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**ANGLE TAB**  
VISIBLE-NAME  
GUIDES AND FOLDERS

CATALOG NO. 50939

- O. Taxes stop speculation. Or antic.  
of them, due to bonds
- P. Subsidized cap. mths work

~~Q. to~~

✓ Q. Specious but unreal under-re

R. Effects of cap. value of land  
on opt. size, of farm &  
other. To what extent is size of  
farm an indication of best use?

S. Entail, etc. Or otherwise keeping  
land from being a mkt. item.  
Memorialism. Open range, no security of  
improvements. Dead land. Fed. reservations.

T. Taxes in present, not in future,  
discourage ~~some~~ high uses

U. One with inside info. on future  
improvements outbids. Or whose  
higher bid is really a fiction, due to polit. pull.

V. Mechanical anti-spec. devices: 160 a.  
law, Puritans, Mormons, etc., residence  
requirements.

W. Keep idle to preserve illusions,  
to sucker buyers.



X. Veto situations, e.g. big &  
obstruction situations, e.g. big landowners  
blocking bonds, hold'g up development of  
whole area.

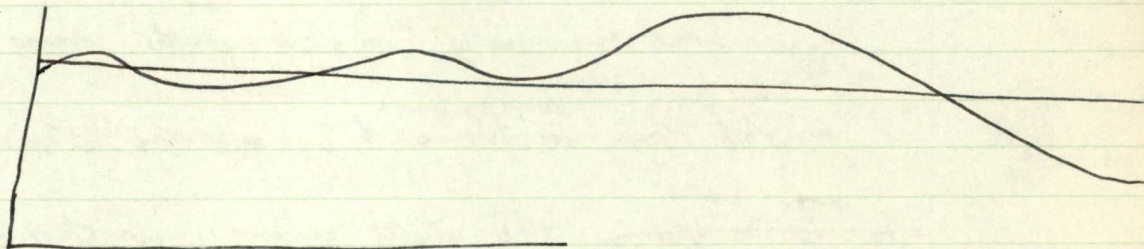
# Symbols for marginal notes.

- A. ~~1~~ Clear example of under-used land. Distinguish types.
- B. 1. Example of differing m.r.s.  
Types of high & low m.r.  
2. The cap. mkts.
- Q. 3. Govt. subsidy of cap. mkts.  
4. Spec. for As to l.v.
- C. Extreme opinions prevail over best opinions.  
Miscalculations of future yields.
- D. 1. Protracted bargaining over unique land. Land assembly.  
2. Overall parcel planning problems, & settlement.  
3. Cooperative projects among neighbors. <sup>local roads</sup> <sup>local govt. works</sup> Their difficulties or non-existence. Ignoring benefits to neighbor.



- D. 4. Holding land idle to prevent its competing.  
Competing with landsales or sales of land's product. / The 2 stages: wanting neighbors, & wanting to stop compet.
- E. Ignorance of best use
- F. Apathy, inertia
- G. Aversion to sell at a money loss.
- H. Taking implicit inc. to avoid inc. tax. & 'losing' in on the pleasure farms. Other inc. tax distortions.
- J. Tax exemptions, legal & otherwise. - incl. unpunished delinquents. Other special privileges
- K. Hazardous titles
- L. Ownership thru use doctrines
- M. Xfer costs
- N. Predatory adm. of taxon improvements

Graphically:



The great base of rent is cut off by taxes & is not bid for, <sup>allow</sup> not  
 affected by diff. mrr. Yields rise above & fall below. ~~Only~~ Yet if a yield is shifted between years,

~~the effect on individual's~~ Yet individual has same incentive as ever,  
 determined by his mrr. to shift yields to present. (His mrr is still  
 effective, i.e., in raising his bid for those yields above the line. But it only  
 raises his distaste for losses below the line, converts net effect that way)

Gmit



~~No fundamental change if user can shift yields among years.~~

iii)

Land users usually can shift yields among years.

Of course they will only be shifted to future. If, by so doing, they become larger. It is

cc. to shift them <sup>among years</sup> to future, if, by so doing, (their present value can be  $\Delta d$ )

~~the future yld.~~ <sup>more</sup> is the yield created is worth more in the present than

the yield sacrificed for it.

Whether it will often depends on what

mr is used.

The only mr on which such calculations should be made is that of the individual user.

The def. of best use worked out, still holds when yields may vary over time. The tax is to be levied without regard to the

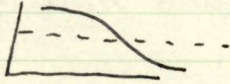
individuals' yield plans. Their <sup>time dist. plans</sup> consequently, will not be affected



[ Low mms can still bid higher,  $\therefore$ , for future yields. However

they cannot bid higher for all time distrib, as they can with no tax.

N.B.

This dist.:  is worth more to high mms than low,

because the future losses are discounted more by him. -- (better ship this, it

leads to abandonment discussion)]

taxes)

One with a high  $mr$  could not use such a plan, for he would discount the later gains more heavily than they were worth (he would not find it ec. to invest in taxes). Use plans will in fact be conceived in terms of indiv.  $mr$ s, & it is only right to evaluate them in some terms.

Low  $mr$  still has advantage in bidding, then. But this ~~because he has capacity to take advantage of shifting~~ advantage is due to the ~~higher yields his low  $mr$  lets him take; & yields to future, where that's advantageous~~ not to his ~~higher evaluation of identical yields.~~

He will be bidding more for an identical yield. But  $r$  will only



(cont.)

Omit this from this paper - maybe bring out later, a refinement of reasoning

Distinguishing  
rent & wages

But, if we reason this way, the man who can get more from a piece of land than another is not getting more out of the land; he is just applying more labor. However, if he is willing to evaluate his labor lower, as evinced by willingness to bid more for the land, then he is not applying more labor, or not enough more to account for the entire increased yield, and he is getting more from the land.

Besides that, he is doing "more" labor, in the sense of more productive, than he might on any other land.-- an additional benefit.

These "yields" are thought of in the sense of liquid yields, yields in a form that can be turned to account, into money or immediate satisfactions. Only on this basis can we talk about time distribution of yields.

The site, now, has an annual yield. --

When is a  
yield a  
yield?

Another possibility is to think of the yield each year as being both the liquid yield plus any increase in value due to fertilizing or growing soil-building crops or refraining from growing depleting crops, etc., and the liquefying of it as simply a choice, then, of the use of the man's capital. --but distinguishing gross produce of land from net rent yield.

But if we choose this def. of yield, what becomes of meaning of time distrib. of yield? This perhaps expresses it more accurately, for it dispenses with an irrelevant idea that was, in my mind, the whole idea, namely the liquidity of the yield.

One could choose either convention. The ag. situation is a hard one to begin with, as it combines stock & flow situations. Take site alone, first.

It would be awkward to say that, if user took yield in form of futures -- e.g. by having store closed for renovations -- that he had taken the yield and then xformed it into cap. -- because that is not precisely what he did. He took the yield as capital, directly; or, he forewent the yield entirely, to increase future yields. If a man labored to produce capital, we would not say that he was idle, nor yielding less in present so his labor might yield more in future. We would say his labor produced capital. So, with land under building being renovated, it is not idle, it is being used to produce capital. Its yield is the value -- some portion of the value -- of the capital produced.-- & this capital must be evaluated at the mr of the individual owner I guess, tho that may be a complication. Shifting yields to future is ok for stock resources, but for sites, & other flow resources, this is no good, it is permissible only if understood as a shorthand way of saying that the site is being used to produce capital on the site.

But exceptions: first, it is not just any old capital, but capital that can only be used on the site, is integrally associated with it, hence maybe we can speak of the site's yields shifted.

2d, a site has this characteristic of a stock, that its vacancy is an exhaustible resource.

The idea of yield I am concerned with is that which is in the mind of the individual who is bidding for the land. All his plans are a unity in his mind, of course, but they must be broken down into the land component when he is bidding for the land. He will not consider the "yield" of the first year, spent renovating, as a yield, for discounting purposes. He hasn't even the choice of using it liquidly. It, itself, will only be evaluated as the



discounted value of its future yields. So, by calling it the yield, we should only be adding an unnecessary step to process. For some conceptual purposes the step is a handy one, & it is good to know it could be done.

So that settles that. Yields are liquid yields. Incidentally, this could include possible resale values at any time.

The reason for trying to do it the other way was to distinguish capital formation decisions from land use decisions. So that different use time distributions would show up to be merely differences in use of capital, not of land. &, to be sure, the time distribution of use is largely that. But the person who can use capital in conjunction with land to the best advantage is certainly the best user. He who can afford not to discount future yields of his capital so much should certainly be encouraged. But he who must discount future basic rent yields should not be discouraged. The basic rent should not be discounted at all, is what I am getting at. And I hoped to distinguish the basic rent from the other yields by distinguishing capital from land very much. I hope this can still be done.

If the basic rent is to be publicly collected, then the individual bidder is still left the choice of his time distribution, and his individual mr will evaluate the future. But it will affect only the allocation of capital, not of sites. The line at which he gets no net annual return from the land will now be drawn, instead of far below the wave representing his annual gross, close below it; or, if the wave represents his annual yield from the land, right thru it, now over and now under.

The idea of a basic annual yield, regardless of time distribution of use, is useful to justify the annual tax or rent.

The basic rent idea now is the sum of the yields over the use period divided by the number of years. This is the highest that a user would bid.

(in practice, I favor leaving an private equity in land, which govt would sell for definite periods. Thus leaving local people something to protect & improve; & assuring no one was overtaxed, could always sell out if in trouble; etc)



( $\Delta$ s not distinct from  $\infty$  series.) Development of thoughts on  
land allocation.

It is now definitely clear that the increment to capital value is not something distinct from the infinite series of yields. After say a 10 yr. preliminary period before a higher yield series comes in, the annual increment is simply the value of those yields expressed in another form. One cannot have both. Consider a bond which pays nothing for 10 yrs and then pays int. & principal off completely in 10 yrs. At the beginning of the paying decade it will have a value based on that 10 yr. series of yields. 10 years before that it will have another value, which is the value of those yields discounted 10 years further back, which is the same as the value of the bond at the start of payments discounted 10 years back. Only insofar as there may be a difference to individuals between the market value of the bond and their own evaluation of the yields are these two not identical. In practice, the individual will choose whichever is higher of course.

Pisterton  
anyway

This does not keep us from showing a distortion in land allocation. Suppose two men bidding to use a site for 25 years. Each can get same yields, each has same internal mr for 25 yrs. Then after that each would plan to sell land, same resale price -- or, alternately, plans to continue using it; and after 25 yrs their internal mrs differ. Emphasize that whichever holds it, he will sell it for same price after 25 yrs. -- so this should have no influence on present allocation. Yet the one with lower 25 yr mr will get the land, even tho his yields may be somewhat lower. This is a distortion. This is dependent on the assumption that the highest use for each after 25 years is to sell to a third party, for that takes it out of the realm of their own two internal mrs. Of course a case could be dreamed up where sale to a third party was not essential. Suppose our old two men, one with 4% one with 5% mrs, and 5 & 4 yields respectively. If these two yields continued to infinity, and cost of cap. xfer continued to exceed 1%, this would not justify capital mkt subsidies. But suppose yields are 5 & 3 respectively for 25 yrs, then the 3 rises to  $4\frac{1}{2}$  -- well, this is hardly conceivable, for during the first 25 yrs the 3 yielder would lend to the 5 yielder. ? No, not at all, for then he would not have the land to get his  $4\frac{1}{2}$  % -- but he could buy it, at same price. And that is crux. It is anticipation that it will be more expensive in future. So try another case: after 25 yrs, both will have increased yields, say each could get 10. It is this which the low mr man will value higher in the present, just as he will value a bond that doesn't start paying for 10 years higher than the low mr man



## Good exposition

Here is a case that seems to meet the issue pretty well abstracted: suppose two series of yields from same land that run on at 4 & 5 to infinity. Suppose usual 4 & 5% mrs. Suppose after 10 years we stop & say "let us take the capitalized value here and compute its present value, rather than go on to infinity". The capital value is 100 in either case. Now if we ran the series on at 4 & 5, the present values would be identical. Yet when we stop & capitalize, the present values differ, for 100\$ ten years hence is worth more to the 4%er than the other.

This seems logical. It follows that, taking any arbitrary time point in two such yield series, the present value of everything after it is higher to the one with the lower mr.. Yet we know that the present value of the two series is equal -- this must be so, else it would not be equal ten years hence, as assumed. It follows therefore that everything before this arbitrary point is worth more to the one with the higher mr, by the amount of the difference. Let us test that.

At 5%, 5 next year is worth what this year? The sum which at compound interest will grow to 5 next year, P sub 5.

$$P_5 + 5\% P_5 = 5 \quad ; \quad P_5 = \frac{5}{1.05}$$

$$P_4 + 4\% P_4 = 4 \quad ; \quad P_4 = \frac{4}{1.04}$$

Or this could come direct from formula for evaluating future yields,  $P_n = \frac{Y_n}{(1+i)^n}$

$$\frac{5}{1.05} > \frac{4}{1.04}$$

Now as the years go by, each year will be worth more to the 5%er until finally a year comes when the two yields =, then subsequent years are worth more to 4%er.

What must  $n =$  for this to be?

over

$$\frac{5}{(1+.05)^n} = \frac{4}{(1.04)^n}$$

Solve for  $n$ , & you know the year of equality.  
This is quite a crucial year I think.

Now I must review in the lite of this.



The general drift of my thought is now clear, anyway, and I can continue with the paper for Weeks w/o nec. perfecting this aspect. Land allocation is imperfect, due to its having to be treated as a capital instrument. This distortion may be very simply expressed in terms of simple interest and constant yields, or more realistically in terms of discounting futures, variable mrs, etc. When the latter used, and/or the increment concept, further distortions become evident, which may or may not be subsumed in the simple distortion of productivity, I haven't decided yet. I must either decide, or change my present outline before proceeding.

Before saying what is the excess speculative distortion, I must decide what is the basic distortion. It is that two different series of yields -- not nec. constant, or one always larger than the other --- are evaluated at different mrs. How would I have it? With lvt, you wouldn't have bidding for the highest yielder for each year, but for some short time period, let us say the time period of one uninterrupted use. True, then, the slight amount of rent he would collect personally would also have to be discounted at his own mr. But the amount would be negligible and, especially, there would be no appreciable resale value. My crude concept of the basic distortion then still seems to hold; and the idea of the increment as the additional distortion has yet to topple.

Inflation is a mighty cause of imperfections in cap. mkt. Loans must be made in money usually.

The life of a loan is another good period for evaluation.

*Costs of Lending*

These ~~exp~~ costs of lending that I crudely pictured as 1% a year cannot really be pictured that way. They are cost of investigating, administering, and risk of loss, and/or cost of forcing repayment in courts etc. The only way to consider these costs in practice is to discount them, as anticipated, to the present, at the mr of the lender. Then we have on the one hand the anticipated yields of the loan minus the costs anticipated, vs. the anticipated yields from using m yourself, as discounted to present.

The largest element in cost of lending may be risk of loss. This does not come until the final year, the year of repayment -- unless repayment is to be gradual. It is something that the lender with his low mr attaches more weight to than other might attach to risk of gain, e.g., thru non-payment or inflation.

? *✓* Risk of loss, incidentally, is an individual, but not a social loss or cost. Significant?

? *✓* If society could discount this risk of loss at a higher mr, would it pay to have socially run cap. mkts?







1  
May the loss of yields, with land, ever exceed the cost of transferring capital, due to infinite life, increments, or resale value -- whichever you please? This seems the basic question now.

(how to measure cost of transferring cap? In present? At what mr?)

Suppose for 10 years a difference of two series of yields, then they are equalized, or a resale value is the same. Should the cost of transferring capital be considered to stop after 10 years, or continue on? Perhaps it depends.

We cannot figure on a yearly basis, but must discount to the present. We discount transfer of cap. costs at mr of lender, and calculations are made in terms of his considerations.

Suppose he figures in 10 years he can get 40 from a capital instrument, I mean he can get an amount which is worth 40 today to him at his mr. A borrower with a higher mr could get an amount worth 50 today, and would pay that for the money -- not 50 today, but instalments of that value to the borrower. Such instalments would not be worth 50 today to the borrower, but even so he would go ahead and pay 50 for the capital if he had to and if he could get a loan, for he could pay off the lender.

So?

So it is a matter of what is of advantage to lender. And if costs of transfer are ever smaller than the loss from not having capital instrument in hands of best user, highest rate getter, he will make loan. So?

~~SUPPOSE~~

It remains for me to prove that the loss from misallocation of land ever exceeds the cost of capital transfer that would correct it. I'm beginning to think it never does.; that if it ever did, the capital would be transferred.

With any series of yields, there is always a distortion of allocation for some years, because the allocation is made on the basis of all the years. Our man A, with high mr and high yields, should get the land in those early years if possible, the later yields being kept for B. The system of tenantry and leasing is an approximation to this end.

It can of course be easily shown that there is no social usefulness in letting later yields influence earlier allocation of land; and it can be shown of course that if land has a capital value they will influence it.

A distinction is necessary between later yields that are ~~exist~~ dependent on the present use-ownership, and those that are independent of it. If they will come anyway, then they should not influence present allocation; if they depend on the present use, of course they should be considered. Now, with exceptions, the yields from land of individuals that depend on their individual ownership & control do not extend but say 20 years. Yields anticipated



after this are general things; anyone could get them, the only requisite is landownership. This is why I made in my mind such a distinction all the time between resale values and personal future use values. The resale gives us a definite point in time when the future yields become general rather than personal, and do not depend on the individual owners. Where land is not to be transferred, the merging is gradual and/or indeterminate, but it certainly will occur.

