Publications Committee

10

BULLETIN
OF THE
UNIVERSITY OF TEXAS
1915: No. 39

JULY 10 1915

STUDIES IN

THE LAND PROBLEM IN TEXAS

By members of the Texas Applied Economics Club

Edited by
LEWIS H. HANEY

Published by the University six times a month and entered as second class matter at the postoffice at
AUSTIN, TEXAS

Publications of the University of Texas

The University publishes bulletins six times a month. These comprise the official publications of the University publications on humanistic and scientific subjects, bulletins prepared by the Department of Extension and by the Bureau of Municipal Research, and other bulletins of general educational interest. With the exception of special numbers, any bulletin will be sent to a citizen of Texas free on request. All communications about University publications should be addressed to the Editor of University Publications, University of Texas, Austin.

B114-715-3m-8474

BULLETIN

OF THE

UNIVERSITY OF TEXAS

1915: No. 39

JULY 10 1915

STUDIES IN

THE LAND PROBLEM IN TEXAS

By members of the Texas Applied Economics Club

Edited by

LEWIS H. HANEY

Published by the University six times a month and entered as second class matter at the postoffice at

AUSTIN, TEXAS

The benefits of education and of useful knowledge, generally diffused through a community, are essential to the preservation of a free government.

Sam Houston.

Cultivated mind is the guardian genius of democracy. . . . It is the only dictator that freemen acknowledge and the only security that freemen desire.

Mirabeau B. Lamar.

PREFACE.

The Texas Applied Economics Club, now in its fifth year, presents in this bulletin the results of its studies during the University session 1914-1915. Under the general supervision of the faculty of the School of Economics, certain chosen students of economics have met bi-weekly to discuss current events or to report upon special investigations; and, as in each of the preceding years, one result has been the collection of sufficient thoughtfully prepared material concerning live subjects to merit publication. These studies are of unequal merit and do not aim to present new ideas. They are, however, written by patriotic and truth-loving Texans for the good of Texas. They seek to direct attention to the real course of our social and economic problems, in so far as these are connected with land, and to suggest the wisest remedies in view of the experience of other states.

LEWIS H. HANEY.

TEXAS APPLIED ECONOMIC CLUB STUDIES.

(Published as University of Texas Bulletins.)

1. Some Corporation and Taxation Problems of the State (1912; U. of T. Bul. No. 236).
2. Studies in Agricultural Economics (1913; U. of T. Bul. No. 298).
3. Studies in the Industrial Resources of Texas (1915; U. of T. Bul., 1915; No. 3).
4. Studies in the Land Problem in Texas (1915; U. of T. Bul., 1915: No. 39).

TABLE OF CONTENTS.

The Land Problem in Texas

INTRODUCTION.

LEWIS H. HANEY

The "land problem," at bottom, is the problem of making the best use of the limited natural resources at man's disposal. On the surface of our little earth is spread a thin layer of soil which gives standing room to man and the means of nourishment to the plants and animals upon which man depends for food, clothing, and shelter. With this soil layer as a base, man digs down to secure minerals and looks up for the sun's rays. On it, he builds his factories and homes. As population increases, man is forced to use this fundamental resource more and more carefully—trying to make it "go further"—and everywhere we hear talk of "conservation" and "intensive cultivation." In the last analysis, then, the land problem is one of production: How can we continue to supply a growing people, possessed of growing standards of living, from an earth that is rigidly limited in area? It is high time that we ceased to prate about "inexhaustible" or "boundless" resources and settled down to a careful cost accounting based upon an accurate inventory of our resources. It is high time that we should cease to chase the will-o-the-wisp of those "social reforms" that take for granted an abundance of products and seek a millenium through some juggling with laws and social institutions—that we should settle down to the task of first producing enough for all, and then seeing to it that the "all" be not over-numerous.

The land problem has as many aspects as there are phases of human activity. It is primarily economic, because land is scarce relatively to the great primary human wants—food and clothing. Land is one great source in the production of wealth and is one great claimant of a share in the distribution of wealth. But, secondarily, important political and ethical considerations must influence the student of the problem: the nation must be conserved through concerted action in conserving its resources, and the ideals of its citizens concerning right and wrong can not

be done violence with safety. To be concrete, a part of the land problem lies in such questions as, How does our present treatment of land affect the individual as the citizen, as the head of the family, and as the patriot? Also, What rights has the landlord over the tenant, and to what extent can the State justly limit property rights in land? We must not lose our ideal values in our efforts to solve social problems, even those that are primarily material.

Living as we do in a democracy, we must appeal largely to the average man, and it is this fact that often makes progress so difficult and slow. It seems well nigh impossible to get the average man to make the nice distinctions that straight thinking requires. He is prone to say, "it must be either all good or all bad"; and he is too apt to think that the whole institution or law must be abolished in order to effect a remedy, even when the thing is partly good. Take our tenant problem, for example. We argue it as though our only choice lay between abolishing tenancy altogether and a continuous increase in tenancy as at present. But tenancy is partly bad and partly good,[1] and it is not desirable that all farmers should always own the farms they work. There are many good farmers who do not have the capital, or who do not have the qualities needed for the responsibilities of independent management of a business, and such farmers do well to rent. What we need is to foster such conditions as will facilitate land ownership on the part of those who are really capable and desirous of being owners[2].

We need to remember that in the North and in England there is a large percentage of tenancy, but no such tenant problem as ours. The trouble, then, is not in tenancy, but in the kind of tenancy. In the writer's opinion, it is thoroughly ill-judged to try to give to every farmer in Texas the independent management of a farm—or to do so to even ninety per cent.

The mention of different degrees of success with tenancy, calls to mind another point at which we, the people, are failing to make a necessary distinction. There are tenants and tenants. Also there is tenancy and tenancy. Is it not folly to talk about "the tenant problem" when we are covering things as different

[1]See below, pp. 48, 54, 91, 20.
[2]See below, pp. 79-100.

as the renting of farms "on the halves" and cash rent? As a matter of fact, the "share-cropper" who furnishes no capital and pays half the crop to the landlord, is not a tenant in the sense that the one who does furnish capital and only pays one-third of the crop is a tenant. The former is, as a rule, virtually a laborer; and often he would be much better off if, instead of being made to go through the motions of real tenancy and run the risks of an independent manager, he were hired as a farm laborer and paid a monthly cash wage.[3] Until we distinguish the problem of the "tenant" working regularly on the halves from the problem of the "tenant" who works on the third and fourth basis or on a cash rental, we are bound to make mistakes.

Again, some tenants are thrifty and "progressive" while others are permanently deficient in these qualities. The often noted fact that our tenant problem is not a problem with the foreign element in our population is not generally appreciated yet. German, Bohemian, Swedish, and Italian farmers are not being troubled to become well to do landowners. Why not? To some extent, their standards of living are low—but not so much lower than those of our native tenantry. Energy, thrift, and intelligence solve the problem for them. If we continue to proceed on the assumption that all tenants are of the one sort or the other, we are not going to get anywhere near a solution.

Another point at which the people of Texas need to show more discrimination, is the proper size for a farm. We are talking glibly about breaking up large holdings with the aid of a progressive land tax, and about the need of helping everyone to own a farm. But just what is a large holding; and how much are we going to help a man get? For one thing, the answer must depend upon the soil, the kind of crop, the ability of the farmer, and other similar points.[4] A large farm in East Texas is a small one in West Texas. Furthermore, the history of agriculture shows pretty clearly that it is desirable that both large and small farms should exist together, to the end that experimentation and development may be maintained.

In our discussion of reforms, we are too prone to overlook

[3]Cf. below, p. 20.
[4]See below, pp. 35-41.

the difference between evils due to conditions man has made and evils caused by conditions inherent in the nature of things. Man-made evils can be remedied by man. Some of them are the results of unwise laws, such as our system of registering land titles, our homestead law, and the Robertson Insurance Law. The first by making transfers difficult and expensive, tends to keep land an immobile asset and an unsatisfactory basis of credit.[5] The second restricts borrowing for permanent farm improvements.[6] The third tends to keep up the interest rate on farm mortgages. Along with such laws as these, goes such vicious customs as the single-crop, store-credit system. The foregoing, being made by man, can be unmade by legislation or by education. But other evils lie deeper, the cause being found either in nature or in human nature. Thus we can not hope to do away with the risks that surround the farmer in the shape of droughts and floods, nor to abolish the poverty that attends innate thriftlessness. The most we can do is to struggle continually to reduce them to a minimum. It is here that conservation has its great function. We can't make coal and petroleum in commercial quantities; but we can make the most of what nature has given us.[7] So it is with water,[8] and, in the last analysis, with the soil.

Finally, I would call attention to the distinction between *acquiring* and *stealing*. It is getting too common on the part of certain radical reformers to imply that, because land values are often not made by land owners, such values are stolen from society. It is one thing, however, to find, acquire, or receive a thing, and quite another to steal, filch, or purloin a thing. We can not think straight on the land problem if we are going to assume that there is anything morally wrong in owning land. This, that, or the other individual land owner may abuse his power; but the general institution of private property in land is a question of expediency—not morals.[9]

Though primarily a question of production, the land problem is partly one of the distribution of wealth and income; that is,

[5]See below, pp. 66-77.
[6]See below, pp. 56-65.
[7]See below, pp. 102-116.
[8]See below, pp. 117-128.
[9]See below, p. 168.

it is partly a question of rent, wages, interest, and profits. The salient feature of the distribution question just now is the rise in rents and the bonus system.[10] As farm produce has risen in price during the last decade, the value of the land that can produce this produce has naturally risen. More than this, improved farming has made possible larger yields per acre. As the value of land rises under this double influence, the owners must get a larger return if they are to receive the usual interest on their investments, and that means more skillful and intensive cultivation. But our farming is so largely done by a backward tenantry that the larger return is not forthcoming, and the interest on many a blackland farm is under 4 per cent. Naturally the landlord desires the same rate as is paid in other industries, and consequently he asks more rent, sometimes in the shape of a "bonus." The tenant, especially if unprogressive, does not see how he can make a larger return, and strenuously objects. Along comes the socialist ambulance chaser and attempts to organize the discontent of the tenant into the means of social revolution. At the same time the politicians see an opportunity to make capital for themselves, and promise the tenant voters that rent will be regulated to the old rate. Such is the history of much of the existing tenant problem in Texas.

Let us take a concrete illustration. I will make the following assumptions: cotton lint the only product, normal cotton years (not war years), land capable of producing a bale to the acre, and interest rates of 10 and 8 per cent. Let us assume that in some earlier year an acre produces as follows:

Product.	*Expenses and Income.*	*Value of Land.*
250 lbs. @ 6c =	\$15 Gross income. 10 Expenses (wages, feed, seed, int.) \$ 5 Net income (rent).	@ 10% = \$50.

Now suppose that prices rise and methods improve; also that interest rates drop from 10 to 8 per cent. Then the account stands as follows:

Product.	*Expenses and Income.*	*Value of Land.*
300 lbs. @ 10c =	\$30 Gross income. 20 Expenses per acre (wages, seed, int., etc.) \$10 Net income (rent).	@ 8% = \$125.

[10] See below, pp. 13-15.

This is not a far fetched case. The yield is assumed to increase; the prices are conservative; expenses are allowed to double, as wages and prices of supplies increase and more intensive cultivation is used. When the net income per acre (rent) is capitalized at the assumed rates of 10 and 8 per cent, the value of the land is found to increase from $50 to $125. And obviously, unless the improved methods, which are implied in the higher expenses and the larger yield, are used, the renter will not be able to pay the $10 rent of the later year. Something like this has actually occurred in Texas during the last fifteen years. Those farmers who have adopted more efficient methods are able to make the ordinary interest on the higher land values; but the backward man fails to do so. He can't pay out on the high priced land, so he trys to keep rents where they were ten years ago, and to depress land values.

Of course, it will be noted that, *in some cases,* land values are inflated unduly. This may be due either to extreme speculative holding or to an over-valuation based on the thirteen-cent cotton of a few years ago. In such cases, the present values are excessive and can not be maintained. Also, the illustration is based upon cotton; and often a reasonable diversification would bring an even greater average return, taking a number of years into consideration.

Now undoubtedly there are such things as "grasping landlords"; but there are also such things as inefficient tenants. There is a problem of just rent, though we can not solve it by any general legislation as to rates. That any fixed fraction of the gross value of the crop can not be set up as the just rent in all cases, is apparent; for, aside from all question of evasion, rent must be reckoned on the basis of net returns, after deducting expenses, while the crop (gross value) does not indicate the amount of expense involved. What we need is some system of arbitration between landlord and tenant—some land court, whose duty shall be to take into consideration the facts of each case, including expenses and net return, and bring the parties to agreement as to a just rental.[11]

One warning needed by the cursory student of the land problem is that he should beware the glamour of the panacea.

[11]See below, pp. 31-32, 52-53.

It is so easy to say, "The whole system is rotten. Let us try a new deal." But progress is rarely made by revolution. We must distinguish between radical action and progressive reform. It is not necessary to overturn all our institutions in order to remedy social ills. A logical program of reform based on an analysis of causes would be in part as follows:

1. Legislation and education to facilitate self-help and to remove barriers to progress.
   (a) Co-operative organization.
   (b) Conservation.[12]
   (c) Better relations between owners and tenants.[13]
   (d) Modification of homestead law, etc.
2. Taxation to socialize strictly unearned incomes and give equal opportunity.
   (a) Tax on future increments in land values.[14]
   (b) Inheritance tax.
   (c) Progressive tax on large holdings.[15]
3. Regulation of contracts in which experience shows one class is likely to be over-reached by another.
   (a) Establishment of fixity of tenure (with reasonable safe-guards).[16]
   (b) Establishment of land courts to arbitrate rents and tenure.
   (c) Provision for compensation for improvemnets made by tenants.[17]

All these things, and more, have been tried and have attained a measure of success. They are not based upon bitterness and class hatred, and consequently are not so exciting as socialism and the single tax. They proceed from a recognition of the fact that the land problem is but one phase of a complex mass of imperfections and maladjustments which make up the larger social problem—a problem that will always be with us as long as men so multiply as to press upon the existing means of subsistence, however much we may minimize it through the establishment of more perfect justice.

---

[12]Below, pp. 102-128.
[13]Below, pp. 46-55, 30-32.
[14]Below, p. 149.
[15]Below, p. 150.
[16]Below, pp. 49-54.
[17]Below, p. 53.

THE RECENT INCREASE IN TENANCY, ITS CAUSES AND SOME SUGGESTIONS AS TO REMEDIES.

W. E. LEONARD AND E. B. NAUGLE

In 1900, 49.7 per cent of all the farms in Texas were operated by tenants. In 1910, the percentage was 52.6 per cent, an increase of 2.9 per cent.[1] In the interval the total number of farms in the State increased from 352,190 to 417,770, or 15.7 per cent.

In ten important cotton-raising counties the percentages of tenancy for the last decade (1900-1910) were as follows:

Counties.	1900	1910	Per cent Increase
Collin	60.9	68.9	8.0
Dallas	57.7	60.9	3.2
Ellis	65.7	69.0	3.3
Fannin	64.8	67.0	2.2
Hill	60.2	64.4	4.2
Kaufman	59.7	66.7	7.0
McLennan	62.1	64.1	2.0
Navarro	63.9	65.5	1.6
Travis	56.8	60.4	3.6
Williamson	60.0	59.1	0.9
Average for 10 counties	61.18	64.6	3.42

The current explanations of this increase in tenancy are of two kinds, one tracing all to the general character of the tenant class, the other to the landowning class. According to the first, tenants are poor, but their poverty is of their own making. It naturally results from their own laziness, from lack of thrift and ambition, from an entire lack of foresight, and the failure to exercise ordinary prudence. For such conditions, the land-

[1]The corresponding figures for earlier decades were:
1880....37.6
1890....41.9; 4.3% increase.
1900....49.7; 7.8% increase.
1910....52.6; 2.9% increase.

lord is not responsible. If he drives a hard bargain, it is only because the character of the tenant requires it.

The second explanation, going to the opposite extreme, throws the whole responsibility upon the landlord. Tenants are not only poor, but, because of the harder economic conditions pressing upon them, they are growing poorer. Values of land are increasing. Landlords are greedy for higher rents, and many of them are non-residents, having no interest, either in their tenants, or in the community life. They force the one-crop system; demand high interest rates; and, finally, through the crop-mortgage, take the major part of the tenant's produce.

Needless to say, some of these explanations are true, some are partly true, while others are false. It is the purpose of this paper to set forth in some detail, what are believed to be the more significant causes of an increase of tenancy, and at the same time to show the connection between these causes.

CAUSES OF TENANCY

The causes of the increase in tenancy may be grouped, for convenience, into several rather closely related classes:

I. CURRENT CAUSES.

1. *Economic:* Those, industrial, natural (physical), and to some extent social conditions and forces that are outside the tenant's own personality and yet affect his productiveness.

2. *Personal:* The race, age, character, living conditions, etc., of the tenant classes; including to some extent the conditions of previous generations by which these qualities were produced.

3. *Sociological:* The attitudes, customs, etc., of other social classes that affect the condition of the tenant.

II. HISTORICAL CAUSES.

1. *Economic Causes.*—The steady increase in tenancy has been roughly parallelled by an even more rapid increase in the price of farm lands, especially in the black-land belt. (In addition there has been an increase of 12 per cent in the size of the average improved farm.) And along with this rise in the value of land and size of the farm there has been a great increase in the amount of capital necessary to operate it (efficiently). The ten cotton-raising counties mentioned above (see preceding page) lie in the black-land belt. For them and *for the State* as

a whole, the value of the land and of the various forms of capital equipment on the average farm has increased thus:

TABLE 1

Value of principal items in equipping the average farm in Texas and in ten black land counties of the State: 1900 to 1910.

Chief Items of Cost	State of Texas			Ten Black Land Counties		
	1900	1910	Percent increase	1900	1910	Percent increase
Average acres of improved land	55.6—	65.5—	17.4	62.1—	69.6—	12.0
Land	$1,680	$3,909	132.6	$2,083	$4,656	123.5
Buildings	285	503	76.4	397	649	63.4
Implements and machinery	85	136	60.0	113	157	38.8
Domestic animals	683	763	11.7	418	601	43.7
Total value of average farm	2,733	5,311	94.3	3,010	6,063	101.4

The effect upon tenancy, of this increase in land values has been to retard the rise of the tenant to landownership. The passage being thus blocked, many of the would-be landowners are congested in the tenant class. This retarding influence operates in at least two ways. First, it necessitates that the tenant save a larger sum before he buys land. At the same time, the higher land values make it more difficult for the tenant and prospective landowner who does not farm more intensively, to save the requisite amount; for, with the increase in the value of the land, the landlord is compelled to raise the rents in order to secure the usual rate of return on his investment. That the terms of rent have been raised can hardly be doubted in the face of the growing clamor against bonuses, and the accompanying agitation for legislative fixation of rents. A second retarding influence has been the increase in the risks involved. Thus, with so great an investment, the chances of possible loss through crop failure, low prices, etc., become more threatening, than when smaller sums were involved. In addition, the interest burden on an almost necessarily heavy mortgage is a serious matter. These same risks have their influence upon the tenant's landlord as well, and doubtless tend to become an additional reason for higher rents.

In further explanation of the tenant's difficulty in becoming a farm owner, it is sometimes stated that the land is becoming concentrated in the hands of a few wealthy men, so that it is practically beyond the reach of the tenant at any price. In

direct contrast, others assert a process of decentralization, as evidenced by the breaking up and sale of the large ranches. The first statement is much exaggerated; for, though the price has risen, there is yet an abundance of land subject to purchase. But on the other hand the seeming proof of decentralization is no proof at all. For while concentration in continuous tracts is on the decline, there are nevertheless indications that many widely scattered farms of moderate size are coming into the control of comparatively few men. However, since the farms may be located in many different counties, and there is no central place of record, it is practically impossible to secure statistical proof. Accordingly we can make no definite statement as to the effect of this movement upon tenancy, though the general tendency is obvious.

Still another difficulty may spring from the high price of land—the "one-crop system." Other causes can be assigned for this feature of Texas agriculture; but it is certainly true that the owner of high-priced land prefers that the tenant plant some crop that can be readily turned into cash, and can not be concealed or used up by the tenant. The one-crop system, in turn, has been attacked as the cause of the notorious crop-mortgage evil.

As in the case of land, an increase in necessary capital would retard the rise to ownership. But more important than this is its influence upon the tenant's position within the group itself. The tenant class is not homogeneous as to condition or well-being; but it comprises, especially where "share" tenancy prevails, two rather clearly marked groups: those who, having no capital or equipment of their own, are furnished by the landlord, and give as rent one-half of the whole crop; and those who furnish themselves, and so pay as rent a much smaller fraction of the crop (usually one-third of the corn and one-fourth of the cotton). The former are at a serious disadvantage, since they are usually furnished with inferior equipment, and are at the same time more under the control of the landlord as to crops planted and methods used. Accordingly, one of the stages toward economic independence is the change from a "half" tenant to one that furnishes himself. But the increase in the amount and value of the necessary equipment has increased the

difficulty of the ascent. Thus more tenants are retained in the lower grades of tenancy, some never rising at all, and others only after a longer time as tenants.

That these facts may stand out in a concrete way let us contrast what was necessary to equip an average farm in 1900 and in 1910. At the former date (according to Table 1) the average young man entering upon the life of a tenant farmer in the ten counties (page 12) must have had an average of $531 invested in domestic animals and in implements and machinery. These items constituted the more important equipment. Ten years later the average farm should have been equipped with $758. More machinery was necessary for the larger farm; and more animals and more labor were necessary at the later period. Accordingly, with this rise in cost of all farm equipment, he, to get his start, must have been in a position to command the larger sum. To get this sum he must have labored longer as a farm hand, and if he still lacked capital, he must have had recourse to borrowing at high interest rates.*

Suppose a tenant contemplates the purchase of land. At the earlier date $3,000 would have provided him the average improved farm of 62 acres; but in 1910, to secure and equip the larger average farm of 69 acres, more than $6,000 would have been necessary.

It is granted, or course, that once he was in possession of the necessary capital he might make larger returns in 1910 than in 1900, due to the higher prices obtained from his products. But in the above illustrations we have in mind the greater difficulties in getting started, either as tenant or owner.

The changes described in the preceding paragraphs depend for their significance upon the assumption that the financial ability of the tenant has not kept pace with the increase in the outlay necessary to buy and equip a farm. The best proof of this is the general testimony of long-experienced business men. But it seems also to have been in part confirmed by a study of the matter in two important counties, Ellis and Travis. Grouped according to amount of property rendered for taxation in 1913, the tenants of these two counties were as follows:

*Some allowance must be made for increased wages and farming profits. Also, with the multiplication of country banks, credit conditions have somewhat improved.—Ed.

TABLE 2

Renditions of Personal Property by non-land-owning country dwellers, Travis and Ellis Counties: 1913

	Travis County	Percent	Ellis County	Percent
Whole number who rendered	2,803		3,670	
Number rendering only polls	1,124	40.0	932	25.3
Number rendering property	1,679	60.0	2,739	74.7
Amounts rendered:				
From $1 to $199	748	44.5	1,077	39.3
From $200 to $399	415	24.7	831	29.9
From $400 to $599	273	16.2	46.8	17.1
From $600 to $799	109	6.4	182	6.5
From $800 to $999	62	3.0	74	2.6
From $1,000 and up	72	4.2	103	3.8
Total	1,679	100.	2,739	100.

In Travis county 40 per cent, and in Ellis 25.3 per cent, owned no property above the household exemption of $200. Assuming the rendered value to be 50 per cent of the actual,* we find that of those who did render property in Travis county 44.5 per cent owned less than $400 (actual value), and in Ellis county 39.3 per cent.

The minimum amount of capital necessary to operate a one-team farm (thirty to fifty acres according to the crop, soil, etc.) has been estimated at $400. If this is a fair estimate, then in 1913 not far from 40 per cent of the tenants of these two counties were probably half tenants by necessity, that is, because they were unable to equip the smallest practicable farm. Of the remaining 60 per cent, about one-half (that is 30 per cent of all) owned $400 to $790, and so were able to furnish at best, only a one-team farm. The remaining 30 per cent, being able to equip a two-or-more-team farm, were in position to become successful tenant farmers and ultimately to acquire land.**

But to explain the increase in tenancy it is not enough simply to show that the tenant's resources are inadequate, for with a great portion of the tenant class this has probably always been true. We must further show that his resources are at present even more inadequate than they have been in the past. To show this would require figures similar to those above, for some previous date. Such figures are only partly available. However,

*Tax assessors put it at least this high.

**The reader must not overlook the possibility that the poorer groups may be rising to fill the higher group; just as the higher group may be passing to ownership.—Ed.

of the 1679 tenants who rendered property in Travis county in 1913, 720 also rendered property or poll in 1909. In addition 91 rendered poll only at both periods. Thus we are able to examine the progress of these identical men over a five-year period. The wealth-groups, the total and average holdings, and the group percentage for the two dates are as follows:

TABLE 3

Renditions for Taxation*, 1909-1913. 720 Identical Tenants—Travis County.

	1909		1913		Percentage Increase
	Number	Average Amount Held	Number	Average Amount Held	
Polls only at both periods.	91	----------	91	----------	----------
$0 to $799	473	$ 261	377	$ 325	24.5
$800 up	156	$1,292	252	$1,656	28.1

*Amounts given are double those shown on tax rolls.

The immediate impression gained from a study of this table is that in the five-year period the condition of the tenant has greatly improved. There has been a notable shifting from the lower wealth-group to the higher. The average amount of property held by the 720 men has increased from $452 to $750 (actual value), an increase of 66 per cent. But the mere numerical average of the whole group will give no fair idea of the normal tenant. For at the bottom are the submerged 91 who rendered poll only at both periods. These have little hope of rising. At the other extreme are perhaps 150 to 200 (of a total of 710) who have $800 or over. Having sufficient capital to furnish themselves, many of them will succeed as tenants and soon rise to ownership. But their number is not sufficiently large to relieve the pressure of those entering tenancy from below. Accordingly, to keep the tenant group down to a constant size, landowners must be drawn off from the great body of those owning $800 or less.*

How, then, has the wealth of this group increased as compared with the increase in the cost of capital anl land? The cost of the work animals, and implements used to furnish the average Travis county farm increased from $558 in 1900 to

*See preceding foot note, p. 17, **

$853 in 1910, or 52.8 per cent. Contrasted with this the average holdings of the group owning from $1.00 to $800 (actual value) increased from $256 in 1909 to $324 in 1913, or 25 per cent. Thus the annual increase in the cost of work animals and machinery was 5.2 per cent, while the increase of the tenant's wealth was 5 per cent. The increase in production costs would have been much greater if we had included the increase in labor, feed, and fertilizer. It is obvious that such comparisons are untrustworthy, having as bases no common periods of time, nor sizes of farm. But, supported by observation and testimony, they may at least help show how slight, both realtively and absolutely, has been the advance of that contingent of the tenant class which must advance if the amount of tenancy is to be reduced.

Similar results are gained from a comparison of Ellis county figures. In a certain election precinct, 89 identical men (tenants) rendered personal property both in 1909 and in 1913. The average property (actual value, i. e., 200 per cent of amount rendered) of this group increased in the five-year period 1909-1913 by an average of 3.7 per cent a year, while the average cost of animals and machinery increased 4.9 per cent a year. Here also the differences would be much greater if all cost items were included.

To supplement his shortage in capital the tenant might resort to credit. But here a serious deficiency appears in the business organization of Texas agriculture, namely, the lack of an adequate system by which he might secure this credit. To buy a farm, or even to furnish a rented farm, the tenant is practically compelled to borrow. Under proper conditions this should not be a hardship, for an extensive and efficient use of credit is now characteristic of practically all successful business. But the tenant's use of credit, while in most cases extensive, is by no means always efficient. With no security to offer but his crop and his name, the tenant is often not well received at the bank. Accordingly he goes to the man that will accommodate him—the country merchant. The abuses that grow out of this store credit are already too well known. Standing alone the tenant has no other resource, and, so, suffers for lack of capital to equip himself efficiently. But if he could be induced to pool his credit with that of men like himself, he might secure adequate

capital, and at a much more economical rate. A scheme looking to such an end has been devised, with especial reference to Texas conditions.*

The foregoing would seem to suggest the following conclusions:

(1) There is an upper third of tenants, who, under present conditions, are fairly prosperous, quite as successful indeed as tenant farmers are in any part of the country. They are hopeful and ambitious; frugal and careful. They are capable farmers and good business men, commanding the confidence and respect of all. These men are acquiring property, even on high-priced land. Among them are found nearly all European farmers and many native American. So long as these remain tenants they have real bargaining power with landlords, for landlords are competing sharply for their capable services.

(2) Below this upper third is another third, less prosperous, not entirely because they are poor farmers, but chiefly because they are poor business men. They work hard, but spend freely and injudiciously. They are not willing to practice the small economies so essential to successful farming. Nor have they any strong desire to own land, but acquire some property in other forms. In bargaining power they are weak. They may be likened to the middle class wage earners of our cities.

(3 The real tenant problem is localized in a lower one-third. It is composed of a migratory thriftless body of men, not unlike the casual unskilled workers of our cities. They are incapable of doing any work in a thoroughly capable way, except as carefully supervised. Not only are they poor farmers, but, if possible, even poorer business men. The remaining portion of this paper deals largely with this lower third.

2. *Personal Causes Producing Inefficiency.*—It is a commonplace remark that the average Texas tenant is inefficient. This quality is attributed to his ignorance, and to his lack of thrift, of perseverance, and, perhaps, also of ambition. While by no means all Texas tenants are open to those charges, nevertheless they are subtsantially true for an important fraction of them. Why have we a class of inefficient, incompetent tenants? In part an explanation is found in the physical basis of their lives. The

*See L. H. Haney's "Farm Credit Conditions," etc., *Amer. Econ. Rev.*, Vol. IV, No. 1, pp. 47-65. Also University of Texas Bulletins Nos. 298, 355, 21.

conditions under which they live are not such as to give them the energy and ambition without which they cannot be efficient. It would seem that the most obvious cause of inefficiency then is found in the low standard of life.

The unsuccessful tenant farmer is never in a position to demand of his landlord a wholesome house in which to live. He must make the most of a two or three-room box house, unpainted, unpapered, with no conveniences of any kind, not even screens for doors and windows to protect from flies and mosquitoes.* It is needless to say that such furnishings and utensils as are put into these houses are of the most slender and pitiable sort. Even were they better than they are they would soon be ruined by leaking roofs and dilapidated doors and windows. Conditions outside the house are even less attractive. Often there is not the slightest suggestion of those conveniences necessary for decency and health, and both suffer as a consequence.

Again, although the tenants of this type are in easy access to wholesome food, it is believed that a vast majority of them are under-nourished. The daily food has little variation from season to season, and from year to year. Nor has it variation in methods of preparation. The cooking is almost uniformly bad. This is caused, in part, by the use of poor stoves and faulty chimneys; in part, by a gross ignorance on the part of the housewife; and by the further fact, that in families of the poorest class, the wife does an undue amount of field work. The situation is made still worse by the fact that the tenants' ignorance of food values is equalled only by the cupidity of the dealers. Accordingly in buying food supplies they have thrust upon them varieties of the poorest nutritive qualities and those nearest the point of decay. To the more intelligent they are unsalable. These conditions, and many others, mean a low standard of living which in turn results in low earning powers.

But the story is not yet complete. The water supply is very frequently inadequate and, worst of all, polluted. Typhoid fever is a constant scourge, as every physician with a country practice will testify. "Do you have much typhoid in your section?" was asked such a physician. "Last year along the course of 'X' Creek nearly every family had one or more cases of

*See below, pp. 42-45.

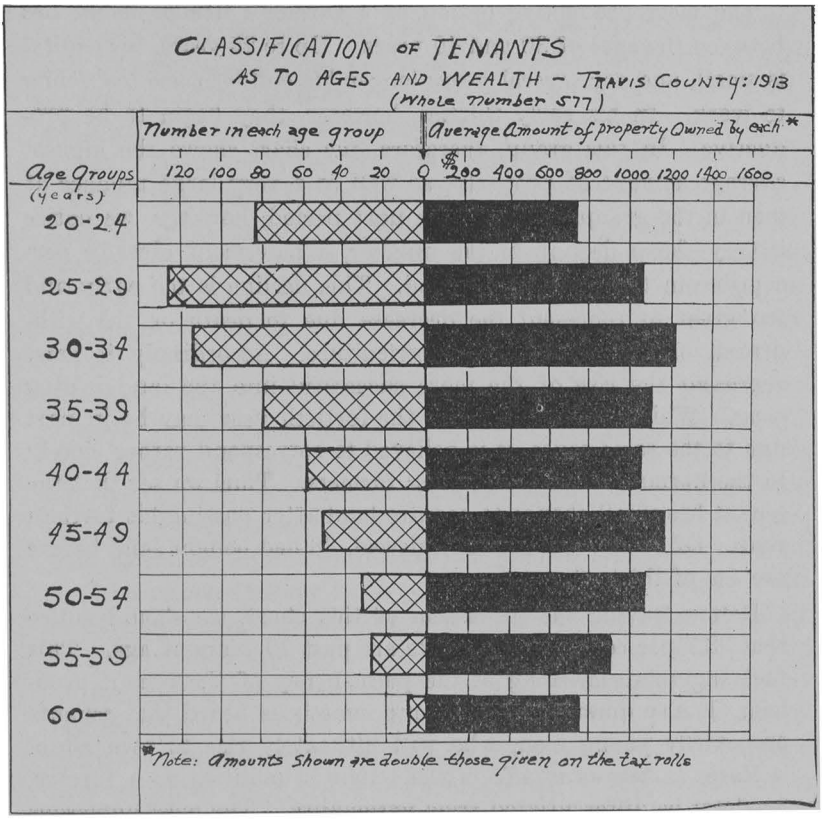
typhoid." This was his answer, and it is probable that this condition is duplicated in hundreds of communities. This manner of life must mean much sickness, and this with poor care must result in a high death rate. If there is an increase of population under these conditions, it is only because the birth rate is also excessively high.

As explaining, in part, the low efficiency among large groups of Texas farmers, special attention is called to the hook-worm ravages. This is now regarded by specialists as a strictly industrial disease confining itself to agricultural people who live under unsanitary conditions. While it may not be the immediate cause of death, it greatly enfeebles the energies of the worker, making the victim more susceptible to all other ailments. The working efficiency of the one afflicted is said to be reduced from 30 to 80 per cent. The Hook-Worm Commission has been in existence in Texas only a few years,* but during this time it has investigated more than fifty counties, chiefly of the eastern one-third of the State. The range of infection varies greatly from county to county, and directly as sanitary conditions are good are bad. In three counties investigated more than 80 per cent of the people examined were found to be infected; in four, 65 to 80 per cent; in nineteen, 50 to 65 per cent; in thirteen, 20 to 50 per cent; and in fifteen, below 20 per cent. Infection appears to decrease in the counties further west and north.

We may form some idea of the part played by individual character by comparing in any community the various classes of tenants as to age, race, and nationality.

The tenant's age is a potent factor in his productiveness; for upon it largely depends the degree of his thrift, judgement, and ambition. Illustration of this appears in the following chart representing 577 Travis county farmers, grouped according to ages, with average amount of property for each age group:

*Since this paper was written, the Commission has been forced to discontinue the investigation because the Legislature failed, through lack of interest, to appropriate funds to supplement those furnished by the Rockefeller Sanitary Commission.


CLASSIFICATION OF TENANTS
AS TO AGES AND WEALTH - TRAVIS COUNTY: 1913
(Whole number 577)
Number in each age group
Average Amount of property Owned by each *
Age Groups (years)
120 100 80 60 40 20 0
$ 200 400 600 800 1000 1200 1400 1600
20-24
25-29
30-34
35-39
40-44
45-49
50-54
55-59
60—
*Note: Amounts shown are double those given on the tax rolls

The most productive period of a farmer's life probably lies between the ages of 30 and 40 years. Up to 25 years, his capital is small, and for several years longer his children are too young to work. In his early thirties, however, they begin to be productive. In this group, therefore, the chart shows the highest average amount of property, as well as a very large number of men in the group. During the next period, however, we notice a very sharp decline in the number, a movement already perceptible in the preceding period. This decline is too early and too great to represent the decrease due to death or the withdrawal of the tenants from agriculture. Accordingly it must represent the rise of the more successful into the land-owning class. While the decline after the fortieth year may be in part due to the same cause, it is believed to correspond rather closely to the normal death rate among farmers. Thus we see that the tenant has small chance to acquire land after passing his fortieth year. Of 50 landowners interviewed, 38 had bought land before the age of thirty-five.

