All have been erected at Territorial expense, and are creditable structures.

#### CUSTOMS.

The customs district of Arizona was created by act of Congress April 29, 1890. It embraces about 450 miles of international border on the northern frontier of Mexico, which is crossed at Nogales by the New Mexico and Arizona Railroad, connecting with the Southern Pacific Railroad at Benson, Ariz., and having its terminus at Guaymas, on the Gulf of California.

The district of Arizona has for its chief port of entry the thriving town of Nogales, and has also four subports, viz: Tombstone, Yuma, Lochiel, and Buenos Ayres. The chief officers of the district are as follows: Nogales, Hon. George Christ, collector; Willis P. Haynes, special deputy collector; Tombstone, A. L. Grow, deputy collector; Yuma, F. B. Wightman, deputy collector; Lochiel, C. B. Reppy, deputy collector; Buenos Ayres, W. W. Williams, deputy collector.

The new district was opened for business as a separate jurisdiction July 15, 1890; and for the remaining 11½ months of the fiscal year ending June 30, 1891, the importations and receipts were as follows:

	Value.
Merchandise imported free of duty.....	\$1,523,388
Dutiable merchandise.....	135,893
Gold and silver bullion.....	1,215,828
Gold and silver coin.....	319,100
<b>Total value of importations.....</b>	<b>3,194,209</b>
Value of gold and silver ore imported (included in free and dutiable merchandise).....	1,523,301

	Pounds.	Duty.
Lead contained in silver ores.....	1,114,215	\$17,163.23
Copper contained in silver ores.....	245,113	1,773.83
Duties collected on all other importations.....		17,054.78
<b>Total duties collected.....</b>		<b>35,991.84</b>

From the foregoing statement it will be seen that over one-half the revenues of the district are derived from duties on the lead and copper contained in silver ores, the importations of which from Sonora, Mexico, are steadily increasing. Collector Christ gives it as his opinion that the revenue from this source alone for the fiscal year 1892 will considerably exceed the entire revenues of the district for the year ending June 30, 1891.

#### ARID LANDS.

The public lands of Arizona are nearly all properly called "arid," with the exception of a very few small valleys where cultivation is had because of subirrigation. The lands, if cultivated, require the conservation of water by damming streams or building reservoirs and service on the land by means of canals, ditches, etc. These methods are expensive and require large capital, especially where the lands under the water systems operated are not thickly settled, and the population using and paying for the delivery of water is comparatively small, conditions which exist in Arizona.

The question of the reclamation of the arid region has agitated our legislators for several Congressional sessions. Much discussion has been had, plans proposed, and appropriations of money made, yet no satisfactory progress has resulted. A large and influential convention has lately been in session in Salt Lake City, Utah, the object of which was to bring about a proper solution of the arid-land question if possible. It evidently is and has been the intention and desire of the General Government to further the development of the Western Territories by legitimate and properly directed aid (if an acceptable plan can be determined upon) looking to the reclamation and settlement of the arid region.

Strong influence has been exerted in Washington to secure large appropriations of money to be expended by the geological officers of the Government in preliminary and, in a large sense, experimental work, and the act of Congress of October 2, 1888, on this subject was considered by our people the entering wedge for the expenditure of a great deal of public money without beneficial results, besides holding back the progress and development of the country by the withdrawal of lands from entry for a long period pending the completion of the proposed governmental work, and the repeal of the obnoxious law was very gratifying.

It is argued that if reservoirs and canals are located and constructed under the direction and expense of the General Government the very large outlay will be recompensed by the sale and occupation of the public lands, and that the Government can in that way, notwithstanding the primary expenditure, be reimbursed from the sale of public lands not now desirable for settlement, even though the reservoirs, canals, etc., constructed in this way are donated to the States or Territories and not operated by the Government, and at the same time such action will be liberal encouragement and aid to the development and prosperity of the arid region.

It is respectfully submitted that while the Government might by such methods be reimbursed by the sale of lands for the expenditure of a large sum of money under the direction and to the advantage of interested parties, it is exceedingly doubtful if any margin of profit would result to the Government.

If the General Government desires to be liberal and legitimately encourage the development of the arid region without immediate pecuniary profit to itself, it can substantially demonstrate its liberality by

ceding these public lands to the States and Territories in which they lie, and to reclaim the lands and make them immediately available as a source of profit, loan to the Territory or State-sufficient money to construct the necessary reservoirs and canals (possibly under the direction and control, until completed, of Government authority), and take as security for the loan the bonds of the State or Territory at 2 per cent. annual interest.

Under such action the Territory of Arizona would immediately become financially strong, populous, and beyond all question capable of self-government. As to the details of a plan looking to such results and the regulations to be prescribed in relation thereto, whether such benefits may be donated to the Territory before admission into the Union or given in trust until admission as a State, and other material questions of detail, they can be properly guarded by legislation.