This is why, under a system of lvt, we must not give the land to the highest bidder for every year, but the highest bidder for some period representing the best use. Its allocation will then be like capital. This will be a hell of a complex problem

Capital markets being imperfect, this vague future value of land is bid for, and the one with the lowest mr today gets it. Does this cause a distortion of land allocation greater than the cost of transferring capital? The difference of yields between A & B in the use period is a distortion of allocation, and the value of the difference cannot exceed the cost of transferring capital between them -- from the mr of the lender. I should not say the difference of yields cannot exceed the cost of transfer, but the difference of yields anticipated, when reduced to present values at each mr, cannot exceed the cost of transfer reduced to present values at lender's mr. (there will be many cases where the period of use may be just a year or less. In such cases there is no justification for anything but annual bidding) The difference of yields may be ten, but when reduced to present values at the different mrs it will be less.--say for a 10 yr. pd. (Costs of transfer may be considered as an annual thing, conveniently, and made commensurate with yield or interest; or they may be thought of more directly as they really are, irregular costs and final risk of repayment, and these may be discounted to the present or considered in toto. If latter, they will be compared with the present value of the two series of yields, subtracted from the series to be obtained by lending to A, and the net present value of such operation to B thus computed. ) Now the question may be faced in two ways: 1, when costs of transfer to B discounted to present exceed the present difference of the values of the two yield series, and hence B fails to lend to A but buys the land himself, does the social cost of transfer always exceed the loss of production due to misallocation; 2, when the transfer costs per annum exceed the per annum difference in the two yield series, same question. (a vaguer formulation, really)

1. A can get yields from the land of 5 for 10 years, then resell for 100. B can get 4 for 10 years, then resell for 100. A wants to borrow \$100. from B at 5% and buy the land. B's internal mr is 4%. A series of 5 at 5% is worth more in the present than a series of 4 at 4% for any period shorter than infinity, so, so far as yields are concerned, A can outbid B for the land's yields for 10 years. --he would not bid \$100., but something like



\$40., for the 10 years of yields. Note that this has nothing to do with increments to land value. The land is not changing in value, the anticipated yields are steady. B would bid something like \$35. for the 10 years of yields. If transfer costs are less than \$5., he will make the loan? No, we must figure what 5% would be worth to B, not to A, for 10 years, and subtract transfer costs from that. 5 for 10 years at 4% would be worth about say 43\$. If transfer costs were less than \$8., B would lend at 5%. A would borrow at 5% so long as the purchase price did not get bid up so high that he did not make 5%. (would there be a double good effect from subsidizing capital mkt's, in that funds would be both drawn from competitive bidding for land, and into loans?)

But now consider the effect of that \$100. resale value, or that infinite series of yields at 4 & 5, whichever you please. These mean that B would bid \$100. for the land, instead of \$35. A would bid \$100. instead of \$40. The value to B of the series of yields he would get by lending to A -- depends on assumptions. How long is this loan to last? If it is to help A bid for the infinite yields, keep his mr to 5%, it must last for ever, and transfer costs would probably rise with time, faster than time. If it is to help him bid for the resale value in 10 years, perhaps it need only last 10 years? No, for if at the end of 10 years his mr was going to rise again, the 100 he would have then -- no, it would be ok. (remember that we are here determining the maximum that people would bid. Whenever they can buy land for less than that maximum, is not that an incentive to buy it for speculative motive?? Brodez) Let us assume that B would lend to A for 10 years, then would get back his principle of 100\$. This series of yields would be worth to B more than what he could get from owning land himself, and he would make the loan provided the difference of the two series exceeded the cost of transfer. But we now have a much larger sum to transfer, which would increase costs of transfer, over what would have to be transferred, and costs thereof, if only 10 years yields were involved. The difference of yields in the two series is, however, no greater than before, for we have simply added \$100. at the end of each of them. So here is the only point I have thus far definitely established, and it comes as a bit of a surprise: transfer costs will be higher, this causes a distortion greater than the cost of transfer of the capital nec. to allocate the "foreseeable" yields -- tho not greater than transfer costs in toto.

In other words, B might get 4 for ten yrs. from owning the land and then sell it for 100 dollars; or he might get from A 5 for 10 years minus transfer costs and at the end of 10 years, \$100. minus transfer costs. The transfer costs on the 100 would make the difference.

(When I get all thru, I can make a list of the distortions in order of infamy: one with lower mr makes a bid that



7 reflects his more generous use of capital; reflects his lower  
 mr on the useful years; reflects lower mr on later years;  
 reflects xfer costs on later years --- of course this must be  
 organized from each of several viewpoints, or bases of  
 comparison, above may not be commensurable and/or mutually  
 exclusive.)

7 Now from the view of alternative means of investing B's  
 capital, we have found now two distortion: the influence of  
 resale value; (even before that, was influence on early years,  
 but that is smaller); and transfer costs on resale value.

The distortion of allocation is greater than the cost of  
 transferring the capital necessary to cause the allocation  
 to be as it is -- i.e. necessary to allocate those yields  
 which are determined by the present purchase.

The thought that has finally enabled me to resolve this  
 problem is that a couple of pages back, that the yields thru  
 infinite time are independent of the present allocation,  
 and they, now represented by the \$100. in 10 years, can  
 now be considered irrelevant to allocation.

Next problem: is the ~~xx~~ distortion from increased  
~~capital~~ cost something independent of the distortion from  
 transfer

~~xxxxxx~~ the necessity of buying those infinite yields at  
 the sametime as one is buying the yields he will be concerned  
 with himself.



Imputation: Net rent, (etc.) can be det.

Opp. Cost can be sensibly interpreted.

How det net return to land, when capital is applied to it? With labor, problem solved by evaluating labor as it evaluates itself by marginal uses.

Cost of the capital each yr is the individual mr of the one with the cap. How is that found? Again, at the margins. Complication is that in future years he may antic diff mrs from today's. But that doesn't affect today's yields. Today, for right now, we can set a value for capital, a yield.

Shall we figure it ante o r post, for the year?

~~ff~~

If a free mkt situation, rent is what he pays for land, if he rents it. Anything he makes above this, his net, is due to his personal qualities, is wages of mgmt. If he gets low rent thru political means, then they make him part landowner, that is another matter. But if he achieves same low rent thru charming the owner, those are wages.

But problem is one who owns land & improvements. If he gets more than expects, from the combo, is it higher yields on cap, or higher rent for the land? That depends of course on causes -- depends on whether the cause of the higher yield was in fact due to his clever use of cap, or due to factors outside his control which affected the land rent. (Of course, occasionally factors outside his control may affect cap returns, & he may influence land rent. But these are exceptions. & anyway, distinction of what is rent & what cap yields still holds: did the change, the unforeseen circumstance, affect him because of his location? or because of his special capital?

A simple way of expressing matter, w/o getting tangled in imputation comple ties is just, "What would they pay for the year's use of the land, rental basis?" Mgr wd give 5/yr, Investor wd give ~~4~~ 4/yr, thus set up example. Say this, instead of "they get these net yields", for this also reduces likelihood of confusion into which Weeks, Krutilla & HGBrown fall, that the yields are a % of something antecedent.

This makes it strictly ex ante: what the prospective user thinks it will be worth to him to have the use of that land for that year. He solves the problem of imputation, we do not try to do it for him. We are not so presumptuous. We have our ideas about how it should be done; but he may have others.

The capital he has on land will last more than a year. But that is no problem. It depreciates in use - subtract that of course as capital expended that year. Deprec & obsolescence both, & obsolescence may be terrific if he discovers errors in fixed cap gambles. - but that is ex post. We are now thinking ex ante -- errors of prediction we do not figure a bad social problem, for 1 yr in future, so we accept this ex ante imputation as so ially ok to go by. He figures what % he could have gotten from the ave of the cap he had tied up that yr. This is an opp cost -- but in a more refined sense than that crude opp cost which is the wages a mgr is offered elsewhere, e.g. -- anyway, the mgr, the



risk taker, he is the residual imputee, for him we figure no o.c., his value is what he makes right here. Land rent is not land's oc, but rather what he is willing to pay for the land. He may be willing to pay more than anyone else, because it fits his individual needs. If he gets it for less than he would be willing to pay, then he has succeeded in getting some of the rent, by bgng -- & because it is he who created the rent, that gives him his bgng power, so it is not a bad thing, for allocation or justice.

Imputing to individual things, human or cap or land, cannot use oc freely. But with cap in general, can, as it is fungible before being committed.

Even if we figure imputation out the long way, it comes to same as what the individual would be willing to pay for the land, for that year. For what he is willing to pay depends on his evaluation of himself. If he values self very highly, as shown by his not working out to a very low margin -- e.g. Caucasians vs Japs on farms --- he then figures a high wage for himself, i.e. is not willing to work for less -- probly because of oc, but we don't know just why -- tho, certes, we know oc ~~ix~~ in all alternatives, including liesure etc, is same as the margin at which he quits work, so it comes to same. --interpreting oc costs that way, & not as what he could make mgg someone else's enterprise.

One might object, different parts of his labor will be differently productive: the inner part, where he decides how to use the land, will be much more productive than the outer part, mgnl work. True: but the same is true of the inframarginal contributions of the land, too. & we can just impute by evaluating at mgn. Equimgnly, farmer gives as much effort to deciding how to use the land as he figures it is worth -- his labor per hr there is no more valuable than it is per hr in mgnl work, if he has correctly allocated his time.-- which also takes labor, which is worth something, so there will be a small margin of poorly allocated time which is ec because is more expensive to allocate it than will be saved -- more expensive in farmer's personal evaluation of the relative effort involved, which may differ from an accountants, but is the relevant one. Thus the farmer's mgmt decisions, while when taken as a whole yield him more per hr than his mgnl labor's worth, still his efforts in mgmt at the mgn should yield the same as other mgnl efforts. & so all his mgmt labor is worth that. In a few hours of the intramgnl work he makes decisions worth much more M than his mgnl ones. Why, then, asks the unfriendly critic, doesn't he spend all his time making very lucrative mgmt decisions? Because the opps aren't there -- he has just one farm, just so many high-paying decisions to make. & he can't hire out as farm consultant because it takes knowledge of the particular farm to make the decisions for it, etc.

~~x~~~~xxx~~ The opp being there, is just to say that his labor is mixed with much intrmgnl land. Essence of mgnl thy of imputation.



It means nothing to say who is the residual imputee. For residual imputation is same as marg. productivity, as Stigler showed. Residual imputation differs institutionally, not theoretically. Institutionally -- & theoretically -- the one who supplies working capital, the investor, is residually rewarded. i.e. the value of his mgmt of his funds, which means the resources he hires with his funds, is finally settled when the stuff is sold. But it is only his value that is determined then. The value of the resources he hires is previously determined, when he buys them, for he is their mkt, & their value is not det by his subsequent (or simul) errors, any more than his value is affected by errors of those who buy his produce, which may be a factor to someone else. In the case of land, then, its value truly is what he thinks it is worth, what he is willing to pay for it, in advance of producing on it. & same with labor, & borrowed capital. Here is the right attitude, the key. There is no ex post disillusionment, no discovery that the land is "really" worth less for the year than he thought it would when he contracted for it. Value is in the mind of the buyer. When he bought it, he thought it was worth that. His judgement was wrong.--the error is his, the ec. waste is due to him, not the land. Let us not be too rigid in this -- once he discovers his error, he is a better mgr for next yr, & is bound by a year's contract to an error he wdn't rept. But as far as society is concerned, he is the best user, he gets most rent from land, even if by virtue of getting no wages for his own work.-- after all, acctg low wages for one's work is one very important way of getting more rent from land.

As to his other capital, he will def. figure some % yield from it, & so is no question of blaming losses on it, saying he got low yields from his cap. The cap he must have to bear the losses; but the losses are due to the mgmt, not the cap. It was perfectly good cap, & paid for it with whatever lender charged, or, if his, whatever mgn he is at, his personal i.r. It was the mgmt that was rotten, & deserves all the blame.-- & credit, if successful. The mgnl yields on the cap were low because not combined with good mgmt, to be sure -- so the yields on the cap are also discovered, residually, & may be det.ed in retrospect by seeing what happened at mgns. Cd refine this further. But for now,

content that rent is what renter thinks it is worth, ante, what he is willing to pay.

Some things that make him willing to pay more:  
 accts lower wages per unit of accomplishment -- which  
~~is~~ subsumes "having superior mgmt ability", for what is  
 important is superior ability relative to price charged.

Being resident, having no functionless problems with tenant



If mgr errs, his judgement work evidently was worth 0, if bad enough. How reconcile with his not working down to 0 mgn in other cases? Various ways. Judgement not worth 0, even if turned out that way. For he judged risks. Just because it turned out that way this time doesn't mean it always will. His work was worth what it probably would be on the ave., not just this time.

Also, the error was probly intramgnl, mgn polishing of judgement probly cut losses.

Also, having discovered error, isn't going to assume all his work is worthless, just because some of it turned out to be.

etc



Basic ideas, showing that <sup>low</sup> ~~his~~ ~~mr~~ has no moral or utilitarian claim to future yields that wd exist w/o him.

Argument here is mainly same as 'Not nec. for land to have cap. value.' so let it go at that, save this for critics, if any bring this up.

Market values, expressed in money, are what make desires of different qualities, & by different persons, commensurable. To be sure, different people can bid differently, but this is to compensate for their rendering more service to society.

Discount rates are to make values anticipated at different dates in the future commensurable with each other, & with present values. When the timing of the future yields is to be affected by the actions of the individual investor, then it makes sense to let him calculate according to his individual discount rate. Within his little economy, that is the relevant rate, and values of different times should be made commensurable at that rate, so that he will distribute those values ~~among~~ in time according to his own rate. But where his actions do not influence the distribution, or existence, of the yields; where he just bids for a yield that exists anyway; then the distortion is unnecessary, & why put up with it?

This is a good approach. Unequal p.p. is justified as reward's extra production. But analysis all in terms of immediate goods. If future ones are considered, is assumed all have same mr.

Different mrs. cause highest bidder for immediate satisfaction, from residential land, not to get it. Any reason for this? Any reason why R shd get even just the future yield alone, if it were alone.

- {
1. Is not nec to ~~allocate~~ create the future yield, it wd exist anyway.
  2. But it destroys some of the future yield, by depriving P of opp.
  3. It does give extra impetus to cap. fmns, as Poor can lower mr & thus acquire land by saving himself, whereas if he could get the land anyway, might not. But of course in general land spec is anti-cap fmns.

If present yield were separable from future ones P wd get ~~them~~ present, & that wd. accord with ideal allocation. Qn. is, is there any reason why R shd get future ones? In justice or ~~or~~ utility? None in utility: they exist ~~despite~~ w/o him, he is just bidding for ownership of yields that exist anyway. Justice is also utility, for to allocate all resources, must compensate people for productive sacrifice. Does ~~it~~ this reward saving more? It obviously rewards labor less by taking land from full use. It rewards saving more only if it  $\Delta i.r.$  But it  $-\Delta i.r.$  &  $-\Delta sav.$  anyway.

To perfect allocation, ~~mynt~~ ~~off~~ reward shd just = ~~mynt~~ social cost. Is not enough that you shd just get some more for  $\Delta$  sacrifice: shd get just that amt more which you ~~produce~~, so at ~~mynt~~  $mp = mc$ . 'That amt' can be measured in present values. & whether future land yields due to ~~present~~ are included among the things that can be bought <sup>over</sup> makes



Subject  
The Problem  
Formulating Subject:  
Def: Land, Rent

Spec.

Hypotheses

abuses: of Spec. i.e. of fact that land has a cap. value, i.e. of fact it is sold, instead of leased.  
Allocation (Building to more complex)

allocation. (Highest net inc. is best allocation. w/o this, miss full empl. So study of alloc. is also macro-ec. 'Unempl.' just being extreme case of misalloc, as idle land is of spec. in general.

- a. ~~Inc~~ In perfect comp.
- b. Mnp trend (absent landlords) (allude find to city mnp too)  
LS causes mnp; causes govt. restraints; & distorts govt. recognition of extended benefits.
- c. ~~Excess subdiv.~~ Rural & Urban
- d. Conservation  
Stock Resources (Gov. Tax ends int. drive)  
Waste by tenants
- e. Extended Benefits.

Dynamics  
I.R ... L.S. draws from investing  
Cap Fm  
Excess Subdivision, Rural & Urban. Land Settlement. P.W.  
Cycles (B.M. supply).  
Development of Underdev. areas.  
Employment th. Alloc. rec. Land as complement.

Ee Thy (Distribution)  
'Function' of Landownership.

Land Spec. In History

Land Spec. & Local Govt.

Local Govt. as an agency of land speculators  
Restrictive Elements in local govt.: expressed thru tax, zoning planning, & to some degree in all local fns.: Policing, Licensing, etc.  
Commons  
Divisiveness  
Mnp



An abuse of spec:

undue emphasis on cash crops.

If tenants had more pp, wd  
grow more for home.

& conserve more.



Gaffney's manuscript reached me today.

It does not seem to me that the argument is very illuminating. In fact, I think it leaves out completely such important influences as to make its conclusions of little value, and perhaps merely confusing.

It leaves out a significant point in re imputation. Thus, he writes of a poor man who "gets higher yields" than "Mr. Rich," from a piece of land. The context seems to indicate that this is a yield of the land. He nowhere seems to raise the question whether this extra yield might not be managerial wages to Mr. Poor. On the theory of imputation, a man's wages tend to be the difference between what the product would be with him alive and working or dead! Five or more men may be bidders to hire a piece of land from an owner. The one who gets the use of it may know so well how to use it and/or so ill how to use other land, that he would - IF necessary - offer more than he actually MUST to keep the next most eager user from outbidding him. The MORE that he can make is NOT land rent. If it is an extra yield that others would not get it cannot be imputed to the LAND. If this one user were to die, that extra yield would disappear. It is part of what is imputable to HIM and constitutes wages, - extra wages, if you like, above what he could earn if he knew less well how best to use this land. This is no place to go at length into the problem of imputation. I am merely saying that the manuscript appears to me to have been worked out with no appreciation that there is any such problem.