Before leaving the discussion of this chart, we should notice that 33.7 per cent of the tenants are past 40 years of age. This fact suggests something of the permanency of the tenant problem. It also questions the remark sometimes heard that tenants are chiefly young men, who will ultimately rise to ownership.

Race, as far as it affects the tenant's qualities as a farmer, need not be differentiated from nationality. The most numerous of the non-white or foreign-born elements in Texas tenantry are probably the negroes, and, in South Texas, the Mexicans. But, while these elements doubtless lower the efficiency of our tenant population and render the tenant problem more difficult, the chief problems which they present lie outside the scope of this paper. Accordingly, the discussion of nationality will deal chiefly with native white farmers as opposed to European.

The full life-history of 40 tenant farmers in Travis county shows the interesting fact that 20 of these were born in the State, of American parentage; 15 were born in other States of the Union, while five were of European birth. Of the European, one already owned land, another had $6,000 in interest-bearing notes, one had been a tenant one year, while the other two had been farming only a few years. On the other hand, the 35

American born farmers had been tenants on an average more than 16 years each. This group had occupied 139 farms, giving an average of about four years to each farm. One man had occupied twelve different farms in his thirty-five years as a tenant farmer. Among these were some prosperous and successful men, but the older men certainly may not be so regarded.

Again, in a group of 35 land-owning farmers who began as tenants with little or nothing, 25 were of European birth. They had worked as tenants on an average of less than six years before they purchased land. But we find that the 10 American farmers worked the longer average time of eight and one-half years as tenants before venturing to buy for themselves.

These facts, which are believed to be typical, warrant two conclusions: (1) The European farmer, although working as a stranger to American life and conditions, and starting with nothing, rapidly passes from tenant to owner. (2) In proportion to their respective numbers a far larger percentage of American-born farmers remain permanently in the tenant class, or, if they finally get out, do so after a much longer period of tenancy.

These facts, however unwelcome, lead to the conclusion that the European farmer is superior to the native. This is admittedly true in some respects. As to thrift, economy, and ability to work hard, he is above the average native farmer, but he is not superior, even in these points, to the better class of native farmers. Tenancy is not a vital matter so far as these groups are concerned. Both are acquiring high priced land, even under the present economic handicaps. This is evidence that the land system, bad in many respects, is not so bad as to make the acquisition of land impossible. That an important class of tenants is not succeeding must, then, be traced in part to causes which lie deeply-rooted in personal character.

3. *Causes Found in Social Apathy.*—Apart from all immediate causes found in economic and personal character, and aside from any long-standing historical cause, there is another group of causes of some consequence. These may be designated as social causes operating independently of the tenant himself, and for which he is in no way responsible. These serve not as primary causes but rather as perpetuating causes.

The first, and perhaps the most important, is a lack of social interest in the tenant classes. "What does the tenant stand most in need of?" was asked a now prosperous owner of a two hundred-acre black land farm in Ellis county. The answer was: "The one thing most of all needed is encouragement," This man spoke from an interesting personal experience. Twenty years ago he landed in Waxahachie from Kentucky, with a wife, two small children, and with a capital sum of twenty-five cents. Beginning as a farm hand, he soon became a "half cropper." Fortunately he was a good worker and a trustworthy fellow. Soon a landlord became interested in him and offered to help him with working capital. He then became a third-and-fourth renter. As such he succeeded, and this success brought him other friends. A banker advised him to purchase land, and stood behind him in a first attempt to acquire land. Several later purchases have been made, and to-day this man is among the most respected and successful men in that community. This incident is given to show the influence of encouragement. While it is true that hundreds have been similarly encouraged, by their side are other hundreds who have received neither individual nor social encouragement. Many would have failed in any event; how many might have made a creditable success if surrounded by some human interest and concern is conjecture.

It is unfortunately true that the unsuccessful groups of tenants come to have as their landlords the most individualistic, the most grasping landlords anywhere to be found. They exact a contract which can leave the tenant nothing more than a subsistence. What is worse, these men often even seek to justify such conduct, on the ground that any prosperity coming to these tenants makes them utterly useless and intolerable. This, of course, is often a mere pretext. These landlords, if not responsible for the worst there is in tenancy, certainly are responsible for the continuation of tenancy at its worst.

Similarly, though to a less extent, other men than landlords stand ready to take advantage of the tenant's ignorance, credulity, and helplessness. Though these men are not causes of tenancy they certainly help to perpetuate the undesirable type of tenant. It would be difficult, perhaps futile, to attempt an enumeration of these parasitic groups. Certainly among them would

be found the usurious money lender, the speculative gambler, the cunning horse trader, and so on. These are culpable because of what they do. Many other members of society, too, are guilty of continuing tenantry at its worst, not because of what they do, but because of what they might do by way of securing relief. The sins of omissions are large, and the legislator, the minister, the teacher, the petty jurist and many others are by no means guiltless.* These groups know full well, the economic handicaps, the injustice and exploitation daily suffered by these people, and yet do little or nothing even by way of protest.

II. Historical Causes.

For another originating cause of the Texas tenant's personal inefficiencies (his ignorance, his thriftlessness, etc.) we must examine the economic and social conditions of the period following the Civil War. By the war the prevailing agricultural system of the South was changed; the social organization of the country was modified; her capital resources were depleted; and a large part of the most virile element of her population destroyed, the resultant quality being correspondingly lowered. Accordingly the country was rather slow in adapting itself to the changed economic and social conditions. And, most important to us now, the conditions were unfavorable to the rising generation. "For almost two decades following the war," says an authority on Southern conditions,** "there were practically no rural schools in the South. The few which were established by the carpet-bagger governments were open to negroes as well, and these the whites refused to patronize." Moreover, the unsettled political and social conditions in many localities kept alive for years a spirit of bitterness, little conducive to hopeful and progressive citizenship.

Amid such conditions a very considerable proportion of our Texas tenants were reared. For by far the greater number of our tenants were born in the South. In a certain voting precinct in Ellis county sixty-four tenants were registered in 1913. Of these practically all were natives of Texas or of Southern States farther east. Again, of thirty-nine Travis county tenants

*See Chas. B. Austin's discussion in "Farm and Ranch," April 17, 1915, and successive issues.

**Prof. C. W. Ramsdell, University of Texas.

taken at random in 1913, thirty-three were born in the South, twenty being native Texans. And of this great body of Southern born tenants no inconsiderable percentage were born early enough to have been directly affected by the conditions which we have described. For, as we have seen, among 710 Travis county tenants whose age was given in 1913, 236 or 33.7 per cent were forty years of age, having been born not later than 1873. Similarly, of the sixty-four Ellis county tenants already mentioned, twenty-eight were above forty years old.

Thus hampered by poverty, with practically no education, and no very encouraging prospect for the future, the children of the poorer agricultural class in the South (just following the war) had little to develop in them the vigor and intelligence necessary to rise to ownership. Many of them, therefore, have remained tenants.

The significance of this point may be best seen by comparing the North and the South as to present extent and condition of tenancy. In the North, the average of tenancy is 26.5 per cent as compared with 49.6 per cent in the South. In the North also the level of intelligence, education, and efficiency is much higher.*

This historical view of tenancy presents, for the future, both a promise and a menace. A promise, for it gives assurance that the present evil conditions have not always existed in our land system, and so are not essential to it. A menace, in that, while the present generation of unsuccessful tenants are not by nature a decadent people (but have been brought down by a wide-sweeping social disaster**); nevertheless, the succeeding generations, if left to grow up amid similar conditions, are liable to be permanently impaired. For, ignorantly yielding to their active instinct for reproduction and excusing themselves by the seeming need for more labor force, they multiply very rapidly, bringing up their large families in the same privation and ignorance that worked their own undoing. These children closely intermarry, not only perpetuating a weakened stock, but at the same time tending towards the fixation of the stock as a type. This

*In the editor's judgment, the whole point made in the preceding paragraphs may easily be overworked. Weakness in schooling and thriftlessness were present in that class of Southern small farmers from whom our tenants spring, long before the war.—Ed.

**The editor believes that a considerable part of the lower one-third come from stock that has been low for many generations.

comes as a necessary result, not only through intermarriage, but through what is quite as important, an intermingling of habits, customs, ideas, and modes of thought and of life, whose only influence is one tending towards stagnation. This multiplication of the unfit must continue so long as the standard of life remains on its present low level.

Thus among a rural population constantly shifting, both tenants and owners,* and in an atmosphere of individualism, it becomes impossible to create those co-operative agencies so desirable in making life, not merely prosperous, but also socially attractive. If a real social consciousness were developed it would not be difficult to teach tenants, even the poorest, the folly of the one-crop system, how properly to use credit; the wastes in frequent moving, and the values of an education. Every forward movement must grapple with this unfavorable characteristic of country life.

A serious error, to which one is liable in discussing a social problem, is to over-stress that phase of the problem which is nearest him; and to propose as a solution for the whole problem a scheme adequate at best only to a single phase. The tenant problem is not simple. It springs from many and various causes, and these require specific remedies equally diverse. Accordingly, no single cause here discussed is presented as the sole or the chief source of the problem. Even the whole discussion, the writers are well aware, is by no means an adequate treatment of the subject. But they do believe that most of the important causes have been presented, or at least suggested. This paper aims to discuss causes rather than remedies. Accordingly in most part the reader is left to devise his own remedy for the particular evils described. For the more fundamental causes, however, some general remedies will be suggested in the following paragraphs.

SOME SUGGESTED MEASURES OF REFORM

Our tenant situation, produced as it is, by many interlinking causes, has no universal or speedy remedy. The whole remedy

*In one of the foremost agricultural counties of Texas, 15 per cent of the land is held by non-residents of the county. If other non-residents were included, i. e. those living in adjacent towns of the county, the per cent of land held by all would reach 30 per cent, at the lowest.

demands the recasting and complete reorganization of the life of a group, roughly estimated at one-third of the white tenant class. These people are not in the way of progress because of some, or all, of the causes heretofore explained. This group is now in a critical condition, for unless relief, or the promise of relief, speedily comes it stands in danger of permanent stagnation insuring still further alarming increases of the type in the future. Surely, to avert such a result presents a problem, the magnitude of which we are just beginning to realize. Above all else these people must be made more intelligent, more capable, more efficient, more frugal, and more prudent as to the multiplication of their own numbers.

Education, we are told, is the only remedy. But it is a slow-working remedy, as all must agree. Not in this generation, and possibly not in the next, will its fruits be borne, even supposing our system of common schools to be in perfect working order. As already fully known our schools stand in need of reorganization and adjustment to the needs of the people. And this calls for years of study and experiment. And yet, with all earnestness and sincerity of purpose we must support education as the means of reaching and helping not merely this class, but all similar classes.

Again, others point to legislation as the remedy. That proper legislation might accomplish much is admittedly true. But we must beware the danger of expecting too much from this source. Legislation can really only make effective what popular opinion supports. To create the popular opinion is the important but difficult task. Just how and through what agencies can a social conscience be created, without which hope of progress is futile?

To the writers there appear to be two logical centers of activity for constructive work. The one is the State government itself, the second is the county. The State has already through its Department of Agriculture, through its State University* and Agricultural College done some excellent work in attempting to call attention to this question. Much remains to be done. There is one form of constructive work which has often been proposed, and which clearly the State could do with efficiency. It

*See University of Texas Bulletins Nos. 298, 355, and No. 21 of 1915.

might well establish a Land Tenure Regulation Board charged with the general duty, first of determining what the facts are respecting the economic condition of tenants, and, secondly, of recommending what might seem to be just rentals. Also, it might furnish to the counties much needed information, in addition to expert, disinterested advice, all of which might prove helpful to the counties, as they attempt to improve their conditions in a manner now to be considered.

The real and by far the more significant center for activity in securing better conditions is found in the county. Only in the most general way, may State-wide laws be made operative in a State so large and so diverse in its agricultural character as is Texas. On the other hand, the counties have each a rather homogeneous life, the soil and climatic conditions being rather uniform. These facts clearly point to the part the county might play in the solution of its own peculiar problems. A second constructive measure is therefore suggested. It is an application to agriculture of the principle of collective bargaining through a joint conference.* This principle, as is well known, has worked successfully in bringing industrial peace between wage-earners and employers in some of the most complex industries.

The principle of the joint conference would seem not an impracticable idea if carried over into agriculture. There is between tenant and landlord an identity of interest somewhat greater than between wage-earner and employer. The joint conference would, of course, be composed of representatives of at least three groups. Representatives from both landlords and from tenants would naturally be most numerous. To these there might well be added a certain number of farmers working their own lands, preferably those who themselves have come up to ownership from tenancy. Equally important in this conference would be an agricultural expert representing the State, giving technical guidance to the joint commission, whose total number might not exceed 20 or 25. This joint commission might be known as the County Land Tenure Board. This commission would create a committee of investigation in which also there should be represented all interests, and it should be composed of the ablest and fairest minded men in the community.

*This principle would, of course, have to be legalized.

It should be directed in its investigations by the State's representative and expert. This committee of investigation would then proceed to study in detail the following questions:

(a) The varying degrees of fertility of all rent lands in the county.

(b) The location of these lands in reference to good roads, schools, towns, etc.

(c) The improvements upon the lands.

With this information in hand all lands might be intelligently graded and classified into groups varying from best to poorest. Upon this classification the joint commission would act, and at the same time establish for each grade of land the rent it should bear. For resident landlords this would be declared the standard rent, and public sentiment would do much to make this the customary rent. Or, if thought best, this might be made the legal rent; in any case it should become the legal rent for the non-resident landlords. This commission, in some such way, would bring about a standard rent, a rent based upon justice both to landlord and tenant alike.

For immediate purposes such a commission might perform other duties even more important. It should encourage the standarization of all low-grade farms—farms on which the most miserable tenants must now live. It might perform the valuable service of teaching the tenants how to use properly more capital, and at the same time devise ways and means of securing this capital at the lowest possible interest rates through co-operative credit associations. It would protect the poorest tenants from unjust and merciless landlords, and at the same time seek in every way to make tenants more dependable, efficient and careful workers on pain of not receiving the commissions' recommendation for a farm. It would seek to encourage long leases, proper rotation and diversification of crops, and the application of the best methods in agriculture. In short, it might carry forward a worthy educational program in addition to its function of securing economic justice for all concerned. It should seek to keep alive the tenant's hope of ownership of land and remove, one by one, the barriers in his way, or rather to help the tenant himself to overcome them, through efficiency, energy and prudence.

The desirability of such approach to this question would seem apparent to all familiar with Texas conditions.

(a) It takes account of local differences which State-wide laws cannot reach.

(b) It aims at a standardization of rents on a scientific basis, rather than upon rents fixed by custom or law.

(c) Most important of all, it introduces the idea of co-operation among those whose interests are mutual, and who, therefore, have every reason for freely co-operating, and who will, if only they can be shown a practical method of so doing.

(d) Finally, it is based upon the assumption that most landlords are just men, and that most tenants are honest, intelligent and frugal, and that these two in united action can restrain, on the one hand, the oppressive landlord and, on the other, give bargaining power to a class of tenants who are unable to bargain wisely for themselves.

An additional service which the State might efficiently render at no great cost, but of great worth, especially to its agricultural classes, is direction in acquiring lands.* Under present conditions, a prospective buyer of land finds no disinterested agency to which he might go for accurate information as to lands. Too often, as a result, he falls a victim of the "land boomer," whose only interest is in the sale of lands, not in establishing successful farms. The State might well make a careful study of all lands, seeking to find out the actual climatic conditions, rainfall, frosts, length of the growing season, and especially the qualities of the soil and the purposes to which they are best suited. This information available, and also personal advice, much of the present risks in buying land might be avoided. The losses which have come to tenants on the eastern lands in buying western lands of unknown value have been a source of great discouragement to great numbers of well-disposed and capable tenants. Many in this way have lost the savings of a life-time.

*The larger policy of state aid to the purchase of land does not fall within the scope of this study.

A STUDY IN THE SIZE OF FARMS IN TEXAS

J. G. GRISSOM

Changes in the Size Farm the Last Quarter Century

To get in mind clearly the changes in the size of farms in Texas it might be best to give the average size of the farms in Texas for the last quarter century.

Average Size of Farms

Year	All farm land	Improved land
1890	225	90.9
1900	357	55.5
1910	269.1	65.5

In making a study of the number of farms in the different size groups it is found that in 1900 the farms in the size group 20-40 acres occupied the greatest per cent of the total (28%); but in 1910 the number of farms in this size group had dropped to 23 per cent. The number of farms of the size group 100-175 acres increased about two per cent in the same period.

Fifty-seven per cent of the total farm land of Texas is in farms of 1000 acres and over, but this group of large farms contains only 10 per cent of the cultivated land of the State. There was an increase of two per cent in the number of farms of the size 500-1000 acres during the period 1900-1910.

In the farms of East Texas, e. g., Smith, Washington, and Van Zandt counties, which are representative counties, about 40 per cent of the farms were in the size group 20-50 acres in 1910; while in the black-land belt the percentage of farms in the same size group was fifteen for the same year. The changes in the years 1900-1910 of the relative number of farms in the size group 20-50 acres, is worthy of note. In East Texas there has been a decided increase in the number of farms of this small size, while in the black land belt there has been even a greater per cent decrease.

This change should be noticed more in detail: in Smith county

the per cent of farms in this size in 1900 was 38; in 1910, 40; in Van Zandt county in 1900 it was 29 per cent, in 1910, 37 per cent; in the black land belt the per cent of decrease of the number of farms in this size has been more pronounced than that of increase in East Texas.

In discussing the changes in the size farms in the different belts of Texas it might be effctive to present in graphic form these changes as shown on the map on page 36. Mr. George Wehrwein worked out this map in connection with a study of the size of the farms in Texas made by the Division of Public Welfare of the Department of Extension of the University of Texas.

Size and Efficiency: New York Investigation

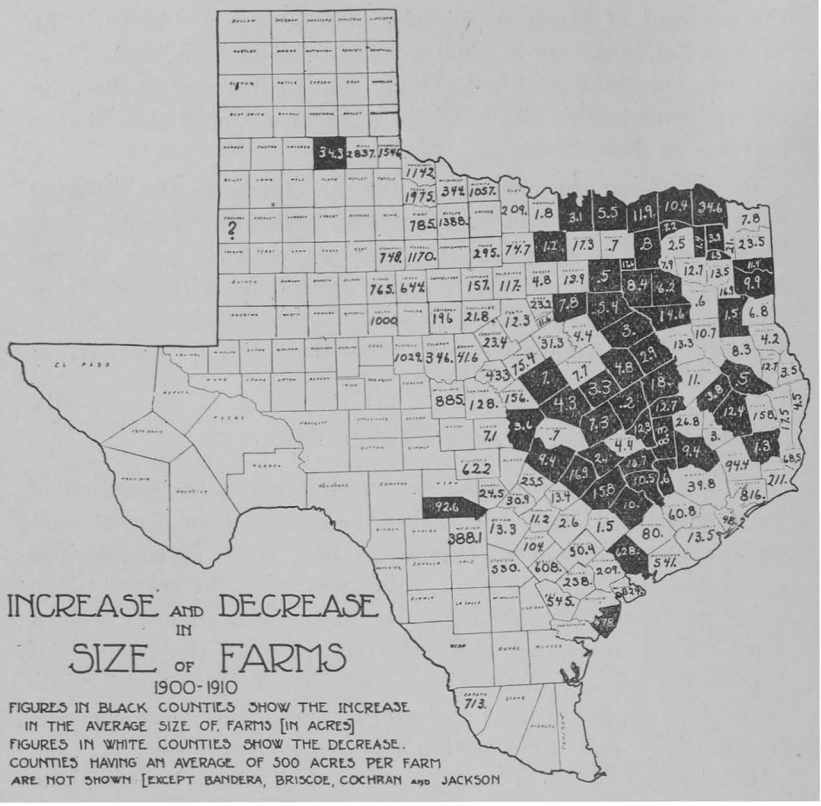
An investigation throwing the most light on the question of the proper sized farm, and taking the mater up in a most thoroughgoing and scientific manner is that made by a committee of the Cornell University, in which they give the results of an investigation of some 500 farms in two or three counties of New York. They undertook this investigation with the purpose of tracing the relation of the size farm to its efficiency. The conditions, such as the climate and crops raised, were somewhat different where this investigation was made from those in Texas, especially in Central Texas, but were not so unlike those of East Texas. The principal crops raised on these New York farms were hay, wheat, oats, corn, potatoes, apples, and dairy products, the type of farming being diversified.

In studying these 500 farms of different sizes the Cornell experts found many interesting results. Farmers with 50 acres or less made a smaller income than the hired man, i. e., about $250 per year. The greatest labor income was found to be on the larger farms.

The work of this Cornell committee may be summarized in a few words as follows:

1. The crop yields do not increase in proportion to the increase in the size farm, e. g., on the 30-acre farm an average yield of thirty-five bushels of oats was received; on the 200-acre farm approximately the same yield per acre was reported.

2. The investment in machinery per improved acre is over


INCREASE AND DECREASE
IN
SIZE OF FARMS
1900-1910
FIGURES IN BLACK COUNTIES SHOW THE INCREASE IN THE AVERAGE SIZE OF FARMS [IN ACRES]
FIGURES IN WHITE COUNTIES SHOW THE DECREASE.
COUNTIES HAVING AN AVERAGE OF 500 ACRES PER FARM ARE NOT SHOWN [EXCEPT BANDERA, BRISCOE, COCHRAN AND JACKSON

twice as much on the 50-100 acres size farms as on the 200-acre farms.

3. The investment in houses per farm on the smaller farms was almost as great as on the larger farms.

4. The number of acres farmed per horse increases as the farm gets larger, e. g. on the 30-50 acre farm 15 acres per horse was the average amount cultivated; on the 200-acre farm it was 49 acres per horse.

5. The efficiency of labor increased as the farm got larger. The number of acres farmed with $100 on the farms in the size group 30 or less acres was 4.4; on the farm of 200 acres it was found to be 21.8 acres.

This Conclusion is borne out by the Census

While the census does not give us the farm expenses in detail, one can get from the census figures the conclusion that the small farm is rarely profitable.

From a study of the twelfth census one can see that the average family on a farm of 100 acres or less does not receive as much as an ordinary farm laborer.

As the size farm increases we find that the labor income increases, e. g. the income is $410 where the farm is 100-175 acres and is $552 where the size is 175-250 acres. The Cornell Committee in their study found the net profit per acre, after deducting all expenses to be as follows:

Size farm in acres	Net profit per acre	
30 or less	loss	$7.50
31-60	loss	1.47
61-100	gain	.57
101-150	gain	.89
151-200	gain	1.75
200 and over	gain	2.38

From this we can see that the size of the farm is no negligible factor in determining the profits of farming. The most rapid change in the income is found to be in the change from the 100-150 acre farm to the 150-200 acre farm.

The reason that the labor income increases at a less rate after the farm has reached 175 acres is that the tools and equipment must be duplicated.

Trend of size for various crops

In the wheat counties of Nebraska, a typical State of the hard wheat crop, we find the number of farms of the size 50-100 acres decreasing rapidly. Mr. Warren in his "Farm Management," page 282, says that Clay county, Nebraska, is typical of the whole State. A study of the census for this county shows the constant increase in the size of the farms. In 1880 the number of farms of the size 50-100 acres in this county was 886; in 1910 the number was 186. In this same county the change in the number of improved acres per farm was as follows: 1880: 100 acres; 1890: 139 acres; 1900: 146 acres; 1910: 163 acres.

A similar increase in the number of improved acres per farm is to be found in the spring wheat region of Minnesota and the Dakotas. In these States the number of farms 100-175 acres in size decreased 25 per cent from 1900 to 1910, while the number of farms 175-500 acres in size increased.

In the corn belt a corresponding change is noticed. In Shelby county, Iowa, a good county for corn specialization according to Warren, we find that the size of the improved farm increased from 93 acres in 1890 to 159 acres in 1910. The number of farms in the size group 50-100 acres decreased from 729 to 333 in the same period of time.

In the cotton regions the condition is somewhat more complex. In some places the improved acreage per farm has increased; in others it has decreased. Some authorities attempt to correlate the change in the size farm with the nature of the population, i. e. where the population is mostly negro the size of the farm decreases, and where white it increases. I do not think the statistics in regard to the change in the size of farms in Texas will bear out this hypothesis. In Texas the size of the farm in the cotton area seems to increase only where the soil and other conditions, such as markets, are suitable to extensive cultivation, and does not change as the population is black or white in the different cotton counties of Texas. The map given in the first part of this paper shows that the farms are increasing where the population is composed to a great extent of negroes.

Experience of England

The English people have thought more about the best sized farm than have the Americans. The pressure of the population

on the food supply and the limited amount of land there, have caused the English public and the government to give some little attention to the distribution of the land. The government passed what is known as the "Allotment Act" and "Small Holding Act" in 1907. Just what has been the effect of these acts upon the distribution of land and the size of farms it is difficult to conclude.

A report entitled "Report of the Land Enquiry Committee" was published in 1913 purporting to give an analysis of the workings of the acts mentioned, especially as related to large and small holdings. It is difficult to draw any warranted conclusions from the report, because of the fact the question is a political issue in England and this committee did not give both sides of the question completely. With this fact in vief we can better estimate the findings of the committee.

The evidence tends to show that much of the success of the small holder depends on the kind of crops he raises, whether suitable to extensive or intensive methods of cultivation. The committee emphasizes the fact that the question of the proper size farm is interrelated with the factors:

1. Difficulty of marketing produce.
2. Adequate supply of capital on the farmer's part.
3. Possibility of co-operation among the small holders.
4. Scientific education of the small farmers.
5. The question of the relative taxation of improvements, land, etc.

Texas statistics

In attempting to direct attention to Texas and to reach any conclusion based upon scientific data we find it very difficult if not impossible to make any generalization. In studying Texas farms, in regard to the influence of the size of farms, I thought it best to choose a few counties which were more or less homogeneous as regards soil and crops produced, and to see if the size farm in this belt corresponded or varied in any way with the difference in the yields. (This was at the suggestion of Dr. L. H. Haney.) The two most homogenous belts as regards crops I took to be (1) the black land growing cotton principally and (2) the Permian belt growing wheat. I thought in this way I could take a few of the counties, for instance, with the average sized farm improved as small as could be gotten, and other counties with a relatively larger sized farm and

make a comparative study of these two size groups and see if possible what results could be traced to the size of the farm cultivated. Of the counties in each size group figures could be obtained for the:

(1) Average size farm.

(2) Average size farm improved.

(3) Average value of land per acre.

(4) Average value of crop per acre improved.

(5) Average investment in buildings, implements and animals.

(6) Average crop yield per acre improved.

(7) Average yield in the most important crop per acre improved, viz.: cotton and wheat.

Since a study of the problem of the best sized farm in these belts of Texas could not be made in a scientific and thorough going manner, as was done in the Cornell investigation, without spending much time and money in acquiring detailed information, an attempt has been made to take the information given in the United States Census, and organize and compare it, and see if any conclusion could be reached as to the best sized farm in Texas. In the tables which follow, an attempt is made to correlate as much information as could be attained from a study of the United States Census relative to the size of farms in Texas as it bears on efficiency.

AVERAGE SIZE OF COTTON FARMS COMPARED WITH YIELD AND EXPENSE PER ACRE: 1909

County.	Average size farm. improved acreage, 1910.	Number bales produced per improved acre.	Investment in implements per improved acre.	Investment in bldg. per improved acre (dollars).	Investment in animals per improved acre (dollars).	Average value of crop raised per improved acre.	Average value of land per acre.
Fannin	57	.327	2.14	8.5	8.2	16.1	32
Hunt	57	.293	2.3	9.4	8.6	16.3	33
Milam	58	.28	1.9	6.6	8.3	16.7	25
Falls	62	.327	2.	8.3	8.8	12.5	45
Kaufman	65	.28	1.9	7.8	8.8	14.8	28
Collin	65	.34	2.	8.4	8.1	15.7	50.7
Dallas	66	.25	2.1	10.	9.5	12.4	59.
Navarro	67	.27	2.	7.8	8.6	15.3	33
Hill	73	.27	2.17	9.1	8.5	15.7	48
McClennan	75	.23	2.3	9.	8.1	16.3	47
Ellis	76	.281	2.01	8.8	7.7	15.4	59
Williamson	81	.313	2.6	9.9	8.1	18.	51
Bell	80	.35	2.5	8.1	8.9	16.3	50

AVERAGE SIZE OF WHEAT FARMS COMPARED WITH YIELD AND EXPENSE PER ACRE: 1909

County.	Average sized farm (improved acreage).	No. bushels wheat produced per improved acre.	Investment in implements per improved acre (dollars).	Investment in bldgs. per improved acre (dollars).	Investment in animals per improved acre (dollars).	Average value of crops per improved acre.	Average value of land per acre.
Montague	66	7.7	1.4	6.4	9.4	10.1	15
Wise	67	10.2	1.7	7.9	8.9	14.1	17
Cooke	72	9.39	2.4	9.25	3.90	9.85	26
Denton	79	9.05	1.9	8.5	8.2	9.8	33
Baylor	98	5.2	1.6	5.2	10.1	8.5	11
Archer	101	4.9	2.1	6.5	21.7	5.7	15
Clay	101	9.	1.8	6.6	12.	10.7	20
Foard	102	9.46	2.09	10.4	4.6	7.5	18
Childress	114	8.7	1.8	5.5	8.7	7.1	16
Knox	121	9.5	1.5	4.6	3.60	8.3	15
Hardeman	124	10.9	2.0	5.7	7.6	7.8	20
Wilbarger	141	10.2	1.6	4.8	7.4	11.2	23
Wichita	168	6.0	1.5	4.4	7.3	7.1	23

By taking the average for the counties showing the larger farms, and doing the same for the small-farm counties, the conclusion may be drawn that in the case of cotton the smaller farms show a larger yield per acre with a smaller investment in implements and buildings. In the case of wheat, the facts are exactly the reverse. The averages are shown in the following table:

		Average size farm (Imp. acres).	Bales and bushels reported per Imp. acre.	Implements per Imp. acre.	Bldg. per Imp. acre.	Animals per Imp. acre.	Value of crop per Imp. acre.	Average value of land.
I. Cotton belt:	A Smaller acreage	61	2.96	$ 2.05	$ 8.43	$ 8.60	$14.79	$ 39
	B Larger acreage	73.1	2.85	$ 2.25	$ 9.44	$ 8.35	$16.17	$ 46
II. Wheat belt:	A Smaller acreage	86	8.11	$18.7	$ 7.6	$ 9.80	$ 9.53	$ 19
	B Larger acreage	134	9.06	$16.8	$ 5.00	$ 6.92	$ 8.3	$ 20

HOUSING CONDITIONS AMONG TENANT FARMERS

GEO. S. WEHRWEIN

Very little systematic and thorough study has been devoted to the subject of rural housing in general, and less to the question of houses, barns, and conveniences in the tenant home. But it is common knowledge that the housing conditions among rural tenants leave much to be desired. Letters from some renters bear out this statement. One, writing from Fannin county, says: "I would to God you people could see just what kind of huts that the renting class live in here in Fannin county. I am going to give you a description of the one that I am in while I am writing this letter. It is a four-room shack, two big rooms, 14x14; two little side rooms, 8x14, just boxed and stripped; no overhead ceiling, no shutters inside, no strips inside; three windows, 8x10 light; no porch, and there are plenty of cracks in the outside walls that a half grown rat can run through. Now don't get scared. This is the truth if the truth was ever told." Another from Lavaca county writes: "Our landlords do not ask house rent. It is understood by both parties that no rent is to be paid on the house. Most of these rent houses, to tell the truth, are not fit to house the landlord's hogs. Some of the houses were once the landlord's; these, of course, are good." A landowner from Titus says: "The only grievance that I can see that is worthy of note is the miserable poor shacks or huts that tenants are required to live in." One from Kaufman gives the same testimony: "The tenants live in a shack of a house, that is, the greater part of them do. Some have houses that do very well, while others are rough indeed. There is always more people wanting places than there are places to rent."

The information given in the essays by Travis county school children received by the Department of Economics is not uniform enough to draw definite conclusions. The number of rooms and the size of the family were mentioned in almost every case, and if it were possible to know just how many of the children are living at home, it would be possible to know whether houses were overcrowded or otherwise. The average number of rooms

in tenant houses lies between four and five, in those of landowners between six and seven, but the latter have the older and larger families in many cases. In view of the fact that the average family consisted of six children, it is pretty clear that there is considerable overcrowding. Most of the tenants describe their houses as "good," only one complained of a poor house, and one said the house was old. The usual water supply is by means of cisterns and wells; only four out of the twenty-seven do not mention ample garden, and only three do not mention good-sized pastures. Barns are reported in good condition in eighteen cases, only four were old or absent altogether.

(The editor would emphasize the importance of the inadequate barns and sheds supplied to tenants. As a result of poor buildings, tenants, and sometimes other farmers, lose crops in the fall, suffer damage to stock and machinery, are forced to sell as soon as harvested because of lack of storage, and are prevented from diversification. How can chickens, hogs, stock, and feedstuffs be profitable regularly, without adequate buildings? The census shows that Texas farms are under-supplied with farm buildings; and this is one of our greatest short comings.)

Owners' houses are new or in good condition in all cases. The contrast between the two classes comes when the conveniences and extras are compared. Most of the tenant essays went into a good deal of detail on this point, more so than the others, but the owners had the advantage here. A few tenants mentioned organs and phonographs, but none had the household conveniences that the landlords had. Six out of the fifty-eight landowners reported running water in the house, two have bath rooms, two use gasoline engines to pump water, two use acetyline light, and one reported a sleeping porch.

The fact that twice as many landowners' as tenants' children wrote these essays is significant. It may be concluded that only those tenants whose children have enjoyed the best schooling were in a position to compete; perhaps the same could be said of the landowners. So in both cases the conditions described were the best among both classes, yet there is a noticeable contrast.

The fundamental reason for this difference is that the occupant of the tenant house is not the owner. Neither of the parties has the interest in the property that a home owner has. The landlord's self interest prompts him to build as cheaply as possible and in the climate such as is enjoyed in Texas, a cheap house built for comfort for the greater part of the year is

erected. When unpleasant weather comes the tenant must take care of himself. Because tenants move so often it is hard to adjust houses to suit all families. If a family of three or four wants a place and the landowner is building he will build a house large enough for a family of this size. The next year they move and the place is taken by a family of eight or nine, and the place is too small. A Red River county farmer writes: "I consider the tenants of this county fairly well treated every way, except in houses to live in and barns for stock. I blame the tenant for this, as a rule there are but very few tenants that stay more than two years at a place or three at the most. On account of their moving disposition, no land holder feels like going to a great expense fixing them a comfortable house, knowing they wont appreciate it, or keep it up with a very little work or repair with material furnished them for such."

Landlords complain as often of the neglect on the part of the tenants as tenants do of poor housing. At the Dallas hearing of the Industrial Relations Commission many questions were asked as to screening of the house, water supply, and other conveniences. One landlord replied that if he did put in screens they would be broken out in half an hour. And he no doubt was right. The truth is that there are many people who own their farms who are living in houses no better than tenant houses, especially if they are paying for a farm. They do not have running water in the house because they have not yet learned the value of it, even if they can afford it. They do not see any use in screens for the windows. The general standard of living must be raised in the rural districts and then tenants will demand that these conveniences be put in every house.

There is a good deal of neglect in the matter of drainage, proper water supply, and decent shelters for stock and farm crops. Many tenants say that the landlord will not provide barns and for that reason they leave their machinery and cotton out in the mud.

Landlords cannot excuse themselves entirely by saying that tenants do not want better houses. There ought to be no excuse for the conditions which Col. Exall speaks of in *The Exall Farm Book*. He describes a tenant house "in which no human being ought to live"; the woman, "poor, aenemic, sallow faced,

destitute, miserable," had to bring the water a distance between a quarter and a half mile; the baby sick because there was no milk. The cow had been taken away because "they owed on her." Education, wealth, social advantage, are all on the side of the landowners, especially if they live in town. It ought to be expected of them to take the initiative in introducing better living conditions in the rural homes.

Housing ought to be standardized; by law if necessary. It may not be possible to adjust houses to the size of families but certainly certain restrictions ought to be made with respect to drainage, water supply, porches, proper screening, method of building and materials. Definite specifications as to floors, ceilings, chimneys, and other details of construction can be laid down, just as these matters are specified by law in the erection of school houses.*

The United States Department of Agriculture has published plans for a substantial yet moderately priced tenant house. This particular model is not altogether suited to Texas conditions, yet it has good suggestions. The Minnesota State Art Society gave prizes for the best designed farm house for Minnesota and these plans have been published by the University of Minnesota. Such a competition for model Texas rural homes would do much to direct people's attention to better housing and living conditions.