Such a plan would certainly be more beneficial to the General Government than the other way of expending large sums of money simply to be reimbursed from the sale of public lands, without profit or interest, and without great or immediate advantage to the Territory. The unamerican and selfish argument is advanced by some representatives of the older States that aid by the General Government for the reclamation and development of the arid region should be opposed on the ground that it would be creating damaging competition to the farming interests of their constituents by making available a new and marvelously productive agricultural country. Such opposition can certainly have little support from progressive legislators.

The greater part of the arid land of Arizona is very favorably located for reclamation. Reservoir sites on the Salt and Verde Rivers, upon the Gila and Agua Fria, Santa Cruz, Little Colorado, Hassayampa, and several other smaller streams present the very best advantages for the storage of water enough to reclaim an area of country larger in extent than several of the New England States. The water supply is ample and only needs conservation. Private enterprise would no doubt build many reservoirs and canals if the lands belonged to the State and were available; but the larger and more expensive ones are beyond the reach of ordinary syndicates, and therefore governmental aid is desirable.

It has been demonstrated by reliable engineers that immense reservoirs can be built; one on the Salt River above its junction with the Verde, in Maricopa County, and another on the Gila at what is known as the Buttes, above Florence, in Pinal County, of sufficient capacity to store water enough to reclaim and irrigate every acre of land in the immense valleys of the Salt and Gila Rivers, containing over 3,000 square miles.

To build these reservoirs would require an expenditure of several millions of dollars, which, according to the plan heretofore suggested, could be expended under the control and direction of governmental officers and engineers, and transferred to the Territory or State on completion, to be paid for in State or Territorial bonds bearing 2 per cent. interest, or possibly such higher rate as might be agreed upon. The geological officers of the Government, who would probably have charge of the work of construction, would be virtually accomplishing, although in a different way, what was originally proposed by them. Whatever is done by the General Government in regard to the arid lands, it is to be hoped that no such withdrawals from entry as were contemplated in the act of October 2, 1888, will be authorized. The attention of the Secretary of the Interior and of Congress is particularly invited to this subject.

## THE WORLD'S FAIR.

The sixteenth legislature of Arizona, appreciating the great importance of the Territory's wonderful resources being properly presented at the World's Columbian Exposition, to be held in Chicago in 1893, authorized a loan to be made upon the faith and credit of the Territory, secured by 5 per cent. 20 year Territorial bonds in the sum of \$30,000, with which to provide a proper exhibition at the fair. The language of the Territorial statute providing for the loan requires the specific approval and authorization of Congress before negotiation is had; and in view of the fact that the present indebtedness of the Territory exceeds the limit allowed by law, it will be necessary for Congress to legalize the proposed expenditure. It is hoped that favorable action will be taken by Congress in this, to Arizona, important matter, as our people are very desirous of having the Territorial resources properly represented at the great exposition.

## COCONINO COUNTY.

The new county of Coconino was created by act of the last legislature by a division of the county of Yavapai. The county seat is at Flagstaff, on the line of the Atlantic and Pacific Railroad. The affairs of the county are prosperous, and the principal industries consist of the manufacture of lumber, stock-raising, and the quarrying and shipping of sandstone for building purposes. Nearly all of the great lumber forests of the San Francisco range are in Coconino County.

The county starts with a debt of \$153,000 and an assessed valuation of \$2,200,000; rate of taxation for all purposes, \$2.85.

## STATEHOOD.

The people of Arizona as a rule, I believe, are desirous of the independence that self-government will vouchsafe to them; however, their preference in this respect will soon be decided by ballot.

By act of the sixteenth legislature of Arizona, approved March 19, 1891, provision was made for holding a convention and the forming of a State constitution.

The provisions of the law were carried out at the election of delegates, and the first constitutional convention of Arizona is now in session. It is to be hoped that such a constitution will be formed as will be acceptable to the people of the Territory and to the General Government, for notwithstanding our limited population and heavy debt it is believed that the operations of a State government will not only relieve our financial embarrassment, but insure our prosperity. The same reasons that have previously been presented from this Territory on this question obtain now. Aside from the satisfaction and pride of independent self-government, the availability of our immense area of school lands alone would, in my judgment, nearly compensate the increased expense that statehood would bring, and, as formerly stated—

With increased transportation facilities and internal improvements now contemplated (and which will be assured if we are allowed statehood), bringing different localities representing different industries into closer communication with each other, and making all the resources of the Territory available, Arizona will be an empire in herself, with the balance of commercial traffic so largely in her favor that few subdivisions of the nation will equal her in wealth.

All doubt would be dispelled, if any exists, as to our capability for self-government if the General Government would donate to Arizona all the public lands within her borders, to be reclaimed, developed, and utilized under State regulations, the same as in Texas.

More especially would this be true if the General Government would loan to the young State, at a low rate of interest, money for the construction of reservoirs for the conservation of water.