It seems to assume that "Mr. Poor" cannot USE the piece of land unless he BUYS it. Why can he not, perhaps, HIRE it from "Mr. Rich?" Or, if he really is extra efficient, why will not Mr. Rich compete with others to HIRE Mr. Poor as a manager of the land, thus giving Mr. Poor a wage income based on his productivity? Why would not this be to Mr. R's advantage? IF Mr. R does not desire EITHER to make the necessary capital improvements OR by long lease or otherwise make it possible for anyone else to do so, that is a DIFFERENT question not considered by Mr. Gaffney.

It approaches the problem of what Mr. R. and Mr. P. would be willing to pay as a price for the land, on the assumption that each has a discount rate based on some condition of comparative NEED, - seemingly a pure TIME-PREFERENCE concept. Mr. R. would pay a price based on a LOW discount or "capitalization" rate because he CAN AFFORD to WAIT. This omits completely - and I fear many other economists do the same - all reference to Mr. R's alternative of investing in the construction of capital having a rate of PRODUCTIVITY. If capital in the community has, in general, a marginal productivity of (say) 6 per cent, Mr. R will invest in the construction of such capital RATHER than purchase LAND at a price so high as to give him any lower per cent. (His time-preference rate will also come up to this same per cent, whatever it would otherwise have been.) My guess is that scarcely one in a hundred - if anything like that many - contemporary economists see these relations with any clearness at all and the author is hardly blameworthy for not understanding



what has probably never been presented to him by colleagues or teachers. BUT to ignore it makes the entire argument unrealistic if not even nonsensical. Time preference and the willingness to wait (same idea) are not without importance. But to ignore the existence of the ALTERNATIVE of constructing capital, when one is asking how much a rich man will pay for a piece of ~~a~~ land - OR to ignore the alternative of lending - seems almost like writing Hamlet without Hamlet.

Occasionally some sentence occurs that gives one a queer reaction. For instance: "Let the rich bid up securities, no harm is done. Allocating resources is another matter." The the author objects to Mr. Rich bidding up the price of land. Well, buying securities MAY be buying both land and capital, and, I'd guess, USUALLY is. Then if bidding up LAND is objectionable, how can it be harmless to bid up securities if and when purchase of securities IS, in part, the purchase of land (in the form of corporate shares of land ownership)?

In referring to the possibility that vacant ~~lots~~ "maybe economical provision for expansion" it could do no harm to mention, at least, that any advantage from holding them which may impinge on the mind of the speculator, should be balanced against the social loss from the longer distances that people must walk or ride, that goods must travel in being delivered to customers, &c. and that unless such loss is somehow made to impinge on the same mind that senses the possible gain, there is a considerable tendency toward waste. But this may be a bit vague. Most of the other points seem to me highly important.

I think I see, in general, what use the author means to make of his graphs. It certainly does not seem clear what is meant by the graph at the top of page 11. Is Mr. Gaffney seeking to picture the valuation by R. and by P. as being a valuation of the entire piece of land with all expected future yields or just the present value of the yield in some future year such as the fiftieth? The graph looks as if it were intended to picture the value over at the right - though it is a PRESENT value and time runs to the right! Also, the value is put on the same graph as the PER CENT expected yields (per cent of WHICH value?) and it's pretty hard to get just what they are intended to show. Maybe I'm just not quick or sharp enough but I can't help thinking the author has some obligation to make his meaning clear to the general reader of such a periodical as this one.

At the end of my paragraph 3 above, I should have commented that it is NOT true that Mr. Poor has to have the purchase price from his own savings. In view of the tremendous number of purchases consummated through borrowing or through acceptance - by the seller even - of a mortgage, the supposition that Mr. P. must offer a lower price BECAUSE he lacks capital and so has a high discount rate is extremely unrealistic and could lead to a ridiculously wrong result. Mr. Poor can often BORROW from some OTHER Mr. Rich and, if he has a bit of a margin to put up, may borrow at a lower interest rate than the first Mr. R. expects from the land.

How much height (3% or 4% or what?)  
equals how many dollars of value?

P. S. much of college economics is such a muddle of confusion and fallacy. That, inevitably I think, many a naturally bright student will be - and the being - ruined intellectually for life. It is not a pleasant fact to think about.



Land is misallocated in our economy. We concede ownership to the highest bidder on the plausible presumption that he <sup>will be</sup> the <sup>best</sup> highest user, but experience casts doubt on this presumption. Some speculators ~~landowners~~ hold land absolutely unused, and this obvious misuse seems to be only an extreme ~~inxxx~~ manifestation of a more general distortion. Most land offers a long, uncertain series of future yields, so most landowners are perforce land speculators. <sup>ec.</sup> The same/forces that make some owners hold land completely idle/~~inxxx~~ <sup>can be shown to make</sup> most owners hold land partly idle, i.e. underused. This study aims to define <sup>'full use', &</sup> and explain 'underused' land.

On what basis can one say that the highest bidder is not the highest user? ~~Has one any right to suggest~~ <sup>One must search his own soul before ~~condemning~~ <sup>criticizing</sup> market judgements</sup> the highest bidder is not the highest user? ~~One must~~ <sup>be cautious in condemning market allocation.</sup> <sup>Too</sup> Many critics <sup>a system simply recognizing other tastes other than</sup> too freely condemn markets for failing to honor their own <sup>own subjective values.</sup> Should we, too, not admit that

~~While~~ <sup>While</sup> tenantry, absenteeism and other evils offend our private judgement ideals, <sup>do the evils that indispensable social arbiter</sup> ~~theyxxx we should accept the~~ <sup>which reconciles our various opinions & desires, has decreed they should exist. Does</sup> ~~objective market judgement?~~ <sup>Not necessarily.</sup> ~~The present~~ <sup>There are objective</sup> criticism is based on more objective standards than that. <sup>standards by which to criticize such land use.</sup> While accepting ultimate market judgements, I contend that the land mkt ~~for failing~~ <sup>to</sup> to comply with those ~~ultimate~~ judgements. The markets ~~for consumable~~ <sup>or</sup> goods may be the ~~ultimate~~ <sup>supreme</sup> court wherein our various ideas of what is valuable are reconciled, but the land market is only a lower court which ~~aims to~~



system", AHR, July, '36, v. 41, no. 4, July '36, p. 652-681

— Gates, PW, ICRR & its Colonization, p. 107, pp. 123 ff.

Weeks, David, & West,  
correlation between

The Problem of Securing closer

George, Henry, Our Land & Land Policy

Billington, R.A., The Origin of the Land Speculator as a  
Frontier Type, ~~Nxxx~~ Ag. Hist., pp. 204-212, Oct. '45, Vol. 19, #4

Hibbard, Benj. H. A History of the Public Land Policies, N.Y. P. Smith,  
1924. p. 219

Gray, L.C., "Land Speculation", in Encyc. of Social Sciences,  
p. 68. Vol. IX, pp. 64-9, Macmillan, NY, 1933

v. also Const of Cal, Art. XVII, sec. 2.

One cannot survey this evidence & doubt that land is often  
seriously misallocated.

Land Tenure Gates, PW, Frontier Landlords & pioneer tenants, Ithaca, Cornell U. Press,  
1945, 64p.



whose decisions are revocable where they ~~clash with the~~ <sup>contradict the</sup>  
 higher ~~courts~~ <sup>one.</sup> I do not propose to substitute my  
 personal judgements for market judgements; but to  
 I do not condemn the market ~~for~~ because market values  
 differ from my private values; but because the land market  
 thwarts production of ultimate mkt values.  
 to show that the land market allocation at present obstructs  
 a maximum production of market values.

At first glance, it appears possible to prove land  
 misallocation from the empirical evidence alone. The  
 facts are overwhelming. Wherever our economy has penetrated,  
 land speculators have accompanied or preceded it, ~~and~~  
~~their activities been chronicled by~~ Many historians: *have chronicled*  
*their activities.*

*Settlement of western irrig. projects, has been universally delayed by*  
*Land spec. has ~~been~~ <sup>invariably</sup> ~~disrupted~~ <sup>interrupted</sup> & often ruined w. irr. projects,*

e.g. Abundant evidence of this is found, among other places, in

- the following works: R.P. Teele, Ec. of Land Reclamation, <sup>HD 1671</sup>  
 1927 A.W. Shaw Co, Chicago, 1927 esp. pp. 185-7; p. 194; <sup>UST4</sup>  
 p. 99-100  
 R.P. Teele, USDA Dept. Bul. 1257, 1924, p. 33 *Land Recl. Policies in U.S., Wash, GPO,*  
 Thomas, George, The Development of Institutions Under <sup>1924.</sup>  
 Irrigation, N.Y., Macmillan, 1920. p. 217  
 Mead, Elwood, Rept. of Investigations of Land Settlement &  
 Irrigation Development in America, 1914, Rept. to Minister of  
 Water Supply, Melbourne, *Govt. Printer, 1914*  
 -Mead, Irrig. Institutions, 1903, *N.Y. Macmillan*  
 p. 21  
 Grunsky, C.E. Irrig. Ent. in U.S. 1915, *Scm from*  
 p. 8, p. 11  
 Hutchins, Wells, IDs, USDA Tech Bul. 254, 1931. *Wash, GPO.*  
 p. 10  
 Coman, Katherine, Some Unsettled Problems of Irrigation,  
 AER, Mar., 1911, pp. 1-51 <sup>19</sup> p. 10, p. 18. *Vol. I, No. 1*  
 Hedges, J.B. Building the Canadian West, *N.Y. Macmillan, 1939*  
 p. 154, p. 191, p. 218, p. 224, p. 230, p. 232,  
 p. 249, p. 262, p. 346 et seq., p. 389 *Land spec. More general evidence is in the R*  
 Gates, Paul W., "The Homestead Law in an Incongruous Land



Evidence ~~like this~~ as clearcut as this, however, is generally limited to economic frontiers, areas into which higher uses are expanding. It only shows that much frontier land is temporarily misallocated, <sup>not that all land use is distorted.</sup> One may infer that the system which fails at the fringe is also wanting at the center, but one has not proved it. To be sure, the fringe itself is appreciable. Frontier land economics are today re-enacted at urban fringes, ~~which comprise~~ an area est. in the U.S. to equal that of Pa. (~~fringe on L.A.~~ <sup>fringe</sup> v. e.g., Master Plan of Land Use, City of L.A., Reg Pl. Dist., p. 68-71., About 40% of available urban lots were found vacant. City of L.A., L.A., 1941)

~~xxxxxxx~~ These are just the areas where construction is concentrated, bank credit is expanded, and other key decisions in an expanding economy <sup>made</sup> made. But the more valuable land is at the center, not the fringe. In settled areas the evidence is harder to interpret. The frontier is not subtle; its secrets are laid bare for all to see. In settled areas raw facts are less revealing.

The ~~parallel~~ between frontier speculators and latter day absentees is suggestive. Where land values are rising fast, speculators buy in. (Truesdell frnt)

Goldenmann & Truesdell, Farm Tenancy in U.S., 1920,  
Chap. 7, Wash, GPO



Like frontier speculators, made  
...speculators buy in. May not the same forced that ~~xxxxxx~~  
frontier speculators ~~to~~ hold land idle make his modern counter-  
part under use it? ~~Both~~ <sup>they</sup> value land for its future more than  
its ~~present~~ <sup>current yields.</sup> Frontier ~~neglected~~ <sup>spec.s</sup> present yields entirely  
and the misallocation was plain to see. Modern ~~speculators~~ <sup>absentee owners</sup>  
often ~~rent~~ <sup>Treadwell - same state</sup> let their land on short terms, and our statistics  
and concepts are too crude to tell us forthwith if the land  
is "fully used" or not. We think the land would yield more  
under an owner-operator, <sup>pres't; & observe, common function but to own.</sup> but this is not self-evident. After  
all, if it ~~wasxxxxxx~~ is so, why does an owner-operator not  
outbid the absentee? Perhaps the absentee owner serves a  
useful function; even he has defenders. <sup>The system does not</sup> advocates. Thus far we  
~~stand condemned, but it is clearly suspect.~~ <sup>over</sup> The system is clearly  
~~have no condemnation, but only a well grounded suspicion.~~  
<sup>suspect, it does not stand condemned.</sup>

Very well, let us get the facts and make a judgement.  
Cf. the use made by speculators and others.

Would that it were that simple. It is not clear enough what  
facts we want. What is a speculator? All landowners are specul-  
(absentees are surely speculators; but others are spec.s too, inev.)  
ators, as mentioned, inevitably. And what is full use? No  
avail to collect facts until we know what we're looking for. When  
we know it will be clear enough -- & we won't have to look far.

be better formulated.

~~This~~ <sup>xxxxxx</sup> suspicion must ~~face/analysis before/research.~~ <sup>xxxxxx</sup> As it  
stands it can hardly be tested. How show that speculators  
~~xxxxxx~~ <sup>ably</sup> use land less/than others when, as aforementioned, all  
landowners are perforce ~~xxxxxx~~ speculators? How judge any  
land use when full use ~~is~~ remains a hazy concept? (How evaluate  
implicit costs and revenues?) No statistician can tell ~~us~~ the  
relationship of speculation to ~~land~~ <sup>land</sup> use when neither one is



Farm Tenancy Rept. of Pres's Committee, Feb. '37. Wash, GPO

p. 6. Correlation of salariness & tenant occupancy striking'



clearly defined; and, to anticipate, when they <sup>will</sup> have been defined,  
~~research will only corroborate what <sup>will have</sup> ~~has~~ already been made quite~~  
clear. *the relationship will be quite clear.*

In practise, full use is often impossible to determine.  
Even theoretically it is elusive. For one too eager to prove  
a point, ~~the xxxxxx~~ overstatement is easy. Before launching  
too enthusiastically into the current, take warning against  
the Lorelei.

stark  
~~creaking~~ and abandoned,  
~~covered with~~  
Manya ~~xxxxxx~~ "Folly", bears mute witness that net yields  
are often reduced by more intensive use. Using land is not like  
putting the shot, ~~striking for ever greater~~ the farther the better;  
it is like ~~xxxxxx~~ chipping to the <sup>golf</sup> pin: not too far, but just  
far enough.



This is fortunate, for, empirically, the problem is hopeless. Even theoretically, <sup>9</sup> full use is an elusive concept, as will be seen. In practice, degree of use is impossible to measure. Consider some of the difficulties:

~~Not annual yields~~ The investigator must find the net yield.

~~xxxxxx~~ This involves evaluating all the costs and revenues, including implicit ones such as the pleasure derived from a view, or the pain from ~~xxxxxxxxxxxx~~ a soap factory.

He must evaluate the use ~~plan~~ over many years, ~~not just~~ as no short ~~time~~ period can be assumed representative.

He must compare the actual use with various alternatives which exist only in ~~the~~ conjecture. He must quantify what he can hardly conceive.

It is easy to find evidence of underused land if one is uncritical. Many ~~writers frequently judge~~ conservationists and city planners, for instance, ~~frankly deliver judgments~~ ~~xxxxxx~~ ~~the~~ measure the land system against their own ideals and find it wanting. These, at bottom, are usually ~~subjective judgments~~ private opinions without objective economic meaning.

*Or, we read in the stat. of Cal. Div. of water resources that* Sacramento pp.  
*Or, we read that only 19 million out of 26 m*  
*much 'irrigable' acres are not irrigated. Source: Permanent Rate of Irrig. Dev. in Cal., Div. of Water Res., 1930, p. 165*

many

"irrigable" acres were irrigated in 1945. But what is an

"irrigable" acre? Where are those 7 million unirrigated irrigable acres? I have seen some of them in an irrigation district under a dry ditch that was <sup>dug</sup> ~~built~~ to establish a claim to water. The water is used elsewhere in the district; the ditch was probably a fraud. Others acres are ~~in~~







But what is an 'irrigable' acre?

We find some <sup>in an I.D.</sup> under a dry ditch that was built to establish a claim to water. The water is used elsewhere in the ID. The ditch was ~~probably~~ a fraud. We find some more in a hummocky ~~sections~~ <sup>areas</sup>.

levelling cost is, ~~not~~ <sup>yet</sup> prohibitive, we are told. We find more in a prairie state: 'Not worth irrigating most years'. Are these the real reasons, or ~~sedatives~~ <sup>to quiet the pain of curiosity?</sup> ~~shots~~ <sup>shots</sup> ~~ordered~~ <sup>by addicts</sup> which

that people ~~to avoid the pain of thinking deeper?~~

It is nothing, for our purpose to know

Probably a little of each, ~~but~~ but the facts are not clear cut. I have found little evidence that is really conclusive. ~~in~~

No one can tell us if it would be 'economical' to irrigate this land. Irrigation would no doubt  $\Delta$  the gross yield, but it might cost more than it was worth.

Conclusive evidence is not to be expected. Even theoretically 'full use' is an elusive concept. Before ~~plunging~~ <sup>leaping</sup> too enthusiastically into ~~the~~ <sup>the</sup> ~~current~~ <sup>current</sup>, let us

Second, The concept of full use is tricky & elusive.

take warning vs. <sup>the Lorelei:</sup> ~~certain~~ <sup>pitfalls</sup>. Lorelei which will try to lure us ~~off~~ from the channel.

Full use need not be intensive use.