Finally, this question will not be entirely solved until the tenant question is settled. As long as people move year after year, housing will never be satisfactory to the tenant. Where renters are sure of their tenure for long periods of time and receive compensation for improvements if they leave their farms, the tenant often builds his house to suit himself. He can then adjust his house to the size of his family, build it according to his own plans and tastes. In Scotland where the rent matters are fixed by a land court which decides matters between landlords and tenants, adjusts rents and fixes compensation for improvements, many houses and steadings are erected by the Crofters themselves because they feel sure of enjoying them for a life time. The same result could be expected in Texas.

*The suggestion that dwellings should be standardized by law seems to the editor to be of doubtful value; and hardly practicable. The emphasis should be put on education to develop higher standards. Any ultimate remedy must lie here.—Ed.

IMPROVED SYSTEMS OF TENANCY, AND SUGGESTIONS FOR A GOOD RENT CONTRACT

CARL GARDNER

SOME EXAMPLES OF SUCCESSFUL TENANCY IN THE UNITED STATES

I. *In Maryland* [1]

The tenant question has received more careful attention in some of the States than in Texas. In Maryland, the system is more akin to the English system than elsewhere in this country. I give here a summary of an example of tenant farming in Maryland, which is somewhat typical of the large-estate tenancy in that State.

General Description and Success. This particular estate contains fifty-six tenant farms, the average size of which is 279 acres. The smallest contains 98 acres and the largest 1,000 acres. The principal crops are wheat and corn. The land is valued at from forty to sixty-five dollars per acre. The average amount of the land in cultivation is about 72 per cent of the whole. The system of tenancy has been practiced for thirty years, and the relation between owner and tenant is very agreeable, fixity of tenure being one of the principal reasons for this. The estate has increased its fertility, the tenants are well housed and the appearance of the farms is very attractive. The profits of both parties are large, and an atmosphere of prosperity pervades the entire estate.

The Four-Field System. The cropping system is followed on this estate. Some of the tenants have adopted the four-field system. All the cultivated land is divided into four fields of equal size, and a rotation of (1) corn, (2) wheat, (3) clover and grass, and (4) wheat, in order, is followed. The wheat land is fertilized with a high grade commercial fertilizer and with manure. The corn stubble is plowed and sowed to wheat and timothy in the fall, and to clover in the spring. The grass and clover stands one year during which time it is pastured. The

[1] "A System of Tenant Farming and Its Results," U. S. Department of Agriculture, Farmers Bulletin, No. 437.

sod is then plowed for the fall seeding in wheat, followed by an application of clover seed in the spring. The timothy and clover serve for pasturage after wheat is taken off in the following spring.

The Five-Field System. The four-field system, however, is not so popular with the tenants as the five-field system, although it has maintained the fertility of the soil. The former is practiced by six, while the latter is practiced by fifty farmers on the estate. The five-field crop rotation is as follows: (1) corn, (2) wheat and clover, (3) clover for hay or pasturage, (4) wheat, (5) clover for hay or pasturage.

Rental Terms. The year to year agreement has been adopted by the estate. If the contract is satisfactory to both parties it continues in force without further agreement. The owner furnishes the farm and buildings, the paint and lime for the buildings and posts, one-half the fertilizer, one-half the seed (except the clover seed and grass seed), and pays the taxes. He does very little supervision. The tenant furnishes all tools and labor, all the stock, and one-half the fertilizer, one-half of all the seed, except the clover and grass seed, of which he furnishes all. He also hauls all materials, builds the fences, and applies the white-wash and paint. He provides such buildings as are primarily of use to himself, and not necessary for a general farm, such as dairy and poultry buildings.

The tenant is permitted to pasture a small flock of sheep on the wheat, and he gets all the straw and hay. This is a great advantage to him, for he is induced to keep more stock to consume the feed, and this means more manure for the farm, gives the tenant more independence, and thus makes more popular the five-field system. His returns are greater, in case of permanent tenure, for not only does he raise live stock for the market, but constantly enriches the soil. The average farmer keeps nine head of work stock, twelve milk cows and their calves, fifty sheep, one hundred hens, and a very few hogs.

Returns to Tenant and Owner. The tenants on this estate are prosperous. They live in neat, well-kept, commodious houses; their children receive good educational advantages; they have plenty of leisure, and employ considerable farm labor. Many of them have bought and paid for farms, but they are not

ready to move until they accumulate enough to add sufficiently to their farms to conduct profitable farming thereon. The average net income of the owner, covering a five-year average, was $3.74 per acre of the land in cultivation, or an average net return of 5.4 per cent on the investment. Besides this, is an additional net increase of three or four per cent on the original investment, due to the rise in the value of the land.

II. *In Illinois*

The Principle Adopted. In Schuyler county, Illinois, is a large estate owned by Messrs. Christie and Lowe. They have adopted a system of share tenancy which is profitable and satisfactory to both owner and tenant. The system has been in operation a number of years and both owner and tenant have made money. The farm property and the soil are properly cared for. These men were convinced that tenancy in itself is not bad, but that the kind of tenancy[2] is the main thing that has come in for criticism. Therefore, they determined to work out a successful and equitable system. They operate upon theory that the more the tenant prospers the more the owner does likewise, and that real farming prosperity must be based upon a system of farming that will both preserve and increase fertility.

No Misunderstanding. The terms of the agreement (written of course) are made unmistakably clear. The owners assert that a good tenant farmer is willing to learn and that the trouble comes when some ambiguous clause in the agreement is not interpreted by all alike. They have adopted a system of weighing and checking off, which is very thorough yet very simple. No grain or hay leaves any of the farms before it is weighed and properly accounted for. No crop is permitted to be injured for the lack of extra help at harvest, threshing, or selling time.

Close Supervision. The estate contains a farm manager, who is an agricultural expert, and who works on a salary basis. Practically all the produce sold from the farm passes through his hands. The manager looks after all the details, keeps on friendly terms with the tenants, and sees that everything is conducted in a systematic, business-like manner. There is a stated time for doing all the work.

[2]This is an important point, and one that requires constant emphasis in discussing the tenant problem in Texas.—Ed.

Length of Lease. One of the main features of the agreement concerns its length. The owners were convinced that a short-term lease prevents improvement by the tenant, keeps down his personal interest, leads to deterioration, and thus decreases the rental value. They realized, however, that a bad tenant should not be kept on the farm. Consequently, they never contract with a new tenant for more than one year. If he makes good the first year, a contract for three or five years is signed. This plan results in fixity of tenure.

Returns. The owners receive a net profit of from twelve to seventeen dollars per acre. This appears remarkably high, but the high value of the land makes the return only about 5 per cent on the investment. The tenants are unusually prosperous, some of them having accumulated enough to make profitable investments.

III. *In North Dakota* [8]

General Character and Success. The Amenia-Sharon Land Company of North Dakota has about 41,000 acres worked by tenants. This is a restricted system of tenancy, due to the difficulty of managing the eighty tenants scattered over so wide an area. Yet the system is a success in the maintenance of the fertility and the general up-keep of the farm. It is highly profitable to both parties. The manager attributes this to the careful selection of tenants, and to the freedom of management given them. Each tenant is made to feel that he is working his own farm. There is no evidence of lax management. The tenants are full of thrift and energy, and most of them have bought land. Some of these tenants owned and operated small farms before coming to this estate, but, because of the lack of capital and experience, had not been successful. With a little supervision, they have made excellent farmers.

Returns from the Farm. The system has worked well. Many of the tenants have been on the farm more than twenty years. It seems from this that one of the dominant features of the system is fixity of tenure. The tenants realize handsome annual returns, running from about $1,000 to $1,500.

[8] Dacy, G. H., "A Tenant System That Pays," *Country Gentlemen*, March 3, 1914.

Size and Equipment. The farms range in size from 320 to 800 acres, the average being a little above 500 acres to the tenant. Each farm is well equipped. The owner maintains the buildings in fine condition, while the tenant is permitted to make a number of improvements. Should he leave the farm before he has realized full returns on his investments he is credited with the full amount due him. Thus the tenant may farm a large tract of land and take no risk as to improvements.

The Lease Contract. The written agreement is very simple. The tenant farms the land under the direction of agricultural experts, who are hired by the owner. These experts advise freely with the tenants, and teach them scientific agriculture. For example, the tenants are taught how to feed stock so as to get maximum returns, are shown what crops to grow under local conditions, and how to make them yield the greatest returns. The owner maintains a large experiment farm, and the tenants reap the benefit of the experiments.

Rotation and Fertility. Each tenant plays a considerable role in the maintenance of the fertility of the land. The fields are manured regularly, and intensive farming is practiced. To facilitate this feature, a cropping system has been adopted, limited to five years. Corn, clover, barley, wheat, and flax or oats, rotate in their order. A strip of land is reserved for truck crops, which are very profitable to both parties.

The live stock feature is prominent as a means of making the system profitable. The tenants are taught to utilize all the feed and grass, and to return the same in the form of manure to the fields. Considerable beef and mutton are marketed. Almost every tenant has a large annual crop of fine colts. For breeding purposes, the tenants co-operate in the buying of the very best stock.

CONSIDERATIONS ESSENTIAL TO A GOOD LEASE CONTRACT

Ability and Character of Owner and Tenant. From the foregoing facts, we should be able to draw some definite conclusions as to what constitutes a good farm rental agreement. The question, however, must receive different answers corresponding with the variety of circumstances under which the contract is made.

The character and ability of the tenant and the owner certainly play an important part in determining the nature of the agreement. A tenant ignorant of the principles of good farming would soon work much damage, if he were not subject to proper supervision. The owner should be permitted to supervise farm work in proportion to his ability and good character. If he is a backward and ignorant owner, he is not qualified to teach a tenant the science of agriculture. If the tenant is the better farmer of the two, provision should be made whereby he will be free to exercise his superior ability. The character of the two parties is certainly an important factor. An unjust landlord, if given freedom of management, could take advantage of the tenant in more ways than one. A dishonest tenant is likely to do much damage to the farm unless he is properly restricted. It will be remembered that of the three cases cited above, the first showed little supervision, while the other two showed a good deal.

Nature of Farming. An agreement that would work well under one system of farming might be very unprofitable under a different system, even if the same parties made the agreement. The cash tenant does not care to submit to much supervision, for he reasons that he has bought the use of a piece of land and should, therefore, use it as he chooses. The owner who furnishes everything except the labor, should certainly have greater supervision than one who furnishes nothing but the land. In case of extensive farming, too, the tenant is usually given greater freedom of management than in intensive farming.

Written Agreement. If the principles common to all forms of good agreement are reduced to writing, matters are much more satisfactory. In Texas where many of the tenants oppose written agreements, this fact should be stressed. Many Texas farmers assert that the owner has the advantage in a written contract, because he often inserts ambiguous clauses and interprets them to suit his interests. The thinking tenant, however, has enough foresight to study closely the terms before signing the contract. To oppose a written agreement is likely to leave the impression that the tenant desires to take certain advantages of the owner. A written agreement is essential to good farming. In fact, the law requires a written agreement

if it covers a period exceeding one year. In England the written contract is the rule, and the tenant would feel lost without it. To fail in making a written agreement smacks of carelessness and loose business. No doubt, many law suits would never be born in Texas if wider use were made of this business principle.

A Fair Rent. The amount of rent a tenant should pay is a matter of no little importance. Every good lease should stipulate a fair rent. Just how to determine such a rent varies under different conditions. A skilled farmer deserves more than one who knows little of farming. A tenant who leaves a poor farm for a good one, which has been developed at the expense of the owner, does not deserve so great a per cent of the returns as one who has lived several years on the same farm and has spent a considerable amount to increase its productivity. One agricultural expert says:

"The quantity of rent can best be studied by listing all the forces which tend to increase and all forces which tend to decrease rent, and proceeding to study these forces at given times and places in the light of history and geography. In other words, the same methods are essential in the study of the annual value of land as are used in the study of other economic goods. A summary of the statement of the forces which determine the amount of rent which the writer has used in the class-room is as follows:

"The amount of rent tends to vary directly with the number and *capacity* of those engaged in agriculture and of the *equipments* employed, directly with the amount of *capital* seeking investment in farming operations, directly with the opportunities for *continuous remunerative* employment throughout the year for the labor and equipments, directly with the *social advantages* of the locality, and directly with the *prices* of the farm products. The rent tends to vary inversely with the efficiency of the managers, workmen, and equipments in the competing region as a whole, inversely with the prices of farm equipments, wages and other operating *costs*, and inversely with the *abundance of good land.*' "[4]

The ordinary farmer cannot always determine the proper division of the shares. Therefore, to insure a fair rent local agricultural experts should constitute an impartial tribunal to fix fair rents. We doubt seriously if the relation between owner and tenant can be properly adjusted so long as the agreement is made strictly by them. No matter how impartial such a body might be, some disgruntled tenant or scheming landlord would question the motives and actions of the same. It would satisfy

[4]Taylor, H. C., "The Amount of Rent," *American Economic Review*, March, 1914.

all reasonable parties, but even a perfect Utopia would contain some fault-finders.

Compensation for Improvements. One of the most important clauses concerns the compensation a tenant should receive for his unexhausted improvements. This feature has been highly developed in the English lease agreement. Just what compensation an outgoing tenant should receive, depends upon the conditions under which he left the farm. If he should leave for no good reason, and thus disturb the owner, it would be unjust to compensate the tenant without considering the loss to the owner. If the tenant should be forced to quit, he should receive compensation not only for his improvements, but for the loss incurred in moving as well. If a tenant should make considerable improvements on a farm with the view of remaining thereon, and in the midst of his plans and work he should be forced to quit, he should certainly receive not only full compensation for the value of his improvements, but should also be compensated for the loss due to disturbance.

The owner and tenant could not, in all cases, agree as to what constitutes fair compensation. This is often a difficult question to decide. The State of Georgia is at present considering the matter. "We can see no insurmountable difficulty to be overcome in the selection of an agricultural expert to judge of the value of permanent improvements made by the tenant, who has not and cannot expect to receive benefits thereon; or should no one man be acceptable to both parties, a committee of three could be chosen, whose decision as to compensation would be final.

"As to what improvements should be paid for, we merely state generally that this is a matter of agreement between the landlord and his partner (tenant) to be made at the signing of the lease. Broadly speaking, the outgoing tenant should certainly be compensated for the fruits of his labor, which will accrue to the sole benefit of the land owner, or through him to an incoming tenant."[5]

This was one of the first steps taken by England in her reforming of the tenant situation. It is a step in advanve, but

[5]Foster & Stockbridge, "Better Farm Lease, *Southern Ruralist*, December, 1, 1914.

it makes no provision for the inconveniences and disturbances for which the out-going tenant should be compensated. Furthermore, it assumes that the rent should be fixed by joint agreemeent between owner and tenant. England has found that such a means of determining the rent is not satisfactory.

Fixity of Tenure. Any agreement that does not encourage permanent tenure under reasonable conditions is bad. A wise tenant will make improvements only in proportion to his assurance of fixity. A landlord of foresight and progress will encourage permanent tenure. The shifting tenant never gets anything ahead, and the farms on which the same tenants have lived for a number of years produce more than adjacent farms which change tenants more frequently. Furthermore, the tenant that remains for several years on the same farm receives an increase in return each year, on the average.[6] The best relation between owner and tenant cannot be established unless fixity of tenure is assured. The very best relation should exist between owner and tenant. They should be partners.

"The owner of the land and the farmer of it are, to all intents and purposes, partners having a joint interest in producing as large a crop as can be raised. Presuming that this partnership is for a year only, 'Why,' the laborer asks himself, 'should I improve at my own expense this land of my successor? Should the contract continue for two years, though he will at the expiration of the first year fertilize for the following year, it would not be reasonable to expect him to do so for the third year.

"Hence, the longer the duration of the tenancy the more gain to each of the partners."[7]

Fixity of tenure, then, is important, because (1) it gives better returns to both parties; (2) it considers the fertility of the soil; (3) it insures better relations between owner and tenant; (4) it raises the social status of the tenants. All this means that the public wealth is increased.

Fertility of Soil. Closely related to fixity of tenure is the maintenance of the productive power of the land. It is possible, however, for the farm to run down when operated by an owner.

---

[6]Johnson, O. R., & Foard, W. E., "Land Tenure," in *Bulletin No. 121, Missouri College of Agriculture.*

[7]Foster & Stockbridge, "Better Farm Lease," *Southern Ruralist,* December 1, 1914.

In Texas the majority of the tenants who might desire fixity would cause an economic loss to the State should they be granted it, if no restriction were made. It is, therefore, essential, in most cases, that the tenant be required to diversify and to fertilize the field.

The Up-keep of the Place. Not only should the agreement consider the maintenance of the land, but also of all farm property. The tenant should have a comfortable and attractive house in which to live, good barns, and sheds for his stock and implements.* There is a great loss to the Texas tenants from weathering. After getting these conveniences and needs the tenants should be required to maintain them in good condition. All progressive tenants, however, take pride in keeping the farm in good condition, if they are assured fixity of tenure.

The Last Years of the Lease. It is possible for a tenant to remain on the same farm many years, but decide to leave after he has accumulated enough to make a profitable investment. If the tenant is not honest, he is likely to take advantage of his owner during the last few years of the lease. In England this evil has been regulated by giving the owner a closer supervision during the last years of the lease, and by throwing greater restrictions about the tenant.[8]

*See above, pp. 42.45.

[8] "Report of Land Enquiry Committee," Vol. I.

OVERHAUL THE HOMESTEAD LAW

REX BAKER

A large part of the tenants in Texas are crushed under a system of inadequate credit facilities and will never, so long as present conditions continue, be able to own homes of their own. Scarcely is the small land holder in any better condition; and unless some system is devised which will enable him to resort to other means of securing credit than the store which furnishes him, he will never be independent and prosperous, but will continue to be a payer of tribute-money. A great deal of the trouble is founded on the homestead law. Any plan for the betterment of the condition of the tenant or the small land holder must face the problem presented by the homestead law, or else be a mere paliative instead of a remedy. Then a study of the homestead law and its effect on the small land holder is of prime importance in any scheme for his betterment, and must not be ignored.

The chief aim of the Texas homestead law was to benefit the family as an institution.[1] Its enactment was inspired by the belief that the stability and welfare of the State depend upon the existence of an independent, self-sustaining citizenry of small home owners. Moreover, it was thought that the enactment of such a law would encourage home owning, and aid in the development of the State's resources.[2] And to secure the desired results for both home and State, it was believed that the dependent wife and children should be insured against being reduced to poverty through the mismanagement or ill fortune of the head of the household.[3]

To accomplish this purpose, the Constitution of 1876, Article XVI, Section 51, defines the homestead thus: "The homestead, not in a town or city, shall consist of not more than 200 acres of land, which may be in one or more parcels, with the improvements thereon; the homestead in a city, town or village, shall consist of a lot or lots, not to exceed in value $5000

[1]Cyc. Brit., Art. on Homestead Ex. Laws.
[2]Ibid.
[3]Cyc. Polit. Sc., Vol. II, p. 462.

at the time of their designation as a homestead, without reference to the value of any improvements thereon; provided, that the same shall be used for the purposes of a home, or as a place to exercise the calling of business of the head of a family * * *'' In Section 50 of the same article it is provided that the homestead shall be exempt from forced sale for the payment of all debts, except for all or part of the purchase money thereof, taxes due thereon, or work and material used in making permanent improvements. In the latter case, the contract must be in writing with the joinder of the wife, and given in the same manner as if the homestead were sold and conveyed. It is further expressly provided that no mortgage, deed of trust, or lien of any sort shall ever be valid except for the above purposes.

Are there times when the law as it is now written works to the disadvantage of the home owner? Can changes in the law be suggested that will rob it of its defects, and at the same time retain its original purpose and beneficial effects?

It seems that the law is too rigidly absolute in its working, and often works as a positive hindrance to the homesteader of initiative. This statement is often palpably true with the small homesteader in dire need of credit. It has been estimated that 95 per cent[4] of Texas land owners frequently borrow money in one way or another. Such money is borrowed during the legitimate course of production; and this borrowing, if it is possible at reasonable rates of interest, is for the good of the State, and is in the spirit of the homestead law. Moreover, this need for money is often so urgent that the borrower is forced to pay usurious interest; for the saving or the loss of something of great value to him depends upon his ability to borrow. As things now stand, if he secures a loan at all it is more often than not upon the promise to pay a ruinous rate of interest, and upon terms dictated by the creditor. He has a homestead free from encumbrances, but this cannot be made the basis of a loan; and consequently he is placed at a disadvantage in bargaining with his creditor.

There are those ready to dispute the truth of the statements made above. But what possible ways of getting credit present

[4]See Amer. Ec. Review, Vol. IV, No. 1, p. 47.

themselves? First, banks and individuals make thousands of loans without any "security" whatever. A man's reputation for honesty, together with his known probable ability to pay off a claim at maturity, may be sufficient to secure for him any reasonable loan desired. Secondly, thousands of additional loans are made on personal security; i. e., on two or three-name paper. Thirdly, possibly the bulk of all loans are secured by liens on property, either real or personal. The chattel mortgage on personal property is by far the most frequent. Indeed, it is not too much to say that by far the greater precentage of tenant farmers, and a large proportion of non-tenant farmers, have some or in many instances all of their personalty constantly under mortgage. Moreover, it is not infrequently that we find those farmers who have more than 200 acres of land, or have parcels not designated as homestead, giving deeds of trust or other mortgages on their surplus of lands as security for loans.

Such loans are born of necessity. In fact, under present Texas credit conditions, it is almost astounding how so many men manage to live and meet their obligations. With the one-crop system prevailing generally throughout the most fertile counties; with the system of store-credit forcing the small farmer or poor tenant virtually to be the peon of the merchant who furnishes him;[5] and with the practice of making short-time loans, which more often than not mature before the farmer can pay, and bearing ruinous interest rates—with these conditions prevailing generally, there is a crying demand for some improvement in credit conditions. Conditions should be such that any citizen possessed of honesty and productive power or property—including, of course, the small land owner or prospective land owner and home builder—can borrow money, when need be, on reasonable terms. Hence it is that the proposal to modify the homestead law, far from being a panacea itself, is only one of a number of measures that must be adopted before the Texas small homesteader will be able to avail himself of adequate credit facilities.* It merely goes hand in hand with crop diversification,

[5]Am. Ec. Review, Vol. IV, No. 1, pp. 49 to 54.

*At the recent Dallas hearing of the Federal Commission on Industrial Relations, a representative of the Jewish Agricultural Society stated that it had been found impossible to establish Jewish settlers in Texas, because, with land tied up as homesteads, no basis would be left for co-operative land credit. Thus Texas lost a valuable source of agricultural development, and her own farmers are prevented from developing land mortgage associations.—Ed.

co-operative marketing, co-operative credit arrangements, and compulsory education with adequate provision for the common free schools. But it is obvious that no system of long-time loans* can be based on anything else than land security; and as now written, the homestead law is an insurmountable obstacle.

Then, we come back to the question: Is the demand for credit in Texas ever so urgent that it is practically necessary in a great number of instances for the homesteader to be able to mortgage at least part of his homestead? Careful investigation of the question has convinced the writer that it is. To reach a conclusion upon this point, letters were sent out to small land holders throughout the State asking them this question: "Have you ever found it difficult to borrow money because, under the homestead exemption law, your homestead is exempt from foreclosure and sale?" They answered this query in a majority of cases, "yes." Moreover, this statement was strongly corroborated by bankers and other money lenders throughout the State; for in reply to the question: "Do you ever refuse loans because the prospective borrower, under the homestead exemption law has his homestead exempt from foreclosure and sale?" practically all of them answered, "yes." They stated that from ten to forty per cent of all applicants for loans were refused because their homesteads were exempt. All lenders agreed that the percentage of refusals would be much higher, were it not for th fact that people generally know that additional security over and above the homestead is required, and many are thereby deterred from applying for loans.

The writer is constrained to believe that such a state of affairs actually works to the detriment of the homesteader. In the first place, he is at a disadvantage in negotiating loans. With all the homestead, however valuable, exempt, the borrower must cast about for satisfactory security. It is a notorious fact that chattels are seldom mortgaged at more than a third their value.

*The time has come when the most urgent need of the State is a system of long term rural credit that will make possible the introduction of good live stock, drainage, and other permanent improvements. —Ed.

Hence if he give nothing but chattel mortgages on his personalty, he will be incurring a risk disproportionately great compared with the lender. Realty alone of all things possessed by the small land owner mortgages for anything like its true value.

Should the borrower go in quest of personal security, the old, old question will confront him once more: "Has your surety anything that could be levied on?" The inevitable result is that the borrower must consent to terms dictated by his creditor; must provide security worth three or four times the value of the loan; must pay a high rate of interest, and for such time as the creditor may demand.

On the other hand, it does not seem unreasonable to believe that if part of the hometsead were free to mortgage, no other security would be required by the lender, and better terms granted. The mere fact that a borrower has more than merely what the law exempts from execution will in itself inspire confidence in him and make a lender less exacting.

Here, too, we find another hardship; for when pay-day comes, the lender will be far more rigid in his demands against the man who has nothing subject to levy, than against the man who has more than what is exempt. In the one case the creditor will insist upon his bond, because of the risk incurred; while otherwise he would be constrained to be lenient, because the risk is not so apparent. In a word, the mere fact that the rigidity of the homestead law has been relaxed will tend to steady confidence on the part of those who lend to small land holders, and will certainly enable those who borrow from necessity to secure greater consideration from lenders.

Again, it is not altogether uncommon for the law to be evaded. Fake sales to lenders, and mortgages by borrowers who give vendor's liens or deeds of trust, are not infrequent. The courts of law have held that any such evasions of the law are void; but the courts of law are as powerless to stop such practices as they are to prevent usury. Moreover, it should be borne in mind that in every such transaction the borrower has to assent to conditions that no one not desperately in need of money would think of ratifying. The borrower is loser merely because the law will not permit him to use in a way advantageous to

himself such guarantees as he possesses. He does the next worst thing, and in most instances ends his career as a tenant,[6] because he is forced to drive hard bargains.

It is difficult to see why it is not just as legitimate and why it should be any more hazardous for a small land holder to borrow in times of stress than it is for the business man or large land holder to do so. If it is good business for the grocer to run his entire establishment on some one's else money, why should the farmer or trucker not be permitted to borrow a small sum to tide him over a year of disaster due to crop failure? Why should he be forced to mortgage the whole of his prospective crop, his wagons, mules and other stock to his grocer, and then have to pay as high as twenty per cent interest or even more?[7] It would not be half so dangerous were the farmer permitted to borrow money from a lender at a low rate of interest and for a long period of time, if he could get it on these terms by mortgaging part of his homestead.

It is no more dangerous for him to do so than it is for him to give a lien for the purchase money. This is done every day; and lenders uniformly say that it is seldom difficult to obtain extension of time on vendor's lien notes when necessary; or in any event it is an easy matter to have them transferred to another purchaser. Contrast this with what happens in the case of chattel security, and it will not be difficult to see the advantages of the former over the latter, from the borrower's standpoint. The industrial commission reported[8] that in all the new and flourishing agricultural States in which farmers have mortgaged their homes, the mortgages were rapidly being paid off.

Land is the homesteader's chief source of income. If he cannot liquidate part of it—not necessarily all of it—in the day of debt, it is very difficult for him to meet his obligation as a man of integrity would like to do. The industrial commission reported[9] that much of the money scarcity in the South is due to the fact that the homestead laws tend to tie up a vast amount of the capital that could otherwise be used as a basis of credit.

---

[6]Report of U. S. Industrial Commission, 1901, Vol. X, p. 99.
[7]Amer. Ec. Review, Vol. IV, No. 1, pp. 50ff.
[8]Rep. Indust. Com., 1901, Vol. X, pp. 98 and 99.
[9]Ibid., p. 381.

This shortage of credit facilities is felt most by the homesteaders themselves, individually and collectively.

Although it will and must be admitted that the stability of the family as an institution is more to be desired than the enforced payment of all debts by the homesteader when due, still the homestead law should not be used as a cloak with which to shield the dishonest debtor who is able to pay his debts many times over. The prevalence of such conditions would be disastrous to all so unwary as to advance credit to such men. Fortunately money lenders are so thoroughly awakened to the danger of lending too freely to those who have nothing but the homestead that they do not imperil their loans at too great risk. Still it happens not infrequently that men who are able to pay do defraud their creditors. Especially is this true in cities and towns. That merchants owing enormous bills are going bankrupt every day—merchants who have business or residence homesteads worth ten, twenty, fifty, or in rare cases even upwards of one hundred thousand dollars—is too generally known to be disputed by any one. Their creditors have absolutely no recourse in a great number of instances; and it is possible that one failure in business may depress business conditions generally in a community and lead directly to other failures. The $5000 homestead exemption in a town or city seldom gives relief; for when it comes to bringing suit for recovery against such homesteads it is usually found that the improvements are the valuable part of the estate. Then, again, most of the homesteads have risen from moderate to miraculous prices since a majority of the present owners took possession. Hence, in practice, most homesteads in cities are totally exempt.

It is possible for similar conditions to prevail in the valuable black land farm districts of central Texas; but the chief trouble found here is that the land owners find it difficult to borrow when necessary because they have nothing but a $10,000 to $20,000 homestead. Then, when crops fail or misfortunes come, the merchant is the man who gains through high interest rates and exorbitant prices for goods.

To unlock the vast stores of credit bound up in Texas homesteads, several proposed changes in the present homestead law have been offered. Certainly the most radical change yet pro-

posed is to repeal the law in toto, but to allow opportunity for recovery by the owner within a reasonable time in case of forced sale. But this would do away with all the benefits that would come to the Texas family as a result of the homestead law; and in the practically unanimous opinion of the States in the American Union, is by no means desirable.[10]

Still others suggest that the amount of land exempted be reduced from 200 acres to, say 100 acres or less in the country, and to one residence lot in the city. But it may be objected to this scheme that it does not remedy the evils of the present law. There would be the greatest inequality in the value of the homesteads exempt. Moreover, with the rapid rise in land values, it is only a question of time until a 100-acre exemption would be more valuable than the present 200-acre exemption. Hence, as for unlocking credit for the average farmer, it would give but little relief. In 1910, 57.5 per cent of all farms in Texas were under 100 acres in size.[11] Then exemption on the 100-acre basis would not aid those who need help worst; namely, the small land holders. The same objection might be urged against the one-lot exemption in cities; for that lot might have either a sky-scraper or a millionaire's palace on it. Or on the other hand, if it belonged to some poor man, he could not borrow a nickel on it.

Again, it has been proposed that exemptions should never exceed $5000 in value. On the whole, this is a very reasonable suggestion; for we can see no valid reason why a man worth over $5000 should not be compelled to pay his just debts. Such a law would possibly increase the borrowing power of the average land holder. The value of the average farm in 1910 was $6,203,[12] which would allow $1,203 in land values on the average homestead to serve as a basis for loans. It should be remembered, however, that this same average farm contained 269 acres in 1910,[13] which would allow, on the average, 69 acres to serve as a basis of credit. But as this average includes the immense tracts of the West, the average acreage for real farms would fall considerably below this estimate. But allowing 69 acres for the

[10]Dict. Polit. Ec., Vol. II, Art. on H. Ex. Laws.
[11]13th Census, Sup. for Texas, p. 670.
[12]Tex. Almanac, 1914, p. 200 (taken from 13th Census Report).
[13]Ibid., p. 670 (taken from 13th Census Report).

average farm, money lenders would seldom advance money on it; for the mortgagor has the option of casting off the very poorest land.

In the writer's opinion, we are still far from a satisfactory remedy; for in 1910, only 19.9 per cent of all farms[14] exceeded 174 acres in size, and a still less percentage exceeded 200 acres in size. We may safely infer that the average farm of 200 acres does not exceed $5000 in value;[15] and these comprise only about 15 per cent of the total number of farms. Then, the borrowing power of the submarginals—those who need aid worst—would not be affected. Their credit facilities would not be improved.

To the dispassionate mind, there seems no escape from the conclusion that the law should exempt only a certain percentage of the land or the value thereof. Or what is the same thing, the law should allow each owner of a homestead to borrow money on a certain percentage of its assessed taxable value. If any absolute exemption at all is made, it should not exceed $1000 in value as a minimum. Moreover, no partial exemption should apply to homestead values in excess of $5000. Business lots in towns and cities should not be even partially exempt.

Such a law would permit the small land holder to secure an advance of credit during times of stress; but would not permit him recklessly to imperil his entire homestead. Certainly it would be a boon to the poor man who at present suffers from inadequate credit facilities; for the slogan should not be "no credit at all" but "credit on good security on easy terms." Certainly it would allow him to liquidate part of his wealth for such undertakings as his enterprise and better judgment dictate; but would not permit him to run the risk of impoverishing his family through reckless investments.

In 1910, 33.3 per cent of all farms were under mortgage.[16] As mortgages except for purchase money can be had only on those farms in excess of 200 acres in size, or on those city lots not designated as homesteads, it may be safely inferred that

[14] 13th Census Sup. for Texas, p. 670.
[15] The 269-acre average farm was worth only $6.203.
[16] Tex. Almanac, 1914, p. 200 (from 13th Census Report).

the vast majority of mortgaes were for purchase money or a part thereof. At that, the average debt owed per farm owned in 1910 was $1,528, or 25.5 per cent[17] of the average value per farm owned, as against 41.7 per cent in 1900. Hence it may be inferred that the provision permitting the mortgage of a farm for the purchase money worked no hardship. In fact, on the other hand, the figures indicate that land owners are rapidly retiring their mortgages. If this be true, why should it be any more dangerous to allow any land owner to mortgage a certain percentage of the value of his homestead? It will not be so dangerous, for the percentage of value not exempt should not exceed 25 per cent of the value of the homestead. In every instance of a mortgage for purchase money, none of the homestead is exempt.

As a special safeguard against avaricious creditors, it should be provided that in case of forced sale the mortgagor would have an equity of redemption for one year thereafter.

With such a modification of the law, the writer believes that the original purpose of the law would be retained, and all the legitimate safeguards of the present law would be preserved. It would then be possible in course of time to develop a system of long-time credits at low rates of interest; and, above all, would do much to do away with the painful necessity for the farmer to resort to the ruinous store-credit system. If he could not pay cash, he could borrow at a rate of interest less by one-third than he now has to pay the merchant. Then, too, he would be much freer in disposing of his farm products advantageously.

---

[17]Texas Almanac, 1914, p. 200 (from 13th Census Report).

THE TORRENS SYSTEM OF LAND REGISTRATION

VINCENT LANFEAR

Land is one of our most important forms of wealth, and it is subject to more varied and diverse interests than any ordinary article of commerce, due to its physical peculiarities. Land cannot iteslf be transferred from place to place. Thus when land ownership came to be an important factor in our national wealth, some system had to be devised whereby the ownership of land might be tranferred without subjecting the owner to disputed possession. In the case of goods the person in apparent possession or control can ordinarily be relied on as being the owner, but with land it is different, for the person in control is often not the owner. So the *bona fide* purchaser of land must of necessity have some evidence which enables him to be sure that the land for which he pays full price is not subject to some unknown charge or lien which if left undiscovered might cause him to lose all or a part of his land; and, land being immobile, the dispossessed rightful owner is enabled to prove his right of ownership to his landed property even though it has reached the hands of a *bona fide* purchaser. Thus some form of registration is necessary in order to protect the purchaser, and show where the legal title of ownership is vested. This being the case, the main principle of land registration is obviously to make land titles indefeasible. That is, to make them incapable of being annulled, or made void, by insuring their validity.

METHODS OF LAND REGISTRATION; THE TORRENS SYSTEM

At the present time there are two ways of obtaining this protection to land titles. The purchaser may have an attorney examine all of the deeds, wills, heirships, and other documents or methods whereby land has been conveyed in the past. In this case the liability of an existing loop-hole whereby an adverse claim can enter and be made good depends upon the word and judgment of the attorney. Our present method of registering deeds is one form of this system.

The second system of land registration is known as the registration of title. It is comparatively new in the United States, having as yet been used by only a few of the northern and western States. Under this system, the government keeps an authentic list of all the properties in its jurisdiction, together with the names of the owners and the particulars concerning the land.