The question of forming a State constitution should not be political nor influenced by partisan interests, and the present dominance of either political party should not, in my judgment, affect the action of Congress as to our qualifications and rights. Our case should be decided upon its merits aside from politics, although in the election of delegates to the present convention in Arizona party lines were drawn and partisan nominations made, and although the contest was but in a few instances aggressively conducted, it resulted in the election of 17 Democrats and 5 Republicans, and the organization of the convention was partisan. The body is strong intellectually, and contains some of our ablest citizens, and it is sincerely to be hoped that extreme zeal for partisan advantage will not be allowed to jeopardize our chances for admission.

The principal bone of contention so far developed between the political parties in the convention is the question of following the example of Idaho in the matter of the "test oath" as applied to Mormons exercising the right of franchise. The Democrats oppose the "test oath" and the Republicans favor it. The Democrats claim that the Republicans favor the measure because the Mormons of Arizona vote the Democratic ticket, and that the question is entirely political and not moral, and the proposed "oath" if required by the constitution would be an unjust and unconstitutional discrimination on account of religious belief; that the Mormons have renounced the practice of polygamy and bigamy by edict of their church authorities, and that they conform to the laws of the country, are worthy people, and are entitled to the same consideration accorded to other citizens. On the other hand the Republicans claim that the question is more moral than political, notwithstanding that the Mormons vote the Democratic ticket to a man; that the renunciation of the crimes of polygamy and bigamy by edict of their leaders is not sincere, and is only done for a purpose, and that those crimes against society still form the keystone to the arch of their faith; that they do not recognize the supremacy of the State over their church; that they exercise the right of franchise blindly as a class and under orders from selfish and interested motives, and are consequently unfitted to exercise such a right, no matter what political party they favor, unless they are willing to subscribe to the oath referred to.

This question was fully ventilated and ably discussed in Congress and before the Supreme Court in relation to the admission of Idaho. It is also claimed here by independent thinkers that owing to the junction of Arizona with Utah it would be very easy to so colonize the Territory with Mormons by either political party (which they might be inclined to favor) as to absolutely control the affairs of state for a long time, and it is true that they do now hold the balance of political power in Arizona.

These facts are submitted for your consideration without comment. The law authorizing the constitutional convention provides that any article may be submitted separately to the people, and upon all questions where political or other conflict exists to any considerable degree it is possible and it would certainly be just and fair that the verdict of the people be obtained.

While personally I believe that an enabling act should have been had previous to the formation of a constitution, I favor the admission of Arizona into the Union upon any just and equitable constitution which our people may accept.

RECOMMENDATIONS FOR CONGRESSIONAL LEGISLATION AND ACTION  
OF THE INTERIOR DEPARTMENT.

(1) That Arizona be admitted into the Union as a State upon the adoption of a proper constitution by the people.

(2) That all the public lands within Arizona be ceded to the Territory or State.

(3) That all public lands within the Territory be surveyed.

(4) That the sixteenth and thirty-sixth sections of the public lands (school lands) be made available to the Territory at once, and that provision be made for the selection of good sections in lieu of bad.

(5) That all Apache Indians under military surveillance in the Territory be disarmed and prohibited from the use and possession of rifled guns and fixed ammunition.

(6) That the mineral and coal lands on the San Carlos reservation be segregated and opened for occupancy and development by white citizens, and that the money received from the sale of these lands (as other public lands are sold) be placed in trust for the use of the Indians.

The following recommendations made last year are hereby renewed

(7) It is requested that Congress appropriate for the erection of buildings for the use of the public service in Arizona.

(8) That the salaries of the present judges in Arizona be increased to \$5,000 per annum.

(9) That the pay of legislators in Arizona be increased to \$10 per day.

(10) That appropriations be had by Congress to pay the governors and secretaries of the Territories the amounts allowed them by law under section 1845, Revised Statutes of the United States, 1878.

(11) That Congress appropriate a reasonable sum for artesian-well boring in this Territory.

(12) It is also recommended that provision be made by Congress for loaning money to the State or Territory at a low rate of interest and under proper regulations for the construction of reservoirs and the reclamation of the arid lands.

(13) Should further legislation by Congress be necessary to make effective the funding act of Arizona approved June 25, 1890, it is earnestly recommended that favorable action be had.

(14) That Congress approve and confirm without delay act No. 103 of the sixteenth legislature of Arizona, approved March 19, 1891, entitled "An act to provide for the collection, arrangement, and display of the products of the Territory of Arizona at the World's Columbian Exposition of 1893."

## UNDEVELOPED RESOURCES.

The undeveloped resources of Arizona consist of mountains of valuable minerals, and thousands of square miles of agricultural, grazing, and timber lands, the extent and value of which can scarcely be measured.

Respectfully submitted.

N. O. MURPHY,  
*Acting Governor.*

Hon. JOHN W. NOBLE,  
*Secretary of the Interior.*