~~the~~

Full use is that yielding the highest net return, not gross. The number of people employed, <sup>or the cap. inv.</sup> on land, the capital invested there, are not direct measures of use. The less labor & capital ~~can be~~ used for a given results, the higher ~~the~~ net yields. <sup>Applying sound is a pretty sound. ~~same costs~~</sup>

contribute to ~~as well as high gross~~ are as important as high production. One can find any

No land use anywhere would be 'full use' if

History is full of agitation vs. sheep run, <sup>the ag. machinery</sup> cotton pickers & the like, which ~~lower costs~~ <sup>opp. for</sup> reduce the ~~cost~~ <sup>cost</sup> of labor & cap. on land.

omit?

~~Often~~  
The source  
points out to  
home instruction  
bias.



In our own day we have been tempted to believe the social cost of ~~employing~~ <sup>using</sup> ~~the~~ labor <sup>& cap.</sup> was zero, & ~~that~~ he served his country best who <sup>spent his money the most.</sup> incurred the highest costs. ~~If we~~  
From this viewpoint, <sup>all land is underused, our point is proved,</sup> ~~no existing land use is anywhere near 'fottose', & we need look no further.~~ Without passing on the merits of the many ~~gt~~ stirring up ghosts, let me draw the obvious conclusion just ~~obvious~~ that this inquiry can only proceed on the conventional ~~basis~~ <sup>accounting basis</sup> only makes sense, if we restrict our ~~on the ass. that~~ <sup>it is less</sup> search, if higher net, rather than gross yields ~~if we assume~~ the desirability of minimizing costs. ~~should be minimized.~~ We cannot accept the <sup>labor & cap.</sup> massive evidence of ~~underused land.~~ <sup>idea</sup> It may be, but ~~we~~ <sup>the view that</sup> less intensively <sup>and</sup> ~~is~~ <sup>is</sup> always <sup>indicates underused land.</sup> yields less net return. ~~It often nets more.~~ Only the net yield (The highest use is that with the highest net.) ~~is a~~ <sup>is</sup> ~~Many a~~ <sup>'—'</sup> ~~'is Folly';~~ <sup>the palace that never paid off</sup> is a ~~less~~ <sup>less</sup> use of land. Despite its ~~being witness to the waste of unused land.~~ <sup>to the land</sup> magnificence, it left a net yield of zero or less. ~~to the land.~~

Net yield of land is hard enough to distinguish, but it is only the beginning of the puzzle. We must also consider the relationship of the use we see to the whole use of which it is a part, in time & space. Old buildings do not need mean underuse. After all, buildings are <sup>made</sup> ~~meant~~ to last. It would be unrec. to replace them annually, or even decennially.



No TP

When land is turned to less intensive uses ~~the displaced~~  
opportunities for labor (or capital) are reduced; ~~and their sympathizers~~  
~~disemployed labor and capital displaced sympathizers with~~

~~the displaced labor~~ often condemn the new land use and, in  
ardor

their ~~enthusiasm~~, declare the land is being held from its

best use. (finte: Eng. sheep inclosures) <sup>Just, ag. mach.</sup> One must resist the

~~temptation to accept the voluminous evidence that such land~~  
~~is "underused".~~ ~~A casual search turns up countless~~

~~common~~ <sup>Best use, to some, means maximum opp. for labor. Complaint is</sup>

plaints against those who lower costs and thereby (seem to)

~~lower~~ "destroy jobs". ~~Lowering costs again~~ They are accused

<sup>holding land from its best use.</sup> of locking ~~up natural opportunities~~ labor & capital out from

~~natural opportunities.~~ <sup>If labor has alternatives, this cannot be accepted - & it is</sup> Such accusations cannot be accepted,

<sup>often in response to labor scarcity that land is turned to less intensive use.</sup> at face value. The land may indeed be underused, ~~as~~ but not for

the reasons given.

*This viewpoint is generalized in the saying that*  
~~A related idea is expressed in the modern~~

~~that~~ the social cost of employing resources may be zero.

Whatever the merits of this idea in some connections, it

~~does not apply to~~ <sup>labor</sup> cannot be used in evaluating

land use. If private costs are not social costs, all land

is underused, <sup>because all land uses economize labor</sup> the point <sup>made</sup> is proved, and this study ~~would~~ <sup>is</sup> ~~be~~ <sup>would be</sup>

~~be~~ finished. ~~Without striking~~ <sup>can only</sup> The study ~~will~~ proceed

on the assumption that the highest net yield represents the

highest use. Many a "Folly", stark and abandoned, bears mute

witness that ~~net yields are often increased by more intensive~~

~~more~~ intensive use, with high gross yields, is not always

best. Valuable labor & capital, wasted in creating things

people do not want in places they do not want them, are not

to be ignored.



~~The~~ ; that ~~valuable~~ labor & capital may be wasted by putting the wrong thing in the wrong place.

~~misconception error~~  
Another ~~easily indulged excess~~ is to judge land use on the basis of the present only. Land use must be judged over the years, unless <sup>the present<sup>ly</sup> is</sup> absolutely ~~unconnected~~ unrelated to past & future ~~use~~. Houses are built to last many years; ~~we~~ do not expect a new house on every lot every year. Old buildings, perhaps slums, may be the best use of land. Even vacant lots may be economical provision for expansion, ~~or~~ They may be held in anticipation of lower building costs, or because anything erected this year would only be torn down shortly afterwards as ~~a~~ <sup>an</sup> anticipated higher use materializes. (fnnte: in land settlement, owners may delay settlement to let others make the initial <sup>costly</sup> mistakes which create a communal local fund of ~~knowledge~~ farming ~~knowledge~~ lore. This has the advantage of preventing mass disasters of misjudgement, and the disadvantage of reducing the financial support of local services of large optimum size, like irrigation systems, churches, schools)(and is withal too complex too sum up in a few words)  
Exhaustible resources may be held in anticipation that society <sup>later</sup> will need them more --- this is the essence of conservation. These may not always be sufficient reasons for seeming underuse but they ~~are~~ are reasons of some value, and that



value must be ~~measured before~~ accounted for before one can conclude that land is underused.

(proably have a separate para. stating all these matters impossible empirically, only possible theoretically.)

The most common error of all is the least subtle: failure to consider implicit costs & revenues. (the preceding two para.s should be designed to show the difficulties of empirical study too, like this one. This requires a change in the introd. para to ~~them~~)



judged  
Furthermore, land use must not be ~~condemned~~, as it so often  
is, on the basis of explicit costs & revenues alone.

~~Finally~~, implicit costs and revenues must be accounted  
for. Not only the hogs sent to mkt, but the breeze and  
the view & the neighbors yield annual returns. One hears  
of ancient farmers who cling sentimentally to the old  
homestead, refusing to sell to ambitious youngsters who  
might bring forth twice as much corn. Is the land fully used?  
The <sup>grain</sup> ~~corn~~ alone is no criterion, for the old man's memories  
may be worth more than the young man's corn. ~~If we accept~~  
the judgement of the market, they certainly are. ~~But do we~~  
~~accept the judgement of the market? That is the very issue.~~

We have not yet accepted the market's judgment -- indeed, that  
is the very issue --- but we cannot condemn the market, as  
some carelessly do, because it gives value to an old man's  
sentiment. If the widespread landownership of old men is  
wrong, there must be other reasons.

<sup>study</sup>  
Finally, the ~~inquiry~~ is limited to land economics.  
Quotas, subsidies and other market obstacles may distort  
land use as much as anything ~~discussed in this study~~  
peculiar to land economics. For the present study, however,  
the array of prices as they impinge on the land user is  
taken as given. ~~The inquiry is limited to land economics.~~

~~It is~~ The land system <sup>alone</sup> ~~which~~ is before on trial, not all the  
~~lotteries of humanity.~~



## 2. Formulating the problem.

~~Further~~

~~Why land idle - of. Not adequate.~~  
~~How can it be used?~~  
~~How can it be used - or why don't~~  
~~& how can it be used outbid greater.~~  
~~At any rate, it is assumed that it is used, which is questionable despite spec.~~  
~~First must decide what are highest & lowest~~  
~~uses, def. highest use. - which is not obvious, even~~  
~~after what we have been thru.~~  
~~(In process of defining it, we will see~~  
~~the greatest obstacle to its attainment.)~~  
~~Then ask why does the market ever~~  
~~cause any use but highest?~~

~~Why is land underused?~~

We have ~~established~~ that land is often unused in areas of growth;

& have planted ~~the~~ a suspicion that it is often underused elsewhere.

We want to explain <sup>the known use</sup> ~~why it is underused~~. ~~& look for~~  
<sup>a priori reasons for</sup> rational causes of the underuse we suspect. We should expect

the explanation of known use to also ~~prove~~ bear on the  
suspected underuse, so these 2 projects may be undertaken together.

<sup>If we explain the spec. motive that leads to this</sup>  
<sup>extreme abuse, we should will understand have</sup>  
<sup>explained shown a general motive to prevail.</sup>

Why is land held idle? The everyday answer is, it is  
held for a rise in value. This does, indeed, <sup>seem to</sup> describe the motives observed  
<sup>in reality.</sup> ~~of the holder.~~ But it <sup>does not satisfy</sup> ~~is not an adequate answer.~~ <sup>But</sup> It leaves

an unexplained riddle: why does <sup>the owner</sup> he not use the land while  
waiting for a rise? Why forego all that potential  
revenue? Looking at reality again, the answer is usually clear:  
he is not in a position to use it conveniently. He is not  
in the right kind of business, he lives too far away, he is  
too busy, etc. ~~This~~ But why, then, did he buy it at all?

Why was he not outbid by someone who was in the right business,  
lived nearby, & had time to use the land? Increments to land  
values are not reserved for those who hold land idle. Any  
landowner receives them, whether he uses the land or not.

Rephrase



Generalizing this, we must answer: how can a <sup>(advocate, devotee, seller)</sup> ~~one who gets lower yields~~ <sup>one who gets higher?</sup> Why does the market allocate land to ~~those~~ <sup>one who gets higher?</sup> ~~one who gets higher?~~ <sup>When we have the answer,</sup> ~~one who gets higher?~~ <sup>one getting higher yields.</sup> ~~one besides the highest use?~~ <sup>Is it due to imperfect markets, or to our imperfect ideas of</sup> ~~one besides the highest use?~~ <sup>what is a perfect market? Or imperfect ideas of highest use?</sup> If there is a general answer, it will explain frontier speculation & also <sup>prove</sup> a general misallocation of land. <sup>We must do the higher use.</sup>

The highest use <sup>\* Ante</sup> of land is an intricate concept. As previously mentioned, it is the highest net yield, ~~over~~ <sup>the years</sup> when ~~due attention~~ implicit costs & revenues have been properly evaluated, ~~intertemporal & interspatial~~ relations have been considered, and the current use is seen as part of a long term use plan. ~~This last element~~ Seeing the ~~intertemporal relationships requires more, however, than~~ In the field, all these qualifications are formidable; In theory, ~~only the~~ <sup>last,</sup> ~~intertemporal relationships are~~ most of them can be assumed away. all but the ~~last~~ <sup>conceivable</sup> can be quickly subsumed. We can assume it possible to distinguish the ~~net, evaluate implicit values,~~ boil ~~all~~ it all down by speaking of uses whose <sup>annual</sup> net yields are, ~~to say,~~ 8 units, when everything has been considered.   
[ But even so - - - ]

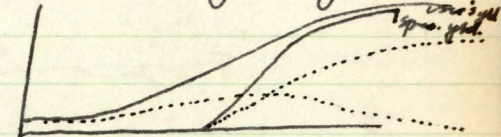


This comes about ~~from the influence~~ because one buying land buys not just the current yields, or the yields with which he will be concerned, but all the yields thru infinite future. The difference between discounting at 4% or 5% is negligible the one year in the future - only 1% <sup>at time</sup>. Over time, the difference becomes looms up to dominating proportions. <sup>It's a question of land, not cap. etc.</sup> To show this, add to the graph 2 lines showing the present values of the future yields as evaluated by R & P at their own mrs.



give numerical e.g.

The frontier speculator ~~can afford to~~ <sup>stays to</sup> hold land idle, <sup>& still outbids</sup> them, because of the higher value he can place on the future yields. It is true, that user would receive these higher yields, too, but he cannot bid much for them because of his high personal mrr. The early years, which he is prepared to bid for, are years of relatively low yields, so he is often outbid. The picture is something like this:



In case spec. plans to resell, inf. future all expressed in resale value, picture like this As come in.

But the frontier spec. who holds land absolutely, etc is only one kind. The simple explanation posed above also shows that all land is misallocated: esp. land whose future is high yielding relative to its present: & land on which yields are high relative to differences between individual yields - i.e., valuable land, land on which a high cap. value to bid for. (Show this on graphs) Brodeur. This casts new light, makes us sit up & take notice. Misallocation not a passing phase on frontier. The more valuable the land, the worse the allocation.

This explains a good deal of what is observed in reality. ~~Answer looming up.~~

~~question is, has land been~~ But we cannot rely on intuition to say that what appears to be best use really is. Maybe highest bidder is highest user after all - ~~that has proved a worthwhile~~ <sup>that has proved a worthwhile</sup> ~~the economy has run on that hypothesis~~ for many centuries.

Test rationalizations. (v. attached sheet) ~~(include idea that in part comp, all have some mrr)~~

Rationalizations do not hold.

Case now stronger that

~~Very much~~ present system does not allocate land correctly. <sup>No excuse for calling anything but Dorr's the highest yield</sup> Cannot

~~Answer looming up, but lacks precision.~~

be absolutely sure until have defined best use. <sup>Easy to say what's wrong; but what's right?</sup> (Even if we find

~~system lacking then, it still might follow it is best possible. That is to be~~

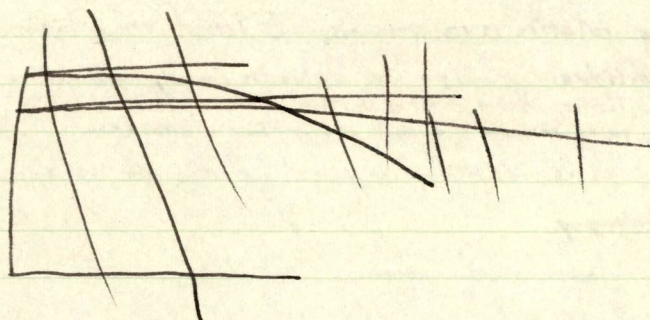
~~seen~~) We may find that present system, despite demonstrated shortcomings, is better than any conceivable alternative. To be seen.

attachment

~~problem~~



Thus phrased, <sup>is simply assumed</sup>  
 Phrasing the question ~~this way, the answer is quite simple.~~ If  
 the 'highest use' were mentioned, no answer would be possible until 'highest use'  
 were defined. - & that is what we will ultimately do. ~~But for now we have but~~  
~~to for now~~ "One who gets higher yields" implies that one  
 The present formulation can be handled simply in terms  
 It is instructive now to answer the simpler question first.



go forward, collect  
 stuff for here.

Suppose, by that magic <sup>stroke</sup> wave of the wand which is theory's  
 prerogative, ~~at theory~~ we have ~~estab~~ overcome all <sup>measurement problems</sup> ~~the measurement~~  
~~& conceptual difficulties~~ previously alluded to, & established the  
 existence of net land yields, <sup>Suppose these ~~net~~ yields to be</sup> ~~to be expressed~~ <sup>expressible</sup> in simple numbers.

Consider 2 indiv., Mr. Rich & Mr. Poor, both interested in buying the same <sup>land.</sup> ~~land.~~

Rich anticipates yields of <sup>4</sup> units annually, Poor of 5, thus: Poor  
Rich  
 Poor gets higher yields, but is not nec. higher bidder.

Suppose Rich discounts future at 4%, Poor at 5%. Both will bid just 100

units for the land. If Rich discounts future at any less than 4%, or Poor at

any more than 5%, Rich will outbid Poor. Thus land is kept from use with highest  
 yields.



with but two bidders,

~~The speculator may~~ The example, is hardly ~~a~~ not true to life.

But if there were 100 Mr. Riches and 100 Mr. Poores, it would not make any difference. True, there might be some who combined better the/attributes of ~~both~~ each: high yields, and low mr. There would, in fact, be great variation of attributes. But in any event, the individual with the highest yields would probably not be the individual with the lowest interest rate. Some individual with lower yields and lower mr might outbid him. So Mr. Rich and Mr. Poor are simply symbolic of the highest two bidders out of a great number of bidders. They are also symbolic of <sup>man of wealth who</sup> and his two polar types: the one of whom becomes a landowner, the other indigent tenant. of whom his tenant.

-----

If the speculator plans to sell, rather than take the future yields himself, ~~than~~ he is not bidding for the <sup>the</sup> infinite future yields, but for ~~a finite~~ resale value he anticipates. He may value that resale value higher than any user values all the future yields, thus:

As the land value is expected to mount to that resale value gradually over the years, the "annual increment to land values" is another description of ~~the speculator~~ what ~~tempts the~~ <sup>bid for.</sup> speculators. As previously remarked, the speculator's interest in the annual increments does not in itself explain why he can outbid ~~others, as they~~ users, as they would benefit from the increments too. Now it is clear: he values them higher because



of his lower mr. (finte: a rich man counts them as liquid as they come, not as realized)

ion  
~~The~~ frontier speculator, however, is only an extreme and especially observable misuse of land. The same economic force that cause frontier speculation cause all land to be misallocated. ~~The explanation above~~ Frontier speculation differs from other misuse only in detail. The basic cause is the same: ~~/d~~ infinite futures <sup>are</sup> bid for by individuals <sup>with</sup> different ~~dr's~~. ~~Thus~~ The original suspicion is confirmed. In explaining frontier speculation we have shown a general distortion of land use. This casts a new light on land speculation. Speculation cannot be dismissed as a passing phase of the unruly inexplicable frontier. It ~~is~~ distorts land allocation everywhere.