The form of title registration more extensively used, and which has been the most successful, is the Torrens System. This system was first introduced in Australia by Sir Robert Torrens in 1858. It was next introduced in Victoria, New Zealand, and New South Wales. Then it was adopted by Java, Morocco, British Honduras, Queensland, Tasmania, Fiji, British Columbia, England, Canada, and Switzerland. In our own country the system is now being used in the following states: California, Colorado, Illinois, Massachusetts, Minnesota, New York, Ohio, North Carolina, Oregon, and Washington.*

The originator of the system, Sir Robert Torrens, defined it as follows: "The person or persons in whom singly or collectively the fee-simple is vested, either at law or in equity, may apply to have the land placed on the register of titles. The applications are submitted for examination to a barrister and to a conveyancer, who are styled 'examiners of titles.' These gentlemen report to the registrar, first, whether the description of the land is definite and clear; second, is the applicant in undisputed possession of the property? third, does he appear in equity and justice rightfully entitled thereto? and fourth, does he produce such evidence of title as leads to the conclusion that no other person is in position to succeed against him in an action for ejectment?**"

A clearer understanding of this system might be facilitated by a more detailed explanation of how it works in practice in Illinois where it has been thoroughly tried. Except in a few minor details of mechanism, the system as used in Illinois is the same as is used in the other States and countries.

---

*"*Land Registration in Illinois*," by Theodore Sheldon; *The Wall Street Journal*, February, 1915.

**Registration of Title to Land*, p. 29, by Jacques Dumas.

DESCRIPTION OF THE ILLINOIS SYSTEM

In our country, Illinois was the pioneer State in adopting the land registration act in 1897. The law was favorably received in Cook county, there being an almost unanimous vote cast in its favor. The method of bringing land under the Torrens System is as follows: The land owner who wishes to place his land under this system makes a formal application at the land transfer office. He leaves in the hands of the registrar, to be examined, his deeds, abstracts, and any other evidences of title. The registrar then makes a careful examination of these different proofs of land ownership. If any defects are found, it is rejected, but if nothing wrong is found, the application is made public by advertisement, and notice is given to any one who might be interested, that unless an admonition or caveat be filed within a certain time, which time differs in various places where it is used, the land will be registered according to the application. Caveat is here used in a legal sense meaning a formal notice given by an interested party to a judge or other officer to stop proceedings in which he is interested. If the advertisement is not answered by a third party who claims to have an interest in the land, the registration is postponed until the matter is settled, and the rightful owner determined. If no other claim is entered within the given time, the title is registered, and a certificate of title is made setting forth a description of the land with the details of the holder's title, together with a memorandum of all the mortgages, leases, or other liens against his property. The registered owner is given a duplicate certificate of ownership as evidence of his interest in the registered land.

The total expense of making the *initial* registration is as follows: five dollars for application, fifteen dollars for registrar and examiner fees, three dollars for transfer costs, registration two dollars, three dollars is charged for making the entries on the registry, and where the title is derived from more than one source an additional five dollars is charged for each source. In addition to this cost there is added one-tenth of one per cent of the value of the property, which amount is paid to the treasurer of Cook county as an indemnity fund for any losses that might be incurred by any mistake or accident in the operation

of the system. Thus, the total expense of making the initial registration is approximately twenty-eight dollars where the title is derived from only one source. Each subsequent transfer can be made for a cost of three dollars. In the other States where the system is used, the costs of registration are approximately the same, differing only in a few minor details of application.

Application may be made by the land owner himself, legal guardian, or attorney in fact authorized to make the application. If the property is subject to any outstanding charge, lien, or mortgage, such incumbrances are noted both upon the certificate of title and the duplicate kept by the registrar.

After registration the rights of the owner are guaranteed by the State, and he need not fear any encroachment or loss due to adverse claims. In case action is brought for ejectment or partition, the certificate of the registered owner is held as conclusive evidence of a good and valid title to such land. If an owner wishes to transfer only a part of his property, he may do so by surrendering to the registrar the duplicate certificate covering that part of his property not transferred, while the party or parties to whom the transfer is made receives, in turn, a duplicate certificate covering the part conveyed to them.

Under this system, forgery is almost impossible. This is due to the fact that increased inconvenience is slight in examining fully into every matter connected with the title or right of ownership. Nothing can be done without a surrender of the outstanding duplicate certificate of title first being made. This certificate shows the exact condition of the land title, together with the nature of its incumbrances, and herein lies one of the great advantages of the Torrens System.

In case the holder of any charge upon registered land wishes to transfer all or a part of the charge, he may do so by filing an assignment in the registrar's office together with his duplicate certificate certifying the charge held.

Under the Torrens System, the registered land goes to an administrator instead of descending directly to the next of kin. The rightful heir or heirs are determined before a probate court, and the court orders the administrator to make conveyance to each heir of his respective share of the property.

Thus, each heir receives a certificate of title to his respective share, and the question of ownership is settled at once without continuing for years afterward as possible causes of confusion and defects of title. The administrator cannot sell land unless empowered to do so by a will or otherwise, but he has the power to deal with mortgages, leases, and other like interests as if he were the registered owner of the land. The probate court may order registered land to be sold by the executor for the purpose of distributing an estate.

Even with this brief survey of the practical working of the system in Illinois, some of its advantages are obvious. But before summing up these advantages, let us consider some of the points wherein our present system is inefficient.

DISADVANTAGES OF THE PRESENT SYSTEM

While security or an indefeasible title is the main principle of land registration, it must also be admitted that the amount of borrowing power, liquidity of land, together with economy and simplicity, play no little part in determining the efficiency of a system of land registration. In all of these points, our present system of registering deeds is more or less deficient.

Under our present system, the purchaser has to assure himself that the vendor's deed "is the last link in an unbroken chain" of transfers which have been properly executed and recorded from the time the land left the hands of the government. This synopsis of transfer or proceeding affecting the title, which is known as an abstract of title, becomes longer, more complex, and more liable to mistakes as time goes on and additional transfers are made.

The constant increase in the length of abstracts constitutes a growing burden in examining and re-examining them again and again. To illustrate the needless waste of time and expense caused by re-examining titles so many times, suppose that A sells a piece of land to B. Now, B has the abstract examined and finds that the title is good. If B now sells the land to C, then C has the same title or abstract examined again, and so on for each transfer that is made. Obviously all of these examinations, after the title is found to be valid, are useless. This useless waste of time and expense is well illus-

trated by the following quotation from an address given before the Maine State bar association: "Lately the Jumel property was cut up into one thousand three hundred and eighty-three pieces or parcels of real estate, and sold at partition sale. There appear to have been about three hundred purchasers at that sale, and no doubt each buyer, before he paid his money, carefully employed a good lawyer to examine the title to the lot or plot he had bought, so that three hundred lawyers, each of them carefully examined and went through the same work. Evidently two hundred and ninety-nine times that labor was thrown awa; done over again and again uselessly; and the clients, those buyers, together paid three hundred fees to those lawyers (who each earned his money), but evidently two hundred and ninety-nine of those fees were for useless repetitions of the very same work.

"By and by, twenty years from now, instead of only three hundred owners of these Jumel plots, the whole one thousand three hundred and eighty-three lots will be sold and built upon, and one thousand three hundred and eighty-three new purchasers will again pay one thousand three hundred and eighty-three fees for examining the same title."*

This same thing is applicable to our own State, and is steadily becoming more so. Where we now have one title to examine, before many years we will have several as land continues to be sold and divided into smaller tracts. To illustrate the rapidity with which these abstracts increase in length and expense, let us take an actual case of a piece of land located in Bee county. This particular example is not used because it is an exception, for it is not. But it is used because the abstract happened to be easily obtained. The government of the State of Texas granted a certain tract of land in Bee county to the heirs of Philip Martin in the year 1889. Until the year 1913 this same piece of land had been transferred one hundred and forty-two times. Now when we consider that each additional transfer adds an expense of practically three dollars and fifty cents to this abstract, making it cost over $497 in 1913, and this expense does not include the lawyer's fees for examining it, we can begin to realize the seriousness of the situation. At this rate

*Solomon Wolff, *Torrens System of Land Registration.*

it does not take long for the cost of an abstract to affect seriously the sale and value of landed property. But when we consider the fact that often the *bona fide* purchaser goes to this time and expense he has no guarantee that his title is indefeasible, we are more than ever convinced of the inadequacy of the system of registering deeds.

The validity of land titles depends upon something more than the validity of the abstract. It depends upon facts and proceedings which are not recorded as well as upon instruments recorded in the registry of deeds. For example, in the case of the death of the owner, it is not recorded who is the next of kin, whether there is a widow with interest, etc. These things have to be looked up every time the property is dealt with. Often months intervene between the contract of sale and the time the deed is delivered, due to the delay in hunting up matters that may affect the title which do not appear on record. Thus, the time and trouble necessary to secure a valid title is not limited to a mere examination of the abstract.

Under our present system, the purchaser has no absolute assurance that his title will not be contested or that an adverse claim will not enter and be made good. When the deed alone is registered, the only assurance that the purchaser has to an indefeasible right is to claim a right of priority against any third party whose right has not been made public before his own. The registration of the deed offers no more security to the owner than to assure him that his title will stand preferable to any other if valid; but if it is not valid, it will acquire no validity from the act of registration. Obviously any purchaser of land desires as good security as possible regarding the vendor's title to legal ownership.

This brings up the fact that under our present system land is not liquid enough, and borrowing power is limited. Although land is one of the best forms of security when the title is good, yet no man desires to lend money on land that has a title which is subject to contest. The money lender is as desirous of having assurance that he will not lose his money when he lends it as the land owner is of being assured that he is getting an indefeasible title. The same is true of the liquidity of land under our present system. The more readily land can be transferred

or converted into money the more beneficial it is for the land owner. Yet this is not possible under our present system without more or less caution and expense. The great complexity, expense and insecurity incident to making a transfer, or mortgage, obviously keep land from being as liquid an asset as it should be. This correspondingly tends to lower its value.

ADVANTANGES OF TORRENS SYSTEM

It is useless to go into detail showing how, under the Torrens System, time is saved by doing away with re-examinations of abstracts and delay in searching for incidents affecting the title that do not appear on record. Obviously, after a contract of sale, a minimum amount of time is necessary for making the transfer, since a valid title with all forms of incumbrances, if it has any, are seen at a glance on the certificate. Thus, the only time necessary is the time that it takes to cancel the old certificate and issue a new one to the purchaser.

The same is true of the expense of making transfers. Instead of having an ever increasing cost as additional transfers are made, the cost is small and constant as explained above, in Illinois being only twenty-eight dollars for the original transfer, plus a small amount set aside as an indemnity fund, and each subsequent transfer being made for a cost of three dollars.

As to the security, as previously described in the Illinois system, the titles are made absolutely indefeasible, being guaranteed by the State. Thus there can exist no possible loop-hole through which a purchaser is liable to lose any of his property. It is in this respect that the land owner and the borrower on mortgages are benefited most. The title being indefeasible and guaranteed by the State, loans on landed property are readily obtainable. The lender can wish no better security than that of land where the title is good, thus both the borrower and lender are benefited by the security that the Torrens System gives.

As has already been mentioned, the Torrens System makes land more liquid as an asset. The title, together with the nature of the incumbrance appertaining to it, being shown at a glance, land is as readily transferred, or converted into money, as personal property, or stocks and bonds. Think what the effect would be on the stock market if with every transfer of stock

an examination of title were necessary. Would not this increased annoyance tend to depress their value? Obviously it would. If the exemption of these burdens on stocks and bonds tend to increase their value, why would not the removal of such burdens on land have the same effect?

OBJECTIONS TO THE TORRENS SYSTEM

The following objections are generally made by the opponents of the Torrens System: (1) it gives the registrar too much power; (2) it has a socialistic tendency; (3) the failure of the system in England; and (4) its introduction is too expensive.

Taking these points up in order, as to the first objection, it must be remembered that the registrar, as well as all his assistants, is placed under bond, and he is liable for any act of negligence or omission of his official duties, even though occasioned by any one of his assistants. The opinion of the registrar is not necessarily final, and if the applicant be dissatisfied with the decision made in the registrar's office, he may appeal to the probate court, and thus have the matter settled. So ultimately, the power objected to is not in the hands of the registrar at all, but is vested in the court.

The second objection, that the system has a socialistic tendency because the state takes the responsibility of guaranteeing the title, carries very little weight. The state does not assume the responsibility of dictating how transfers shall or shall not be made, but merely removes some hindrances incident to making transfers under our present system, and thus instead of taking liberty from the land owner and vesting it in the government, it gives him more freedom of action by making his land more liquid and increasing his borrowing power. And it must also be remembered that there need be no compulsion regarding the registration of titles, but it may be purely optional with the land owner, whether he register his land under the system or not.

The Royal Commision appointed to investigate the cause of its failure in England reported that it was due to the expense caused by the strictness of the official investigation before the land could be registered. But evidently its failure was due to the strictness rather than the expense of the registration, for

it has worked successfully since 1897 after having been explained fully and clearly to the general public and land owners.

One of the objections most frequently urged against the system is the expense of having it installed. True, it costs more for the original registration than it would to have the abstract examined, but this extra expense is very small, especially in proportion to the increasing expense for examining abstracts. The added cost of examining titles due to the increasing length of abstracts will very soon amount to much more than the extra cost for installing the system; for the cumulative expense of examining titles is then terminated. Thus, instead of being objected to on the ground of the expense of registration, this should be one of the strongest arguments in its favor.

EXTENT OF PRESENT USE AND SUCCESS IN THE UNITED STATES

In addition to Illinois, the Torrens System, as already stated, is being successfully used in several States of our country. It has been more successful, however, in Illinois and Massachussetts than in other States due to the fact that in these two States it has been used longer and tried more thoroughly.

The report from Massachusetts regarding the success of the Torrens System in that State, says that transactions in real estate are facilitated and made safer and more convenient under the Torrens System. Such well known concerns as the Boston Consolidated Gas Company, The Boston Elevated Railway Company, The General Electric Company, and the New England Structure Company have had valuable property registered under this system. Real estate dealers are finding it advantageous as being an inducement for people of small means to buy single lots, as the advertisement that no cost of examination of title is required appeals to them.

In Colorado the system has not been so widely used as in Massachusetts and Illinois, yet the report from Colorado states that those who have their property registered under the Torrens System are well satisfied with its working. The reasons given for it not being used any more are, (1) it has not been fully and clearly explained to the public, (2) there is not the need for the law in Colorado that there is in some of the other States, due to the fact that Colorado being a new State, the

abstracts are short, there not having been many transfers made, and these abstracts can be obtained at reasonable rates and quite expeditiously. The same reasons are given for it's not being used more widely in Minnesota and Washington. People are generally satisfied with the registration of deeds until the abstracts begin to grow complex and expensive and then, as has been the result in Illinois and Massachusetts, they are ready to accept a system that offers a remedy for these evils. The system has been successful wherever it has been used both in the foreign countries and the United States.

NEED OF THE SYSTEM IN TEXAS

Now what of the expediency of adopting such a system in Texas? Although Texas is not one of the oldest States of the union, the abstracts are beginning to be long and complex, and of course as time goes on and transfers continue to be made, these abstracts are going to increase steadily in length and complexity, as has been the result in the older States. Thus, installing the system in Texas would be a comparatively simple matter at the present time.

One of the greatest problems facing the land owner at the present time is the need for some adequate system of rural credit. The Torrens System is one great step toward the solution of this problem. Obviously no man wishes to lend money, even with land as security, until he is convinced as to the validity of the title to the land. Under the system of registration of titles this difficulty is entirely removed as the titles are guaranteed by the state.

The expense of installing the system in Texas would be comparatively small at the present time, as the abstracts have not yet become as long and complex as they have in some of the other States. People should consider the expediency of adopting a system while they can do so at a comparatively small cost, which ultimately they will almost be forced to adopt in some form in order to do away with the increasing expense and complexity incident to land transfer, and to obtain an indefeasible title to the land for which they pay full price as *bona fide* purchasers.

The above discussion of the advantages of the Torren's System

over our present method of registering deeds is especially applicable to Texas.

The abstracts in Texas are even now becoming so long and complex that many times it is a very hard matter to get a valid title to land. The land is not as liquid an asset as it should be. The borrowing power on land should be increased, and a system of rural credit is very much need. For all these deficiencies of our present system, the Torrens System offers an adequate remedy.

BIBLIOGRAPHY

BOOKS

Jaques Dumas, *Registering Title to Land.*

Theodore Sheldon, *Land Registration in Illinois.*

F. C. Brickdale, *Notes on Land Transfer in Various Countries: Practice of Land Registry under the Transfer Land Act,* 1862.

G. R. Dill, *Transfer of Land.*

Encyclopaedia Britannica.

J. W. Jenks, *Annals of American Academy,* Vol. II, pp. 48-58.

BULLETINS

Report of the Texas Committee on the Torrens System and Registration of Land Title.

The Lawyer and the Banker, Vol. V, June, 1912, pp. 187-94.

The Land Registration Act, by Louisiana Bar Committee.

J. E. Hill, *Torrens System of Registration of Title to Land.*

Solomon Wolff, *Torrens System of Land Registration.*

C. T. Farson, *Illinois Land Registration Act.*

Wall Street Journal, February and March, 1915.

STATE AID TO LAND PURCHASE

CLARENCE LOHMAN

Other articles within this Bulletin have set forth tenancy conditions within Texas and some of the problems that arise therefrom. It is the purpose of the present article to enquire into one suggested remedy, namely, State Aid to Land Purchase. What may the State of Texas, by advancing money or credit to tenant farmers and others, do in the way of increasing home-ownership? After reviewing the experience of other countries we may attempt to trace out the probable results of such advances in our own State.

FOREIGN EXPERIENCE

New Zealand.

It is well to start with New Zealand, for here we find the principle early adopted as a public policy. In 1840, England took over the two islands; but active development dates from 1867. Immigration was mostly from England and Scotland, and was chiefly under the leadership of The New Zealand Company which tried to reproduce the English system of landlords, great estates, and tenant farmers. To further this ideal, the company attempted to establish a great land monopoly, buying land near the roads and markets, and turning it into sheep-runs.

As a result, the Government in 1872 established a bureau of Immigration and Public Works, with the object of opening up the country inland by constructing railways, and the like. This terminated further monopolizing of the land by speculating companies, but other results were an exhausted public credit and a $300 per capita debt, high price of land, and emigation.

These conditions forced reforms. The leaders turned to eliminate the land monopoly. A first policy was a sliding-scale tax on large holdings, but it failed of its purpose. The next step, about 1882, was to let out such lands as were held by the Government as leaseholds in perpetuity. The conditions were as follows: a maximum of 320 acres to a person; residence on the

land; improvements each year; annual rent of 4 per cent of the cost price of similar land; revaluation of the naked land every twenty-one years by a Court of Assessment. By 1892, over a million acres had been thus taken.

Another move was to offer leaseholds with the right purchase. Ten years residence, and improvements during the first six years equal to 30 per cent of the original cash value of the land, gave the tenant the right of purchase. As a leaseholder he paid a 5 per cent annual rent on the basis of value of the land—$5 per acre for good land. If the tenant did not buy in 25 years, he could exchange his optional-purchase lease for a lease in perpetuity at a 4 per cent rent.

The last step in 1891, was a new policy: compulsory purchase to break the land monopoly. The eminent-domain doctrine was extended to all lands held in large tracts, the lands to be leased in perpetuity to the farmers. The Court of Assessment was given plenary powers to deal with the situation, and the farmer took his leasehold under a 4 per cent rent on ascertained costs. The Government could borrow at 3½ per cent, and the additional one-half per cent covered expenses of supervision and administration. Thirty million dollars were spent in the 20-year period 1891-1911 under this act.

In 1894, another phase of the same general situation was an act providing financial relief for settlers, supplementing state aid to land purchase. After revaluation, the Government advanced money up to three-fifths of the market value of the land at a 4½ per cent rate. (The general rate on borrowed money had been 7 to 9 per cent.) In 15 years the Government advanced $45,000,000 for this purpose, effecting a saving in interest to the farmer of $800,000 annually.

What, then, can we say of the working of the principle of state aid in New Zealand? It seems certain it has been a success. In 1891, there were 630,000 whites in the two islands; in 1910, there were almost a million. In 1891, there were 41,000 farms; in 1910, there were 80,000. Under the compulsory sale act, alomst one and one-half million acres were bought in twenty years by the state at a cost of $30,000,000, and were leased to the farmers. The administrative machinery has been well worked out, and the financial difficulties met successfully, so

it seems. The objects seem well attained. A large proportion of the people are living on the land, the country is wealthier and more developed, and the population is increasing.

Conclusions.—What might this experience of New Zealand hold for us? Can it be taken as an object lesson, exhibiting the soundness of an underlying principle? We will not say here, but this experience is very important in showing the existence of the principle, and something of the extent of and conditions under which it has worked. Let us remember that New Zealand is a land of whites, practically all of whom originally came from England and Scotland. They came to seek homes, and own farms. Behind them is a long experience with Government regulations. They are a serious and industrious people, these settlers who came and battled the wilds. And, therefore, they early and easily, in meeting the problems before them, fell in with the spirit of Government aid and through this principle have worked out success.

Ireland

Let us turn now to Ireland. It is there that the principle of State Aid to Land Purchase has been most extensively worked out.

In 1841, Ireland had a population of eight million people; in 1901, she had less than four and a half million, with 515,847 lease holdings, 42.1 per cent of which were under 15 acres. About 81 per cent of her tillable area was pasture land. Out of the thirteen or fourteen thousand landlords—all mostly speculators, advancing no capital and living as absentees—744 owned over half the isle. It was with a view to remedying such conditions that the British Government, beginning with the Gladstone legislation of 1870, passed a series of acts, culminating in the Wyndam Act of 1903.

The Act of 1870 contained only one land purchase clause—Sections 32 to 44—which provided for an advance of two-thirds of the purchase price to the tenant, repayment to be made in 35 annual installments of 5 per cent. Only 877 tenants took advantage of this clause.

In 1881 Gladstone came forward with a new act. It sought to give the tenant free sale, fixity of tenure, and fair rent. It,

too, contained a land-purchase clause—Section 24, following—authorizing the newly created Land Commission to advance to tenants three-fourths of the purchase price, repayment to be the same as in 1870. Only 731 tenants took land under this act. Section 26 of the act authorized the Commission to buy lands under certain conditions, and resell to tenants, but it produced few applicants, and in 1903, it was abolished.

The apparent defect in these purchase clauses was that only a part of the purchase money was advanced; the balance the tenant had to borrow on usurious interest. To remedy this was one of the reasons for the conservative act of 1885, the Land Purchase Act for Ireland. In brief, it provided for the following: A fund of 5 million pounds—raised to 10 million in 1889—out of which the Imperial Treasury could advance the entire purchase price; a maximum loan per tenant of 3,000 pounds—made 5,000 in 1888; retainment of one-fifth of the purchase money by the Land Commissioners as a guarantee deposit; but bearing three per cent interest, not to be paid until repayments of the tenants equaled this guarantee deposit; repayments in 49 annual instalments, equal to 4 per cent of the purchase price, which included interest and sinking fund. These instalments averaged 31.6 per cent less than former annual rents. By 1891, the 10 million pound fund was exhausted, and 25,367 tenants had acquired holdings.

In that year, however, the Conservatives almost broke up the effectiveness of the act, by introducing too many complications into its workings. The act of 1891, among other things, provided for issuance of land stock by the treasury, bearing 2¾ per cent interest, to be used in paying the selling landlord, in place of cash advances. The stock depreciated and checked inclinations on the part of the landlord to sell. The Act of 1896 permitted the tenant-purchaser to reduce the amount of the annuity, but extended the number of payments from 49 to 70. This made payments easier, but it offered temptations to the tenant to pay the landlord a large price. Section 40 of the act introduced the principle of compulsory purchase—if three-fourths of the tenants, living on an estate which was to be sold through the old Land Court, wanted to purchase, all were considered as accepting. These two acts rather discouraged land purchase.

To 1903, therefore, 73917 tenants, aided by the Government, became owners, under these land purchase provisions. Payment of the annuities were rather satisfactory. To November 18, 1904, 95,375 pounds were due as annuities. On July 24, 1905, only one-half per cent of this sum was in arrear. As to the effects on agriculture and the farmer, a Special Enquiry Report in 1903 says: "The holdings of tenant purchasers have largely improved in all parts of Ireland as regards cultivation, treatment, and general improvement." But difficulties still existed. The tenants criticized the cumbersome administrative machinery, while the landlords often refused to sell except at exorbitant prices.

To meet these difficulties, then, and to give fresh stimulus to purchase, Wyndham's Land Act of 1903 was passed. It provided for a whole system of land purchase based on friendly agreement. Wyndham, Chief-Secretary for Ireland, expected to see his act effect a complete transfer of the soil of Ireland in fifteen years. To get the co-operation of the landlord, tangible inducements were offered him in way of cash payments, a 12 per cent bonus, special facilties for reinvestment, and cheaper and easier land transfers. To the tenant inducements were offered in the shape of a larger maximum advance, repayments to be in 68½ annual instalments of 3¼ per cent each. The administration of the act was intrusted to three newly created Estates Commissioners. An accessory provision authorized the Commissioners to buy estates and resell to the tenants. But as a rule, the landlord preferred to deal directly with the tenant, thinking to get a better bargain.

What has been the result of this act? It seems a great success as far as concerns land purchase. November 1, 1903—the day the act went into force—to March 31, 1906, the direct transfers from landlord to tenant numbered 85,638, carrying advances of 32,692,066 pounds. The indirect transfers through the Commissioners covered 58 estates with advances of 1,419,923 pounds. The act offers means of remedying excessive subdivisions and congestion. Yet the machinery is slow, and, though the purchase price is too high, many landlords refuse to sell. Compulsory sale, co-operation, and agricultural education are needed, it is urged, to bring complete success.

The financial end of the Wyndham Act has not been such a success. It is too complicated to detail here, but the main outlines follow. To secure money to advance to the landlord, the Treasury was to issue guaranteed land stock bearing 2⅞ per cent interest, secured as to redemption and interest by the annuities payable by the purchaser. The rate to be paid by the purchaser was 3¼ per cent, 2¾ per cent for interest, and one-half per cent for a sinking fund. There still remained the cost of issuing the stock and the 12 per cent bonus. To meet the first, a special Irish fund was subscribed; the latter was charged to the Imperial budget. But Ireland pays for all in the end.

In 1909, the Birrell Act was passed to clarify the financial difficulties. It raised the annuity one-fourth per cent, and provided for stock issues bearing three per cent interest. But the financial problems remain unsatisfactory, and it seems admitted that the act in its financial aspects, is unsound. Criticism here, however, can not be leveled against the principle of state-aided purchase, but should be against certain unwise sections of the act, the mistakes of its framer.

Conclusions.—I think Ireland's experience proves the soundness of the principle of state aid to land purchase. I am not saying it would be sound for Texas, but under certain conditions, the principle would work. The application of the principle to the conditions of Texas, we shall leave to later discussion. But Ireland's problems and the many acts passed to meet these problems, are important in suggesting to us the potentiality that lies in the proposed principle.

England

England's actual experience with the principle of State-aided land purchase is limited. The Act of 1892 was the first legislative recognition of the necessity of developing and broadening the ownership of land in England. The act authorized the County Councils—the chief governing body in each administrative county—to purchase land, improve it, and resell in small holdings. The government advanced 80 per cent of the purchase money to be repaid in annuities extending not over 50 years. But the act accomplished little. Only 881 acres in fifteen years were acquired in this manner for small holdings. Few tenants were able to meet the 20 per cent stipulation.

The next act was that of 1907-1908; passed by the Liberals to stimulate small holdings to be held under the government. The act had two provisions: (1) The County Councils could lease estates from the landlord and sub-let in small holdings. (2) The government could advance the purchase money that the County Council might purchase the estate and lease to the tenant. The yearly rent was to cover all costs—equipment and interest—and create a sinking fund to repay the advance made by the government. In other words, the purchaser buys the land for the County Council, but he remains always a tenant.

The act has not met with the success desired. At the end of 1910, 89,253 acres had been acquired by the Councils. The report for 1912 shows 15,176 applicants, but only about one-third had secured holdings. The average price paid for land by the councils was 33 pounds per acre. In 1910, a clause relating to compensations for compulsory purchase was added to the previous act. The causes of this limited success are: (1) The councils, composed mostly of land owners, large farmers, and professional men, are generally unfriendly to the act. (2) Excessive rents, due to high prices are paid for lands by the council, and other costs have been excessive.

Today, the 1908 Act is still in force, but is the subject of much discussion and criticism. The political parties are studying the agricultural situation with a view of regenerating English agriculture. Especially has attention been directed toward the increase of small holdings. And now three parties have formulated a more or less distinct policy. The Parliamentary Labor Party proposes nationalization of the land and state tenancy as a remedy. The Liberals and the Conservative parties both want to increase small holdings, but differ on the question of ownership. Both would use State credit, and agree that the loans should be repaid by annual installments over a period of years. But the Conservatives want ownership; the Liberals, tenancy under public bodies—ultimately, land nationalization. We have, then, the two largest parties in England pledged to the principle of State Aid, the one extending public credit to public bodies—as the land courts; the other extending it directly to the tenant, as in Ireland, facilitating his acquisition of a holding as a fee-simple owner.

Conclusions.—England's experience offers no basis for conclusions as to the soundness of the principle. It is interesting and valuable in reflecting difficulties, possibilities, and suggestions.

Germany

Germany's problem was an agricultural retrogression and a shifting rural population. To remedy this, various States established peasant proprietaries, settled agricultural laborers in allotments, and improved the general conditions of the peasantry.

Prussia's experience is the most important. There, the State promoted settlements, either indirectly by taking shares in Land Settlement Societies, or directly as seen principally in East Prussia. The Act of 1891 made the State credit available for land purchase, to be given through Royal Commissioners. These acted as the intermediary between the State and the individual or Settlers' Associations. The vendor surrenders his title to the State Annuity Office, and receives in payment 3½ or 4 per cent annuity bills, running 27 and 23⅔ years, respectively. The purchaser pays a fixed revenue to the Annuity Office plus one-half per cent, purchase concluding in 60 years. The State advances money up to 75 per cent of the value of the property; the balance unpaid is covered by a second mortgage, held by the vendor. Other acts and provisions exist, too, designed toward the same end. In the Polish provinces, colonization is by direct State aid.

The procedure in the above cases is as follows: When an estate is offered for sale, the Commissioners pass on the price. Then they inquire into gross and net values of the estate, its adaptability to small holdings, physical features of the land, buildings, schools, and the like. When the transaction is complete, all the conditions of the estate are set forth in a special deed—the revenue estates deed—and registerd in the Land Registry Office.

Conclusions.—The principle seems a success here. But it is so bound up in Germany's general policy of government leadership in all such things, that the results due to state aid alone are difficult to separate. In her general policy of state aid and leadership in all things, success seems to follow such a policy in Germany.

Denmark

In Denmark, prior to 1899, the state took no direct part in creating land ownership, satisfied with encouragement and support of the land banks. But in that year an act was passed to facilitate increased ownership of small holdings. It provided for the following: In each county, there is a committee of three to arrange for and supervise purchases. The expenses are met by the state. A holding is limited to a minimum of 2½ acres and a maximum of 11 acres. Application is formally made to the committee through the municipal council, and contains requisite information as to the applicant and the holding, and estimated cost of improving and stocking the holding. Costs can never exceed 433 pounds. The committee inspects the holding and passes on the application, giving the purchaser the right to draw on the state for nine-tenths of the value of the holding. The state is secured by a 3 per cent mortgage on the estate. In the first five years only is 3 per cent interest paid; thereafter, the installments run, bearing 4 per cent interest, the one per cent providing for a sinking fund. The loan becomes liquidated in 98 years.

The act has been a success in creating land ownership, 90 per cent of the land being so held. One qualification* is necessary; the great demand has inflated prices, causing many men to accept inferior lands.

Other Countries

In Austria-Hungary, the state has both directly and indirectly aided land purchase. The state deals with crown lands and lands purchased from individuals or associations. The settler pays down 10 per cent of the purchase money, the balance, advanced by the state, is repaid in 50 years by annuities not exceeding 4 per cent, 1 per cent going for a sinking fund. Indirect aid has been, as in Germany, through money advances to land banks and societies.

In France, there is no direct advance of money; it comes indirectly to the peasant through land banks or credit societies, as stipulated in the law of March, 1910.

---

*Report from "The Labor Party and the Agricultural Problem," pp. 34.

Belgium has no organized system of land purchase, nor do land banks exist with their main object as land purchase.

In Russia, an act passed about 1906 looked toward the creation of small holdings. The government advances money through the Peasants' Land Bank, generally 90 per cent of the purchase price, but can advance the whole of it. Repayments do not begin until after ten years. During the time the act has been in force, it has worked well, it seems, stimulating ownership and better farming.

The Royal Swedish Mortgage Bank, supported by a government guarantee fund, is the fountain of agricultural credit in Sweden.

In Roumania, likewise, aid comes indirectly through a bank. In 1908, A Rural Bank was formed, with a capital of 400,000 pounds, half of which was advanced by the state, with land purchase as its specific purpose. The country had been retarded by usurers and land speculators. Interest rates had ranged between 63 and 500 per cent. The banks (1) acted as intermediary between the vendor and the purchaser, advancing the purchase price at 5 per cent interest, (2) bought lands and reallotted to tenants, and (3) loaned money at low rates.

In 1902, land settlement in Egypt was put on a definite footing by the establishment of the Agricultural Bank of Egypt, a private institution supported by a government guarantee. Two kinds of loans are advanced: (1) loans—limited to 20 pounds—on the borrower's note, repayable in 15 months; (2) loans—limited to 500 pounds—secured by first mortgage on land valued at twice the amount of the loan, repayable in annual installments running 20½ years, interest at 8 per cent. One estimate places 60 per cent of the loans for land purchase. The results of this has been that in 10 years 400,000 small ownership of less than 50 acres were created. In 1910, Egypt had a population of 11,000,000 people, with 1,20,000 land owners.

In the Transvaal of South Africa, the principle of direct aid and compulsory sale have been proposed in a report by a government commission.

In Mexico, the principle has been proposed in the conclusions drawn by the National Agriculture Commission in 1914.

Finally, in Argentina, the principle of state aid to land pur-

chase is being proposed as a remedy for the country's agricultural needs.

Conclusions.—What conclusions can we draw, then, from the experience of all these countries? (1) The principle of state aid to land purchase has wide recognition, and in many places is sound as a national policy of the government. (2) The principle has not worked in all countries with the same degree of success. (3) As for Texas, because the principle has worked abroad, it does not necessarily follow that it will work here, our economic and social environment being peculiarly our own. Foreign experience is invaluable, nevertheless, as suggesting problems to be met and avoided, and positive solutions for difficulties.

OKLAHOMA

In the early part of the present year, the Legislature of Oklahoma passed a Home Ownership Bill, providing a practical system of farm loans at low interest and easy amortization for the exclusive use of home builders. It provides for the utilization of $7,000,000 of the school fund, to be loaned to home-owners at 5 per cent interest, loans to mature semi-annually on the debenture plan and become completely amortized in 20 years. These loans are the bases for bond issues. The principal provisions are the following:

SECTION 1. The Commissioners of Land Office are authorized and instructed to invest certain school funds in first mortgages on improved farm lands, in conformity with the following:

(a) No individual loan must exceed $2,000.

(b) Loans shall be secured by first mortgages on the homestead, running up to 50 per cent of the value of the naked land.

(c) "Notes shall be drawn to run for twenty years, payment of 4 per cent of the full face value of each note to be made semi-annually at each payment; interest at the rate of 5 per cent per annum upon the unpaid balance of such note to be deducted from the amount paid and the remainder to be credited upon the principal of the loan."

(d) "Loans from said fund shall be made only for the following purposes: First: to assist the borrower to pay for a home. Second: to pay off an existing mortgage upon the home. Third: to make permanent improvement upon the home farm."

SEC. 2. "For the purpose of supplying additional funds for the loans herein authorized to be made, the Commissioners of the Land Office are hereby authorized to sell, for not less than par and accrued interest, all or any portion of the notes and mortgages taken for the sale price, or unpaid portion thereof, of any of the land above referred to; such sale to be absolute and without recourse.

"Provided further, that the said Commissioners are hereby authorized to issue and sell at not less than par value bonds drawing 4½ per cent interest, payable semi-annually, and to pledge for the payment of same, principal and interest, all notes and mortgages taken for loans from said fund; provided, that the amount of the bonds so issued, sold and outstanding, shall not at any time exceed 90 per cent of the face value of the unpaid portion of the principal of such notes."

SEC. 6. "Any bank or trust or insurance company organized under the laws of this State may invest its capital or surplus in bonds issued under the provisions of this act. The officers having charge of any sinking fund of this State or of any county, city, town, or township, or school district thereof, may invest the sinking fund of the State or of such county, city, town, township or school district in 'Oklahoma Home Ownership Bonds,' which mature prior to the due date of the bonded indebtedness for the payment of which such sinking fund is created."