Of course some land is misallocated worse than other land, depending on the conditions. Misallocation increases with three causes: divergent <sup>future - now</sup> mrs; high ratio of future to present yields; high ratio of ~~total~~ yields to differences of between yields anticipated by individuals. Land is worst allocated, correspondingly, where wealth is unequally distributed and capital markets are poor; where land yields little in the present and is expected to yield much more in



Hint - & esp. where high yields & high mns go together, &c.

But for ~~general~~ simplicity, assume random dist.



*Toward All*

the future; and where land is most valuable. Such empirical evidence as we have bears out these conclusions strikingly.

*Quoting Brall 3. ~~Italy~~, ~~France~~, ~~Toward All~~*

*Goldman & Towardell, Farm Tenancy in US, 1920, GPO, Wash  
Chap. 6*

All these conclusions ~~xxxxxx~~ stem from the simplified assumption that the individual getting highest yields is the best user. Nothing could be more reasonable on the surface.

These conclusions stem from a simplified formulation. ~~They~~ The simplification is useful, for it shows show the main distorting forces at work. ~~xxxxxx~~ <sup>xxxxxx</sup> It is dangerous <sup>harm</sup> to generalize from such simple examples as that of Mr. Rich & Mr. Poor, ~~however~~. What we must ultimately do is give a general definition of the "best use" of land. ~~Perhaps~~ the highest bidder is the best user after all -- that has proved a workable hypothesis in many markets.

Perhaps the highest bidder is the best user after all --- that has proved a workable hypothesis in many markets. Society sometimes concedes a higher value to the rich's whim than the poor's hunger, in reward for the rich's income producing capacity. May this not be analogous? Society concedes a higher value to a smaller amount of future income to the rich than to the



poor.

The analogy is not admissable. Society ~~permits those with~~ low mrs to secure their future with stocks and bonds, and bid them up ~~as much as they wish~~. If it were simply a matter of who is to own future values, ~~gratifyingxxxxxxx~~ it would be all right; ~~but it is a matter~~ of resource allocation. Let securities be bid up. No harm is done. Allocating resources is another matter. Consider land ~~xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx~~ that is used as an instrument of production, and not at all for direct gratification. The free market in instrumental goods is useful if it allocates them to those who will get the highest yields from them. This is the only basis for the highest bidder's prerogative. The value of the yields themselves is the ultimate criterion of use, not the value which individuals give to the instruments that produce them. *An ownership which permits less than the max. poss. yields is ~~definitely~~ <sup>definitely</sup> thwarting the dictates of the consumer market. [The instrumental what is to be judged by its success in meeting producing consumer values.*

The analogy is ~~only~~ partly admissable. When ownership of a future value ~~is the only matter involved~~, the highest bidder is as good an owner as any. Consider aging wine. The ~~product~~ wine ~~xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx~~ must be "carried" for some years until sold. If raw wine were auctioned, the highest bidder would be one with a low mr. He is the one best able to carry ~~it~~ the product over its unproductive years. When it is aged, ~~if~~ ~~itxxxxxx~~ ~~xxxxxxxxxxxxxxxxxxxxxxxx~~ ~~again~~, the ~~highest bidder~~ ~~would~~ and future values have become present values, it is reallocated to ~~the highest~~ ~~bidder~~ him who gives it highest present value.



If the land is to be used for direct personal pleasure,  
and the yields are implicit, the conclusion is <sup>the same</sup> ~~no different~~.  
The implicit yield for which a poor man <sup>will</sup> ~~would~~ pay \$5.00 is  
worth more than that for which a rich man <sup>will</sup> ~~would~~ pay \$4.00. ~~over~~  
Landownership is not the ultimate gratification, but only the  
means to obtain it. For best allocation, landowners should  
be those who take gratifications of highest market value  
from the land. Where they are not, the highest bidder is  
less than the best user.

If a future value of only one instant <sup>be</sup> ~~were~~ all that  
is involved, the highest bidder <sup>is</sup> ~~would~~ ~~indeed~~ be as good an  
owner as any. Consider ~~eg~~ wine production: the raw wine must  
be stored for years until finally sold. The highest bidder  
for raw wine is he with the lowest ~~mr~~. This does not distort  
allocation however, for when the wine has matured and is  
ready for sale, time discount is no longer an element in  
bidding; only the present ~~value~~ undiscounted value affects  
the wine's allocation. Meantime it has been carried thru  
the <sup>waiting</sup> ~~unproductive~~ years by him most able to do so. When a  
~~future series of yields is involved~~, allocation ~~is~~ distorted.  
~~However~~,  
When future yields are integrally connected with present  
yields, <sup>differential bidding for them distorts</sup> ~~however~~, then the allocation of present yields, ~~is~~  
~~distorted by differential bidding for future yields~~. <sup>and</sup> When the future yields <sup>will</sup>  
have become present yields, allocation will still be distorted,  
because another ~~infinite~~ <sup>will</sup> future ~~still~~ lies ahead.



By measuring the yields in objective value units, we have  
already accepted the market as ~~arbitrary~~ <sup>fails, by</sup> supreme determinant  
of social values. The land market ~~is wanting~~ because it  
thwarts <sup>ing</sup> expressed consumer ~~market~~ preferences.



Long Note, next p.

remite

This rationalization, then, is wanting. The highest bidder" not prima facie the highest user. This rationalization is no excuse for accepting lower yields as a higher use.

PP

~~The highest bidder then, has no magic. He is not always the highest user.~~  
~~If there is no magic, then, in the highest bid. It need not be based on the highest user.~~  
~~It is no excuse for accepting yields lower than the highest possible as 'highest user'.~~

PP

The answer to the original problem is looming up in rough outline. It still wants ~~exercise~~ delineation. Thus far our answers have been negative. It is easy to say what is wrong; but what is right? We may discover that the present system, despite its demonstrated shortcomings, is better than any alternative. To be ~~really sure~~ on firm ground, we must define "best use" formally. This is not as easy as it may at first appear.

As previously mentioned, land use must be judged over <sup>takes</sup> they years. The judgment ~~is~~ far more than simple addition. We ask not just how much? but also when? Future yields are worth ~~less~~ <sup>more</sup> than equal present yields, and must be discounted. <sup>At the or past yields magnified, & looking back.</sup> Some plans sacrifice present yields for future, others stress quick returns. ~~The only way to make~~ such varied plans commensurable, <sup>we</sup> ~~is to~~ discount them to the present.

finite

~~finite~~ <sup>finite</sup> Besides Discounting is also necessary to give finite values to infinite series. ~~Diff~~ Definite use plans of different individuals extend various years, and <sup>vague</sup> ~~hazy~~ plans run on indefinitely. No one year can be chosen in which all plans naturally end. Ultimately, no doubt, all plans fuse into a hazy identity, but we cannot say just when. We must therefore compare them thru indefinite time, and discount them to make the values finite.



Long Ante

Biddens in

The market, of course, discounts infinite futures to the present, and thus <sup>land is</sup> allocated ~~land~~. If every individual discounted ~~the~~ future values at the same rate this allocation would be perfect. Since in fact, and even in theory, <sup>future</sup> ~~they~~ individuals do not, <sup>at</sup> what <sup>rate</sup> ~~we~~ should the future be discounted in defining best use? It makes a difference: at 15%, the best use is one ~~that which~~ crowding the highest yields into the first few years; At 1%, it is more that with highest average annual yield. The question must be answered, before best use can be defined.

over

Note that this is a separate matter from that previously analyzed in the example of Rich & Poor. There no question of time distribution was involved; both anticipated constant annual yields. The example of Rich & Poor showed that the fact of different individual mrs distorts land allocation, regardless of time distribution. The paragraph above shows that some mr ...

)

Offhand, one would think the "correct" mr at which each individual should discount future yields is his own individual mr. That is the rate prevailing in the "market area" of his ec. decisions. Yet, harking back to the example of Rich & Poor, discounting future yields at different mrs causes great distortion in land allocation quite apart from questions of time distribution. We do not want to define best use in such a way that steady yields of 4 units per annum are a higher use than steady yields of 5 units per annum. How resolve this dilemma?



finite: I do not think, even in "perfect competition", it makes sense to assume that everyone discounts future values at the same rate, any more than it makes sense to assume the price of oranges is the same in LA & NY. If two markets are separated by finite xfer costs they may still be, in effect, the same market. Prices will differ only by the constant and competitive xfer costs. In theory, as in practise, the cost of xfering capital by loan is finite, ~~and~~ is perfectly analogous to the cost of xporting oranges between areas, and prevents a single price's being established, even tho competition were "perfect".

~~Assuming homogeneous units~~ Neither does it make sense to carry the assumption of homogeneous units so far as to assume all individuals have identical mrs to begin with. If all individuals were thus homogenous there would be no cause for trade of any sort, hence no social economics.

---

Keep this matter distinct from the one analyzed in the example of Rich & Poor. That e.g. showed that even where time dist. of yields is no issue, <sup>bidding</sup> allocation is distorted by bidding differences <sup>among indiv's</sup> at diff. The present matter is that when time distribution is an issue, the definition of 'best use' depends on the dr chosen.



We could, of course, choose one ~~mr.~~ some average of market rates, ~~call~~ call it the "correct" mr, and make judgements with it. This procedure would be all right if ~~all~~ decisions had only to be made among various yields <sup>series</sup> of constant annual value. It would make Poor ~~the higher user~~ with his 5 units annually, a higher user than Rich, with his 4. But where use plans with different time distributions must be evaluated, the standard thus created is no norm. ~~The use plan with highest present value when discounted at one standard mr might not be the highest at another mr.~~ Each ~~dr~~ places a premium on <sup>a</sup>certain time distributions. In many instances, ~~often the one we would be defined as higher than others only because our only reason for declaring our use higher than another would be that one failed to adjust tax was distributed less~~ <sup>time-</sup> <sup>more</sup> in accordance with <sup>the</sup> arbitrary ~~dr~~ than the other. No arbitrary ~~dr, then,~~ <sup>normative</sup> provides a standard of best use, <sup>with</sup> ~~that means anything normative.~~

No P

The best time distribution for each individual is that <sup>which has</sup> with the highest ~~present~~ <sup>for the present</sup> value when discounted at his own individual mr. (to written sheet)



b) Normatively, the best <sup>time dist.</sup> use for each individual is that

which is ~~conforms~~ to his own mr. Each individual's personal

'capital mkt' is analogous to, say, a regional <sup>lumber</sup> ~~grain~~ market: it is

surrounded by high transfer costs. We do not judge the Utah

lumber economy ~~at Utah~~ <sup>in terms of Oregon lumber</sup> by the ~~prices of~~ Oregon, nor by

~~the~~ <sup>national</sup> average ~~of Utah~~ <sup>lumber</sup> prices. Only Utah prices

are relevant.

Neither do we judge <sup>Poor's</sup> Johnson's <sup>Rich's</sup> ~~capital economy~~ <sup>use of capital</sup> by <sup>Diver's</sup> standards, nor by average standards.

Each individual plans time dist. of yields after the needs of his  
He compares <sup>different time dist.</sup> them with one another in terms of his own discount of the future  
own mr.

To ~~subsequent~~ If we judged them vs. an  
arbitrary mr, we should be ~~calling~~ <sup>him</sup> condemning his use for doing the  
very thing it should do, <sup>following</sup> ~~react~~ to the ec. guideposts of its own

'market area', the ...

In this respect the market behaves properly. ~~We should be~~

~~loath to~~ A def. of best use should recog this, by ~~presuming~~

~~not~~ No standard dr will serve in defining best use.



This really follows from a & b, is not in addition

c). ~~Besides~~, varying mrs exist in reality, & probably always will. A definition of best use must mean something when faced with this fact.

The dilemma is not resolved by choosing one mrr to discount future. We have to discount future yields; we want to be rid of the distortion caused by discounting at different mrs; yet we must preserve the individual mrr. Thus stated the problem seems insoluble. Yet the solution is really very simple. It comes from an unexpected quarter.

Return, now, to Mr. Rich & Mr. Poor. Mr. R, discounting future at 4%, anticipates yields of 4 units/yr. P, disc. at 5% anticip. 5 units/yr. <sup>first use as examples</sup>

~~To expand the matter more simply, I will work with yield series with constant annual yields. Of course, if all yield series actually were constant over the years, no problem of time distribution would exist, & <sup>no</sup> the dilemma. ~~of time distribution. would not plague us.~~ The highest annual yield would be the highest use. But now we know we cannot get away with such a simple answer in general, we can work with simple cases to see general principles clearer.~~

exchange with P & R.



The dilemma remains. ~~Maximize Must~~ To define highest use normatively one must discount the future at the individual ~~drs~~; yet this ~~introduces distortion~~ distorts allocation, as shown in the example of Rich & Poor. <sup>\*</sup> To define best use, we must somehow preserve the individual ~~mrs~~ and still prevent them from distorting allocation.

The means to this end is really very simple. It is the answer to like/one of those baffling parlor mathematical conundrums ~~that~~ which appear complex but are reduced to trivia when the tortured mind probes the hidden <sup>blind</sup> opener. which lure the mind up ~~blind mazes~~ complex mazes, which prove to be blind, but reduce to trivia when the hidden <sup>easy approach is seen</sup> key is found.

elements which increase distortion of alloc:

Recall the <sup>three</sup> ~~causes of distorted allocation~~: differences in individual ~~mrs~~; high ratio of future to current yields; high ratio of yields to differences between individual yields. Each of these is a clue pointing to a possible means of defining best use.

The first, which perhaps seemed most obvious to follow, has proved a cul-de-sac. I apologize for leading you to it, but it had to be shown that it was fruitless. The second will prove equally fruitless. The third, which at first appears less clear, leads directly to a solution.

<sup>\*</sup> The example, for simplicity, was given in terms of const. yields. - i.e., time distrib. was no issue. But the basic distortion <sup>remains</sup> when ~~it~~ <sup>is</sup> becomes an issue



The second clue ~~would~~ suggests that, to define best use, the influence of the far future be diminished. The main distortion in allocation is caused by far future yields. ~~This would give some rough approximation~~

We might chop off yields anticipated further than, say, 20 years hence, and just compare use plans for 20 years.

~~While this would give~~ This crude procedure is obviously crude. ~~plans intervals;~~  
~~not precise.~~ Use ~~periods~~ last various ~~periods~~ times; there is no magic in 20  $\frac{1}{2}$  or any other number of years. Some use plans may sacrifice yields for 20 years in order to increase them thereafter. Besides, ~~discounting futures at different rates causes plenty of distortion just within~~

~~20 years.~~ Even within 20 years differential discounting would distort allocation appreciably.  
~~causes an appreciable distortion.~~



The 3d clue leads to a solution.

*Allocation is also distorted*

~~Distortion of allocation is also increased~~ by high ratio of yields to differences among individual yields.

(Distortion should be reduced, then, by lowering this

ratio.) The <sup>higher</sup> ~~greater~~ the yields, the <sup>higher</sup> ~~higher~~ the capital value of land, ~~xxxxxx the different values placed on xxx~~

The <sup>higher</sup> ~~greater~~ the sum bid for at different mrs., the greater the distortion ~~they~~ <sup>any</sup> caused by the difference of mrs.

On the other hand, the <sup>larger</sup> ~~greater~~ the difference between

yields anticipated by different individuals, the greater

the likelihood that this <sup>factor</sup> ~~element~~ will <sup>outweigh</sup> ~~overshadow~~ the distorting

factor, <sup>& cause land to be</sup> ~~so that land is~~ correctly allocated. In brief, <sup>e.g. over</sup>

differences between yields anticipated by different individuals

tend to make allocation right; high yields tend to make

allocation wrong. ~~It follows, then, that~~ Distortion

can be reduced by ~~xxxxxxxxx~~ lowering the ratio of yields

to differences between individual yields; that is, by

exaggerating differences between yields relative to yields

themselves.



If Poor anticipates yields of 6/yr instead of 5, the difference between yields is  $\Delta d$ , & ~~2~~ ~~100~~, R & P retaining the 4 & 5 yr d's respectively, misallocation is out of the question. Or, keeping the difference the same, if the size of yields is reduced, as it ~~is~~ Poor ante 3 & R ante 2, ~~the~~ alloc. is likewise improved.



This is accomplished by supposing land to be taxed. Individuals only bid for the privately collected yields of land. If land's capital value is deflated by anticipated taxes, less remains for individuals to bid for at different rates (say discount rates). ~~Distortion~~ The distorting element is reduced. At the same time, differences between yields anticipated by different individuals are as great as ever. The primary allocating force is preserved.



Taxed land is another example.

The distortion is due to the fact that users bid for the capital value of land, or for all its yields thru infinity, which is the same thing. To avoid this, consider the land drained of

capital value by anticipated taxes. Then individuals will only be bidding for the difference between the taxes and their ~~own~~ anticipated yields. The influence of differences in yields will

overshadow the influence of differential discounting of the future, for the difference will be as great as ever, but the amount to be discounted much less.

~~In the case of Mr. Rich & Mr. Poor,~~  
Now return to Mr. Rich & Mr. Poor.