SEC. 9. "Any premium upon bonds sold, and the one-half of 1 per cent difference between the 4½ per cent interest paid upon the bonds and the 5 per cent interest collected upon loans, shall be paid into a fund to be known as the 'Maintenance Fund,' from which shall be paid all expenses of loaning this fund and the sale of the bonds."*

TEXAS

In the Regular Session of the Thirty-fourth Legislature, Representative Dove, of Buffalo, introduced a proposed constitutional amendment entitled "Proposing and submitting to a vote of the people of Texas an amendment to Section 49, of Article 3, of the Constitution of the State of Texas, authorizing the

*Taken from Dallas News of Jan. 30, 1915. This is the bill as it stood before passage in the House. The interest rate was changed to 6 per cent by the House.

purchase of lands by the State for purposes of sale to actual settlers for homestead purposes."

Section 1 reads as follows:

"That Section 49, of Article 3, of the Constitution of the State of Texas, be amended so as to hereafter read as follows:

Section 49. No debt shall be created by or on behalf of the State, except to supply casual deficiencies of revenue, repel invasions, suppress insurrection, defend the State in war, pay existing debt, *or to provide funds for the purchase by the State of lands to be sold by the State in installments covering not exceeding forty years' period to persons desiring to actually settle thereon, and make same their homestead; provided, that no one person shall be the owner at any one time of more than one hundred acres of land so acquired; and, provided, that every such purchaser from the State shall be required to in good faith actually reside on such land as his homestead for at least three years next after his purchase thereof; and provided further, that if any land so sold by the State shall have improvements thereon, the purchaser shall be required to protect the State against loss or destruction of such improvements;* and the debt created to supply deficiencies in the revenue shall never exceed in the aggregate at any one time two hundred thousand dollars."

This resolution was first read in the House and referred to the Committee on Constitutional Amendments on January 14, 1915, and on January 23, it was reported favorably to the House. February 12, it was amended on the second reading. March 12, after lengthy debate, it went through the third reading, and was passed 97 to 32 and sent to the Senate. In the debate on the resolution at the times when up, the chief objections urged against it were Socialism, Paternalism, and expenses incident to the State's venture into the real estate business, as it was called. The proponents urged the evils of the landlord-tenant system, the Democratic party's pledge to aid the tenant farmers, and denied the allegation urged by the opponents of the bill.

In the Senate, the resolution was reported out favorably by the committee, but died on the calendar, the session adjourning March 20 without a vote being taken on it.

Thus we see something of the importance of this subject. Abroad, the principle has been adopted generally. At home, our

neighboring State is leading the way with a law embracing this principle. In our own State, a constitutional amendment embracing this principle was introduced and passed the House, and had good prospects of passage in the Senate. The fact of its introduction here is excuse enough alone for a study into this question. The tenant farmer figured most prominently in the past gubernatorial race.

Broadly stated, the problem in Texas lies in the following conditions: (1) The large increasing tenant population—52.6 per cent in 1910. (2) The poor character of the tenants, retarding Texas' growth.

What then is our remedy? There are two schools of thought in Texas today, each advancing its proposed remedies. One, comprising by far the largest number of people is to work from the bottom up, bringing legislation to bear on the individual, stimulating his initiative, affording him as large an opportunity as possible to work out his own salvation. Remove restrictions, eliminate monopoly, afford equal opportunity to all; let the State turn, not toward subsidization of the weak, but toward building up the ability of the individual, that he may stand alone. This is the ideal of the individualistic school.

On the other side, stands a school of thought, including such men as Mr. E. A. Calvin, State Warehouse Commissioner, and Representative Dove, author of the proposed amendment, which urges the plan of working from the top down, from the State down to the tenant. This school urges direct State aid.

The individualistic school again may be subdivided in the question of ownership. One part stands for tenancy; not the kind of tenancy commonly known in Texas, but business tenancy. It is not a question of ownership versus tenancy, it is urged, but business tenancy versus poor tenancy. There are many men in Texas today, who believe tenancy is the best policy, for many tenants are satisfied, and do not desire ownership. They urge improvement of tenancy, thereby enabling the tenant farmer to be just as respected and just as well-to-do as the landlord, as is the case in many northern States. Our economic policy should thus be directed toward securing this end. This class stands opposed to State-aided purchase.

The other part of this individualistic school urges ownership,

believing the solution of agricultural problems in Texas to be in ownership. But they differ from the State-aid school in the method by which this should be accomplished. They urge, not direct State aid, but indirect uplifting of the individual.

Is there need, then, for State-aided ownership? This is the issue for us. In a discussion recently of this question, with several citizens of Elgin, Bastrop county, Texas, the opinion was unanimously expressed that in so far as their experience was concerned, State aid was not necessary to ownership. Mr. C. W. Webb, a leader in that place, and a student of economic questions, expressed the opinion that in Bastrop county, any tenant farmer could buy land on good terms, if he so desired, and he knew personally of many tenants who so became owners. His experience, however, is limited to that district alone. About twenty-five years ago, the northern part of the county at least, was unsettled; today, it has both owners and satisfied tenants, improved farms, good schools, and churches. But I might add that this change can be laid largely to the Swedish immigrants, who settled that part of the county. Yet the question arises, if these immigrants can secure land by their own initiative, why can not our native whites? To this part of the individualistic school, it seems neither wise nor necessary for the State to extend its credit to create ownership; it is bad public policy to subsidize men who today lack the thrift and ability to take the soil and manage it properly.

Yet, on the other hand, stand such men as Mr. Calvin who contradict this opinion. Mr. Calvin is a man of much experience, a close student of agricultural conditions in Texas, a man who has traveled and studied conditions closely in practically every agricultural county in Texas, and his opinion is that, for the State as a whole, not enough tenant farmers can unaided secure ownership of a farm. He believes that, on ownership alone rests the possibility of diversification and co-operation, the absence of which are results of the landlord-tenant system.

Thus we see the various schools of thought on the subject of the solution of our agricultural problems. But, regardless of the school of belief to which we adhere, let us with open minds look into this proposed remedy of State aid to land purchase.

PRELIMINARY PROBLEMS

1. The first question to decide relates to the part the State will play in facilitating purchase. Shall the State limit itself exclusively to purchasing the tracts, and reallotting to the tenant-purchasers; or shall it act as the intermediary between vendor and purchaser; or might it not do both? We have seen that in other countries both have been provided for; but the writer thinks the better plan for Texas would be to make the State the intermediary. For the State to buy the lands and subdivide, etc., would involve an unnecessary piece of paternalism. The intermediary plan allows more to individual initiative. It would be well, though, to include both plans, allowing the future to determine the possibilities in each.

2. The next question is, where shall we get the land? There is plenty of land in the State, but would the landlords sell to the tenant? Mr. Calvin stated that any landlord would sell for cash. And the daily papers always carry large "Real Estate for Sale" columns. Stimuli might be added in the shape of a graduated tax on large holdings, cash payments, and creation of investment opportunities for the landlord. Time, too, might bring the necessity for the adoption of New Zealand's compulsory sale idea, but that is unnecessary now.

3. To whom shall this opportunity of State-aided purchase be available? Here come questions of qualification—moral and pecuniary—of the proposed purchasers. Shall we demand one-fortieth of the purchase price paid down, as we have done in selling our school lands? It would be wise to leave this much to individual initiative. To place moral qualifications is difficult, yet such are always demanded abroad. Our problem in Texas is unique, because of the diversity of citizenship in our midst. What of the moral risks of the Negro, Mexican, German, native white? Land Commissioner Robison stated that of the school lands sold in the west, only about one tenant out of three ever proved up. Yet we must remember the poor character of these lands, and the non-adaptability of the purchaser to the land.

4. *Size.* The Dove resolution called for a maximum of 100 acres to each purchaser. As to what constitutes the most eco-

nomical sized farm, some suggestions may be found in the article in this bulletin upon that subject*

5. *Title.* A question arises as to whether the tenant should take a fee simple title, or a qualified fee title, at the time of passession. In Prussia, with the registering of the deed, every stipulation and condition of the mortgage is written into the record, and this might prove suggestive for this State.

ADMINISTRATIVE PROBLEMS **

1. *The Administrative Machinery.* Some body is needed to represent the State and to supervise the entire workings of this plan. Shall we create a new body entirely, or can we utilize existing machinery? One suggestion is for the commissioners court of each county to represent the State in that section, and through it facilitate and supervise the transference of the land. This the writer is inclined not to favor, judging from the experience of England with her County Councils.

Another possibility is a State Land Bank. The bank, as an intermediary between the State and the tenant, would handle all the administrative and financial phases of the plan. This is important and the merits of a bank should be gone into very carefully. Here, we can only make suggestions. We saw that, in Contineutal Europe, a bank was the medium generally used when giving indirect aid. In Texas, we might have either indirect government assistance through a private land bank, or direct through a State Land Bank. In either case, the bank would have entire control over the operation of a State-aided land purchase act. Sir Gilbert Parker, a student of English agricultural problems, a writer, and a man prominent in the Conservative Party of England, favors the bank plan.

Lastly, we have Mr. Calvin's proposal to turn the entire administration of a State-aided land purchase scheme over to the Land Office.

2. Let us take now the machinery just suggested, and trace the steps in the process of converting the tenant into a land owner. (1) First, we must detail the machinery. At the head,

*See above, p. 35ff.

**The writer is indebted very greatly to Mr. Calvin for many of the ideas here suggested and following.

will stand the General Land Office, to supervise and direct the entire workings. Next, we will have a number of agents—similar in nature and powers to bank examiners, and responsible absolutely to the head office—to go out over the State and pass on applications for purchase. Divide the State into a number of districts, and assign to each agent a scheduled route, shifting the agents from one district to another from time to time to insure efficiency and to prevent fraud. Clothe the agent with large and plenary powers, and pay him a fixed salary. (2) Now let the central department issue its application blanks. Here is a tenant who wants to buy, and a landlord who will sell. They agree on the price, and the tenant fills out the blank and sends it to the central office. After the scheme is working, let us say, there will be a continuous flow of applications into the central office. These are sorted as to districts, and turned over to the agent for that section. As the agent makes his itinerary, they are taken up in due order and passed upon. There could be large circuits made annually, or several ones made oftener, as expediency and economy demanded. Perhaps it would not be advisable, on grounds of economy, to extend at first the workings of the Act to the entire State, as for example the far west and northwest, but let the Legislature specify the counties to which it should apply. This is, of course, discrimination, but the protests registered would be a good test of the possible scope of the Act, and, were they sufficient, then the act could be enlarged to embrace all parts. A thought arises here as to the effect of a possible seasonal demand for State aid upon the character of the agents' position.

The agent should pass upon any contemplated transaction, investigating the moral risk of the applicant and the agreed selling price, to prevent fraud or inflated values. The findings in each case should be reported back to the central office at once, and from there acceptance or rejection sent out to the applicant. A final step might be the exchange of an order for the purchase money of the "Home Ownership Fund" to the central office, or a registration there of the first mortgage on the land passing.

Right here arise several important questions. First, will the act cause land speculation and inflated values? The writer does

not think this is necessary consequence. Yet we saw in Ireland and Denmark, especially, land values were too high, and we must guard against this here. Already in places in Texas, land values are inflated. If such were to result, what would be their effect upon the workings of the act, and on the price the tenant would have to pay? If the agent refused consent to the price, the landlord might not sell, and hence is there not danger here that high values would defeat the purpose of the act? On the other hand, if the agent gave consent, the burden would fall upon the tenant-purchaser. We might be forced to the adoption of a compulsory-sale principle.

Yet, on what basis are we to evaluate the land? This is a big question. We could not afford a separate scientific commission to place valuation just for this purpose alone. But it would seem that the agent could arrive at a fair value by looking into (1) the records of past transfers; (2) prices of adjoining lands; and (3) annual productions of the land.*

Here, too, come the questions of relinquishment and resale. How long would you demand that the tenant live on the land that he purchased? We saw abroad in many places, the tenant had to reside in actuality, and make improvements for a long term of years. In selling our school lands, we demand a three years' residence, and permit sale of the equitable title after three years. This does not seem a sufficient length of time—at least five years should be required. Land Commissioner Robison's expression was "hog-tie" the purchaser to the land.

Would one leave the valuation of the improvements to the agent also, and what basis could be use?

FINANCIAL PROBLEMS

1. A necessary first step is to choose the machinery to conduct the financial operations of the proposed plan. First, we have the above suggested State Land Bank. The bank would have entire control of the application of the act, in all of its financial and administrative features. The other plan is to utilize the same body that administers the act—the Land Office. It might be well to have an independent body, say a commission of three, composed of the Governor, or Lieutenant Governor,

*See above, pp. 52, 33.

the Attorney General, and the State Treasurer, and clothed with full power to issue all bonds necessary, to issue the bonds, but it is indispensable that control over all money—both incoming and outgoing—should be vested in the Land Office.

2. The first big step, then, is to get the money. Is it wise to utilize our school funds? There is much prejudice in Texas against any proposal that looks toward tampering with them, but the writer doubts the validity of such opposition. In Oklahoma, we notice, a seven million dollar fund is so to be used.

The most common method is to issue bonds on the credit of the State. Say the Legislature passes a law to be effective on a certain date. Let the Attorney-General get out all necessary forms, etc., looking toward issuing the bonds. After applications are in, calling for a certain amount of money, let this commission of three then issue the bonds in million dollar blocks, let us say, and sell them. Their delay in issuing is for economical reasons. We must ever seek to keep down costs, and endeavor to borrow at the lowest rate of interest possible. The State should be able to borrow at 3 per cent; and a law similar to section 6 of Oklahoma's Bill (allowing State banks and trust or insurance companies to invest their capital and surplus in these bonds, and permitting investment likewise of sinking funds of any State, county, town, or school district in these bonds, and permitting the said bonds to be counted as lawful reserve for State banks and trust companies), would stimulate greatly a demand for them and insure us money at a 3 per cent rate. Such a law would very likely call for State guarantee of interest and principal on the bonds, although Oklahoma does not offer guaranty, but it would seem that little objection could be urged agains such guaranty. Or the bonds could be issued on the school fund, and be guaranteed from loss. All proceeds from the sale should go to form a "Home Ownership Fund," out of which are paid the purchase price to the vendor and to which are paid all installments by the purchaser.

After securing the money, the next step is to detail the conditions of the loan and its repayment. Would it be advisable to specify a maximum that can be borrowed by any one individual or family, as is done abroad? It might be well, yet if the act specified the maximum amount of land one could so

acquire, this would be in itself a limit on the amount one could borrow. At what rate then should the State loan this money to the tenant-purchaser? I would add an extra one-half per cent to cover expenses, making the rate 3½ per cent. The one-half per cent might not be sufficient to cover expenses, yet it has been found sufficient abroad. And we could provide that all premium received from sale of bonds, for very probably the bonds would early command a premium, be paid into the expense fund, were there such.

How large, then, would the installment be that the purchaser would have to pay each year? The cash amount would vary, of course, with the amount of the loan, but the rate would ever be the same. The installment would have to be sufficient in amount to cover interest on the bonds, expenses, and a sinking fund sufficient to retire the principal at the end of the period—40 years say, as set forth in the Dove resolution. For instance, a tenant secures $3,000 to purchase 100 acres at $30 per acre. First, he must pay the 3 per cent annual interest that the State has to pay on the money borrowed, or $90 per year. Next, he must pay the ½ per cent for expenses, or $15 per year. Lastly, he must pay 1/40 of the principal, or $75 per year. Total, $190 per year or a 6 per cent annual installment. In 40 years, then, the tenant is a fee simple owner of his farm, and owes the State nothing. Of course the period could be made much shorter, but in the time stated, the purchaser is paying only 6 per cent for the money, a rate which few if any tenant-farmers can secure today. And if this ever growing sinking fund were re-invested in 5 per cent municipal bonds, say, the rate might be materially reduced.

Right here come questions of the effect of hard times on arrears, and how to save the State from loss? If hard times come and the tenant can not meet his installments, what are we to do? In selling our school lands, we extend the time a little, and then if the purchaser does not pay up, out he goes. The writer would not regard this as a danger. Abroad, arrears have generally been kept to a low minimum. As to insuring the State from loss resulting, for instance, when tenants leave or waste improved lands, we demand a cash payment down and improvements each year. The agents could keep in touch with

recipients of State credit, and any conduct causing forfeiture of the equitable title should carry with it forfeiture of the improvements. Then, too, each few years would see an advance in value of lands.

DANGERS AND EFFECTS

1. Some interesting questions arise when considering probable or possible dangers and effects. First, does a danger to the life of an Act adopting the principle of State Aid to Land Purchase lie in legislative interference? We know for many years, there was a great tendency on the part of the legislature to tamper with the Railroad Commission, and it is only of late that this tendency has subsided. The proposed Act would be very sensitive to the least interference, and misdirected interference would be fatal.

2. The possible effect of a cash installment on the Texas tenant and Texas farming is of the utmost importance. We know today most of our tenants pay rent in kind—⅓ grain, ¼ of the cotton. With many, the poor agricultural methods which characterize Texas tenancy today, are due to just this cause—the contingent basis of payment—and they see in eliminating this, a removal of one great evil and a step toward better tenancy. The plan under discussion, by providing for fixed, annual, cash installments, would remove this to a large degree, it would seem, with effects the same as come from a fixed, cash rent.

3. Another point is the effect of the reinvestments of the vendor-landlord upon industries, the investment market, and the interest rate in the State. Of course the Act might not be of such a scope as to cause any appreciable effect at all. But the monies received by the landlord when he sells his land must be invested by him. He can not afford to let it remain idle. Will this shifting of ownership of land, then, free monies for investments in things other than land, as factories and railways, acting as a stimulus to enterprise, changing the character of our investment market, and perhaps lowering our interest rate? All are worthy of thought.

CONCLUSION

Heretofore, the writer has attempted to refrain from expressing his opinion on the proposed adoption of a State-aided Land

Purchase Principle in Texas. Views have been set forth on certain points, but never, he believes, on the merits of this proposal. His ideal all through has been to suggest in a clear and unbiased manner something of the problems and possibilities that this Principle might hold for us. Now, however, he will venture a personal opinion. He believes that this plan should be given a trial in Texas. This alone would not solve all our agricultural problems. Other things are needed. We need cheaper money; we need a sound system of agricultural credits; we need schools. Much of the success of Denmark in the development of agriculture, and in the high state of perfection to which the co-operative marketing of produce has attained, is undoubtedly due to excellent general level of education which obtains amongst the people."* We need diversification and co-operation. But the contemplated proposal is a step, and I believe might be made a very big step, in the right direction of eliminating our agricultural evils, that prosperity might rest among us.

BIBLIOGRAPHY

"Social Welfare in New Zealand," Hugh H. Lusk. New York, 1913.

"Contemporary Ireland," L. Paul-Dubois. Dublin and New York, 1908.

"The Land, The People and The State," Sir Gilbert Parker. London, 1910.

"Proposals for Land Reform in England and Wales," Bulletin of Economic and Social Intelligence. International Institute of Agriculture, pp. 109-126. Rome, June, 1914.

"The Land." The Report of the Land Enquiry Committee, vol. 1. Rural. London, 1913-1914.

"The Land Problem." Notes suggested by the Report of the Land Enquiry Committee. London, 1913.

"A Unionist Agricultural Policy." By a Group of Unionists. London, 1913.

"The Labor Party and the Agricultural Problem." London, 1913. The Labor Party.

*"The Labor Party and The Agricultural Problem," p. 38.

"The Land and the Commonwealth." T. E. Marks. London, 1913.

"The Land and the People." London Times, 1913.

"The Land Retort." Answer to Report of the Secret Enquiry Committee, Chas. Adeane, and Edwin Saville. London, 1914.

"The English Land System." J. A. R. Marriott. London, 1914.

"The Provisions of Small Holdings for Miners and Industrial Workers on the Land." International Institute of Agriculture, pp. 103-118. Rome, July, 1914.

"The Land Question in Mexico and the Proposals of the National Agricultural Commission." International Institute of Agriculture, pp. 127-133. Rome, June, 1914.

"Home Colonization in the Caucasus from 1908 to 1912." International Institute of Agriculture, pp. 125-139. Rome, Oct., 1914.

'Co-operation and Home Colonization in Argentina." International Institute of Agriculture, pp. 3-5. Rome, Jan., 1914.

"The Ownership, Tenure and Taxation of Land." Sir Thomas P. Whittaker. London, 1914.

"The Decline of Land Owning Farmers in England." Henry C. Taylor. Bulletin 96 of University of Wisconsin, 1904.

"Peoples' Banks; A Record of Social and Economic Success." Henry W. Wolff. Third Edition. London, 1910.

CONSERVATION OF THE MINERAL AND LUMBER RESOURCES OF TEXAS

JOHN W. SCOTT

TIMBER RESOURCES AND WASTES

Texas has more forested area than any other State in the Union, though the total stand of her timber is much below some of the rest. The area of the wooded land has been placed at about 40,000 acres. This estimate includes only that which is capable of yielding a reasonable amount of saw timber per acre, and does not include wide expanses of brush.

Practically the whole range of forest trees known to the temperate zone is represented here by species, genera, or family. Of these species there are about 115 that are of commercial use. Some are used in a very small way at present, and some which might be used are left untouched.

The first thing that strikes one is the absence of anything approaching a full exploitation of the timber of Texas. It might be wise to carry on a campaign for the development of the timber resources of Texas in connection with a campaign for the conservation of the same. It is true that certain species of our timber are being used, and where used to any great extent there is cause for the plea of conservation. Only a few of the most important instances of exploitation can here be considered.

The first species to be considered is the Osage Orange, or Bois d'arc (*toxylon pomiferum*). This tree is found in the northern part of Texas, extending from the Oklahoma line as far south as Dallas. Originally this wood seldom stood in more than 100 acres in a body, and, since it has been being worked, even these stands are disappearing. Much is still cut in Texas, though the choicest has long since disappeared. This wood is of comparatively rapid growth and is equal to any timber in the country in resisting decay. It is used extensively for posts, despite the fact that it is especially fitted for the making of wagon felloes, and that there is great demand for it for the latter purpose.

A second species is the Live Oak. This lumber was formerly used in ship-building, but since it has passed out of use in that line it has been greatly neglected. Logs three or four feet in diameter have been cut and offered to any one who would remove them from the premises. There seems to be no appreciation of the value of this tree; and where one is found standing in the way it is common to fell it and permit it to decay, or perhaps it is used for stove wood. This lumber is really valuable in many ways. It is among the handsomest of oaks, of a dark brown color, smooth, and accepts a polish well. It is especially valuable as cabinet material. A fine effect produced by make-up panels, and by turned balusters and column sindicates that piano makers might find something new in the live oak that would be worth investigating.

A third species is the Texas Ebony. This tree is of slow growth and very hard. It is now abused, being used extensively for ties and posts because of its continued resistance to decay. About Brownsville, where it is found most extensively, considerable amounts are used for fuel. It is specially fitted for cabinet material. Even large tables are made of it which are elaborately carved and present a massive and pleasing appearance.

A very useful and greatly wasted wood is the Mesquite. Most of the larger trees of this species have been used, and the slowness of growth of the Mesquite makes it imperative, if this species is not to be wastefully exploited, that some measures of conservation be initiated.

The Mesquite has been and is used more than any other wood in Texas for cooking, heating, and burning of brick. It is used extensively as fence posts and railroad ties, and has proved itself to be almost impervious to decay. Despite the fact that this wood has been extensively used in such coarse and exploitive ways, it is very valuable as furniture material. The appearance of the polished and finished wood is a little lighter in color than mahogany. It is not uniform in color, but shades from tone to tone in the same piece. Some of the tones resemble black walnut, and some suggest the luster of polished cherry. Massive furniture has been made from it, and it does not suffer in comparison with mahogany, black walnut, and cherry. It is very

difficult to work because of its extreme hardness, but when presented as a finished article is very valuable,—suits of nine pieces being sold at two or three hundred dollars.

Investigation discloses that pines, short-leaf, long-leaf, and loblolly, are used to the greatest extent in Texas, and likewise suffer most from lack of conservation. The white pine of this country is rapidly disappearing and the yellow pine is coming to take its place. Texas ranks high among the States in the amount of standing yellow pine. The principal supply of short-leaf pine comes from the northeastern section of the State; the loblolly belt is south of that; and the long leaf is nearer the coast. The belts of the different pines are not clearly defined in all places and there is much overlapping of ranges. Short-leaf pine grows rapidly the first thirty or forty years and then the growth is somewhat slower. It is the most extensively used wood in Texas. There is great demand for it by manufacturers of doors, sashes, and interior house furnishing. This species is used for many coarser purposes that other less valuable species might supply. It is known that the cutting of this species is gaining rapidly on the growth, and the supply must run short before many years. There are no efforts made toward reforestation and the voluntary growth is insufficient to keep up the yearly drain to supply the mills.

The long-leaf pine possesses great strength and stiffness. It is fitted well for bridge building, car construction, etc. From the forests of the long-leaf pine come resin, pitch, turpentine and oils, which prove them of value as a source of naval stores. A considerable amount of small growth of long-leaf pine is met with in places near the southeastern border of Texas; but the fact is apparent that the end of this fine wood, as a timber supply, is only a question of a few years or decades. Larger tracts that were once heavily wooded are now bare of trees. In many instances the farmer follows the lumberman and crops grow among the stumps. There appears to be little effort to maintain even the present stand of this species. This attitude is due, in part, to the fact that the land on which it stands is especially fitted for agriculture.

The loblolly pine fortunately possesses the peculiar characteristic of self reforestation to a much greater extent than either

the short or long-leaf pine. This fact is preventing the excessively rapid disapperance of this species. The fact remains, however, that no part is being taken by man in the continuing of this species. It is left entirely to its own resources, and seems to be slowly disappearing.

In addition to the wastes resulting from uneconomic exploitation, Texas has, as practically all other timber States of the Union, suffered losses by fires and by inexpedient taxation of her timber lands. No effort has been made to control forest fires, if started, or to prevent the starting of the same. Again, the laws providing for the taxation of our timber lands are practically the same as they were when timber was considered an incumbrance. It is high time such laws were changed, as the exploitation of our nation's timber resources is well started.

CONSERVATION OF TIMBER

That uneconomic exploitation of our timber is very extensive, there is little question. It appears to the writer that the ultimate eradication of this evil can be hoped for only as the result of advanced education. In this case, as with many others, the public conscience must be aroused against the present practices if they are to be discontinued. Such a remedy, however, is very slow of operation, and if immediate results are to be had they must be sought in other lines. A scientific system of reforestation would do much to stop the use of valuable timber in such places as the less valuable would serve equally as well. It could be so managed as to facilitate the total usage of each tree, and this alone would aggregate a great saving.

However well we might succeed in eradicating the evils of uneconomic exploitation of our timber, little in the way of effective conservation can be expected until some official, or board of officials, is designated whose duty it is to further conservation. It is a lamentable fact that Texas has provided no political machinery whatever to attend to the conservation of her timber. The lack of effective machinery along this line is considered by many other States as a negative cause of the exploitation of timber. First and foremost, then, if we are to conserve our timber, this matter must receive attention. It must be made the personal business of some individual, or individ-

uals, to further the cause of timber conservation. Just what machinery should be provided to care for such conservation is an open question, but if we are to profit by the experience of other States, it would not be unwise to place such duties in the hands of a commission. Such a commission would be appointed by the Governor. On it would be representatives of the State Forestry Association, the Retail Lumber Dealers, the woodworkers of the State, and the University or Agricultural College. The commission would collect and classify information relative to timber, timber lands, and timber culture and preservation. This commission would submit to the public all information it might be able to collect and the conclusions drawn therefrom. A consideration of the establishment of a forest reserve would also be its duty.

In addition to the lack of effort to effect convervation, it is considered by other States that fires and unjust taxation are important sources of timber exploitation. It is fortunate for Texas, however, that loss by fire has not been as great as in some other States. Such loss as has occurred in this way could have been lessened by appointing in each local district a fire warden whose duty it would be to prevent as far as possible, all forest fires, and to provide organized resistance against the advance of such fires when they have been started. In addition to this, severe penalties should be provided for setting fires. Such a system is now in operation in several of our States, and has proved very effective.

The present system of taxing timber lands in Texas is really a greater source of waste than forest fires. As is stated above, our timber taxation laws are practically as they were when timber was considered an incumbrance, and was ruthlessly exploited that the land might be cleared for agriculture. As it is today our timber is over-taxed. The more valuable timber is justly made to pay a higher tax, and to evade this tax it is marketed at a low price and used for such purposes as a poorer grade could serve equally as well. A farmer growing wheat or cotton receives an annual income and from this he pays his tax. The lumberman is growing a crop that does not mature for forty years, and still he is obliged to pay an annual tax on the full appraised value of his land and timber. Such a policy obliges

the lumberman to cut and market his produce, and renders effective conservation very difficult. A much better plan of taxation, it seems to the writer, would be to assess a reasonable annual tax on the timber land, with a deferred tax on the timber—such a deferred tax to be assessed when the timber is marketed. It has been suggested that a yearly tax be imposed on the land at a valuation of one dollar an acre, and that a yield of one-tenth of the gross selling value of the stumpage be collected when the timber is removed. It would be provided, in addition, that the timber should be cut at maturity and the tax thereon made available at that time. Such a policy of taxation would doubtless further conservation.

MINERAL RESOURCES AND WASTES

When considering the problem of the conservation of the mineral resources of Texas, one is confronted with a proposition in many respects similar to that which must be handled when considering the conservation of the lumber resources of the State. In both cases the question is not alone one of conservation, but of development as well. Despite the fact that there are valuable mineral deposits in Texas, and that there is great room for the development of the same, it does not, in any case, follow that the most conservative methods should not be used in such development. We must both develop and conserve our minerals.

The following table shows the total value of the mineral products of Texas from 1892 to 1913 inclusively:

Petroleum	$ 97,429,985
Coal and lignite	46,678,417
Clay products	43,093,634
Stone	10,584,517
Silver	7,171,214
Cement	9,558,551
Asphalt	7,646,481
Iron ore	5,027,000
Salt	3,804,594
Natural gas	5,311,128
Pig iron	3,000,000
Mineral waters	2,831,933

Sand and Gravel	2,036,496
Quicksilver	2,390,710
Lime	2,488,785
Gypsum	1,345,749
All others	17,205,534
Total	$267,603,728

The above table shows that Texas has many mineral deposits which are but slightly developed. The greater part of the development that has taken place in the mineral industry of Texas has occurred within the past few years. Most of the development has been in the petholeum, coal, and gas industries; and it is in these fields that one finds the greatest need for conservation. In addition to the development of these minerals the clay industry is of considerable importance. However, the need of conservation in this industry is less urgent.

The barrels of petroleum produced in Texas during the year 1913 were 15,009,478, valued at 91 cents per barrel, aggregating $14,675,593. Texas ranks third among the petroleum producing States of the Union. The amount of Texas coal mined during the year 1913 was 1,247,988 tons, valued on track at the mine at $2.55 per ton, aggregating $3,184,161. Texas ranks twenty-second among the States of the Union in the production of this mineral. The gas industry has not attained the same stage of development as the petroleum and coal industries, but the way in which it has been exploited in reaching its present stage of development calls it to our attention. The total number of cubic feet of gas produced and conserved in Texas during the year 1913 was 12,197,782,000, valued at 17 cents per thousand cubic feet, aggregating $2,073,823. In this industry Texas ranks quite low among the States, but her rank is due not so much to the lack of production of gas as to the failure to conserve the same.

The unscientific methods and inaccurate accounting employed in the mineral industries of Texas make it impossible to determine the exact amount of mineral waste during any given period of time. Likewise it is impossible to recount all the ways in which minerals have been wasted; while to attribute the exact amount of waste due to the various causes is a further impossi-

bility. It is sufficient to show that waste does exist, and that there is a real need for conservation.

PETROLEUM INDUSTRY

The petroleum industry in Texas is properly considered a young industry, having been started in 1908. Its development has been rapid, and for the most part has been carried on by individuals, mining partnerships, joint stock companies, and corporations, unrestrained by the State. They have directed their efforts along such lines as would result in the greatest immediate returns. A short-sighted policy has been and is being pursued, which manifests no apparent knowledge of the probability of ultimate exploitation and the necessity of conservation. Just now the rush to the oil fields of Texas, although on a smaller scale, is not inaptly compared to the gold rush of '49. Many wells are being sunk and the output of oil is increasing rapidly. Refineries and markets are remote considerations, while in numerous cases adequate, reliable containers for the crude product are at a premium.

Wells are sunk with the least possible equipment, and experience has proved that the speculators are rarely prepared for the emergency of capping a gusher, etc., should one occur. An example of such inadequate preparation was observed when the Lucas gusher, at Spindle Top, was struck. The well ran 70,000 barrels of oil a day for ten days before it could be capped. It is needless to say that the loss in this case, which is not alone in the petroleum industry of Texas, was very considerable. This well is now dry.

As to the probable future of the petroleum industry in Texas, one is unable to predict. Whether the out-put will be greater or less than the average for the past few years, the future holds secure. It is impossible to tell how nearly the present oil fields are exhausted, and it is equally difficult to predict the existence of other fields of commercial value within the State. Of this, however, we are sure, most of our big wells have gone dry after a short time. This would indicate that the oil is in local pools beneath the earth's surface. It leaves no clue, however, as to the uniformity in size and the number of such pools. Whether or not the petroleum industry in Texas is

drawing to a close man is unable to say, and this fact alone should induce us to conserve.

COAL INDUSTRY

The original supply of coal in Texas is estimated at 8,000,000,000 tons. The Texas coal field covers a workable area of 8,300 square miles, with an additional area of 5,300 square miles that may contain seams of commercial value. Up to January 1, 1914, approximately 35,000,000 tons had been mined. In bringing to the surface this amount of coal there was a waste in mining of not less than 25,000,000 tons.

Competition among the coal producers is the chief fundamental cause of the waste of this mineral. It is the uniform goal of modern business enterprise to obtain the greatest possible net profit. Such being the case it has become the practice in the coal mining industry to extract only the larger seams of coal. The smaller seams, regardless of their numerical importance, are often left untouched. But if this were the only coal left in the mine the waste would be much less than at present. In addition to this, great quantities of coal are left in the form of pillars to support the roof. It has been demonstrated that improved methods of mining and timbering often permit the complete removal of pillars, and their replacement with valueless material. Similar advanced methods have established the fact that improved machinery will reduce costs, and materially lessen the danger of life and limb.

If such forms of exploitation alone were to continue the total waste of coal in mining would be much less than at present. It has become the pratice, however, when discontinuing work in a mine, to leave the mine in such condition that it is impossible, after any considerable time, to reenter the same for the purpose of the further extraction of coal. This practice is also traceable to the sharp competition among coal producers, and is responsible for the major portion of waste in the coal mining industry. If this practice were discontinued and the mines were left in such condition that the operation of the same could later be resumed, it would often be found profitable to extract much of the coal that was left in the first working of the mine. This would result, and in rare instances has resulted, because of the

development of improved methods of mining, and would neutralize a considerable per cent of the present waste.

Would space permit, more instances could be cited which share in the wastes of the coal mining industry; such as the failure to conserve the by-products of the same; the possibility, and even profitableness in many cases, of substituting water for steam power; and the mis-use of coal in many ways. It is sufficient to know, however, that coal equal to five-sevenths of the total amount produced is left beneath the surface of the earth, in an unworkable condition.

GAS INDUSTRY

Like the petroleum industry, the gas industry in Texas is quite young, having been started in 1908; unlike the petroleum industry, it has been, comparatively speaking, but slightly developed. The exact extent of the gas fields in Texas is not known, but we have reason to believe it quite great.

Where gas wells have been sunk extensive waste has invariably resulted. In fact, such is likely to take place in the opening of gas fields, and all possible preparations for conservation should be made before extensive drilling is undertaken. Such precautions, however, have rarely been taken in Texas. Wastes of carbon have and do occur by the escape of natural gas into the atmosphere in practically all of our oil fields. Again, gas is sometimes held in reservoirs under tremendous pressure. This pressure is frequently utilized to run engines, the gas itself escaping into the atmosphere.

Another form of waste is quite similar to that above described in the petroleum industry. Strong gas wells are sometimes struck that, because of insufficient equipment, cannot be capped. The gas escapes into the atmosphere, resulting in great loss. An example of such waste could have been seen any time for sixty days following the 12th of November, 1914, in San Patricio county. The flow of gas from the well in question averaged approximately ten million cubic feet a day for sixty days. The total loss in this case was no less than six hundred million cubic feet of gas. If valued at seventeen cents per thousand cubic feet, the average price of gas in Texas, the loss from this one well would be $102,000.

In addition to such wastes there is a continual flow of gas from our petroleum wells. There great quantities pass into the atmosphere—no effort whatever being made to conserve the same. Many other forms of waste exist which cannot be mentioned here. In fact, so great is the total waste that it has been estimated that the total value of wasted gas in Texas during the past seven years, would, if condensed, be no less than $25,000,000. When we bear in mind the fact that the value of the wasted gas is many times greater than that which has been conserved, we are convinced of the necessity of conservation in this industry.

CONSERVATION OF MINERALS

It is not here held that the measures for conservation that follow would result in the elimination of all the exploitation of our mineral industry; neither is it held that such measures could not be improved upon. It is thought, however, that the following measures would, as they have in other States, result in the reduction, if not the elimination, of the wastes of petroleum, coal, and gas, as set forth above.

Before turning to the individual industries the general policy of the State will be considered. Many contend that there is just reason to question the present policy of taxing our mineral lands, but this problem need not detain us since it is considered elsewhere in this bulletin.* On another score, however, we may here question the policy of the State. The constitution of 1876 provides that the State may sell the public lands and reserve the mineral rights. This appears to be a very wise measure, since, by it, the State can withhold much of our minerals from private individuals who are prone to exploit them unwisely in their struggle with competitors. It is a lamentable fact, however, that the State has rarely exercised this privilege. It had doled out a very large per cent of such land to persons who have exploited the same in their efforts to obtain the maximum net return in the minimum time.

It is further noticeable that Texas has not provided the necessary "machinery" for the conservation of her mineral resources. It is quite likely that less has been done to conserve

*See below, pp. 138-145.

our petroleum and gas than any other of our minerals; while it is observed above that in these minerals there is the greatest need for conservation. It appears to the writer that it would be well to place the conservation of our natural resources in the hands of a commission, the members of which being named because of their special fitness, by the Governor. Lower in rank and responsible to this commission, other commissions might be appointed whose duty it would be to attend to the details of the conservation of the special minerals to which they might be assigned. The commission would be given power to prevent the mining or drilling by any person or group of persons until they had complied with certain requirements prescribed by the commission. Such requirements would fix the minimum equipment for entering upon the work, as well as the minimum facilities for conserving the crude product when brought to the surface. In addition to this the market would be considered, and if a reasonable price could not be obtained for the minerals the producers of the same would be obliged to discontinue operations. Further consideration of the powers and functions of the commission will be given when speaking of the conservation of single minerals.

CONSERVATION OF PETROLEUM

Since it is known that petroleum flows under ground and that a number of wells in one section, which are producing oil, will cause a flow of oil from other sections thereto, it has become the practice to sink wells in many sections that the profit of the petroleum industry there may be more widely distributed. This results in the flooding of the market and the early exploitation of the supply of oil. Observing the existence of such conditions and realizing that the exhaustion of her petroleum would result within a comparatively short time if preventative measures were not enacted, Oklahoma recently enacted legislation, which we might well consider, that seeks to prohibit all waste in the production of crude oil or petroleum.

Waste is made to include, in addition to the ordinary meaning, economic waste, surface waste, and waste incident to the production of crude oil or petroleum in excess of transportation or marketing facilities or reasonable market demands. The Cor-

poration Commission is given power to make rules and regulations for the prevention of such wastes.

To be more specific, we note "that the taking of crude oil or petroleum from any oil-bearing sand or sands in the State of Oklahoma at a time when there is not a market demand therefor at the well at a price equivalent to the actual value of such crude oil or petroleum is hereby prohibited, and the actual value of such crude oil or petroleum at any time shall be the average value as near as may be ascertained in the United States at retail, of the by-products of such crude oil or petroleum when refined less the cost and a reasonable profit in the business of transportation, refining and marketing the same." The Corporation Commission determines from time to time the real value of such crude oil or petroleum in accordance with the above standard.

The Oklahoma law further provides, "That whenever the full production from any common source of supply of crude oil or petroleum in this State can only be obtained under conditions constituting waste, as herein defined, then any person, firm or corporation, having the right to drill into and produce oil from any such common source of supply, may take therefrom only such proportion of crude oil and petroleum that may be produced therefrom, without waste, as the production of the well or wells of any such person, firm or corporation, bears to the total production of such common source of supply." The Commission may take steps to prevent any unreasonable discrimination and favor of any such common source of supply as against another.

To determine the amount of production each well is provided with a guage. The Commission may appoint such men as it needs to assist in carrying out the law. Redress in the courts may be had against those violating the law, and appeal may be taken to the State Supreme Court. Adequate penalty is provided.

CONSERVATION OF COAL.

When stating the chief sources of waste of coal, namely, the leaving of the smaller seams, of pillars, and the practice of leaving the mines in such condition that they cannot be reentered at a later date, there was set forth, in a negative way,

the measures for conservation that should be applied. We saw that unregulated competition is the fundamental cause of the waste of this mineral. If we would relieve this condition we should confer upon our commission the power to regulate, so far as possible, the relations between the coal producers. This commission should further have the power to require the application of the most advanced methods of mining, with the view of making it economically profitable to extract the smaller seams, and obviating the necessity of leaving pillars within the mine. Any coal producer who, when discontinuing the operation of a mine, leaves it in such condition that it cannot be re-entered for the further extraction of coal within a reasonable time, should be held responsible for his negligence and made to answer for the same to the commission or the courts. When determining the condition of the mine and the methods employed therein, the power of investigation of this commission would be not dissimilar to that of the pure food commission.

The value of the coal, and general market conditions should receive due consideration in determining whether or not the operation of the mine should be continued.

CONSERVATION OF GAS

All that is said above relative to the under-flow of petroleum and the flooding of the market with this product applies equally well in the gas industry, and similar measures might well be used to prevent the exploitation resulting therefrom. In addition to this we are, with apparently the least concern, annually wasting enormous quantities of nitrogen. Most of this waste takes place in connection with the coal mining industry. While such waste cannot be entirely eliminated, it is unquestionably far greater than can be justified on any ground. Germany has led the way in the prevention of this waste of nitrogen by the establishment of by-product coke ovens. It can no longer be questioned that such ovens are a decided success, and the waste of nitrogen which could be prevented by their use is inexcusable.

We may again turn to the recent legislation of Oklahoma relative to the conservation of minerals, where we find "that the production of natural gas in the State of Oklahoma, in such manner, and under such conditions as to constitute waste, shall

be unlawful." The term waste, in addition to the usual meaning, includes the "escape of gas into the open air, the intentional drowning with water of a gas stratum capable of producing gas in commercial quantities, underground waste, the permitting of any natural gas well to wastefully burn and the wasteful utilization of such gas."

It is further provided that whenever gas in commercial quantities is encountered in any well drilled within the State, such gas must be contained within its original stratum until such time as it can be produced and utilized without waste. Whenever the full production of gas is in excess of what can be profitably consumed the production of gas by any person, firm, or corporation must be rateably reduced to come within the demand for the same. The taking of gas from any common source of supply is regulated so as to prevent waste and discrimination, and to protect the interests of the public.

Provision for the enforcement of this act and the punishment for the violation of the same are like those prescribed in the act providing for the conservation of petroleum.

BIBLIOGRAPHY

Papers and Pamphlets

TIMBER

Lumber Trade Journal, New Orleans, June 15, 1912.

Connecticut Forest Fire Manual, 1912.

Report of State Conservation Commission, Madison, Wisconsin, 1911.

Taxation of Our Woodlands and Forests, Mont Alto, Pa., August 14, 1912—Henry Sturgis Drinker, L.L.D.

Indiana Forestry Laws.

MINERALS

Bulletin 47, Department of Agriculture, Washington, D. C. Notes on Mineral Wastes, Charles L. Parsons.

Bulletin 14, University of Texas. The Mineral Resources of Texas, William Battle Phillips, Ph. D.

State of Oklahoma, Natural Gas—Waste. House Bill No. 395.

State of Oklahoma, Oil and Gas—Production and Sale—Powers of Corporation Commission. House Bill No. 168.

THE CONSERVATION OF WATER RESOURCES IN TEXAS

E. C. NELSON, JR.

I. SCOPE OF THE DISCUSSION

One of the invaluable resources of any State is its water supply. (1) It is immediately necessary for the sustenance of animal life; (2) it affords highways for transportation; (3) it furnishes a cheap and abundant source of power; and (4) it constitutes one of the bases of agriculture. The use of water for drinking and other domestic purposes is such a primary use and involves such an appreciable waste that a discussion of it is not pertinent to our present purposes. There are very few navigable streams in Texas, and, according to the belief of most of those who have a right to know, very few that can be made navigable. This paper, then, will have to do with water rights and the conservation of water in Texas (1) as a source of power, and (2) for agricultural purposes.

II. WATER AS A SOURCE OF POWER.

The two great sources of energy are coal deposits (including oil and gas) and water powers. The use of coal, oil, and gas does not involve as great initial expense as does the use of water power, and heretofore the former have been so abundant that the latter has not been very extensively used. It is estimated that only about one-fifth of the water power now economically available in the United States, as a whole, has been developed,[1] and the amount developed in Texas is perhaps proportionately less. Though the measurements have never been made, this much we do know; that the streams of Texas are capable of generating a vast amount of energy, and that as yet this energy has been but slightly developed.

If the available supply of coal were unlimited, there might be no serious reason why this energy should ever be developed;

[1]See "The Conservation of Water Power," by Rome G. Brown, *Harvard Law Review*, May, 1913.

but at the present rate of consumption and annual increase, the world's supply of anthracite coal, it is calculated, will give out by the end of the present century.[2] It is thought that the supply of bituminous coal will last for six or seven centuries yet, but it too is limited.[2] Very soon we shall be driven to seek some other source of power.

The supply of water power is unlike the supply of coal in that it is not diminished by use, for it depends on two constant factors (1) supply of water, and (2) head and fall, through which the weight of the water generates the energy. When coal is burned, it is lost forever as a source of energy, but the supply of water power is a very constant quantity. The only way to conserve water power is to use it, and to leave it unused is to permit that much waste. Whenever coal is burned to generate energy that might have been generated by water power, a double waste is occasioned: the water power goes unused, and the coal is permanently lost. Therefore the correct policy of conservation, as applied to water powers, is not one which allows them to remain unused, but one which encourages and promotes their greatest and most immediate use economically possible. Thereby the rights of the present generation are secured, and the rights of future generations are in no way curtailed.

Since 1869 there has been a steady increase in the use of water power, but the increase in the use of steam power has been much greater. In 1869 water wheels were the source of 48.2 per cent of all power used in manufacture in the United States, but in 1909 they furnished only 9.7 per cent of such power.[3] In 1869 steam engines furnished 51.8 per cent of the total, while in 1909 they furnished 76 per cent of the whole. The amount of horse-power furnished by steam engines increased from 1,215,711 horse-power in 1869 to 14,199,339 horse-power in 1909, while the horse-power furnished by water wheels increased only 1,130,431 horse-power to 1,807,439 horse-power during the same period.[3]

Particularly are the water powers of Texas undeveloped. This is due partly to the fact that manufacturing has never been

[2]M. O. Leighton, "Water Powers in the United States," *Annals of the American Academy of Political and Social Science*, May, 1909, p. 54.
[3]United States Census of Manufactures, 1910; General Report and Analysis, p. 330.

carried on extensively in the State, and partly to the fact that a good many of the power sites are not near to centers of population and transportation. The latter condition is a disadvantage that must persist until railways are built and cities and towns grow up near them, but the development of electrical transmission by means of high power cables is doing much toward overcoming the disadvantage of location. The fact that Texas is a southern and agricultural State is no reason why she should not use her economically available water powers to advantage in manufacturing. North Carolina and South Carolina rank second and third, respectively, among the States, in the manufacture of textile cotton goods.[4] By developing her water powers that are accessible and economically available and manufacturing her cotton, Texas could take a leading rank among the manufacturing States of the Union. It may be that we shall have to wait until increase in population and further decrease in fuel supply drive men to consider this matter more seriously, but it seems when water rights have been settled that it might be a feasible plan to exempt manufacturers from taxation for a period of, say ten years, until they shall have had time to establish themselves.

In other States where manufacturing is carried on more extensively, water power sites have been grabbed by eager hands, and in some cases water monopolies have been formed. This is not true in Texas, where most of the power sites remain under widely scattered ownership. While encouraging their development, the State should exercise due care that they do not pass into the possession of a permanent monopoly. As suggested later in this paper, all grants to the use of water should be made for a given number of years only. The grants will have to be made for a long enough period to induce capital to develop the powers, but they should not be made for such long periods that the interests of the public become endangered.

III. WATER FOR AGRICULTURAL PURPOSES.

Moisture is second only to temperature among the climatic factors upon which agriculture depends. The rainfall of Texas

[4]United States Census of Manufactures, 1910; General Report and Analysis, Table 7, p. 67.

is very unevenly distributed over the State. There are several rainfall belts, extending north and south. From the Louisiana line to about the ninety-sixth meridian the mean annual rainfall is from 40 to 50 inches; from the ninety-sixth meridian to the ninety-eighth, 30 to 40 inches; from the ninety-eighth to the one hundred and first, 20 to 30 inches; from the one hundred and first to the one hundred and fifth, 10 to 20 inches; and west of the one hundred and fifth, less than 10 inches.[5] East of the ninety-eighth meridian (30 to 50 inches), precipitation, when properly distributed through the year, is generally sufficient for agriculture. From the ninety-eighth to the one hundred and first meridian (20 to 30 inches), rainfall may be greatly deficient in certain years, and at these times irrigation is needed; while west of the one hundred and first meridian (20 to 30 inches), agriculture can hardly be carried on successfully without irrigation. These statements show the necessity of conserving our water for purposes of agriculture.

A. Wasteful Practices. Special Recommendations.

Despite the need for a policy of conservation, Texas has been guilty of wastefulness. Seemingly in the belief that her resources are inexhaustible, she has gone on dissipating them. A number of wasteful and pernicious practices may be mentioned.

1. Subsurface Water.

In certain regions where wells are a chief source of water supply, wells have been dug too close together. This causes such a drain on the underground supply that after a while the water begins to fail. The general level of the underground water is lowered, and the pressure diminished. If the wells are artesian, the flow becomes weaker, or perhaps is stopped altogether, and henceforth pumping has to be resorted to. If the wells are not of the flowing kind, then the water does not rise as near to the surface as before, the cost of pumping is increased, and frequently becomes prohibitive. This became a problem at Roswell, New Mexico, and in the San Bernardino Valley, in Cali-

[5]The limits of the different rainfall belts are here designated very roughly. For their accurate bounds, see map, p. 25, in the bulletin published by the Applied Economics Club in January, 1915, entitled, "Studies in the Industrial Resources of Texas."

fornia, the drilling of wells too close together lowered the general water level and caused the death of nearly all surface vegetation, noticeably the lage cottonwood trees of the valley.[6] In our own State, Dimmitt, Jackson, and Wharton counties and several of our cities have suffered in this way. It seems to have been the intention of the framers of the irrigation law of 1913 that the State Board of Water Engineers should have control over the distribution of wells. The Attorney General has held,[7] however, that this does not come within the jurisdiction of the Board. I suggest, therefore, that the law be amended so as to provide such control.

Another unfortunate practice is that of letting wells run when the water is not needed. Until recently, this was not a serious matter in Texas, but, with the increase in the number of flowing wells, has become a matter of more consequence. This, like failure to distribute wells properly, causes a lowering of the water level, and is disastrous to the community. Dallas, Fort Worth, and a number of country districts of Texas have suffered in this way. Section 94 of the present law provides a penalty for such waste, but nowhere does the law specifically designate the officer whose duty it shall be to bring prosecutions against the offenders. I would recommend, therefore, with the Board of Water Engineers, "that the law be so amended as to permit the Attorney General to institute proceedings in Travis county against all violaters of the law, upon evidence furnished by the Board or others."[8]

A third waste of water from wells results from failure to provide a proper casing. In some instances wells have not been cased at all. This lessens the pressure, for the water rises and is wasted, to a greater or less degree, in the strata above. The water may mix with water in the upper strata that is unfit for domestic use or for irrigation, or may itself absorb alkali or other impurities as it rises to the surface. The recommendation made in the preceding paragraph applies equally here.

Most wells at present are cased, but frequently the casing

---

[6]See Bulletin of the United States Department of Agriculture, entitled "Report of Irrigation Investigations for 1901," pp. 127-9.

[7]See ruling of the Attorney General, given to the State Board of Water Engineers, Dec. 23, 1913.

[8]First Report of the State Board of Water Engineers, p. 39.

is not properly done. In deep wells it is customary to insert casing for only the first hundred or two hundred feet below the surface. Below the casing, if there are strata of sand or streams of impure water or injurious mineral deposits, we have the same problems as where the well is not cased at all. In numbers of instances the casing is not properly packed at the bottom. This permits impure water from above to leak into the well and ruin the water. A standard iron casing should be used, it should be put in deep enough to extend below such strata as contain impurities or occasion decrease in pressure, and should be well packed at the bottom with cement mortar; and the Attorney General should be empowered to bring suit in Travis county, as recommended above, against those who fail to comply with these requirements.

In order that the Board of Water Engineers may have a surer means of detecting the misuse of water, I suggest that the Board be empowered to require all owners of artesian wells to furnish to the Board sworn statements setting forth the quantities of water used each year for all purposes other than for domestic use. These statements should be made out on forms supplied by the Board, and should contain such additional information as the Board may consider necessary for statistical purposes. Most of the irrigation States require that some such reports be made, for it is only on accurate information of this kind that any sound public policy can be constructed.

2. Surface Water.

The above mentioned wastes pertain to the misuse and abuse of underground water. Greater still is the waste of surface water, the conservation of which constitutes one of the State's most vital problems. Here the abuses are not chargeable to individuals, but are derelictions on the part of the State. The State has not yet been able to put into force a comprehensive water policy. The State should conserve its storm waters (1) to make them available for irrigation; (2) to prevent flood damage, and (3), incidentally, to improve the navigation of its few navigable streams, by turning the waters loose gradually during the dry months. As conditions are at present, during the rainy months we have floods and washouts—the water sweeps into the

sea and is gone. Then during the dry season we suffer for lack of water. We need by forestation and the construction of reservoirs to prevent run-off—to store what water we can, and to get the rest to sink into the ground. This will prevent flood destruction, keep moisture in the ground for a longer period, and check the filling of reservoirs, natural and artificial, with mud and silt.

The Thirty-fourth Legislature has provided for the appointment of a Forestation Commission, and has made an appropriation of $10,000 for its work, but this, of course, is a mere beginning on what will need to be done. The irrigation law of 1913 provides for the construction of reservoirs by irrigation districts and by private enterprise, but it seems that the State may eventually be forced either to undertake such construction work itself[9] or to encourage it more effectively, as it has encouraged railway building, by offering grants of land to private builders.

In applying water to the land there is a great deal of waste. Canals are not properly constructed and maintained. Oftentimes they are dug in porous soil, and the loss from seepage is enormous. At Carlsbad, New Mexico, a canal was constructed through a gypsum formation, and, before the water had reached the place where it was to be used, all of it had been lost. Weeds are allowed to grow in the canals, and frequently they are found full of gopher holes. Thousands of gallons are lost at defective weir gates. First of all, canals should be dug through the least pervious soils possible, and, further to prevent seepage, should be lined with about a two-inch coating of cement mortar. Recent experiments with various canal linings, made by Mr. B. A. Etcheverry,[10] show that, next to cement, a lining of heavy crude oil is the most efficient, and is very much cheaper. This also keeps down the growth of weeds, and reduces the resistance to the flow.

Not only is water lost into the ground by seepage; it is lost

---

[9]The State of Colorado in an early day constructed three reservoirs, but has done nothing in recent years towards this line of development, according to information from Mr. A. A. Weiland, State Engineer of that State. The State of Oregon in 1913 appropriated $450 000.00 for the construction of the Tumalo Project involving the construction of a 20,000 acre-feet reservoir. This project is now complete, I am informed by Mr. John A. Lewis, State Engineer of Oregon.

[10]See California Station Bulletin 188.

into the air by evaporation. As evaporation takes place on the surface, canals should be dug deeper in proportion to their width. By doing this, another advantage is gained, for, with a cross-section of a given area, a greater flow can be obtained when the depth and width of the ditch are more nearly equal. The water is applied to the land more quickly, and both seepage and evaporation are reduced.

Before irrigation is begun, the land should be properly leveled and graded. One high place on a farm, which might be readily leveled, may necessitate an extra head of water for a considerable length of the canal. This is a waste which may be wholly unnecessary and easily avoided.

Frequently irrigators use too much water. When irrigation is undertaken in a new region, the soil is often water logged in a short time, and drainage must be resorted to to restore the fertility of the soil. Beyond a certain amount water is no longer beneficial to a crop, and may result in positive injury. To discourage this practice, I would recommend that all water be measured, and that irrigators be charged for the amount used rather than for the acreage served. This will encourage them not to use too much and to see that their ditches and gates are kept in good condition, for water that they have to pay for, they will not care to see wasted.

B. Errors of Policy. General Recommendations.

The Texas law does not provide a method of controlling the use and distribution of water by a responsible public agent. Sections 78-84, inclusive, of the bill as originally introduced into the House of Representatives in 1913 provided that upon application by the commissioners court of any county, the Governor of the State should appoint a water commissioner for that county, who, with the aid of his assistants, should divide the water of the streams or other sources of supply within the county, among the various users as they might be entitled to receive same. These county water commissioners were to be clothed with police powers, and were to have authority to open or close and fasten any private headgate when necessary for the proper regulation of the water. Oregon, Colorado, and other States of the arid region provide methods of control similar to

this, and I am advised that they are found very satisfactory. As a means of preventing waste and of securing for each user the share of water to which he may be entitled, I would suggest that such a system of control and distribution be provided in Texas.

The laxity and uncertainty that have been so characteristic of the laws pertaining to water rights and their acquisition in the State, have led to overlapping claims. The sum of the different claims for water from a given source frequently is much greater than the whole amount of water available. The law passed by the Thirty-third Legislature provides for the registration of appropriations already made, and the respective claims of any two disputatious water users may be fixed by the courts, but it is doubtful whether there be at present any means whereby all the users of water from a given source may come together and have their claims adjudicated. Such an agency was provided in the bill as originally introduced into the Thirty-third Legislature, but before the bill had emerged in the form of law, this provision was somewhere lost. I would suggest that the law be amended so as to provide such a means of adjudication.

Under the present status a permit issued by the Board of Water Engineers is virtually the concession of a perpetual monopoly. If conditions were static, there might be no serious objection to this, but what is just and expedient today may be unjust and inexpedient tomorrow. The development of the vast western region of the State will depend primarily upon the conservation and economic use of its storm waters. As the population increases, this dependence will become more pronounced, and the private ownership of perpetual rights to water may involve the State in serious difficulty. I therefore would recommend, with the Board of Water Engineers, that the law be so amended that permits shall be issued for a limited number of years only, "so that the public property shall fall back into the public reservoir at stated periods of, say thirty years, for equitable adjustment and distribution."[11]

Though irrigation may vastly increase production in the semi-arid region of the western part of the State, it is estimated

[11]First report of the State Board of Water Engineers, p. 40.

that when the art of restoring and applying water is perfected, there will be not enough to irrigate perhaps more than ten per cent of that region. The belief that the semi-arid region of the West is becoming more humid is without foundation, as the government reports of precipitation clearly show. To bring these lands where irrigation is impracticable, up to their full possibilities of production, recourse must be had to what is known as "dry-farming." Where rainfall is slight, the soil must be kept in such condition that it will be able to store as large a quantity of the rain that falls as possible. To do this, plowing should be done as early as possible in the fall or late summer, and should be deep enough to afford a reservoir to receive the rains that fall during the autumn and winter following. If the land is plowed during the hot, dry summer months and is allowed to lie loosely as it is left by the plow, a great deal of the moisture is lost by evaporation. But if the soil is firmly packed after plowing, with a subsurface packer or a common disc harrow and the surface is left somewhat loose, the moisture is conserved, and a greatly increased yield is obtained.

Many soils have a water-tight layer of clay, or "hardpan," within a few inches of the surface. This keeps the water from sinking deeply into the ground. Most of it flows off, and what remains dries out quickly after a rain. When this hardpan is broken up, the ground stores water in abundance for many feet down. The use of dynamite for breaking up this layer of clay is becoming increasingly popular.

The State government has established a number of experiment stations in various sections in order that agricultural methods specially adapted to those sections may be developed. Much of value has been learned, but much more remains yet to be learned. Especially are the possibilities of dry-farming just beginning to be explored. I would recommend that the work of these stations be extended, and that other stations be established at carefully selected points in order that the best means of conserving the State's water supply and all its other agricultural resources may be determined.

The irrigation law of 1913 established a State Board of Water Engineers, to which reference has several times been made. As is always the case when a new board or commis-

sion is established, its work during the first months of its existence has consisted largely in opening up the way for the larger work which it expects to do later, though it has performed valuable service already. Since all development, if much loss is not to be incurred, must be based on accurate information and knowledge of conditions, I suggest that the Legislature should make appropriations which will enable the Board to carry on, with less interruption and delay, the valuable services which it has undertaken to render.

BIBLIOGRAPHY

BOOKS

Bailey, L. H. Cyclopedia of American Agriculture, pp. 161, 346, 349.

Mead, Elwood. Irrigation Institutions. The Macmillan Co., New York, 1910.

Taylor, T. U. The Water Powers of Texas. Government Printing Office, Washington, D. C., 1904.

Van Hise, C. R. The Conservation of Natural Resources in the United States. The Macmillan Co., New York, 1910.

REPORTS, BULLETINS, ETC.

California Station Bulletin, 188.

First Report of the Board of Water Engineers for the State of Texas.

General Laws of the State of Texas passed by the Thirty-third Legislature, Regular Session; Chapters 171 and 172.

Original Irrigation Bill introduced into the Thirty-third Legislature by Hon. R. F. Burges, of El Paso.

Report of Conservation Commission of California, 1912; pp. 18-42.

University of Texas Bulletin (1902) No. 16. Rice Irrigation in Texas.

University of Texas Bulletin (1915: No. 3). Studies in the Industrial Resources of Texas.

United States Department of Agriculture Bulletin entitled, "Report of Irrigation Investigations, 1901."

United States Department of Agriculture Bulletin No. 207.

Year Book of the Department of Agriculture for 1907; pp. 451-68.

MAGAZINE ARTICLES

Brown, Rome G. The Conservation of Water Power. Harvard

Law Review, May, 1913. Reprinted as Senate Document No. 14, First Session of the Sixty-first Congress.
Baker, C. W. Necessity for State and Federal Legislation Concerning the Use of Waters.
Leighton, M. O. Water Powers in the United States.
McGee, W. J. Water as a Resource.
Wright, C. E. The Scope of State and Federal Legislation Concerning the Use of Waters.

(All the above magazine articles, except the first, are found in the Annals of the American Academy of Political and Social Science, May, 1909.)

The writer wishes to acknowledge generous help given by Dean T. U. Taylor, Mr. J. C. Nagle, Mr. Alexander Deussen, Professor E. C. H. Bantel and Hon. R. F. Burges.

THE PUBLIC LANDS: A PROBLEM IN ADMINISTRATION

HINES H. BAKER

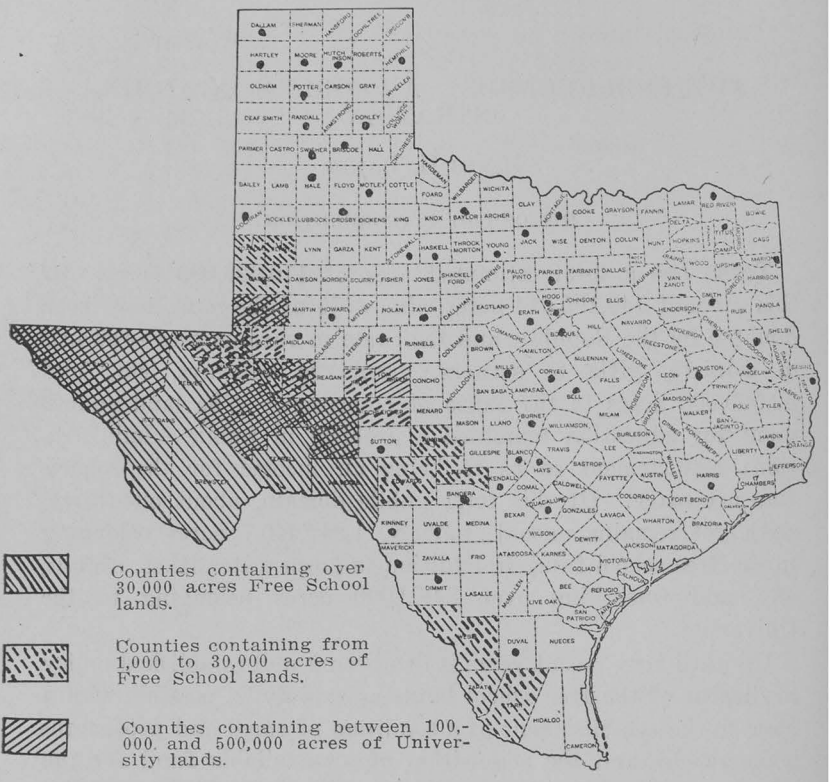
HISTORICAL INTRODUCUTION

Texas has a total estimated area of 170,926,080 acres. Of this amount 140,195,014 acres, almost 7/8 of the total, have been donated by the Republic and the State to various uses—rewards to soldiers, gifts to settlers, grants to railways, etc., and 52,000,000 acres to the cause of education.[1] The land endowment for education remained a problem in public administration; management so as to bring an income for the schools was necessary. Of this total public domain, about one-thirty-sixth yet remains unsold; namely, 1,847,445.7 acres belonging to the free school fund, in addition to fresh water lakes, islands, etc., and something over 2,000,000 acres belonging to the University.[2]

Up until very recent years it had been a well established policy to dispose of the free school lands as rapidly as possible with a view to the establishment of a condition of small and prosperous home-owners and the acquisition of an available fund for the schools. With this object in view, various unintelligible statutes were passed, providing for glaring inequality of opportunity in purchase, and establishing ridiculously low minimum prices for lands. The General Land Office proceeded to sell outright at the minimum, contending that sale under these conditions was compulsory under the statutes.[3] The policy of lease was discarded as bringing in too small a revenue, and as impossible of administration because of insufficient clerical force. So sales at $1.00 and slightly above prevailed; and the cream of the school lands was lost with small increase to the school fund.

In 1905, however, a bill drafted by Commissioner John J. Terrell was passed, providing for sale of the lands on a competitive secret bidding basis. The newspapers published far

[1] Rep. of Gen. Land Office, 1908-1910, Appendix A, pp. 22, 29, 30.
[2] Ibid., 1900-1902, pp. 52-56.
[3] Ibid., 1906-1908, pp. 3-4.


Counties containing over 30,000 acres Free School lands.
Counties containing from 1,000 to 30,000 acres of Free School lands.
Counties containing between 100,000 and 500,000 acres of University lands.
Counties containing less than 65,000 acres of University lands.
Counties containing less than 1,000 acres of Free School lands.

and wide the character of land for sale; prospectors from everywhere became interested; prices increased by leaps and bounds; sales were rapid; and a vast increase in the school fund accrued.[4] All the free school lands adapted to settlement under present conditions have been taken. Due to the settlement requirement in the law, sales have absolutely ceased within the last three years; and there yet remain 1,847,445.7 acres of free school lands unsold.* In addition to this area, however, the free school fund still owns mineral reservations on a large acreage of lands sold in the Pecos region. All the University lands sold have been out of the 50-league grant by the Republic, except a small sale in Tom Green county out of the Western grant.

THE PRESENT PROBLEM

The question now demanding attention is: How best to administer the lands remaining unsold, and the mineral resources heretofore reserved on sold mineral lands? Let us first consider the free school lands and mineral claims.

FREE SCHOOL LANDS AND MINERAL CLAIMS

This unsold land is situated in the hills and mountains of the

---

[4]Rep. of Gen. Land Office, 1906-1908, pp. 3-4.

*The 34th legislature provided for the sale of about 60,000 acres of school land. The following statement was given out by the land commissioner on June, 1915:

"Lists of the school land for sale will be ready for distribution about July 1. As the land will be for sale Sept. 1 this will allow prospective purchasers two months in which to decide which tracts they may desire to purchase. One who wants a list may obtain it by writing to me at Austin.

"Land that is situated in the rough, mountainous portions of the western counties may be purchased without condition of living on it. Such land is unfit for agricultural purposes and is generally so broken by mountains, rock hills, canyons and gorges as to be unfit for human habitation. The smooth land there has been sold. It may be that some would want it for trading purposes. Sale with or without settlement is fixed by counties.

"Such land as is supposed to be susceptible of agriculture will be susceptible of agriculture will be for sale to those only who will become actual settlers on it. There will be some 60,000 acres of this class. This is the chance for the one without a home. Heretofore those who lived within five miles of the land could buy it by living on his other land. Not so now. The purchaser must live on the land he buys when it is situated in a county where such tracts of land must be sold on condition of settlement. The settlement purchaser pays one-fortieth cash and 3 per cent interest; the purchaser without settlement pays one-tenth cash and 5 per cent interest. Each has forty years to pay the balance. Thus is the homebuilder favored."—Ed.

Pecos region, in scattered tracts through several counties. A large part is all but inaccessible. Only 214,895 acres—about ⅛ of the total—are under lease, leaving over 1,600,000 acres bringing absolutely no revenue to the State. Its only possibility as a valuable asset lies in the chance that minerals may be stored there. Quicksilver discoveries at Terlingua, Brewster county, have indicated that minerals are present in commercial quantities; as do also tin discoveries in El Paso county.

Whether to hold the surface land or sell it is not an important question. In either event, the income from the surface is too inconsiderable for serious study. How best to develop these unknown mineral deposits, is the real question. It seems that the proper policy as regards the surface would be to remove all settlement requirements, and sell in limited amounts, *specially reserving the minerals.* With the land in private hands, a tendency to investigation, scouting, and examination is stimulated. Thus if minerals are there, they will be more likely developed than if the land remains under State control. And in case discoveries occur, the mineral option returns will far outreach any possible income from lease. This will hardly lead to any farreaching results, I should say. But the State can hope to gain nothing by holding the lands out for sale with a settlement requirement; sales under these conditions have absoluetly ceased; no income is being derived from ⅞ of the land; and little hope for mineral prospecting exists under present methods.

It is through the development of minerals alone that any hope for substantial income can be entertained. So the real question confronting us is a determination of the best means of bringing about a wholesome investment for mineral returns. A proper investment can occur only after a thorough examination into the geological aspects of the region. So long as private speculation not based on real information continues, much capital will be fruitlessly spent. And this will serve as a real drawback to development in the future. Dr. W. B. Phillips, Director of the Bureau of Economic Geology and Technology in the University of Texas, after a careful study into the situation extending over a period of fifteen years, is convinced that the State's only reasonable hope for a return from these lands—

either from those remaining unsold or from the mineral reservations on those sold—lies in the completion of a minute, unbiased, and thoroughly scientific geological survey of the region to prepare the way for and supplement individual enterprise. Then capital may enter the field with some hope of success; and it is only then that the intelligent investor will care to direct his resources to a development of mineral claims. A lack of actual information; the absence of any organized effort to find out the location and probable commercial value of mineral deposits; and a failure on the part of the State to give publicity to what opportunity there may be for remunerative investment—these are reasons why the western mineral lands have not been developed.

As suggested above, the question of sale or lease is a minor one. Under the new law providing for mineral prospecting and operation on a royalty basis, options may be obtained either on unsold lands or on lands sold with minerals reserved. Successful investment and operation, however, can only be predicated upon a diffusion of accurate information. So whether the surface be sold or not, some definite steps should be taken to ascertain the location and real extent of mineral deposits, their probable commercial value, the cost of producing, and all other information necessary and obtainable for a proper encouragement of legitimate investment. The proper course to pursue, then, is to inaugurate and complete topographical, geological and mineral surveys of the region, ascertain its possibilities, and then disseminate definite information to the public, in language easily understood, through the use of maps and correct statements of actual conditions. If this investigation discloses reasonable opportunity for returns, then capital may be expected to enter the field. The really intelligent investor will not direct his resources into a hazardous and entirely unknown undertaking; he will only invest where chances of success are reasonably good.

This geological and mineralogical survey will necessarily be preceded or accompanied by a line survey of the region. Such a survey is essential in order not only to locate the boundaries of possible mineral fields and to assist in the geological and topo-

graphical investigations generally, but will be necessary to the location of tracts in the surface sales.

UNIVERSITY LANDS.