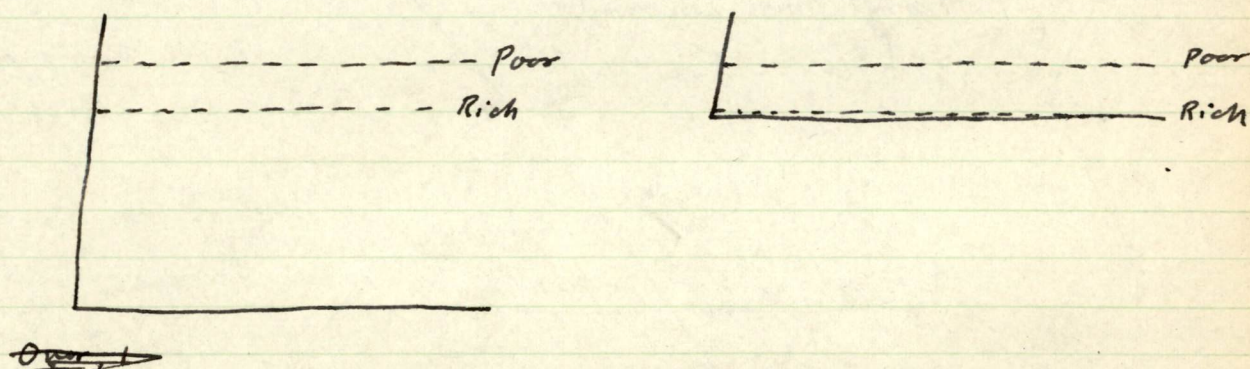
Poor

anticipates 5 units yield annually Rich 4. Because Rich discounts the future at 4%, & Poor at 5%, each bids 100, & the land is in danger of being misallocated. Suppose a tax of 4 units annually is anticipated. Rich bids nothing; Poor bids 20. The land is safely allocated to the higher user. ~~At the~~

Note: "fall away had steady yield", is present and distinct, but cannot assume in general, as the large, more probable approach.



Graphically, this simple reasoning shows up even more simply. Everyone knows how a percentage difference in 2 figures may be exaggerated by cutting off the base of a graph. That is in effect what we have done. We have cut off the base of privately collected rent to exaggerate the difference between yields received by different individuals.



With no tax the 1 unit annual difference between yields of Rich & Poor is but 20% of Poor's yields, & is counterbalanced by the 20% difference of their mrs. With the tax the 1 unit difference is 100% of Poor's yield privately collected yield. The influence of the differential mrs is completely <sup>eliminated.</sup> ~~substantially merged.~~

It is now easy to define ~~best~~ highest use without reference to an mr. ~~It is that use~~ The highest user is <sup>\*</sup> the user is part of the use, so this is something.

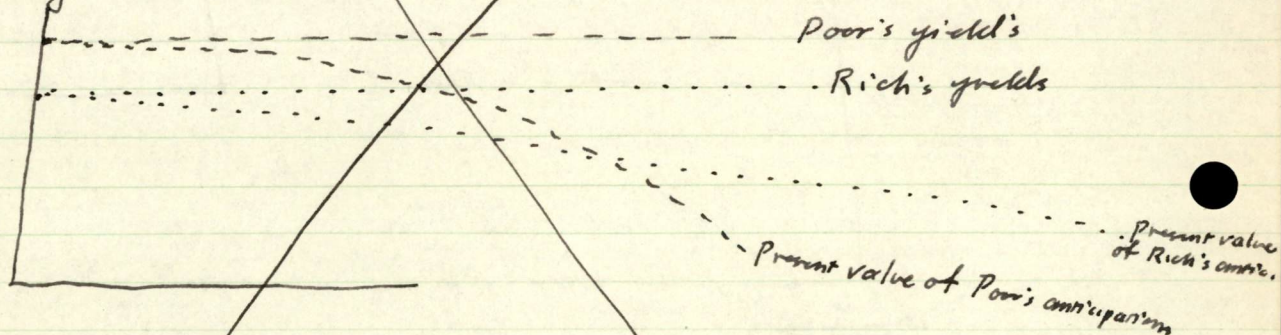


he who will bid something for the land when anticipated taxes are so high that no one else will bid anything.\*

~~The highest yields~~ In this way the highest bidder is also the one with highest yields. This definition succeeds in defining highest use as it <sup>should be</sup> ~~no excuse for taking anything else as highest use~~ <sup>opt.</sup> w/o reference to any mr.

1. <sup>future?</sup> The chart is deviously simple, is a first approach to what we have done.

Following more advanced.



This chart shows us why ~~the~~ ~~antic~~ taxation antic. into for future is nec., - current taxation relatively unimp. In early years, differential mrs cause little distortion. It is in bidding for for future they cause distortion.

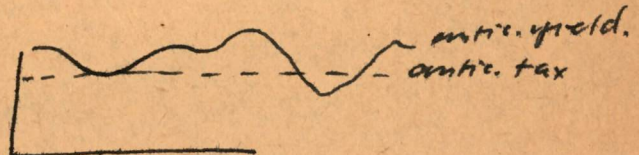
\* This is an ass. anticipations are correct. Actually they are not, & this is another cause of distortion in fact. ~~But The chart may be amended to meet this if one wishes.~~

But we have no way of knowing, in present, where antic. will be correct, so must accept antic. - recognising this inevitable limitation on def.



Where annual yields are constant, the definition works out very neatly. Where they vary over the years, and time distribution is an issue, it works out equally well. Indeed, it was created ~~in~~ with ~~max~~ time distribution in mind. The BULK of future yields is removed from the influence of differential discounting, as shown in the simple example of Rich & Poor. The FORM of future yields -- i.e., their time distribution -- is evaluated at individual ~~max~~ discount rates. The individual who still places a value on land when others have been discouraged by anticipated taxes is he who places the highest present value on the difference between his anticipated yields and the anticipated taxes. This difference is still evaluated at individual discount rates, and so, ~~therefore~~ thereby, is the entire time distribution. Thus if two individuals anticipated identical yields, he with the lower discount rate would be the higher bidder. But if he with the lower discount rate anticipated yields appreciably lower than those

This graph pictures the situation:



The user is under as much pressure as ever, determined by his discount rate, to shift yields toward the present; present yields command the same premium as ever over future yields, both in the mind of the individual user and in our proposed evaluation of his use plan.

This definition accomplishes as much as would be accomplished by discounting all future yields at the same rate. It does so by removing most of the yields from the individual's calculations. But it also accomplishes more: it preserves the individual discount rate, which is necessary to ~~maximize~~ evaluate normatively all but the simplest use plans.



~~Sum up influence of individual users~~

While individual discount rates are thus prevented from influencing allocation of the bulk of yields, they are left with two important functions. First, the individual with lower discount rates can use more capital on the land, and account a lower price for what he does use, thus increasing ~~his~~ <sup>over</sup> yields the yields he may impute to the land. Second, he has a greater power to shift yields to the future, where that will increase total yields. (Note: the tax visualized in the definition will not influence time distribution plans. ~~It is not a tax which is levied on the average annual yield, but it is to be an average annual levy, completely independent of the time distribution plans of the individual user's. (With exhaustible resources, a severance tax which would vary with the individual's time distribution would be involved, but this is too lengthy to discuss here).~~

~~But note.~~

To contrast the results obtained from this definition with those in others, consider the following graph:

A & B are the yields anticipated by two potential landowners. After the year 20 their anticipations are identical. The total yields under A are greater; the yields under B are smaller, but more immediate.

If best use were defined in terms of one standard discount rate, the best use would depend on the rate chosen. With low rates, A would be the higher use; with high rates, B would be.--Hence the inadequacy of that means of definition.

If all the yields are privately collected, and the highest bidder is called the highest user, then the discount rates of the individuals would probably be the determining factors. The two series are not different enough so that their difference would outweigh an appreciable difference in the discount rates of those bidding for them. Allocation would be accomplished with little or no consideration for either time distribution of yields or total value of yields, ~~but only~~ ~~because~~ ~~the~~ ~~influence~~ ~~being~~ ~~small~~ relative to the influence of differential discounting.



The best user is he with the best combn. of characteristics to use land, & command of cap. is definitely one of these characteristics.

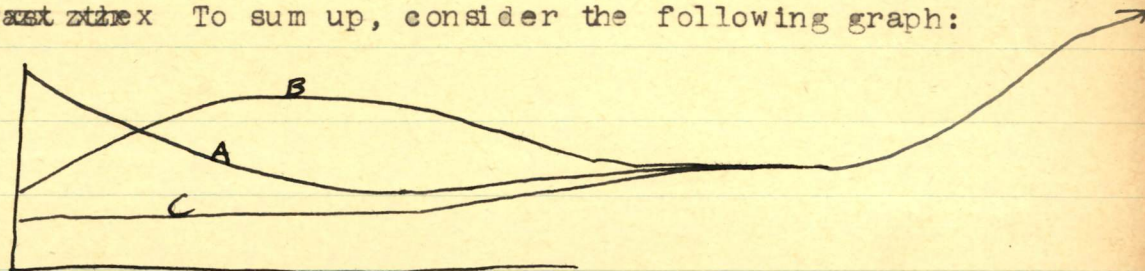
& Superior command of cap. should not let an individual outbid others

for what might be called the 'basic rent' of land, that which is independent of individual use & users; but where the individual can take advantage of ~~it~~ <sup>his capital</sup> to increase ~~production~~ <sup>his yields, annual yields</sup>, he is

~~for~~ it helps individuals  $\Delta$  their annual yields it is certainly a fair part of the combination making the best land user.



~~To contrast the~~ To sum up, consider the following graph:



A, B, & C are the yields anticipated by 3 different potential landowners. After the year 40 they merge into a hazy identity. The total yields under B are greatest, but those under A are realized sooner.

If best use were defined by choosing one at which to discount futures, the decision between A & B would depend on the rate chosen. At high rates, A is the higher use; at low rates, B is the higher. In neither event would C be the highest use. This definition would decide against ~~successful in eliminating~~ uses like C, where time distribution is no issue. But it would not make any normative decision between A & B, where time distribution is an issue.

If highest use ~~has been defined as~~ be considered the highest bidder when yields are to be privately collected, the decision between A & B will be made primarily by the discount rates of the individuals. ~~The~~ However these discount rates will determine the allocation, not so much by their evaluation of the time distributions of A & B, but rather by the different values they will place on the great bulk of yields under A & B. The form of the time distribution curves themselves will have very little influence on the outcome. The individual with the



lower dr will be the higher bidder, whether he be A or B. This system has the further and more obvious shortcoming that C may be the highest use, provided the individual C has a dr enough lower than the others.

If the highest user is he who bids the most when the land is heavily taxed, C is out; the tax will be over his head. The decision between A & B will be made by the individuals' drs as they evaluate the time distributions -- not as they evaluate the bulk of yields. A lower dr, under this system, would never make a series with a lower total value the better use. It only allows the individual to shift yields to future more, where that will increase yields.



The third remedy is to tax land. If the highest use is that which the market would dictate when land is taxed, then it follows that ~~the~~ land will be put to its highest use when markets are free and land is expected to be taxed. It is important to note that expectation of future taxation, ~~is~~ rather than current taxation, is the ~~cause of~~ <sup>condition for</sup> correct allocation. ~~Land is heavily taxed for~~ Where land is heavily taxed for just a few years allocation is not improved, as the expectation of future untaxed yields remains for individuals to bid for/ while current yields, which are more important to users with high discount rates, are not available to private individuals. But where, for instance, a community is heavily bonded, so that high taxes are expected for years to come, land is correctly allocated.

This remedy is not a public liability, like subsidizing capital markets. On the contrary it yields revenue, and makes it possible to reduce other taxes. Furthermore it does away with the cost of transferring capital necessary to ~~the~~ buy land. Subsidizing capital markets causes land transfers to be made which cost more than they are worth; taxing land ~~the~~ saves the cost of transferring even that amount of capital which it is economical to transfer under the present system. When one analyzes the activities in which lawyers are primarily engaged, this ~~is~~ <sup>is</sup> seen to be quite a saving (Scherman quote)

For these reasons I favor land taxes. In summing up the argument, I would stress this interpretation: land taxes ~~can~~ replace other taxes and, while other taxes distort resource allocation, land taxes have the unique characteristic of improving resource allocation.



norm

Here, now, is a ~~definition~~ of best ~~use~~ land use., which the present land system obviously does not attain. In view of the preceding analysis, empirical proof of land misallocation is reduced to proving that land has a capital value, and that/people discount the future at different rates, both of which are common knowledge. Thus the problem of this *study* is solved: *if one is explained, the other is explained.* land is misallocated, beyond any doubt. / The further question

is: / what can be done about it? ~~Some~~ The point calls for extended are so clearly ~~pointed out~~ indicated by treatment, but ~~some~~ certain policies, ~~explicitly advocated in the~~ foregoing analysis, that a brief comment is in order.

3 policies are suggested: equalizing discount rates; shortening land tenures; and taxing land values.

Equalizing discount rates may be accomplished by government subsidy of capital markets. Costs of capital transfer are what keep the markets from equalizing discount rates. If these costs are borne by the government, the differential can be much smaller. As is well known, this has been a popular policy, and is becoming more so.

The trouble with this policy is that the costs exceed the gains. When land changes hands only a finite number of future yields are being actually allocated, for ~~unexplained~~ definite use plans only extend into a finite future. However the infinite future of the land is being transferred. Under a system of private capital markets, ~~only~~ all land transfers which are economical in terms of that system are made. Further transfers cost more than they gain. Some cost a little more, some a great deal more. With government~~s~~ subsidized capital markets, very costly capital transfers will sometimes be made which will effect very small improvements in land allocation. The basic diseconomy will remain in the system, but it will be differently manifested. Instead of misallocated land we will have public



funds.

Furthermore the system would never begin to approach perfection, be

Furthermore land allocation would not be perfected, for no amount of subsidy will really equalize all mrs. Many individuals are simply bad risks, under any system, and if they were allowed unlimited credit they would soon bankrupt the nation.

Equalizing discount rates is also aided by equalizing the distribution of wealth, Of course it does not <sup>automatically</sup> ~~immediately~~ follow that all plans to soak the rich and nurse the poor ~~are~~ benefit society. This is only one point ~~in time~~ among the many that bear on such plans.

Shortening land tenures is generally impracticable. Where conservation of exhaustible resources is involved it would be particularly bad. It may have some limited application in cities. Certain areas might be subdivided and sold to private individuals for, say, 40 years. At the end of that time the improvements may be expected to have been depreciated, the land may be razed and replanned in accord with the then prevailing conditions. However even here the short tenure is no solution in itself, for most of the distortion within 40 years.



Taxing land, on the other hand, by deflating land's capital value, would <sup>do</sup> away with the cost of transferring capital for land purchases entirely. Not only would land transfers now uneconomical be made economical, but land transfers now economical would be made ~~much less costly~~ ~~xxxxxxxxxxxx~~ much cheaper.

It is important to note that anticipated taxes, rather than current taxes, are the cause of improved allocation. Current land taxes, expected to fall, worsen allocation, for future untaxed yields are in prospect for ~~xxxxxxxxxx~~ those with low discount rates, while current yields, which are more important in the calculations of those with high discount rates, are not available to private individuals. Where heavy taxes are sporadically imposed, therefore, allocation is worsened. Where communities are heavily bonded, so that high taxes are expected for decades, allocation is improved.

In summing up, I would stress this interpretation: land taxes can replace other taxes and, while other taxes distort resource allocation, land taxes improve it.



A word on the practical implications of this analysis is in order. Two policies to improve land allocation are ~~indicated~~ suggested: equalizing discount rates; and taxing land. Both are desirable I think, but the former ~~is known to cost~~ <sup>may</sup> ~~cost~~ <sup>society</sup> more than it is worth, while the latter ~~brings in~~ helps finance government.

Anything tending to equalize wealth tends to equalize discount rates, and improve land allocation. This is no conclusive argument for levelling, but it is ~~an argument~~ <sup>a consideration</sup>. *It involves too much more than the present <sup>issues</sup> ~~matter~~, however, to cast much light on them.*

The issue is clearer when the means proposed for equalizing discount rates is government subsidy of capital markets. This is a policy of long standing in Europe, and of recent growth in the United States. Costs of capital transfer keep the free market from equalizing discount rates. If the government bears these costs, and provides cheap credit to bad risks, rates can be brought much closer.

When bad risks are provided with cheap credit to purchase land, ~~the agency subsidizing capital markets~~ the cost of transferring the capital, borne by the public, is greater than the gain from better land allocation. When land is transferred only a finite number of future yields are actually allocated, since use plans extend only a finite period. Any gain is within this finite period. However, the infinite future of the land must be transferred, and ~~the cost~~ capital enough to buy it transferred to the buyer. The cost of transferring this much capital will exceed the gain from improving land allocation for, if the gain exceeded the cost, the private capital market would have already made the loan.

*over*



Public subsidy of capital markets does not get rid of the basic diseconomy involved, it simply ~~transfers the cost to the consumer~~ ~~while~~ changes its incidence and manifestation. Instead of misallocated land, we would have wasted tax money. And we should lose more in ~~the~~ subsidizing capital markets than we gained from improving allocation.



As 'uncertainty' is  
greatest barrier in cap.  
mkt, depression brings much  
worse allocation of land, by  
widening spread of i.r.



Give graph on R & P. Then

Misallocation aggravated because ~~low almost uni~~ ex. rent of land almost universally expected to rise. In boom, because, tho high now, future better. In bust, because extraordinarily low now, must get better. (But misalloc. worse in bust, m<sup>r</sup> differentials greater)

Can't generalize.  
Pessimism of 30s finally improved land allocation.



Ely's (?) comment vs Drink  
for its too few tenancies  
shows whens of a ladder idea.

Once some have climbed it,  
they must be pushed aside for  
others.

LVT, continual opp.

---



For a few species & as  
ladder was an escalator,  
motored by & ~~waste~~ <sup>labor</sup> of  
those who sought only to profit  
by rendering services to  
society.



SSRS

E 171  
A4

N788

Gates, Homestead Law, AHR Jul '4636

When r.r. did sell, "settlers were frequently outbid for them by speculators." find p.