Of far more importance is the problem connected with the University lands. These are more favorably located than are the free school lands. They lie in scattered tracts through Andrews, Crane, Crockett, Dawson, Ector, El Paso, Gaines, Irion, Loving, Martin, Pecos, Reagan, Schleicher, Terrell, Tom Green, Ward, and Winkler counties. According to Land Commissioner Robison, who has examined these lands, some tracts in the northern and eastern counties are valuable for agricultural purposes. But the extreme dryness of the climate and the difficulty of securing water for domestic purposes make the region ill adapted generally for agricultural purposes. As a matter of fact, no complete topographical or water survey has ever been made, and little data can be found as to the real character of the soil. Its chief value at present lies in its use for grazing. The report of the Land Commissioner for 1914 showed over 2,000,000 acres under lease yielding an income of $152,929.09.[5]

The management and control of the University lands was transferred to the Board of Regents in 1895. The income for that year was only $8,500. Reclassification of leases and special attention given the lands by the special agent have raised the returns 88 times. But the Land Commissioner construes the law to enforce upon his office the duty of accounting for these lands. And because of insufficient clerical force he has never been able to supply the land agent with information necessary for proper administration. No trace can be kept of the expiration of leases, and months often occur in which lapses in leases exist. Then, too, the funds are handled by the State Treasurer. There can never be an efficient administration until all accounting and control over the funds, necessary accompaniments to the management of the land itself, are transferred to the University bookkeeping force. Mr. Saner, special agent, strongly urges that the Auditor of the University be authorized and empowered to draw off a separate set of books for the Land Office

[5]Rep. Gen. Land Office, 1912-14, p. 12.

and establish a new set of accounts in his department.[6] Not until this is done can the land agent properly regulate rents and leases.

The matter of accounting, however, important as it is in the details of efficiency in control, is of minor importance as compared with the question of a proper policy of general management. Here we meet a serious conflict of interests. On the one hand, there is a strong influence emphasizing the urgency and wisdom of sale. The citizens of the counties in which the lands are located have long been protesting because they get no tax revenue from them, and in some cases because large tracts of leased lands interfere with accessibility to markets. Again, the University is in dire need of permanent buildings. The return from rentals is too small for this purpose; and the Constitution prevents legislative appropriations therefor. Sale seems to be the only method of securing the necessary funds. It is urged that since these lands are valuable chiefly for grazing, they will never rise much in value, and that they might as well be sold now as later. The Land Commissioner urges capitalization and sale, contending that interest on the principal will far exceed present rentals.

On the other hand, experience with sales in the past has convinced many that so long as an annual increased rental is derived, it is best to hold for higher prices, which are sure to come as a result of the pressure of population. Even though sale might increase the present annual income, there will be no growth in the value of the principal, as will occur if the land is held.

Upon examination of this clash in interests, the question reduces itself to this: Should the lands be sold now, or leased and sold later? Under the policy of the State, sale sooner or later is compulsory. The University, organized as an educational institution, can hardly enter the field permanently as a speculator in land values. It cannot hope to establish and maintain a policy of long continued lease, nor can it build up a system of permanent tenancy on its lands. It cannot maintain a force of administrators sufficient to manage and control with any degree of efficiency for any long period of time a scattered aggregation of 2,000,000

[6]Rep. of Board of Regents, 1910-1912, pp. 194-5.

acres of land. On the other hand, it cannot continue successfully the policy of lease for grazing purposes. Any such short-sighted lease for immediate returns will result disastrously in the end. The short term lessee is forced to overstock in an effort to get a large present return; this is his only interest in the land. And in the very nature of things, so long as the University leases, it will continue to lease for immediate returns; it will make an effort to get a higher rent each year regardless of the cost in depriving the lands of their grazing value. Sooner or later the income from such a source will be cut short. And since the University cannot encourage improvements necessary for an agricultural tenantry, it will be compelled to sell.

Since sale must occur eventually, it is well to examine into the proper conditions of sale: At what time? On what terms? With settlement or without? In limited or unlimited amounts? If limited, to what extent?—these and other questions arise. The immediate present is not an opportune moment for sale. Investment in land is not being pushed under the present stringency. Besides, the University cannot get a reasonable price for the lands without first examining into their approximate value, their opportunities for productive uses, and their suitability for permanent residence. The experience of the State in throwing lands on the market without knowledge of their worth and without any publicity as to their location and desirability, should serve to prevent haste in opening to the market. A water survey should be made. No reliable information is at hand as to what are the possibilities of irrigation in the region. The location and depth of underground water, which is a serious question in much of this territory, should be ascertained. Definite tract lines should be marked out; classification of the lands according to use, value, etc., is essential; and specific information should be collected for dissemination to those who may be interested at the time the lands are presented for sale. The experience of 1905 should teach the importance of preparedness. Of course, this will all necessitate the expediture of some funds; but it will be much better to spend a small amount in this manner and sell for a reasonable value than to sell for half value in an ignorant and prejudiced market. After classification, some such system of competitive secret bid-

ding as was used by the State in 1905[7] could be used, with a minimum price, perhaps, for lands in each grade.

In working out the details, we are confronted with the old problems as to settlement and limitation as to amount subject to purchase by single individuals. It has been the uniform public policy for years to sell only to actual settlers and in limited amounts. This was to encourage home-building and to prevent the collection of large tracts of land in landlord groups of owners. True, the State has failed dismally in this effort. But this does not disprove the worthiness of the idea or its possibility of success under proper administration. The State was not equipped with sufficient means of guarding these requirements. It is my proposal that the University be prepared when the time for marketing arrives.

Sale in exceedingly large tracts would retard a proper development of the region. I do not presume to suggest any definite amount; the size should vary with the grade and location of the land. But this could be determined by those conducting the examination and sale, on the basis of the information gathered. I do not believe, however, that 640 acres, as suggested by the Land Commissioner, would be a proper amount; this will not be sufficient generally to support an average sized family in that region. The amount should be set where sufficient to support a family under proper conditions of cultivation or ranch management, as the case may be.

In brief, then, the proposal is to sell, not immediately, but only after complete line, water, and topographical surveys have been conducted for the region; after a thorough grouping and classification of the lands according to value and use; and after a proper advertisement of the real character of the lands presented for sale. The sale should be conducted on a secret bidding basis under the management of a board selected by the Regents. Details as to terms, conditions, limitations as to amounts, etc., should be left to this board, who will be in a position, as a result of information gathered from their investigations, to determine what are the proper methods, limitations, and safeguards.

---

[7]Report of General Land Office, 1904-06, pp. 4-8; Rev. Statutes, 1911, Title 79.

[8]Report of General Land Office, 1912-14, p. 12.

TAXATION OF MINERAL LANDS

ALBERT M. STEINER

There is nothing in the mining industry which entitles it to greater leniency of treatment than other real estate. On the contrary, this natural wealth, so frequently acquired by chance, should be dealt with less leniently than most other forms of property. The return on the property is in the nature of a differential profit; this profit should be shared with the State, and frequently is so shared in the form of a royalty. When the royalty is not exacted, as is the case in the United States, this is an added reason for the State to secure every dollar that is due in the shape of taxes. However, on account of the uncertain value of undeveloped ore beds, it is not amiss to postpone the tax, provided that eventually the land bears its full share of the burden.

The question as to who shall receive the tax, the State or the locality, is no longer mooted. The tax on mineral lands should, unquestionably, go for the support of the State, not the local government. This applies, however, only to the tax on the minerals. The surface value of the ground, together with the plant, buildings, and machinery of the mine, should be subject to local taxation.[1]

The problem of conservation of mineral lands is treated at length in another paper. Here it is only the relation of taxation to conservation that concerns us. The argument is made that to conserve our mineral resources, an adjustment of the taxes on mineral lands is justified. But whatever public policy as to our mineral resources may be, the end must be gained in some other way than by adjusting taxes. A tax exercises an important, but far from controlling, influence over the rate of exploitation. But this does not mean that in imposing a tax, its effect on conservation should not be considered. We may conclude by stating that a tax cannot be expected to have a constructive effect on conservation; but it would be considered

[1]State and Local Taxation, 1908, pp. 389-407.

a grave disadvantage were the tax so imposed as to tend to unduly hasten the rate of exploitation.[2]

The difficulties which are met with in the taxation of mineral land are manifold. In the first place, there comes the problem of evaluation. This in itself is possibly the hardest problem, and it is even doubtful if it can be solved satisfactorily. This will be further discussed in the treatment of the general property tax plan of taxation below. It is only necessary to point out the fact that one "can't see any further than the hole in the ground" as far as actual appraisement goes.

The second difficulty arises from the fact that the mine is a "wasting asset," that is, it itself is used up in the productive process with no possibility of reduplication.

If a mine is worked until the mineral is all gone, no account being taken of depletion, it will appear in the end that in every dividend declared there has in reality been a return of the capital invested (the part of the mine depleted) and also a profit. The apparent profit is not a real profit, but is composed in part of a return in capital. Allowance must be made for this amount. This is effected by calculating the amount that must be periodically set aside out of gross profits to equal, at the exhaustion of the mine, the total value of the mine. This amount may be called "depreciation." If a proper amount is periodically set aside, the balance sheet at exhaustion of the mine would stand:

Balance Sheet

Mine	$1,000,000		Capital Stock	$1,000,000
Less Depreciation Reserve	1,000,000			
Sundry Assets		$1,000,000		
		$1,000,000		$1,000,000

The problem is to find the proper amount to be periodically set aside, so as to allow for it in taxation.

Let us enumerate the various plans and proposals for the taxation of mineral lands, and consider each, merely noting at the outset that we accept the principle that ability to pay is

[2]State and Local Taxation, 1913.

the best basis of taxation. Furthermore, we wish to arrive at the most simple method compatible with the conditions.

THE TONNAGE UNIT TAX

Under this plan a certain amount is levied upon each unit (ton, barrel, cubic foot, etc.) produced. This is perhaps the most simple method conceived. In this lies its great advantage. However, it does not allow for the differences in quality of the units of different mines. Low grade and high grade ore would be taxed the same amount. There is no relation between the tax and the value of the mine. Finally, the last and greatest objection to this method is that the ability of the mine to pay is not considered. Two mines, one of which has very heavy expenses, the other comparatively light, may produce the same number of units; they would be taxed the same. On the basis of ability to pay it is at once apparent that the tax would be absolutely unfair.

THE ANNUAL OUTPUT TAX (OR GROSS INCOME)

The units produced are valued on the basis of the average price for that particular grade for the last preceding period. The tax is assessed on the valuation. Much the same may be said for this system as for the above, with the exception that in this plan allowance is made for different grades of product. The primary objection, however, remains. The tax is not according to the ability to pay, nor to the value of the mine; for obviously depreciation is not taken into account, nor is allowance made for difference in operating expenses. Neither of these taxes, however, is objectionable from the standpoint of conservation. They do not hasten the depletion of the mine; for only that which is actually produced is taxed.

VALUATION OF GENERAL PROPERTY TAX

The aim in this plan is to arrive at a definite value for the mine, and to tax this value as any other property. Several schemes for doing this have been proposed. Some say, let us take the market value of the stocks and bonds, and use this value as the basis. But there are several objections to this procedure.

Firstly, there is liable to be too much of a speculative estimate in these values, especially in the case of mines. Secondly, to the extent that they represent the true value, they are based on stockholders' and bondholders' valuations of the ore in the ground, arrived at possibly by geological and scientific estimates. In this case, is not a board of expert assessors better able to compute the value?

When one considers the irregularly shaped masses of ore, the veins, pockets, chimneys, the faults, it is seen that the task is no simply one. Even when such obstancles are not met, it requires expert scientific knowledge. The first step in the valuation, then, is to secure a board of appraisers who shall have the necessary expert technical knowledge. The particular method recommended for the valuation is as follows:[3]

A. A computation of the ore in the mine considering
   1. Ore blocked out
   2. Ore explored
   3. Ore estimated to exist through
      a. Geological inference and deduction based on
         (1) History of the mine in question;
         (2) History of the district in which it is located;
         (3) History of similar geological formations elsewhere.

B. The average annual production or shipment of the mine, based on
   1. Past history of the mine, or
   2. Where a mine of known value is withheld from production, then it is based upon the history of similarly circumstanced mines and expert mining judgments.

C. The probable life of the mine, secured by dividing the ore in mine (A) by the annual production (B):—

$$\frac{\text{Ore in mine (A)}}{\text{An. product (B)}} = \text{(C)}$$

D. The average net profit per ton, secured by deducting from the average price per ton the cost of production

[3]State and Local Taxation, 1913.

and selling. To secure this information, standard sets of accounts, prescribed by the board, must be kept by all mines. The board must have access to these at any time.

E. When the above facts have been determined, the value of the mine is found by calculating the present worth of the annual profit throughout the estimated future life of the mine, using as a basis an interest rate which mining experience has found is necessary to secure investment in the mining industry at the place where the property is situated.

At this point it is necessary to decide whether the plant and reduction works should be added to ascertain the taxable value. Hoover, in his *Principles of Mining*, does not consider that it should be added in, as it penalizes the low grade mine. Furthermore, we have decided that the plant is a subject for local, rather than State, taxation, so we must conclude that it should not be included.

The most convincing argument in favor of such a valuation is that it is the method used by properly qualified investors in the mining industry;[4] and that the tax is on the basis of ability to pay, for the values are determined by a calculation of the present worth of the net profits.

The objections to the foregoing method are as follows:

The estimate of the ore in the ground and of the probable life is, after all, only approximate, even under the most favorable conditions. There should be some way to remedy any mistakes. This is not easily provided for under this method. In the kind of mine where the ore cannot be seen, and where the mine is not developed ahead, taxes can be dodged. A more fundamental objection is that it puts a premium on the early exploitation of the mine. The tax is paid yearly on a certain valuation. The sooner, then, that the mine is exhausted, the less will be the tax. This, of course, works against proper conservation.

Let us turn to the method reserved for final discussion to see if these objections cannot be overcome.

---

[4]State and Local Taxation, 1913.

NET INCOME TAX.

The problem of finding the net income would be comparatively simple, were it not for the fact that depreciation must be allowed for. In Canada the usual method of mineral taxation is a "net income" tax, which neglects depreciation.[5] This dodging of the issue cannot be allowed for reasons stated above.

Under the net income plan the amount of ore in the mine would be computed as above described. Next, the original cost of the mine is determined. This cost should include such items as development expenses, actual investment, discounts, legal and organization expenses, and interest up to the time the mine begins to bring a profit. Presumably, the capitalized value should correspond to this cost. The board of assessors would compel the company to carry the asset, "mine," at this figure on the balance sheet. The original cost, divided by the number of tons of ore estimated to be in the mine, will give the amount to be charged off on each ton as depreciation.

The net income would be found by deducting from the gross income all expenses, to be ascertained as above, and the amount of depreciation which is found by multiplying the amount to be charged off on each ton by the number of tons sold during the period. The tax is levied on this net income.

In this plan it is easily possible to remedy any mistake in the calculation of the amount of ore in the mine. Suppose that the estimate proves to be too much. This would mean that the amount for depreciation allowed on each ton would be too little; as a result, net profits would be shown to be larger than they should be, because depreciation is subtracted from the gross amount, and if this subtraction is too small, the result will be too great, which would mean that the State was receiving a larger amount in taxes than was due. In this case, upon the exhaustion of the mines, the true amount of depreciation per ton would be figured. The net earnings for the life of the mine could then be adjusted and the amount of taxes paid in excess would be found. The State should be required to refund this amount.

On the other hand, if the estimate is too small, then the amount of depreciation charged off for each ton produced will

[5]State and Local Taxation, 1908, pp. 385-392.

be too large, because the amortization of the original value is distributed over all the ore in the mine; if this estimate is less than the true amount of ore, then the original cost is probated on this estimate. As a result, each ton will bear more than its fair share considering the true amount of ore. That this is so, means that the apparent net earnings are too small. The State is receiving too little in taxes. This may be adjusted more or less automatically. Only a certain amount is to be depreciated, namely, the original cost. If the depreciation charge is more than it should be, this amount will have been charged off before the exhaustion of the mine. When it has been amortized, depreciation charges, as far as calculations for taxation are concerned, should cease. This will cause the net earnings to seem larger; the taxes will, therefore, be greater. This serves to equalize the too small tax returns of earlier years. At the exhaustion of the mine, considering the period as a whole, just the right amount of taxes will have been paid.

The tax is based directly on the best principle, ability to pay. Furthermore, it is in perfect accord with conservation. The tax is levied only as the ore is produced.

But it has been objected that this penalizes the producer by allowing wealth to be held in the land for purely speculative purposes, untaxed.

To remedy this an acreage tax is proposed in conjunction with the net income tax. This tax is very common in Canada. It is levied on the acreage of unworked mineral lands. The surface area would be valued at the amount paid for it, or according to the value of agricultural land in the vicinity. This would certainly tend to discourage holding for pure speculative purposes. But at the same time, it would not tend unduly to hasten exploitation. This tax is not on the basis of mineral wealth. There would be no incentive, then, to get the ore out of the ground to escape this tax, for as soon as operations began, the mine would be taxed on its mineral content. If the mine were not profitable, there would be no desire to work it. This holds true, provided that the acreage tax is not burdensome. Since it is to be based on the value just proposed, it will not be excessive.

A few objections to the income tax will now be considered.[6]

It is said that American property taxes are so high that if they were converted into terms of income, the tax would appear excessive. Therefore, few legislatures could be persuaded to impose an adequate tax in the form of a net income tax. But we are trying to discover the best means; the fact that the tax would appear large is no fundamental objection. Furthermore, the tendancy towards taxation of incomes is becoming very noticeable, and soon this objection will not hold in any form.

It is claimed that the property tax is imposed year after year, whether the property is idle or not, whereas, the income tax applies only when the property is worked. So long as the property tax represents the general rule, and is applied to other property it should apply to this. But the general property tax is ceasing to be the general rule. Even if it were the general rule, the rule would be wrong, for this is not taxation on the basis of ability to pay. In the case of mines, too, the State loses nothing in any event, for the mine pays taxes during the period of its life only; therefore, the taxes would be postponed, not lost.

It is said that, with such a tax, uncertainty and possible inadequacy of the tax are liable to result unless the minimum output is regulated by the State. Of course, it is impractical, if not impossible, to limit by law the minimum output. Under this system the tax is collected at the beginning of each year. The total returns for the following year are apt to be about the same, so no serious disarrangements of budgets should be possible.

The most serious objection that could be made to this tax is its complexity. For its administration it will require, as already pointed out, an expert board of assessors, and a prescribed system of accounts, for all mines to which the assessors shall at all times have admission. However, it is not more complex than the plan proposed for a valuation tax.

This plan is recommended for the taxation of the minerals of Texas, with the exception of oil and gas.

---

[6]State and Local Taxation, 1913.

OIL AND GAS.

In the case of these two minerals, the difficulties to be met with in estimating the amount in the well are too great to be overcome. The method of the net income tax as well as the valuation plan, is impractical, then, for the taxation of these minerals. There remain the tonnage tax and the annual output tax, which have been discussed above. The output tax was seen to be the better.

This will be the plan adopted for these minerals. The average price for the preceding period for each grade of product will be multiplied by the number of units of products produced. This sum will be taxed.

BIBLIOGRAPHY.

Seligman—Essays in Taxation.
Adams—Principles of Public Finance.
State and Local Taxation, 1907.
State and Local Taxation, 1908.
State and Local Taxation, 1909.
State and Local Taxation, 1910.
State and Local Taxation, 1911.
State and Local Taxation, 1912.
State and Local Taxation, 1913.
State and Local Taxation, 1914.
Lange—Advanced Accounting.

SOME SUGGESTIONS FOR THE TAXATION OF RURAL LANDS IN TEXAS

ALLEN WIGHT

Taxation is primarily a fiscal problem. It would be most erroneous, however, to ignore the social aspects of the situation on this account. Taxation enters too closely into every man's business and every man's life to permit us to solve our tax questions on a purely fiscal basis. But the first question to be answered about a proposed tax must always be its justification from a fiscal standpoint.

Modern economists are agreed that a tax should be levied with reference to a man's ability to pay rather than the benefit he receives therefrom. In the discussion of land taxes we will assume this without argument.

We will also assume that the total failure of the general property tax is granted. This tax has many defenders still among those who have made no study of the question, but the investigations and reports of recent tax commissions in various States seem to spell its doom. The chief indictments of this tax are, that it is fundamentally incorrect in that it fails to recognize that the various kinds of property differ in ability-to-pay, that equitable assessment is impossible on account of the ease of concealment of certain kinds of property, and that it encourages perjury and fraud in rendition.

Land, in particular, is especially fitted to bear a large share of the burden of taxation and should certainly be singled out from the great mass of property for special attention.[1] Land, on account of its tangibility, the fact that a tax on it cannot be shifted, and the fact that even inequitable land taxes cause no injustice after a considerable period of time owing to compensation in capital value, has always been a favorite subject for special taxes. More than this, no one denies the existence of a considerable element of unearned increment in land values,

[1]We can not discuss here the relation between land taxes and other taxes but will assume that other forms of property are made to bear their proper burden.

and the existence of such an increment gives land a special ability to pay.

In practically every civilized country, within the past few years, there have been important changes in the land tax system. We have not been free from the agitation in Texas and popular attention has been more forcefully directed toward existing evils than for many years. Some of the evils complained of are, the inequality and regressiveness of assessment, the extensive speculation in land, accompanied by the holding of large bodies of land under one ownership,[2] often connected with absentee ownership, the prevalence of tenant farming and wasteful and careless methods of cultivation.

We sometimes fail to realize that some of these things are not altogether an evil, or at least are a necessary accompaniment of progress. For example, land speculation and absentee ownership are nearly always the first ways in which outside capital manifests an interest in a growing community, and if a country ever needed to encourage foreign investments, that country is the Southwest at present. Then, land speculation is an inevitable adjunct to the real estate business and if we admit that the real estate operator performs any service to society in facilitating the distribution of land into the most profitable channels, and the most efficient hands, then we must leave him what is called his speculative profit.* Nor can we reasonably object to the "unearned increment" which the pioneer receives, for the very fact of his breaking the way, bearing the hardships of the frontier, and taking the chance of the country failing to respond to his touch, entitle him to an increment greater than that which attaches to his own particular tract by virtue of his own efforts.

Many schemes have been suggested for remedying these various evils, some aimed at a reform of the entire system of land tenure and some aimed at particular evils. The most persistent sugestion for comprehensive reform has been the Single Tax. Suffice it to say that this proposal has been rejected by practically all students of the question as ineffective to accomplish

---

[2]Half of the farm lands in Texas are included in 2.7 per cent of the farms. Census, 1910, Vol. V. See foot note on p. 51.

*See below, p. 176f.

the desired ends and impossible of adoption on account of the injustice incident to its destruction of hitherto recognized property rights.

One of the suggestions toward the correction of the evil of insufficiently intensive farming has been the *exemption of improvements.* The Single Tax flavor to this proposal[3] has not prevented its finding favor with the economists, it being believed that the encouragement of the farmer to increase his investments in tools and live stock would be of great social benefit. It is doubtful, however, whether any material benefit would flow from such an exemption, as the additional tax on a new plow could hardly be the deciding factor in preventing the farmer from making the purchase. Then, too, the farmer would be the first to object to such an exemption, as from his point of view, the chief benefit would fall to the city property owner, as the proportion of improvements to bare land value in the city is about one to one, while in the country it is only one to nine.[4]

Another suggestion aimed at the extensive speculation in land is the tax on *future (unearned) increment.* So far as rural lands are concerned, this tax is practically untried, and the urban experiments are of such recent date and so experimental in character as to afford but little light for our guidance. It seems, however, that in order to avoid injustice, it is necessary to provide such a comprehensive scheme of exemptions and such complicated machinery for assessment that the tax is of very doubtful value. For example, provision must be made for a possible decline in the value of the particular tracts, for it seems that if society is entitled to a part of the unearned increment, it should bear a part of the burden when its shifting activities cause a loss to the individual land owner.

More important from a fiscal standpoint, however, is the possibility, under the suggested tax, of a general decline or standstill in land values. It is obvious that, in such a case, the revenue from such a source would entirely disappear. The difficulty is, that such a tax is in the nature of spending one's

---

[3]In reality, the exemption of improvements, wholly or partly, is not a "single-tax" measure; for taxes on personal property and incomes would be retained. Nor does it mean that anything like the full rental value of the land would be taxed.—Ed.

[4]Rep. Minn. Tax Comm., 1912, p. 178.

capital. As the value of the land increases, a part of the increased value is taken once for all, and so far as the State is concerned it yields no more revenue. If we can look far enough into the future to the point where the world's population and industries reach the limit of their growth, we can see the revenue from such a tax vanish forever.

It seems to the writer that, if some system of increasing the tax rate after each transfer in which an increment of value is indicated, or after definite periods when such an increment is evident, could be adopted, the last difficulty could be obviated. If this were connected with a heavy increase when such land passed by descent, there might in time, be built up a large permanent income for the State. For illustration, suppose land in the community is capitalized on a five per cent basis. The rent from a tract is six dollars per acre, the tax is one per cent. The land will be capitalized at one hundred dollars per acre. Suppose the rent increases to eleven dollars per acre. The State desires to absorb one-half the increment. This, together with the one dollar already assessed makes a total of three and a half under the new rate, which subtracted from eleven dollars leaves seven and a half, which capitalized gives one hundred and fifty dollars, upon which it will be necessary to levy a tax at the rate of 2.33 per cent to secure the three dollars and a half for the State. It is hardly necessary to say that the above suggestion is merely tentative and has the sanction of neither experience nor authority.

There is a tax, however, which is in practical operation in some countries, which seems especially applicable to our own problems. This is the *progressive tax on land* values. The Australasian countries led the way with this tax. As early as 1890 such a tax was introduced in South Australia, and in 1890 New Zealand followed suit and it is from the latter's experience that we can learn some lessons. This tax was aimed at some enormous holdings of land in the commonwealth, but, as long as the tax was kept low, was ineffective. Year by year the tax was increased, and the gradation made more steep, until in 1910 the rate on the largest tracts was 3½ per cent for residents and 6 per cent for non-residents. This increased tax has been effective in breaking up the very largest estates, though the effect on estates of

moderate size has been inappreciable. Whereas in 1892 there were twelve estates in the commonwealth of more than 100,000 acres, there is now only one. In fact, every division above ten thousand acres shows a decrease, while practically every division below ten thousand shows an increase.

The beauty of this tax lies not only in its probable effectiveness in breaking up the large estates, but in its perfect accord with the principle of ability-to-pay as a basis of taxation.*

The *absentee tax* which is found connected with this tax in the Antipodes, would probably not be of any practical value for us. The idea of comity between the States is so strongly rooted in our institutions that it would be difficult to devise a special tax on non-residents which would stand the test of our courts. Then too, it is of doubtful advisability in view of the present necessity in Texas, of attracting investments of outside capital.

Perhaps the most evident evil of our land taxation system at present is the injustice of the assessment. We all know this to be a fact, but few of us realize the extent of the evil. As long as we have elective assessors, having jurisdiction over small districts, the motive of local self-interest will prevail over abstract equality. A careful comparison of assessed values and sale values in the State of Virginia showed that assessed values in the various counties varied from 12.5 per cent to 76.5 per cent of the true value. This is the commonest objection to our present assessment system. Few people consider the inequalities between individuals as being of any serious extent, yet the same investigation showed that there is a startling regressiveness in the ordinary assessment. The average rate of assessment of tracts under $500 in value was 46.7 per cent while the

---

*That there may be further need of some such tax, is indicated by the following fact as set forth in the Dallas News of June 14. 1915:

"St. Louis, Mo., June 13, 1915.—A syndicate composed of St. Louis capitalists, controlled by the Frank L. Dittmeir Real Estate Company, has completed negotiations by which it acquires the title to 7,690 acres of land in Brooks County, Teras. The land is in one body located near Hebron, Texas, on the St. Louis, Brownsville and Mexico Railroad, a branch of the Frisco system, and has been acquired for ranch purposes. The sale was made for A. H. Breittenbach, William A. Beste and others.

"As part payment the Dittmeier syndicate transferred to Breittenbach and his associates twenty-one houses located in various parts of St. Louis. The deal aggregates $250,000."—Ed.

tracts over ten thousand in value escaped with 28.1 per cent. It is not to be presumed that this variation is the result of dishonest assessment, but of the disposition of the assessor to take into consideration the lump amount of the tax rather than its proportion to value.

The proposals ordinarily made to correct these evils in assessment are the separation of sources of revenue, a State equalizing board, and enlarged assessment districts. The first of these proposals is pretty drastic and is attended with some disadvantages that militate against it. The objection urged is, that it will hamper the State in preparing its budget, by removing an element of flexibility in the revenue system. The proposal of a State equalizing board certainly deserves consideration, and, if connected with appointive assessors, and assessment districts so enlarged as to cross county lines, thus eliminating the controlling influence of local interest and commanding the entire time of qualified men, it would probably go a long way toward removing the evils of which complaint is made.[5]

In planning political reforms of any kind we must always bear in mind that the average voter is never moved until the evils become acute. The demagogue finds his issues among the questions already being agitated, and the far-seeing citizen is often lost in the mists and vapors with which the opportunist politician can always surround the discussion of more remote problems. In the case of tax reform, however, the most needed reforms at present are such as lend themselves most readily to the purposes of the politician, and in this fact, we find ground for hope that the settlement of some of these questions is not far off. A progressive tax on land and a reform of assessment methods in the interest of the "people" should prove most effective issues for some astute "statesman."

[5]It might be practicable to introduce some form of antidosis or compulsory sale of lands undervalued, for the purpose of compelling full rendition.

BIBLIOGRAPHY.

Seligman's Essays on Taxation, 1915 Ed.
Economic Journal, Vol. 21.
Columbia Studies in Economics, etc., Vol. 52.
Taxation of Land (Memoranda prepared for the Chancellor of the Exchecquer) Land Taxes and Rates in New Zealand, page 67.
Census Bureau Report, 1914, Taxation and Revenue Systems of State and Local Governments.
Twelfth Census Report, Vol. 5.
Report Minnesota Tax Commission, 1912.
Report Minnesota Tax Commission, 1914.
Report Texas Tax Commission, 1899.
Report Wisconsin Tax Commission, 1912.
Report Wisconsin Tax Commission, 1914.
Report State Conference on Taxation, New York, 1913-14.
Report Joint Committee on Tax Revision, Virginia, 1914.
Report of the Tax Conference at the University of Oklahoma, December, 1914; pp. 81-96, 62-81.

URBAN LAND TAX REFORM SCHEMES, AND THE SO-CALLED "HOUSTON PLAN."

J. RUNGE.

It is urged that the rate of taxation upon real estate improvements shall be gradually reduced until it equals only one-half of the rate upon land. This has been proposed as a remedy for the present unequal conditions of taxation; but on analysis it does not appear to better matters very much. It must be remembered that the primary purpose of taxation is to provide public revenue, not to effect social reform. Furthermore, any changes that are made must not be so violent as to upset the present business organization. Taxes should be so levied that they will be in proportion to the ability to pay of the taxpayer.[1] Beyond question the exemption of real estate improvements would have a tendency to reduce rents, for big buildings would be constructed, thus increasing the supply. It is probable that the population would be more congested than ever, though the plan has not been used enough to prove that such is the result. It is not a necessary consequence that most vacant lots would be improved, for in a short while the cities would be overbuilt, and then building would stop. Speculative building would not be affected by such a tax, for this is only one of many factors in determining speculation. The good sites would be quickly improved, but the poor ones would not, as improvements on them would not pay. The small owner, instead of being benefitted would be crushed out, for the big improvement would attract people and the small holder's property would be abandoned. The increase of the tax upon land will in the end cause a decline in the market value of all land, it is believed, for the net return to the land owner will be reduced, and the capitalization of this net return represents the market value of the property. The present land values can not therefore be the basis for figuring the rates on land and buildings under such a tax. In New York City some land rises while other pieces

[1]And *every citizen* should pay his share in *proportion* to his ability.

fall in value, so that a gradual reduction of the tax on improvements would not obviate the inherent inequalities. A radical change like this would create a real estate panic of mortgage foreclosures, especially in the larger cities with their complex credit systems.[2]

The mere exemption of improvements was adopted in Australia, and the experiment there has shown so far that this policy does not cause abnormal growth, does not tend to reduce rents to any marked extent, and does not permanently affect speculation.[3] Taxes are now levied only on the bare value of land, all improvements being exempted. The direct tax has a progressive rate. This was adopted to encourage improvements, and to tax the large landed estates, which are held for speculative purposes without adequate taxation. It is apparent that this is not a "Single Tax" scheme, for no confiscation is intended, the owner of land being authorized to call on the government to purchase the land at his valuation if the government places too high a valuation on the property. Also, the government can purchase land at its valuation plus ten per cent additional, if the owner does not agree to sell at the government's figure. Again, the revenues from the land tax, erroneously called the single tax, were only six and one-half per cent of the colonial revenues, and a much smaller per cent of the total income.[4]

Pennsylvania has adopted the exemption of the improvements on real estate for cities of the second class. This includes Pittsburg and Scranton. There is to be a ten per cent reduction every third year, beginning in 1914, so that by 1925 such improvements will be taxed at fifty per cent of their true value.[5] Pueblo, Colorado, is also using the exemption plan.[6]

It is also argued in favor of this policy that the improvement of property depends on the enterprise of the owner and should be encouraged, and that improvements are perishable and should not be burdened.[7] This is certainly a reasonable contention

---

[2]State and Local Taxation, Vol. 7, p. 106.
[3]Seligman, *Essays in Taxation*, p. 156; *The Journal of Political Economy*, February, 1915, pp. 166-176.
[4]Seligman, *Essay in Taxation*, p. 461.
[5]Twenty-third Annual Report, 1913, New York Tax Reform Association.
[6]New York Evening Post, Friday, July 24, 1914.
[7]Bulletin of the University of Texas, No. 236, p. 136.

and makes one feel inclined to believe that at least the partial exemption of improvements in connection with the use of sources other than the real estate tax is a fair, practical and workable tax policy.

In recent years several Canadian cities have either totally exempted buildings from the real estate tax or have adopted policies of gradual exemption whereby at the end of a certain number of years the buildings will be totally exempted or only partially assessed for this tax.[8] Manitoba is the only western Canadian province which does not exempt improvements.[9]

Houston, Texas, has also adopted the policy of gradually reducing the tax on improvements of real estate, and now levies on only twenty-five per cent of their value.

In order to get rid of the evils and defects of the general property tax, it has been proposed that we do away with it entirely and adopt the single tax. We are particularly interested only in the application of this tax to the cities, but the main principles apply to this use as well as to one for a more general purpose.[10]

The advocates of the adoption of this plan think that the single tax is the only method by which public revenues may be raised without putting a penalty on labor and thrift. They claim that land is the fundamental basis of any just system of taxation. It is fixed and tangible, and therefore can be taxed with ease and equality. Land values are social, and they should be taxed, and the revenue derived therefrom would take the place of that now received from all other sources. Under the single tax there would not be sources of revenue, there would be one source alone—land.

It is claimed that the single tax would destroy speculation, for under it land would be acquired and held only for use. The removal of taxes on improvements would increase building, and encourage the growth of cities.

The objections to the single tax are in general that it over-

[8]Seligman, *Essays in Taxation*, p. 94; "Provincial and Local Taxation in Canada," S. Vineberg (New York, 1912). (See also in this bulletin the discussions on the Single Tax.)
[9]National Tax Association, 1914, p. 444.
[10]Report of Minnesota Tax Commission, 1912, p. 167.

emphasizes the principle of privilege, makes a whole out of a part, and gives an inferior point a primary position.

In detail, the main objection to it are that it is inelastic; intensifies inequalities resulting from unjust assessments; does away with protection to home industry as a political policy; under it the government could not use the taxing power as a political or social weapon; it is inequitable, for revenues from land are by no means the only form of results of special opportunity; it would not be sufficient; the farmers would pay more of the tax than they do now; and in large urban communities, it would exempt large sections of property without bringing any substantial relief to the poorer classes. In Vancouver and Winnepeg where the single tax is used, the rents have risen and speculation has increased, a practical refutation of two important arguments used in favor of this tax.[11]

Since the single taxers have been unable to gain their point before the public in the socialization of land, they have modified it to the effect that they make land values the basis of State and local taxation, exempting improvements and all forms of personal property. It is then applied as part of a broader tax system, and erroneously called a single tax. (See Houston Plan.)

The single tax is used in one-half of the city of Lloydminster which is half in Saskatchewan and half in Alberta. The Alberta side of the city, being taxed on the land only, forged ahead of the other half, and the better class of residences were built on the Alberta side, we are told. On investigation we find that large business houses were built on the Saskatchewan side, and no explanation is given of this. There are so many factors which determine the location of residences, and the evidence in support of the single tax contention is so meager, that this example is entitled to little or no weight as an illustration of the results of the use of a single tax in municipalities. Again, if the tax worked so successfully, it is very likely that the other side of the town would not be slow to adopt it, but we do not learn that such is the case.[12]

Edmonton and Vancouver in British Columbia have attracted

[11]Seligman, *Essays in Taxation*, p. 66, et seq.
[12]Minnesota Tax Commission Report, 1912, p. 167, et seq.

much attention as single tax cities. Vancouver is the largest, and we learn that evidence has been brought to light that the claims for that town made by single taxers are not well founded. There was a great drop in values in Vancouver in 1913-1914, totaling in all about three million dollars. The city seems to be recovering from the wild speculation of 1911-13, though at present there are but three thousand empty houses there. This is an indication of the drop which occurred when the boom ceased, and matters are now resuming a normal basis. The tax rate on land is only fourteen mills on the dollar—not very high in comparison with American cities, so the people have not been hard pressed by the taxing power. As a matter of fact not all improvements are exempt under the single tax, as has been shown in Vancouver, for before long the assessor values the improved lot at the same figure as the previously improved lot and the exemption disappears. The exemptions then really amount to the exemption of buildings, and such things as trees and fences, but not the exemption of all values created by labor.

Again, statistics show that the arrears of taxes are becoming very large, and it is a serious problem whether the city will foreclose on property for the back taxes, or make shift to cover this loss of revenue by some other means, which at present have been exhausted by the solving of this same problem in previous years under the single tax. Even in Vancouver, though there are still many staunch supporters of the single tax, there seems to be no idea among the citizens of allowing confiscatory application of it [13]

The single tax has not been a particular benefit to the laboring man in Vancouver, for many of them own houses and have to pay taxes, while the wealthy people often own little real estate and what they own is so well improved that their taxes are nominal in proportion to those of the home-owning laborer.[14] Further, since the adoption of the single tax, the rates have been rising all over western Canada, thus increasing the burden on owners of real estate.[15]

It would seem from the experiments in the single tax in

[13]Real Estate Magazine, January, 1915, p. 42.
[14]National Tax Association, 1914, p. 424.
[15]Ibid., p. 429.

cities that the use of this policy of taxation as an artificial stimulus for "booming" a city might be profitable, but as a permanent tax policy it is open to so many weighty objections, that the majority of authorities on taxation will not recommend it. It is interesting to note that the Minnesota Tax Commission of 1912, which gave a thorough study to the working of the single tax in the neighboring Canadian provinces, did not recommend the use of this tax in Minnesota, but merely reported in substance that the tax seemed to have advantages, and it would be interesting to watch its development.

Another observation from these experiments is that if the single tax affects speculation at all, it tends to shift the speculation from land to buildings and improvements on land, and thus intensify the gamble temporarily. This would seem to have occurred in Vancouver, where the plan was used, and in fact the same idea is evident in all the "boosting" literature sent out by cities which use the single tax or exemption of improvements on land.[16]

In order to keep a clear idea of the terms used, it might be well to distinguish between the single tax and the increment tax and then show their relation to the Houston Plan.

The single tax differs from the increment tax in that, as the name implies, the single tax is a whole system of taxation in itself, while the increment tax is only one tax in a system. Again, the single tax is put either upon the ground rent, or upon land values by the two opposing schools, while the increment tax is on only that part of the increase in land value which is due to factors other than the efforts of the owner. The Fels group of single taxers advocate the taxing of land values instead of ground rent, and they would tax all land values. This is the form of single tax that is used in Canada.

THE "HOUSTON PLAN"

The Houston Plan does not include either class of single tax. It is not a tax on the ground rent, and it does not tax all land values. It has a tendency toward the single tax in that personal property and improvements on land are exempt, but at the same time other sources, such as franchises, have been

[16]See below, p. 173.

made to increase their taxes, so that tax on land is only a part of a system. While the tax policies of the cities of Australia and of western Canada have been the examples for Houston, the Houston Plan does not embody the single tax. Mr. Pastoriza himself says, "While I am a single taxer, the Houston Plan of taxation is not the single tax."[17]

The Houston Plan does not embody the increment tax, for it does not tax increases in land values on a definite basis nor at a fixed rate.

"The Houston Plan of Taxation" may be summed up as follows:

Improvements on land are taxed at twenty-five per cent of the true value. The franchises of public service companies are so taxed that the city gets a good revenue from them, over one million dollars annually. Money and other personal property including household furniture and effects are entirely exempted from taxation. No charge is made for building permits, this evidently being part of the plan to encourage building in that city so that those who rent may have lower prices. A part of the plan is the use of the Somers' System of equalizing real estate assessments; and, according to Mr. J. J. Pastoriza's statement, the people are satisfied because if one assessment is too high or too low in a block, all the people in that block are in the same fix. In other words the taxpayer is satisfied that there is no willful discrimination.[19]

The Houston Plan of Taxation is rather a plan of exemptions. The personal property tax was working so miserably, and the needs of the city had grown so that it was decided to get revenues from other sources and encourage building. Exemptions have been allowed where the inequalities of the personal property tax were particularly glaring, and successful administration of it seemed to be a dream.

Mr. Pastoriza, the Tax Commissioner of Houston, claims that indirectly by the operation of the Somers' System in that city the amount of the assessment roll has been increased $33,000,000, that the tax rate has been reduced from $1.70 to $1.50 for 1912, that $2,000,000 has been added to the city's revenues by a franchise

[17]Speech at Austin, Texas, February 22, 1915.
[19]Pamphlet on the Houston Plan of Taxation.

tax on public utilities and railroad companies for the use of the public streets, and that the actual taxes have been reduced for five thousand individual taxpayers, while the city's revenue was increased $450,000. Though the exemption of personal property is not a part of the Somers' System, the claim is that this system worked so well in the valuation and assessment of land that the city was able to depend on this source for the bulk of its revenue and exempt personal property.*

The operation of the plan seems to have resulted in increased bank deposits in Houston—though this may be merely nominal and due to honest rendition—and there has been a reduction in rents during the years the plan has been in force (1912-1914).

Mr. Pollock, the manager of the Somers' System, makes the point that the laws of Texas inferentially make for equality in assessments, but that Mr. Pastoriza's exemptions of personal property in Houston is contrary to the Constitution and laws of this State.[20] In the light of our constitutional provisions this seems to be the correct view. Indeed, the Houston Plan of Taxation is on such insecure basis in the eyes of the law that its advocates are now urging a constitutional amendment before the Texas Legislature to recognize the validity of this reform. On March 1, after this constitutional amendment had been proposed to the Legislature, Judge Read of the Sixty-first District Court decided that the Houston Plan of Taxation is unconstitutional and that the court would issue a writ of mandamus or injunction to compel the city officials to use constitutional

---

[20]Somers' System—National Tax Association, 1913, p. 257.

*In a recent authoritative investigation the following judgment is passed upon the Somers System: "We find that, except for certain tables used in computing the value of corner lots, the Somers System has no methods which any city is not free to adopt, and that most of its methods have been in use for some time in a number of our more progressive cities. We, moreover, doubt the value of the Somers corner lot tables, and prefer at this point the methods employed in the city of Baltimore, about which there is no secrecy, and which any city is free to adopt. For these reasons we are of the opinion that it is inexpedient for Cambridge to employ the Manufacturers' Appraisal Company" [which sells the use of the Somers System]. (*Rept. of Special Committee on Study of the Local Real Estate Assessment Situation*, p. 7; Cambridge, Mass., 1915). In the editor's judgment, the chief value of the Somers System has been the advertising campaign back of it, which has educated cities into a realization of the possibility of better assessment. (Ed.)

methods; that is, assess and tax all property at the same ratio. This order of the court was the result of a suit by some taxpayers of Houston against the city officials. An appeal from the ruling of the court was immediately taken, and pending the new trial the Houston officials started out to execute the present law with a vengeance.[21]

The following questionnaire has been sent out to twenty-five representative business men of Houston with the accompanying results:[22]

1. Is the Houston Plan of exemption a just one? *No*, 8; yes, 2.

2. Has it reduced the amount of taxes you pay? *No*, 10.

3. Has it worked to the advantage of any special class of property owners? No, 4; yes, 6. The plan favors the owners of tall buildings, say those who answered "yes."

4. Has it worked to the disadvantage of any special class of property owners? No, 3; *yes*, 7.

5. Has the plan been well received by the property owners? No, 4; yes, 2.

6. Has it tended to increase building in Houston? *No*, 7. yes, 1.

7. Has it increased or decreased the value of land? Decreased, 6; increased, 0.

8. Has it increased or decreased land speculation? Decreased, 4; increased, 0.

9. Has it increased or decreased the number of land sales? Decreased, 4; increased, 0.

10. Is it likely that the plan will be continued in use? No, 7; yes, 2.

11. What is your opinion of the plan and its operation in question? It is unjust and artificial, for it stimulates building where there is no real demand for it. It also taxes one kind of property and not another, and therefore, is discriminatory in its nature.

The answers received to this questionnaire, throw an interesting sidelight on the operation of the Houston Plan, for it is a candid expression of the opinion of those who were interested

[21]*Houston Chronicle*, March 22, 3, 4, 1915.
[22]*National Municipal Review*, Vol. 3, No. 4, p. 771.

enough to answer. They were, however, too restricted in number to be in any sense conclusive evidence.

As the constitutionality of the Houston Plan of Taxation has been attacked, Mr. J. J. Pastoriza has sent out letters favoring House Joint Resolution No. 32 which was submitted to the last Legislature. The following is the substance of Mr. Pastoriza's letter for the resolution:

"This bill is a constitutional amendment, which, if carried, will permit any incorporated city within the State of Texas, to adopt the Houston Plan of Taxation.

"The principles of the Houston Plan of Taxation have been in operation in Houston for nine years.[23]

"The bill is simply a 'Home Rule in Taxation' bill. * * * The Legislature has passed a bill giving all incorporated cities absolute Home Rule in all matters except taxation.[24]

"* * * One city may have a desire to make of itself a manufacturing center, and for that reason would vote to exempt machinery and buildings from taxation. Another city may desire to be the money center of the State, and for that reason would exempt from taxation cash, credits and notes, the effect of which would be to bring all cash out of hiding, and cause it to be deposited in the banks, where it would be available to those who wished to borrow money, either to extend their business or build a home."

The fallacy in the argument is obvious. It is assumed that the different cities of the State would have different interests, so that one would become a great manufacturing center, another a large market or commercial metropolis, another excel in a different line of activity, and so forth, without one in any way clashing with the interests of another.

It cannot be taken for granted that this would be the case. In fact, the opposite is true; and it is fair to presume that the interests of the cities do and would conflict, so that if they were all to adopt Home Rule there would be intermunicipal competition and strife, the cities cutting their sources of revenue to a minimum in order to get ahead of some rival city which was trying to attract industry by the same methods. This would be

[23]This statement probably refers to the practical exemption of certain forms of personal property from taxation and the only partial assessment of property in the past.

[24]Not explained in the letter.

particularly true in certain Texas cities, as for instance in Galveston and Houston, Dallas and Fort Worth, Austin and Waco. These cities are either so nearly the same size or situated so close to each other, that there is a spirit of rivalry and competition. Under Home Rule this feeling would be given full swing, and the present well controlled rivalry could very easily degenerate into the worst sort of intermunicipal competition, resembling the cutthroat warfare of the earlier days of the railways. The large corporations have learned their lesson and have decided that centralized control was the proper solution of the problem.

The optimistic accounts given of the success of Houston's tax policy have not gone uncontested. It has been pointed out that statistics show that Houston has not prospered more under the limited operation of some of the single tax principles than it did before they were adopted, and not so well as several Texas cities that did not adopt the proposition. Houston, it appears, from the latest analysis of the figures, has not had abnormal growth in either population, bank deposits, or building permits, as compared with other Texas cities of about the same size. Fort Worth, Dallas, and San Antonio have grown as much and in some ways more than Houston during the years 1911-13. It is to be noticed that during the first six months of 1914 there has been a decrease of nearly one million dollars in the value of building permits in Houston, and no explanation of this sudden and large decrease is given.[25]

Again, the policy of encouraging the creation of tall buildings on every privately owned vacant lot has very objectionable features. The damage to surrounding property occasioned by the building of skyscrapers is considerable, amounting in some cases to a depreciation in values of thirty per cent. In the larger cities the problem is not to encourage building, but to legally discourage it in congested districts. A great many European cities have limits belond which buildings cannot go.[26] It cannot then be granted that the problem in the cities is everywhere the same, nor that the exemption of improvments plan is capable of general or permanent application.

---

[26]*The Journal of Political Economy*, February, 1915, pp. 166-76.

[25]"Some Experiments in the Single Tax" in *Real Estate Magazine*, January, 1915, p. 42.

THE SINGLE TAX

LEWIS H. HANEY

Back in 1879, Henry George started the Single Tax movement as an effective propaganda. To use his own words, he sought to abolish all taxation save that upon land values. He said: "It is not necessary to confiscate land; it is only necessary to confiscate rent." The Single Tax, therefore, means two things: (1) to confiscate rent; (2) to abolish all taxes save that on rent.

Since George's day, the Single Tax movement has split in two. One branch follows George strictly and is supported and pushed by the Joseph Fels foundation. The other branch has softened the original idea, seeking to make it more palatable, and is now led by Mr. C. B. Fillibrown of Boston. Both branches are deluging the country with pamphlet "literature."

The moderate branch goes back to Mr. T. G. Shearman and his book on *Natural Taxation*. It advocates taxing for the present only so much of land rent as may be necessary to run the government, and the very gradual application of the tax, by increasing it at the rate of one or two per cent a year.

THE SINGLE TAX AS A FISCAL MEASURE.

There are three aspects of the Single Tax argument: the fiscal, the ethical, and the economic. On the fiscal side, Single Taxers claim that their tax would simplify the problem of raising government revenue, and they put forth a certain theory of the true nature and just basis of taxation. According to the judgment of unbiased students of public finance, however, their arguments on this score are not sound. It is generally recognized that the government must be able to increase or decrease its revenue as its need of funds increases or decreases—public revenues must be elastic. But this would not be possible with a Single Tax which would aim to take all, or nearly all, of land rent. The government would not be able to meet emergencies, nor to reduce taxes in times of little activity. Moreover, it is not certain that land rents will always increase, and in England

and certain parts of the United States they have actually decreased. Would it, then, be wise to make the State dependent upon a single source of revenue?

Again, the Single Taxers have a wrong idea of the nature and basis of taxation. They constantly refer to taxes as "fines" and burdens; and too frequently they assume that taxes should be based on the benefit received by the citizen from his government. Now this is a selfish way of looking at the matter. Government exists for the benefit of all in common, and taxes are no more fines than are the contribution people make to support schools and churches. It is only selfish ignorance that looks upon a contribution to support the means of existence in civilized society as a fine. Besides, it is practically impossible to tax on the basis of benefit received from government, when the poor get such large benefits therefrom. The same criticism applies to the Single Taxer's quest for some "special privilege" as the sole basis of taxation. Let us grant for the moment that land ownership is such a privilege. Does it follow that other sources of income should not contribute their share? How about the great singer or lawyer? Should we not all help support our common government, each according to his ability? To do otherwise would be virtually to deprive us of our citizenship, and it would set an arbitrary limit to the scope of those activities which we carry on through government. This false notion of the meaning and purpose of taxation is a fundamental weakness in the Single Taxer's position.[1] As citizens in common of a government of which we are individual parts, each of us should contribute to that government such a share as his means of payment warrants. A lawyer's $50,000 income should contribute as much as a land-owning farmer's similar amount. All the favor we who own no land should ask is that our contributions be honestly and efficiently assessed, collected, and expended.

That there is any royal road to getting revenue— that we can ever attain free government—is a delusion. Of course, if we are to rob those who have saved and bought and paid

[1]See Scroggs, "The Practicability of the Single Tax," in *Report on Oklahoma Conference on Taxation* (1915); Bulletin of U. of Okla., No. 93, p. 105.

for farms and stores and homes, of the value of their land, we can carry on government from the booty so acquired for some time. But, on the one hand (1) an army of government officials would be called for to administer the system and to see to it that lands would not be abused by the tenants—in short to do just what the present landlord does. This would use up so much of the rent tax that income from that single source would be inadequate.[2] (2) On the other hand, if a bonus were given to capital and to labor by exempting them from any contribution toward the support of their government, they would probably increase and multiply to such an extent as to increase the amount of government activity and expenditure required, and, as individuals, capitalists and laborers would be no better off than before.

I repeat, no juggling of taxation can make taxation unnecessary or government free.

It is more than likely that great inequality would result from a Single Tax, in that some sections have a larger proportion of their wealth in the shape of land than do others. As between city and country this is the case, and the farmers would be burdened much more heavily than the manufacturer under a system of single land taxation.*

ETHICAL ASPECT OF THE SINGLE TAX.

The ethical aspect of the Single Tax, however, needs more discussion. I will assume, as does the single taxer, that the general institution of private property is sound, or socially expedient. The questions, then are: Would the Single Tax do away with property in land? If so, would it be wise and just?

It seems clear enough that few would care to own land if substantially all income from land were taken by the government. Roughly speaking, men want to own things in proportion to their values; but things which bring no net income have no value. It is idle to discuss the question whether the Single Tax would confiscate land or not. Who wants the orange after the juice is squeezed out?

---

[2]Single Taxers are blind to suppose that anything like the total rent could be made available for general governmental purposes.

*See above, pp. 149, 157.

The next question is, would it be wise or just to squeeze the value[3] out of land? The true single taxer sets up an antiquated metaphysical theory of property in order to defend an affirmative answer to this question. I mean the labor theory—the theory which bases ownership on effort expended and would allow title only in those who have made things. Having set up this theory, the single taxer proceeds to argue that land is not made by labor, and therefore should not be held as private property. But how are we ever to separate out the labor element in production? How can it be measured? No one has ever devised a means of making labor a workable measure, especially under our complicated methods of production. Above all, how can we assume that labor makes the value which is the measure of property? Labor spent in making ice at the north pole won't serve as the basis of anything. Nor will labor on improvements on a West Texas desert produce anything but a sweat. I submit, therefore, that, as labor cannot be made the basis of property, it follows that one cannot condemn property in land on the ground that it is not the result of labor.

The reader must not conclude that I believe that land is made by man, nor that I think that all income from land is earned. Most emphatically, there is such a thing as unearned income and land owners receive a good deal of it. But to receive a thing is not to steal it. Because an income is unearned it does not follow that no one should be allowed to own it. The single taxer confuses what is a question of expediency with the question of justice; for the problem of land ownership is to get the best results for society, and the mere neutral or negative fact that man has not made land shows nothing either for or against the *justice* of land ownership. Suppose I find a diamond. Do I commit a crime in holding it as mine? Let us not fall into the error of thinking that, because a part of land value is unearned, it is stolen. It may be *wiser* to allow the owner to keep it than to give it to anyone else. It might be possible to argue that one who merely receives or finds things should not own them; but it is not at all clear that no one should own such things, nor that they should be given to anyone other than the finder or receiver.

[3]Value in the sense of price to be got by sale.

The foregoing statement is given additional importance, because in the case of land, ownership has been so long recognized that confiscation would be a severe blow to our ethical ideals. Land has been bought in good faith on the implied assurance that no peculiar special taxation would be levied. And anticipated future increases in value have been discounted and capitalized in the present selling value paid by present owners. Future chance increases in land value may be justly taken (increment taxation), after notice has been served; but it is late in the lay to confiscate rents that are received for investment made—made, perhaps, with funds earned by labor.

The single taxer of today, however, bases his claim to confiscate land values chiefly on the notion that such values are created by society. Farm and factory lands, he says, owe their increasing prices to the development of society—the growth of population and markets—around them.[4] This is to say that land owes its value to the demand for it. But can demand alone make anything "valuable"? Of course, the answer must be that the limited supply of land plays an important part, and that value of land depends only in part on demand and markets. And exactly the same is true of all other valuable things—goods, capital, labor. They, too, owe their value partly to demand, that is to say, to the existence of society and markets. For example, as society grows and cities spring up, the value of all sorts of special services—surgery, hair-dressing, musical performances, etc.—increases. The value of a Texas steer is as much dependent upon the tastes of society and the growth of population and markets, as is that of the land on which the steer is grazed. In short, all values are (partly) created by society, and this fact affords no more presumption that society should confiscate land values than steer values, surgery values, or any other values.

(If, at this point, the single taxer shifts his ground and turns to the natural scarcity and importance of land, let the

[4]Here we must remember that, even if this were true, it does not follow that society must refuse to let individuals own these values, any more than that because a man finds a valuable thing it must be taken away from him. Even if land values were created by society, the best way to socialize these values might be to let the individuals who make up society own them.

reader remember two facts: (1) this scarcity has nothing to do with the question of socially created value—society didn't make the earth. (2) No scheme of taxation, single or other, is going to make the earth any bigger.)

So much for a review of the fiscal and ethical aspects of the Single Tax. An examination of its claims as a means of industrial reform, should now be made.

THE SINGLE TAX AS A MEANS OF ECONOMIC AND SOCIAL REFORM

The single taxer puts his scheme forth as a sovereign remedy for low wages, crises, poverty, and most industrial and social evils. One of their exponents recently published in the press the following statement: "If it (the city of Houston) were (under the Single Tax), the development of the city instead of being as great as it is, would be ten times greater; and we would have a city on the Houston Ship Channel that would rival Chicago or New York in a decade; we would have a city where charity would not be known(!), where slums and unsanitary tenements * * * would be unheard of; we would have a city where all men would be steadily employed at wages sufficient to educate their children and support their families in comfort. In fact we would have a city that would experience the millenium upon earth, where jails would be used as school houses, and courts would have little to do."[5] Aside from such super-beatific features as the abolition of charity and the use of jails as school houses, this is quite in the spirit of Henry George. I quote to emphasize the fact that the Single Tax is put forward seriously as a cure-all for social ills, and that the Single Tax Movement, as such, may be judged in the light of such great pretensions.

The first great error in the single taxer's case is his notion that private property in land is the cause of poverty. He is mistaken in attributing to private ownership what is due to a relation between population and land. Scientific economic analysis shows that the basis of poverty is the multiplication of population—especially among the least productively occupied—in a world in which natural resources are limited in amount. The fundamental fact is the fact of scarcity—a scarcity which

[5]J. J. Pastoriza in letter to Wall Street Journal (1914).

exists no matter what the form of political and legal institutions. If population so presses on limited land supply as to make food and clothes scarce and dear, can any juggling with ownership remedy? There is only so much to divide; the products of farms and mines must be sold, and sold for enough to cover expenses of producing from the poorest farms and mines; the government could do no more.

But the single taxer says that his scheme would make land freer and so would multiply products and raise wages. He would give the laborer the alternative of taking up land, and he points out the well known fact that when we had free land, wages were high. But just where are we to get such land? This notion is a confusion of the cheap land of early days with the dear land of today. Then land could be secured at a capital value of $1.25 an acre; but now the mere annual rent is four or five times that sum, and would be so whether paid to an individual owner or to the government as a tax. The capital needed to pay that rent (or tax) would be as great under the Single Tax as it is now. Let us suppose that the rent of a given farm is $1000 a year, and that at 10 per cent the capital value of the farm is $10,000. Under existing conditions a man, if he is efficient and trustworthy, can borrow the purchase price ($10,000), paying interest ($1000) on the sum. Under the Single Tax would he be any better off in paying his $1000 tax to the government? It must be remembered that, with the coming of a 100,000,000 population, the day of cheap land is forever gone; that today any capable man can get the use of all the land he can pay rent for; and that, as no government can make land, it is not going to mend matters merely to make the government the landlord and to call the rent a tax.

Although it is but a quibble, the single taxer may say that he is not opposed to land ownership, but to the *private receipt of rent.* Rising rents, he may admit, necessarily attend progress; but to allow individuals to appropriate rents leads to exploitation. The answer has already been suggested in pointing out that it does not follow, because a return is not earned by the person who receives it, that the return should be taken away from him or given to anyone else. To put the case in economic terminology: The amount of rent does not affect the

amount of the other shares in distribution (wages and interest), and consequently increased rent cannot *cause* the impoverishment of labor. (1) Rent is the result of high prices and depends upon (rather than causes) the difference between price received for products and expenses of wages and interest. As the demand for the products of land increases, the prices of the land that yields these products increases. (2) That rent is not a cause of poverty is made more clear when one thinks that rents may rise independently of any change in real wages. In fact, as rent rises because of high prices of the products of land, and wages may rise from the same cause, wages and rent may keep pace with one another. (3) More than this it would be wrong to assume that it is necessary that men must multiply up to the point at which so much land will be demanded that no one can have enough; for there is such a thing as the standard of living which, if sufficiently developed, may keep population in check in so far as is necessary to enable all to receive a share of the products of land.

History will show any open-minded observer that poverty has existed when and where rents were not high, and that poverty has not increased in proportion to the increase in rents. Even those socialists who have any claim to sound scholarship (the "Revisionists") admit that misery is not on the increase, while rents have doubled in the last few years.

Indeed, the single taxer exaggerates the peculiarity of rent. The rent of land is not the only important differential return that is in large part unearned. Such personal abilities as characterize the "great" singer, actor, speaker and other individuals whose income depends on the "personal equation," are gifts of nature, and the income therefrom is unearned in much the same sense as land income. Franchise values depend upon the character of the country and the people in a similar way, yet they are not land values. The general recognition by single taxers that franchises ought to be taxed, and their attempt to confuse franchise values with land values, are quite illogical. Franchise values are *monopoly* values, like patents and copyrights. They are far in excess of the value of the lands used by those holding the franchises.

In short, private property in land and private receipt of rent

are not the causes of our social evils, and consequently the transfer of ownership or income to the government would not afford a remedy.

Let us pause here to examine the claims of single taxers as to the practical efficiency of their panacea as immediately applied—even if only in a partial manner. The following is an exact copy of an advertisement printed in a newspaper in a small Illinois town:—

Bring Your Brains and Money to Houston

A perpetual bonus to manufacturers and merchants is offered by the city of Houston, Texas, through its system of exemption from taxation. Personal property, such as cash, household furniture, and evidence of debt, are totally exempt from taxation.

The Houston Plan of Taxation contemplates that buildings, machinery of manufactories and all other improvements upon land shall be assessed at only twenty-five per cent of their value. Land is assessed at its fair value. Bring your money and brains to Houston, Texas, and get the full benefit of all that you create by your industry and enterprise.

For further information address J. J. Pastoriza, Finance and Tax Commissioner, Houston, Texas.

What this means is that the single taxer wants to take away from the land owners their wealth (the value of their lands), and to give it to laborers and capitalists. No jargon can disguise this idea. Come to Houston, you laborers and capitalists; we will give you a perpetual "bonus" taken from our land owners.[6] What they fail to reckon with is the tendency of the individuals in any favored class to increase in number or output with the object of getting for themselves as much as possible of the bonus. Labor and capital, let us suppose, do flow into Houston. As a result, the supply of capital increases till it gets the ordinary rate of interest necessary to secure its services, and the "bonus" is merely distributed among a larger number, no one of whom gets any more than before. But how will the laborer fare? Laborers also flow into Houston—as they must, if in-

[6]The notion that, by imposing the land tax gradually, the land owner will not have his land value confiscated is too naive to require attention in a serious discussion.

creased capital is to be used—and, if there is to be any competition among laborers, wages, like interest, cannot be maintained above the ordinary rate. (This is on the assumption that Houston would not adopt a law restricting immigration to her happy streets.) Then, the population having increased, labor's share of the "perpetual bonus" becomes divided among a larger number of wage earners, and no one of them is any better off. (Indeed, they are more likely to suffer from overcrowding.)

But, if the local application of the Single Tax idea is folly, it may be argued that a general application would do away with the danger of a rush to certain cities. A general application, however, would make a difference only in that the rush would be slower, coming either from foreign immigration or from an increase in births and savings.

The only conditions under which any of the results claimed could exist for any considerable length of time, would be (1) a monopoly of capital (to restrict its amount), and (2) a strict limitation of population. But if population were strictly limited, under the existing or any other arrangement of taxation and landed property, there would be no poverty among those able to work. Scarce factors will always be valuable; abundant ones will always be cheap.

To speak more positively, insurmountable dangers and difficulties would attend a transfer of land ownership or income to the government. In the first place, how are land and improvements in land to be separated? If such a separation is not made, the value of improvements will be confiscated along with land values, and the incentive to progress be dulled. It may be possible to distinguish the unearned element in the site value of city building lots and in mines; but, as has often been pointed out, agricultural lands have in many cases been made productive by many years of saving and of labor. In such cases, we cannot find what part of the return is due to land and what to capital. George himself wrote: "To improvements such an original title can be shown; but it is a title only to the improvements, and not to the land itself. If I clear a forest, drain a swamp, or fill a morass, all I can justly claim is the value given by these exertions." Then, as though recognizing the insuperable obstacles to drawing such a distinction in practice, he went on to

say: "* * * the title to the improvements becomes blended with the title to the land; the individual right is lost in the common right." (This on top of his statement, shortly preceding, that the greatest of all rights is the right of the individual to himself and to his own labor.) The single taxer apparently fails to see that the just title to the value of improvements on land involves, in many cases, a title in the land. Certainly he does not solve the difficulty to which this consideration gives rise.

Here the query may occur: Does the economist not admit that many improvements become incorporated in the land and that the value of such improvements obeys the law of rent? And does he not still pretend to keep rent and interest distinct? Yes, I reply; there is no important error, in so far as theoretical analysis is concerned, in allowing permanent improvements to function as land. They are valued like land, and all costs and income are covered. *But* this is a very different matter from confiscating such improvements. When it comes to confiscating anything, we must be exact. And when it comes to confiscating any productive thing that man has made, distinctions cannot be lightly overriden. Future production is concerned.

The preceding point suggests a final count against the Single Tax, which is its failure to recognize an *important element of foresight and risk in the value of land.* Sometimes land values rise by chance and without any contribution from human activity. Even here, as already pointed out, it does not follow that no individual human being should be allowed to receive the increased value. But more than that, sometimes increases in land value are due to labor expended, and risks run by individuals. Even natural resources have to be "opened up," and the opening up process is not always a success. This being true, it follows, first, that there is an earned element in enhanced land values and that an injustice would be done by confiscating this element along with the unearned; and, second, that unless "pioneers" and all who seek gain by developing natural resources are allowed the chance to profit by the gains in land values, the pioneering and developing of those resources will be retarded. It is a grave question whether we are so far along in the development of our physical environment that we can afford to take away the spur of private gain that comes from real land ownership. Especially in a great unexploited State like Texas, it seems unwise to do so.

SPECULATIVE LAND HOLDING AND UNUSED RESOURCES.

Speculation is a necessary feature of all business in which uncertainty and risk exist; and in what business are they not found? Where the market is wide, the volume of exchange is great, and the element of uncertainty is large, a wise division of labor gives rise to a specialized class of dealers who are called "speculators."[7] So it is in dealing in grain, cotton, and land. These specialists have it as their function, through competition, to see to it that the commodities dealt in are sold at their full exchange value—no more, and no less. Where there is no such class, with the market which they organize, we find wide local variations in the price of the same kind and quality of articles, and great fluctuations. (Either that, or a deadly uniformity fixed by custom.) Where would the cotton farmer be in his dealings with the local buyer if it were not for the cotton exchange quotations? Now the real estate speculator has the same function to perform as do other speculators, and, while he may abuse that function—as any good thing may be abused—I hold that he may render a valuable service.[8] He gives information concerning opportunities to investors, thus opening up new resources and guiding the stream of investment. He appraises values, seeing future potentialities and discounting them for present users. He often acts as a useful middleman in making desirable areas accessible and available on convenient terms of payment.

Above all, I would stress the importance of having a market in which *the value of land can be determined by free exchange.* Any consistent application of socialism would take away all such markets and substitute fixation of prices by political control; and the single taxer is, in this respect at least, a sort of land socialist. What assurance could we have that land would be used on the basis of its exchange value when the government is the one great landlord? Something of what is meant may be

[7]The reader will note that speculation is here distinguished from gambling. We don't condemn churches because there are some bad church members. Neither should we condemn speculation because there is some bad speculation. Speculators are skilled students of the economic forces of supply and demand and of market conditions.

[8]See the writer's article on "Land Taxation" in *Report of the Tax Conference at the University of Oklahoma.* (Bul. of U. of Okla., No. 93, June, 1915, p. 92.)

learned from our experience in opening up our public lands. Few will deny that, on the whole, the farm land of Texas is inadequately used. Cultivation is too extensive, in that not enough labor and capital are used per acre of land. This economic fact is to be associated with an over-rapid opening of our public lands on "easy terms" by the government, which has been a cause of the wasteful soil-skinning methods of American agriculture. Too much land has been used, nearly free, for our available capital. When one looks around in Texas one is not impressed with the need of "opening up" more land—unless one is looking for one's own private gain through a gift from the State. Should we not go slow, then, in seeking to force all our lands on the market by a tax? Is it not the part of wisdom that land should be held for its full value, so that this great natural resource will be most economically used?

The speculator, then, is to be regarded—in so far as he is honest and efficient—as the agency through which society sees to it that its lands are used on the basis of their full value; and we must remember that it is possible to fell forests, to make improvements on land, and to exploit mines too soon and too rapidly, not building for the future. In this connection, too, it may be worth noting that speculators are not speculating for their health. This, some critics seem to suppose, for they assume that large tracts of land are being held idle, which tracts might be profitably put under the plow or built upon. If they mean that they, the said critics, would be glad to have some of this land given to them, their logic is clear enough. But would it not seem that if there were any profit to be gained, intelligent speculators would either sell the land or rent it pending sale? And, when exchange is free, we may assume that as a rule the largest profits are made by selling things like land on the basis of their most productive use.

THE SINGLE TAX EXTREME AND NOT SPECIFIC

The reader must not conclude that I am proposing *laissez faire* and opposing all regulation. It is only unnecessary or unwise regulation that I object to. One doesn't take a shotgun to kill a fly. Just so, we need not take the Single Tax to reach certain social evils. I believe that holdings of land in excess

of a reasonable size are dangerous, and especially so in the hands of absentee landlords. I believe that in our cities lots are sometimes held vacant beyond all reason. But I don't believe these things are the cause of all poverty, nor that the Single Tax is needed to remedy them. Why not try a land tax that is graduated according to the *size* of the holding? It is the largeness of the holding, not the fact that it is land, that is the point. Very well; let us tax, not all land, but all largeness—if unreasonable. This has been done with considerable success in various countries.* Similarly, if it is absentee ownership you wish to get rid of,[9] add a higher tax on land held by absentees. Lots held vacant in congested parts of cities may be reached by eminent domain, or by a special tax. Inheritence, too, should be mentioned. When one thinks of estates coming down to idle and inefficient children one may for a moment be led to sympathize with the single taxer. But, again, it is not the land nor property in land that is at fault here; it is the *inheritance* of the property. Accordingly, the remedy is to be sought not in a tax on ownership, but in a tax on inheritance—one, too, that would apply to all kinds of inherited property. In short, the causes of our land problem, in so far as they lie in social organization, are specific and we need specific remedies, remedies that go to the causes. There is no cure-all—no panacea. In so far as the trouble lies in scarcity of land, it is to be remedied only by limiting population or improving production. To take the value out of all land, when it is largeness of holding, or absentee ownership, or a quasi-monopoly holding of urban lots, or inherited wealth that is the cause, is like amputating a leg to get rid of a corn.

I believe it would be safe to challenge any one to find a single taxer who will argue fifteen minutes without shifting his ground of attack from *property* in land values to either *largeness* of land holding or to *inheritance* of land or to *monopoly* or to *absentee* holding. I submit that we don't need nor want to cut off property in land in order to remove these other causes of evil.

---

*See above, p. 150.

[9]Remembering that under the Single Tax the government would be the one great absentee owner.

BIBLIOGRAPHY.

Seligman, *Essays in Taxation.*

Longe, *A Critical Examination of Mr. George's "Progress and Poverty."* (London, 1866[?])

Willoughby, *Social Justice,* Chapter VI. (New York, 1900.)

Ely, *Property and Contract,* see index under "Single Tax." (New York, 1914.)

"Report of the Tax Conference at the University of Oklahoma, December 8 and 9, 1914," Bulletin of the University of Oklahoma, New Series, No. 93 (Norman, Okla., 1915); pp. 81 ff., 104 ff.

"Taxation in Washington"; Papers and Discussions of State Tax Conference at U. of Wash., May, 1914 (Bul. 84).

Lowrey, D. M., "The Basis of Interest," in *Annals of Amer. Academy of Pol. and Soc. Sci.,* II, 629.

Files of the "*Real Estate Magazine,*" and of the "*Single Tax Review.*"

Report of Minnesota Tax Commission, 1912.

National Tax Association, Proceedings of 1912 and 1914.

Fillibrown, *The A. B. C. of Taxation* (Boston).

Shearman, *Natural Taxation* (N. Y., 1907).

George, *Progress and Poverty.*

Joseph Fels Fund Commission, *The Taxation of Land Values.*

INDEX