~~Timber spec, conc,~~ 668

Chapman vs Miller. ↑ Best use has some effect;  
But is not only influence, as it shd be.

Frank Knight provides the following formulas:

\$1, accumulating for n years, yields  $\frac{(1+i)^n - 1}{i}$

Present worth of \$1 per yr. for n yrs is  $\frac{(1+i)^n - 1}{i(1+i)^n}$

& Matthias first \$1 coming at end of 1 yr.

Mat agrees.  
Not for continuous,  
but ordinary int.  
annually comp. int.



$$S = \frac{a(1-r^n)}{1-r}, \text{ where } n \text{ is no. of terms including } a.$$

$$a = 1; \quad r = \frac{1}{(1+i)}$$

$$S = \frac{1(1-r^n)}{1-r} = \frac{1 - \frac{1}{(1+i)^n}}{1 - \frac{1}{1+i}} = \frac{(1+i) - \frac{1}{(1+i)^{n-1}}}{i} = \text{Crazy}$$

$$\frac{(1+i)^{n+1} - (1+i)}{i(1+i)^n} = \frac{(1+i)^n - 1}{i(1+i)^{n-1}}$$

To get Knight's formula, subtract  $a$ , or divide by  $r$ ?

Dividing by  $r$ , or  $\frac{1}{1+i}$ , makes it worse.

Maybe he had zero interval of compounding. <sup>continuous int.</sup> That makes for smaller sum, & his is smaller than mine, ok. <sup>continuous int.</sup> Matt gets his formula for annually compounded int., starting after one yr, continuing  $n$  yrs.

<sup>Wrong</sup> But is wrong to figure starting after end of one year. For you want to discount future values to present, not to one year from the present. If I can work this out, wd. make an impressive fence, showing careful attn to details.

So Matt starts his \$ in one year. So 1st term is not 1, but  $\frac{1}{1+i}$ . So take formula & subtract  $\frac{1}{1+i}$ , or divide by  $\frac{1}{1+i}$ .

$$S = \frac{a(1-r^n)}{1-r} = \frac{1-r^n}{1-r} = \frac{1 - \frac{1}{(1+i)^n}}{1 - \frac{1}{1+i}} = \frac{1+i - \frac{1}{(1+i)^{n-1}}}{i}$$

Now subtract  $\frac{1}{1+i}$ , or  $\frac{1}{1+i}$ .

$$S = \frac{1+i - \frac{1}{(1+i)^{n-1}}}{i} - \frac{1}{i} = \frac{1 - \frac{1}{(1+i)^{n-1}}}{i} = \frac{(1+i)^n - (1+i)}{i(1+i)^n}$$

$$= \frac{(1+i)^{n-1} - 1}{i(1+i)^{n-1}}$$

No go. Try not subtracting  $\frac{1}{1+i}$ .  
 ~~$\frac{(1+i)^{n+1} - (1+i)}{i(1+i)^n}$~~

This is correct if we have that meaning for  $n$ .  $n$  is one more than no. of term years, as it is no. of terms counting 'a'. So  $n-1$  terms is  $n$  years, & this formula ok.



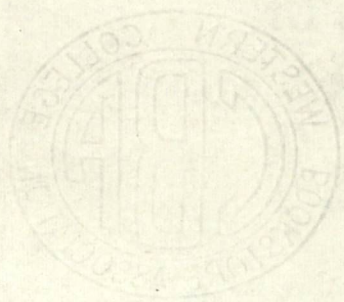
No again. Try dividing by  $r = \frac{1}{1+i}$

$$\frac{(1+i)^2 - \frac{1}{(1+i)^{n-2}}}{i} = \frac{(1+i)^{n+2} - \frac{1}{(1+i)^{-n}}}{i(1+i)^n}$$

Try mult. by  $r = \frac{1}{1+i}$

$$\frac{1+i - \frac{1}{(1+i)^{n-1}}}{i(1+i)} = \frac{1 - \frac{1}{(1+i)^n}}{i} = \frac{(1+i)^n - 1}{i(1+i)^n}$$

This gives Knight's answer, too.





Friday

Dear Mase,

I never expected to be a one-man two car family! But due to your generosity that is what I now am. I certainly thank you very much indeed.

I shall try to answer your questions:

Compound interest computed annually produces

$a_t = y(1+i)^t$  at the end of  $t$  years, if  $t$  is an integer. Thus  $a_t$  in  $t$  years is worth  $y = \frac{a_t}{(1+i)^t}$  now.

This is for interest computed annually.

If computed  $k$  times a year we get  $(1 + \frac{i}{k})^{kt}$ ,  $kt$  an integer.

In the limit as  $k$  approaches  $\infty$ , this becomes  $(e^i)^t$ . I believe that they call this continuous interest.

Of course,  $e^i = 1 + i + \frac{i^2}{2!} + \frac{i^3}{3!} + \dots$

---

Return to computed annually:

suppose a man receives  $a$  dollars a year ("constant") starting <sup>i.e. at the end of</sup> in one year and lasting for  $n$  years. (from now, or end of this yr?)

The sum of ~~the~~ the present values of these is a geometric series and can be added to give <sup>by the high school formula</sup>

$$\frac{1}{i} [1 - (\frac{1}{1+i})^n]$$

note that as  $n \rightarrow \infty$  this  $\rightarrow \frac{1}{i}$ , which is what you would expect.

Now to your ~~two~~ <sup>two</sup> questions:

what do they call  $y = \frac{a_t}{(1+i)^t}$  if  $a_t$  is constant.



~~b<sup>++t</sup>~~ is "exponential growth"

This is of the general type  $A b^{-t}$ .

✓ If  $t$  were not restricted to integral values this is the well-known "exponential decay" function, (particularly prevalent in physics). ~~It is characteristic~~

It gets small fast, and the name connotes this. I would use the same name when  $t$  is restricted. It could be written  $A e^{-t \log_e b}$ , but this gains nothing.

2. How to graph it. No easy way on ordinary graph paper. But if  $y = A b^{-t}$

then  $\log y = \log A - t \log b$ , whatever base you use.  
i.e.  $\log y = C_1 - t C_2$   $C_1, C_2$  constants.

suppose we let  $z = \log y$

then  $z = C_1 - t C_2$

this is the equation of a straight line in the  $t, z$  plane.

~~The so-called~~ so-called "semi-log" graph paper is designed to make it easy to plot the log of one variable against another you read off the values of  $y$  directly but the corresponding distance is actually  $\log y$ .  
 $t$  goes on the abscissa.

— 1 1 1 1 1

Then use ~~a~~ two points and a ruler.

~~This simplified method is the purpose of log~~



# \* Sums of series, geometric progression.

Finite:

$$S = a + ar + ar^2 + \dots + ar^{n-1}$$

$$rS = ar + ar^2 + \dots + ar^{n-1} + ar^n$$

$$S - rS = S(1-r) = a - ar^n = a(1-r^n)$$

$$S = \frac{a(1-r^n)}{1-r}, \text{ where the series has } n-1 \text{ terms; well, counting the original 'a', it has } n \text{ terms}$$

SKIP THIS

Infinite:

a dubious derivation.

Better to let  $n = \infty$  in first formula.

$$S = a + ar + ar^2 + \dots + ar^{\infty-1}$$

$$rS = ar + ar^2 + \dots + ar^{\infty-1} + ar^{\infty}$$

$$S(1-r) = a - ar^{\infty} = a(1-r^{\infty})$$

$$S = \frac{a(1-r^{\infty})}{1-r}$$

$$\text{If } r > 1, S = -\infty$$

$$\text{If } r < 1, S = \frac{a}{1-r}$$

$$\text{If } r = 1, S = \frac{0}{0}$$

$$\text{If } r = 0, S = a$$

In evaluating an asset, more realistic to assume no yield until end of 1st year. So is no original  $a$  term, first term is  $\frac{a}{1+r}$ . So take results of formula & subtract  $a$ . And ' $n$ ' must be no. of terms, including  $a$ , (even tho we subtract it)  
 Let  $n = \text{no. of yrs elapsed} + 1$ .

Or, cd change derivation, redefine  $n$ .

$$\begin{aligned} S &= ar + ar^2 + \dots + ar^n \\ rS &= ar^2 + \dots + ar^{n+1} \\ S - rS &= ar - ar^{n+1} \\ S &= \frac{a(r - r^{n+1})}{1-r} = \frac{ra(1-r^n)}{1-r} \end{aligned}$$

So multiplying by  $r$  or subtracting  $a$  gives same, & correct result.



Next step is to get some tables of squares, & find how much the infinite future contributes to land values.

$$\frac{a}{i} - \frac{a(1 - (\frac{1}{1+i})^{10})(1+i)}{i} \text{ will = contribution of later years.}$$

$$a - \frac{a(1+i - (\frac{1}{(1+i)^9}))}{i} = \frac{a - a(1+i)(1 - (\frac{1}{(1+i)^{10}}))}{i}$$

$$= \frac{a}{i} \left[ 1 - (1+i) \left( 1 - \frac{1}{(1+i)^{10}} \right) \right]$$

$$= \frac{a}{i} \left( 1 - \cancel{1}i + \frac{1}{(1+i)^9} \right) = \frac{a}{i} \left( \frac{1}{(1+i)^9} - i \right)$$

$$= a \left( \frac{1}{i(1+i)^9} - 1 \right)$$

I should prepare graphs of this function to show situation.



$$\sum_{1-\infty} \frac{a}{(1+i)^n} \stackrel{?}{=} \frac{\frac{a}{i}}{(1+i)^n} + \sum_{1-n} \frac{a}{(1+i)^n}$$

$$\frac{a}{i} \stackrel{?}{=} \frac{\frac{a}{i}}{(1+i)^n} + \frac{a(1 - \frac{1}{(1+i)^{n+1}})}{\frac{i}{(1+i)}} - a$$

$$1 \stackrel{?}{=} \frac{1}{(1+i)^n} + \left(1 - \frac{1}{(1+i)^{n+1}}\right)(1+i) - i$$

$$= \frac{1}{(1+i)^n} + 1+i - \frac{1}{(1+i)^n} - i$$

$$= 1$$

A general proof. That the capital value of land is the same whether figured as an infinite series or a finite series plus a resale value.



$$\begin{aligned}\frac{a}{i} & \stackrel{?}{=} \frac{a}{1+i} + \frac{a}{(1+i)^2} + \frac{a}{(1+i)^3} + \frac{a}{(1+i)^4} \\ & = \frac{a(1+i)^4 + a(1+i)^3 + a(1+i)^2 + a(1+i)}{(1+i)^4} \\ & = \frac{2a + 3ia + ai^2 + \cancel{a} + \cancel{ai} + \cancel{a} + \frac{a}{i}}{(1+i)^4}\end{aligned}$$

$$\cancel{1} = \cancel{1} + \cancel{2i}$$

$$\cancel{1} + \cancel{2i} + \cancel{i^2} + \cancel{1} + \cancel{2i} + \cancel{i^3} \stackrel{?}{=} \cancel{3i} + \cancel{3i^2} + \cancel{i^3} + \cancel{1}$$

yes

$$\frac{a}{i} \stackrel{?}{=} \sum_{n=0}^{\infty} \frac{a}{(1+i)^n} - \cancel{a}$$

$$\sum_{n=0}^{\infty} \stackrel{?}{=} \frac{\frac{a}{i}}{(1+i)^3} + \sum_{n=1}^{\infty}$$

$$\frac{a}{i} \stackrel{?}{=} \frac{\frac{a}{i}}{(1+i)^3} + \frac{a(1 - (\frac{1}{1+i})^4)}{1 - \frac{1}{1+i}} - a$$

$$\begin{aligned}1 & \stackrel{?}{=} \frac{1}{(1+i)^3} + \frac{(1 - (\frac{1}{1+i})^4)(1+i)}{1 - \frac{1}{1+i}} - \frac{ai}{\cancel{i}} \\ & = \frac{1}{(1+i)^3} + 1+i - \frac{1}{(1+i)^3} - i\end{aligned}$$

$$1 = 1$$

yes



$$\frac{a}{i} \stackrel{?}{=} a + \frac{a}{1+i} + \frac{\frac{a}{i}}{(1+i)^2}$$

$$1 \stackrel{?}{=} i + \frac{i}{1+i} + \frac{1}{(1+i)^2} = \frac{i(1+2i+i^2) + i + i^2 + 1}{(1+i)^2}$$

$$1+2i+i^2 \stackrel{?}{=} i + 2i^2 + i^3 + i + i^2 + 1 = 2i + 3i^2 + i^3 + 1$$

$$0 \stackrel{?}{=} 2i^2 + i^3$$

No - This time the right side is larger.

$$\frac{a}{i} \stackrel{?}{=} \sum_{n=0-\infty} \frac{a}{(1+i)^n} = \frac{a}{1-\frac{1}{1+i}} = \frac{a}{\frac{i}{1+i}} = \frac{a+ai}{i} = \frac{a}{i} + a$$

or from  $1-\infty$ ?

So clearly all we need do is subtract 'a', which gives

$\sum$  from  $1 \rightarrow \infty$

Now why doesn't  $\sum_{n=1-\infty} \frac{a}{(1+i)^n} \stackrel{?}{=} \frac{\frac{a}{i}}{(1+i)^3}$

$$\frac{a}{1-\frac{1}{1+i}} - \left[ \frac{a(1-(\frac{1}{1+i})^4)}{1-\frac{1}{1+i}} \right] \stackrel{?}{=} \frac{\frac{a}{i}}{(1+i)^3}$$

$$\frac{a(1-\frac{1}{(1+i)^3})}{i} \stackrel{?}{=} \frac{\frac{a}{i}}{(1+i)^3}$$

YES!

at the end of the 3d yr. you get the yield for that year & also the sale value, simul. Sale value is in addition to yield you get anyway. So

at end of 3d yr. you discount sale value by  $(1+i)^3$ . That sale value, plus the yields of 3 yrs, should = int. series giving present value.

Or, as I have it setup, int. series giving present values minus present values of 3 yrs yields should = resale value. - & it does!



$S = \sum$  present values of all future yields

$$= a + \cancel{a} + \frac{a}{1+i} + \frac{a}{(1+i)^2} + \frac{a}{(1+i)^3} + \dots$$

Why do we divide by  $1+i$ ?

Because of compound interest. Present values of future yields are the sums which would, at compound interest, grow to equal the future yields. One would pay no more than that for a future yield. And you could not buy it for less.

How do sums grow at compound int.?

| Year# | Sum               | annual increase | years elapsed |
|-------|-------------------|-----------------|---------------|
| 1     | $S$               | $Si$            | 0             |
| 2     | $S + Si = S(1+i)$ | $Si(1+i)$       | 1             |
| 3     | $S(1+i)^2$        | $Si(1+i)^2$     | 2             |
| 4     | $S(1+i)^3$        |                 | 3             |

The ~~sum~~ amount which will in 4 years grow to  $S(1+i)^3$  is  $S$ , which =  $\frac{S(1+i)^3}{(1+i)^3}$ . So we take

the amount to be discounted, divide by  $(1+i)^{n-1}$ , where  $n$  is the number of the year at whose beginning the discounting is done.  $n$  exceeds by one the number of years that have elapsed. As latter is essential idea, will change

✓ convention. Let  $n \equiv$  no. of years elapsed; & discount by  $(1+i)^n$



In interest problems we get series like:

$$\begin{aligned} \sum \text{present value of series of yields of } a &= a + \frac{a}{1+i} + \frac{a}{(1+i)^2} \dots \text{etc} \\ &= a \left( 1 + \frac{1}{1+i} + \left(\frac{1}{1+i}\right)^2 \dots \text{etc} \right). \end{aligned}$$

$$\text{So } r = \frac{1}{1+i}, \text{ \& } s = \frac{a}{1-r} = \frac{a}{1 - \frac{1}{1+i}}, \text{ for inf. series.}$$

We also say cap. value =  $\frac{a}{i}$  = This refers to a situation where first yield is at end of first year.

$$\frac{a}{i} \stackrel{?}{=} \frac{a}{1 - \frac{1}{1+i}} = \frac{\frac{a}{1+i-1}}{1+i} = \frac{a}{\frac{i}{1+i}}$$

What's wrong? (Probably the period of compounding differs.)  
Try subtracting 'a', because first payment is at end of 1st yr.

$$\frac{a}{1 - \frac{1}{1+i}} - a = \frac{a(1+i)}{i} - \frac{ai}{i} = \frac{a + ai - ai}{i} = \frac{a}{i}$$

Good!

It seems then that when we say  $C = \frac{a}{i}$ , or  $Ci = a$ , we assume implicitly annual payments. If payments are more frequent, cap. value would be a little higher - I presume. But I needn't get into this now.



## Org. of new paper on land spec.

1. Empirical evidence of spec, stressing wild, unreasonable, fabulous nature. Concluding allocation seemed to be wrong, ask why.
2. Extreme, not best, opinion, gets land.  
No cost of production to check  
Infinite future.  
— Low maintenance & supervision needs.  
Divergent m.a.
3. Suggests misallocation may be more widespread.  
Try another tack: why tenantry? What ec. function served? Results from different m.a.s, but achieves nothing (don't anticipate all possible misconceptions & answer them, makes dull. Try to avoid them, positively, when presenting thing. Then wait for attacks. If editor has points, don't rewrite for him, but answer in appendix.
4. What to do.

Keep it simple. Repeat main point. Skip conservation



3

New Vistas in Ec Thy from dist. Land & Cap.

[Effects of  $\Delta W$  -- dubious. With  $\Delta W$ , no change. Either way, key is to lower cost of producing cap.]  
Making Inv. Opp.

Land Planning Thy.

New vistas from new view of who is being planned for. No more 'slum clearance' reform that chases people out of town, restricts subdiv. -- etc. (Of piece with idea you can give all jobs by forbidding hiring at low wages)

Allocation Thy

4 distortion

Distrib. Thy. -- "Fn" of land ownership.

---

Weeks wants more history, less theory.

1. More understandable  
E.g. BLM, & leasing public domain
2. Expedite getting degree.
3. Can study theory for life, factual background nec.
4. Selling self to inst., having some good thy in it will do.

---

Might set it up as ofson of Leasing System & private system



## Land Spec & Rep. Govt.

Reps from designated areas, not at large; able to affect areas l.v. Overshadows public service, general interest.  
L.S. in hist.: Hist. of Land Tenure; Decline of Land Tax; Reactions ... v. 'Other cures'.

## Other Cures (worse than disease)

Anti-spec Provisions of Homestead, BLM, BR

Rent Control, Price Control, etc ... all failing to distinguish land & cap.

~~Obviates~~ unions, welfarism, decadence, anti-mobility elements.  
Communism

(Solution of Problem) or <sup>Proposed</sup> Recommendation ~~for~~ Action.

Central Leasing or Taxing. Nothing to speculate in. (partial tax leaves something)

## Benefits: (besides ending spec)

Inheritance

Cap. Tax

Source of Revenue; less regulation expenses.

Obviates Welfarism, & govt arbitration, <sup>maintaining</sup> ~~restores~~ free ent.

L.V. mntng, a vested vs change, goes.

## New Problems

### Compensation

Local govt. (Now central can give common, no restricting. Can prevent mpy.; & no cause for divisions. A central water mkt. inc.)

Interest in Public Affairs. Public Int. pressure groups take over.

## ~~New analyses~~

### Central Land Planning

More called for, but that good -- gives it a chance. There is plenty, now, potentially, just needs an open field.



P.S. Remember, the article should  
run 4,000 words or less. If you  
absolutely need 6,000, prepare it  
in two articles.



The AMERICAN JOURNAL of  
ECONOMICS *and* SOCIOLOGY

32 East 29th Street, New York

50 East 69th St.,  
New York 21, N.Y.

Dear Mr. Gaffney:

We never disclose the identity of the referee.

However, don't worry about differences of opinion with the referee. We maintain a completely free forum. However, we insist that the case for a differing viewpoint be made as strongly as ~~as~~ can be made. So be sure to take account of each of the points made. All good wishes,

Sincerely,

Will Lissner



Why are some landowners & others tenants?

Brown's idea that there are no diseconomies in relationship, & that my explanation wrong, leaves with idea is some efficiency about it. Actually is not, & are costs of which greatest probably is keeping magic of property from turning sand to gold. -- my explanation accounts for why these diseconomies occur.



Best allocated  
land not poor land,  
but land which has been  
given its value by artificial  
means requiring high fixed  
charges. Because differences  
of yields among individuals  
will be greater, even tho  
net yields after taxes to  
individuals ~~may~~ are same  
as on plain poor land.

Driving thru S. San Joaquin  
I.D. reconfirms impressions.  
Very neat, trim, economical  
farms, outgroups. Ideal  
society. Manteca superb.



My critic's points have been made  
without careful consideration.

e.g., is well known that a major  
loophole in anti-trust laws is that, while  
a large co. was forbidden to acquire stock  
in competitor, it could acquire assets  
of it. A high price for securities, in this case  
overight prohibition of purchase, did not  
keep resources from going to highest bidder.



my critic I am  
implicitly criticising  
so naturally he  
reacts, & will molly  
never accept my work

I would prefer to  
publish as is & meet my  
critic in print, on =  
terms.

Idea behind study was  
land spec. ~~was~~ much  
more important than eyes  
tell us. -- ALL land  
use distorted. Is a  
much more powerful  
case for idea that  
it improves allocation.



My critic says the article is not 'illuminating', meaning it does not illustrate points he already believes to be so. From this view, no new contribution is 'illuminating'. Reader must be ready to learn something

More fact that some in authority disagree isn't bad -- if I agreed with them, I wouldn't write. I welcome public refutation, so can air basics of dispute. People like



p. 217, Brown says effect of tax is to make it unec. to hold land idle. But no hint why less ec. now than when ~~the~~ owned outright. To answer this I wrote.

↳ because  $lv + ds$  cost of holding to one with low i.r. ... or put it various ways.

235-8, Brown stresses high l.v. as making it tough to start out in farming, implication it is harder ... but this just means unequal capital, which is divergent m.v.



Otherwise, indeed we have  
no explanation of why I +  
will stop spec., or of  
why spec. exist  
-- get explanations of  
Brown, George, etc  
etc etc \ Ec Basis of tax reform  
p. 268-74

I will say answers to  
all critic's points are  
in MS, but of course  
this doesn't excuse  
me for not bringing it  
out more clearly.



Brown is in effect denying that  
land can be underused -- saying  
all differences of yields imputable to  
labor



# What 'Realtor' Really Is--- Don't Use Word Loosely

The term "Realtor" is sometimes loosely used to denote any real estate agent, but this incorrect usage is deplored by the California Real Estate Association.

The copyrighted word was coined to describe members of the National Association of Real Estate Boards and its constituent boards, including the California Real Estate Association.

The national association says the term "designates those persons in real estate business who have available to them the accumulated knowledge of over 40 years of experimentation and research in all real estate business methods and standards."

## CODE OF ETHICS

"Realtors," the national association adds, "are those who, in the judgment of their peers in their business, are persons with personal standards and business competence of sufficient merit to warrant entrusting them with the important fiduciary relationships involved in real estate transactions."

"They have voluntarily pledged themselves to a code of ethics governing their business conduct, their relations with each other and their relations with the public."

The code of ethics to which realtors subscribe contains 34 de-

tailed articles, all based on this preamble:

"Under all is the land.

"Upon its wise utilization and widely allocated ownership depend the survival and growth of free institutions and of our civilization. The realtor is the instrumentality through which the land resource of the Nation reaches its highest use and through which land ownership attains its widest distribution.

"He is a creator of home, a builder of cities, a developer of industries and productive farms.

## "SOCIAL RESPONSIBILITY"

"Such functions impose obligations beyond those of ordinary commerce; they impose grave social responsibility and a patriotic duty to which the realtor should dedicate himself, and for which he should be diligent in preparing himself.

"The realtor, therefore, is zealous to maintain and improve the standards of his calling and shares with his fellow-realtors a common responsibility for its integrity and honor.

"In the interpretation of his obligation, he can take no safer guide than that which has been handed down through 20 centuries, embodied in the Golden Rule."



**TONIGHT AT 8:30**

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mann, "the only modern pioneer story" she has ever found. It is scheduled to be shot on location in Brazil, in Technicolor. This will be the actress' first color movie.

No more chase melodramas?  
"Any other would be too hard to top 'Sudden Fear'," Miss Crawford film salesman, replied.

**Lancaster Plugs Film From Way Down in Fiji**

A letter reached this newspaper yesterday from Dubusa Beach, Fiji (2/6 green and tan stamp with George VI's portrait, not that of Elizabeth II) from Burt Lancaster, the film actor.

The greeting was not connected with "The Crimson Pirate," Lancaster's current film, on the Paramount screen, nor with the movie, "His Majesty O'Keefe," which Lancaster is making on location down there.

It was connected with Hal Wallis' film version of "Come Back, Little Sheba," in which Lancaster costars with Shirley Booth, who played in the original New York stage version.

"In the six years or so I've been

**Paramount** 1966 MKT \* UN 1-9998

**BURT LANCASTER**



The bulk of yields can be chopped off not only by taxation, but, conceptually by discounting all yields below a certain high level at one  $mr$ , the others at different ones.

Or by discounting all at individual rates, then multiplying by ratio of rates?? Work this out.



In rewriting, should expand on idea that it is unrec. to have bidding for future yields affect allocation of present yields -- wine example.

Stress distinction of land & cap., that 'bidding' for future yields of cap. is what creates the yields, but with land it is opposite, yields exist & hence are bid for. Hence no social value in having even single future ones allocated by differential rates.



LVT > perfect credit.

LVT same as credit which you needn't repay; at lower i.r.; &  
w/o distr. -- open to all.

Is at lower i.r. because one who borrows to buy must pay  $P$  to  
compete w/ lowest mrs. He must pay more in int. than rent of land is.  
So if he can get land just for its rent, is lower int.



### 3 B, Impert. Land mkt, 2

#### 3. Inertia & ignorance

a. Ignorance of best use

b. Apathy toward change by controlling individuals. - esp. if they are rich, land is little to them.

c. Aversion to taking nominal loss.

#### H et seq. 4. Particular institutions

a) Inc. tax. Discriminates for implicit incomes - & you subtract prop. tax

b) Tax exemptions & discriminations, legal & other. Failure to get taxland into use quickly.

c) Riparian rights, use rights, Desert Land Act, <sup>160 acre act.</sup> etc etc, which give individ. incentive to use excess.

d) Monetary system, which allows great  $\Delta P$ , & confuses.

e) X for costs. Title clouds.

f) Taxes on impr, esp. if rapacious. - (so these might be accepted as part of cost structure.



### 3 B, Imperfections of Land Mkt.

#### 1. D. Present opinions of future.

- a) <sup>Anticipated</sup> ~~Opinion~~ of yield, not actual yield, ~~as~~ basis of allocation. (anticip. d)  
Extreme, not best, opinion gets land. Prop. of local immus prevents selling, urges buying.  
(same time of cap, but it checked by current production & similar experience)

- b) Community projects designed to be repaid some land & be paid from  
Δ l.v. prebably subject to miscalc. - due to lag between need & completion, nature of govt. & group action, desire to exploit outsiders, - both land buyers & land buffers  
raise local l.v., etc, group pressure is knockers, underest. costs.

- a) Outsiders judge from present yields, buy in booms; insiders sell in booms, not in crashes. Extreme fluct. in price.  
Insiders with inside info may spec.

#### 2. Each unit of land unique in space & quality.

- a) No single mkt, but individual bargaining waiting. Indiv. sales agency may keep many on hand, like grower.

- b) Uniquely related to adjacent land. by x forming land with neighbors: for new assembly.
- 1) Bilateral monop. calculations - in sale & in services uniquely renderable by neighbor. <sup>Banking water co.s. Holding out from big assembly.</sup>
  - 2) Physical difficulty of getting all units right size & shape, w/o overall plan, & even with it. Esp. after other units already improved, for one size.
  - 3) Difficulty of recognizing complementation, revenues not taken by land owner. either A) on person to person deals, or B) where compl. so complex big overall org. needed, as in financing any project of large pt size ~~for~~ which is to be financed by its Δ l.v. Difficulties of organizing & spreading costs hinder developments, highest use. / Use never highest until highest org. achieved. / Control by r.r.s bad, they try to max. traffic.
  - 4) Monop. of land's products causes obstacles to use to be created by local monop. outfit. Esp. in Cal, where local specialties abound. Tax dead land caused, etc. e.g.



<sup>but valuable</sup>  
<sup>idle land</sup>  
Causes of land spec, summary.

0. Maybe no present yield is possible, all considered.  
1. Prevent mining

2. Prevent miscapitalization. (includes not bldg. for tenants while you await buyers who would want different improvements)

3. Imperfect cap. mktts, potential users have high internal i.r., are outbid.  
Owner may have exhausted his cap. to buy land; he may have borrowed to buy i.r. & his precarious fin. position prevents his getting loans to improve. He may be forced to mine since he can't use intensively.

4. Holder has better terms than potential buyer - lower taxes, privilege, etc., free land grant for him only, possibility of tax moratoria, debt-waiver, etc. for old holder, not buyer.

5. Extremist speculators - for many reasons. & absolute overproduction of some kinds land units, in boom.

6. Seller has monop. of certain area, wants to avoid competing with self. ~~Or~~ for a while, at least, for price discrim. : holds back some lots ~~until~~ others sold, then lowers price. As land sale involves migration it takes time, he must wait.

7. Holder is on inside about future improvements <sup>or advertising</sup> that will raise value others don't know or trust.

5. ~~8~~ Spec. may plan to sell to dope, user cannot plan to sell his improvements to such. & then the dopes hang on a long time.

6. ~~8~~ Land tied up institutionally & no one <sup>in area</sup> wants to untie it because it competes with surrounding land & cap. Or areal tax system discourages new improvements, for monop. reasons, i.e., community may discourage comp., not just individual firm

9. Inertia of holder, unawareness of loss of revenue, & lack of need for new p.p. to finance spec.

10. Waiting for a higher bidder who, at any moment, is expected momentarily.

11. Holder can use land in large assemblage ultimately, wants to keep it so - sometimes legit, sometimes not: Sometimes for use, sometimes for monop, sometimes to keep large rip. rights. So his holding is beyond opt. size; & he hasn't cap. for it.

12. 'Right of use' system of claiming water & land causes premature impr., useful for nothing.

- 0 ~~11~~ - 12. Inst. & human costs of tenantry & temporary uses are prohib. - not an independent cause, but assoc. with 2 & 3 & 4 & 5 & 11 - - - in the all, really.

- 0 12. Misconceived 'improvements' make land worthless, or almost so, yet with potentialities.



Gen. conclusion: if there were no  $\Delta$ s, there motions mostly gone.

- 12 ~~14~~. Big land assembly planned, some holdout bargaining while it waits.  
Or, where this is potential situation, each party may be waiting for other to act first, give hostage of committed capital.
- 13 ~~15~~. <sup>- resembles 10</sup> Extreme fluctuations of demand keep people from selling during troughs.
- 14 ~~16~~. Psychology & bookkeeping & trustee relationships conspire vs. selling at paper loss.
- 15 ~~18~~. <sup>- like 12</sup> Expense of land x'er keeps people from disposing of lands quickly when they decide they don't want them now, but may in future.
- 15 ~~18~~. Owner may buy intending to use, find himself dealt out of some monop., not allowed access to some vital complement. He may hang onto land while he fights it, x'er difficulties discouraging sale.
- 16 ~~19~~. Changing ownership unit patterns may leave some land stranded. e.g. when a migrant buys too much land, lacks cap. & management to dev. it, but cannot find a communit unit to sell.
- 9 ~~19~~. Old time owner loses place, wants to keep it in old way, - this may not be completely idle but, relative to highest use, is. Indiv. is paying by p.p. given from  $\Delta$ , is socially bad probly.
- 16 ~~20~~. Land in given area may have value if all colonized at once; but not if piecemeal & first settlers must be encouraged somehow. So its use awaits some large unified colonizing effort. (for this to be true, area must be isolated. If not, adjoining settlement just spreads out) & anti-spec. measures
- 17 ~~21~~. The essential p.w. may have been prematurely built, due to anti-spec. The land being then only speculatively, not actually, ready for its higher use.
- 18 ~~22~~. Immobility of labor, as well as cap., involved. i.e., if people were free to use land temporarily while waiting, they could arbitrage spec. But they may not be free. Besides, the cap. required for temp. use is not just that attached to land, but that to organize, x'port, etc. - so may be uneconomical.



## reasons for idle land, cont.

4 ~~23~~. Present owner delinq., can get away w/ it, it doesn't sell. Or becomes dead land.

17 ~~24~~. Very rich owner, under no pressure to use, low internal i.r. Under no pressure to run his affairs efficiently.

0 ~~25~~. Underuse due to poor unit planning, so some areas cut off from complements. e.g. irrig. & mining. should be combined in good units sometimes.

— like 6

18 ~~26~~. P.w. controlled by r.r. or other group wishing to prevent development of land with consequent competition — e.g. r.r. may want to sell its overlying land first to cause longer haul.

0 ~~27~~. Scarcity of uses ec. w/o ownership. Preference of farmers for full ownership

18 ~~28~~. A r.r. would hold from sale lands trib. to other roads, to force settlers to land on its road.

3. Breakdown of credit system, loss of confidence, etc — so no one will sell land on instalments — moratoria would strike fear to all lenders — or lend to buy, (or lend for any purpose on land sec., incidentally). & yet they hold out for price based on old credit system.

19 ~~29~~. Ignorance by land users of possibilities of higher use

? Users lack cap. to install higher use

cf 6.

20 ~~30~~. Claim jumper etc has clouded title, battle rages.

cf 6

21 ~~31~~. Rapacious tax system would confiscate any cap. applied. for money or just revenue reasons.

11. ~~32~~. Individuals have incentive to claim & perhaps use slightly exorbitant land, to get title from govt

3. Land improver may be outbid by land miner because of high internal i.r.s, even tho improvement desirable. L + Farmers L + will reduce size of farms, cause more cap. use, less mining — by letting cap. be outbid L + would encourage individual whose planning a cap. use, by lowering his internal i.r. by giving him land free or cheap.



823. Land ownership for pleasure means of receiving a real <sup>pleasure</sup> income free of income tax - hence more stress on land ownership & desire of implicit land incomes. Income tax discriminates in favor of taking income this way. (Can deduct prop. tax from inc. rev.)

16 84. Due to the very existence of spec. from other causes, revenues in early days are reduced due to scattered settlement. This spec. begets more spec.

Associated is tendency for spec. in one place to reduce supply, push people out, cause spec. further out by causing a trickle of demand further out.

5. - Failure of ~~people~~ <sup>sellers</sup> to realize monop. position of owner in short run, to think that because a few places will sell at high price all will.

3. Those far off will not lend to small ent.; & those close by are few, hence monop.

Great fluctuations in rural banking lend uncertainty.

5. In enthusiasm p.w. built 'few in advance of pop. & mkt.', the constructing pop. giving semblance of a perm. one. Spec-ers hang on long, before realizing so many similar <sup>land</sup> ~~places~~ are owned by p.w., it won't sell.

4. Can get away with tax deling. if you don't sell, often