C 386
Notes & ideas

Huffman needs much supplementg.

1877, Desert Land Act, Fed. waived all rts to water, gave to states, & state courts & law.

Riparian Doctrine (check on why not more rip. rts)(1913?)

Rip. holder has rt. to entire flow, unpolluted & undim.
(Consumptive use allowed, prorated by ct.
(Rt. & smallest unsubdiv. hldg ever to exist)
Can enjoin all upstream diversions, & will – otherwise loses rt. i.e., law says, if you don't act like s.o.b., lose rt. Downstream diverters always subject to upstream approp.
Rt not created by use, nor lost by disuse
Rip. rts. jr. to pre-estab. approp. rts.

9 of 17 W-n states keep some modified Rip. rts: Pac. tier, & e-most plains.
Mostly Calif., where 7.5% of irrig. lands have rip. rts – but imp·tnce greater than that shows.

Eff. Weakness of Rip. system.

1. allows no consumptive use upstream. (except as modified.)
   Fine to keep fishg, navig. downstream, is about all.

2. Where cons. use allowed, prorated among rip.s & smallest unsubdiv. hldg. ever. Stopped subdiv'n.

3. Am't of right nebulous. Basis of endless lit., leave anything to cts, make jobs for lawyers. & at best. MP of water not considered.

4. Can use on riparian land only. Inalienable Non-transferable. -- even among rip. owners. (except w. consent of all – a 'veto situation') (i.e., you can buy an agreement they will not assert their rts. from all)

5. Use not nec., nor even intended use, To block all other use.

6. One or few holders can monpze all water, w. narrow strip of land

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Evolution of law in Cal. – main rip. state, despite Huffman.
a study in action & reaction.

1886, Lux v Haggin
confirmed cattle baron's power over much of SJR. Reaction:
Wright Act, 1887. & Cts interp. rip. rts. weak for long time.

1909, M&L v. Madera Canal & Irrig Co, reaffirmed rip. rts strongly

Read H. Barnes letter.

1913 Water Comm Act. ... rip. rts unused 10 yrs, open to approp.
All unclaimed waters are state prop; file w. state eng.

1926, Herminghaus v. S.C. Edison, last stream — probly bes
S.C.E. lost. Led to '28 act

1928 Rip. rts limited to "beneficial" or "reasonable" use. — thus stopp'g Herminghaus.

But rip.s can still file 'declaratory injunction' for that ain't, hold forever. ... in this way, '28 law strengthened rips, for 1913 Water Comm Act had said rip rts unused 10 yrs open to approp.; '28 protected forever, said ct., '35; Tulare ID v Lindsay-Strathmore ID.

'33, Fin Chow v. Sta B. } Sta. Ynez WCD, ~~Solvang~~, split peas.
'35 Peabody v Vallejo } upheld '28 restrictions, as legit. exercise of state power

1953 Fallbrook Case. Fed govt has no rts. Also, ~~Gerlach v.~~ US v Gerlach.

Ore. cases & laws.

Areas where rip. rts. prevent'g full water use.

1. Sta. Clara Valley, vs Simi. Well depths. Conkling plan. Sea water.
Large & small farms.

2. Santa R. Main flow can't be used, salinity control. Reber plan.

↘ Is much jazz re large fms due to deep wells; but here is reverse! Small Simi fms, deep wells.
↗

✓ Rip rts imp, bes applied to underground.

Growth of Fed power, under commerce clause, & war powers.

1824, Gibbons v Ogden, Fed gov controlled interstate commerce, hence navigable waters

1871, Daniel Ball case, if waterway connected w interstate waterway affected it

Then navigation power grew to control, irrig, power, flood control, etc.

Plans for R. basin authorities. (There already are river basin authorities on very small rivers – Muskingum, Sta Clara Valley of N, etc. But local interests squabble interminably, strong cut throats, of weak – Sta Clara of So. cut out Camarillo, Sta Rosa, Simi, Moorpark, Sta. Susanna, etc.

M.S. Fed. Projects.

160 a. too little, out w.

Desert Land Act, 1877

640 acres, irrig in 3 yrs. $1.25/acre.

Theory: gov't gives title, to resident. He can mortgage, thus develop.

But didn't give title.

E-n specs; ranchers, false entries, block in water. Nominal irrig. imp.s.

Silly - it wasn't irrig. fm's that needed 640 acres, but dry fm'g. &

that got 320 - so did ranch'g.

1890 amendments.

Only state residents cd enter

320 a. max. Reg. $3/acre improvem'ts.

1/8 must be cult.

Eternal frauds. Too little & too late.

Carey Act, 1894

Buck-passing. Fed. vague, left details to States, they did nothing.

Only sell land to those who had contracted for water rights.

Only revenue from water sales - cdn't tax until land became pvt., &

had to irrig. before got title. (even after title, not set up as district)

Irrig. works gradually sold to settlers, as Coop.

1902 Recl. Act.

(p. 24, note 1 motive of irrig., to -Δ ag. costs)

T, R. To make homes. (Δ no. of conservatives in country. Nazi's. All countries)
Magraysay

160 acres.

10 yr repayment - ha!

Public & Pvt lands

Fed. paid much.

Warren Act, 1911

To deliver water outside "the project". 160 limit still applies.

1914, Recl. Ext. Act.
Indulged, repaym't pd ext. to 20 yrs.
Sec'y of Int may set max under 160.
&
Control sales p of excess land. (Didn't work ? judge. Re enacted, 1926)
allowed emphyteusis, a little, slightly grad. payments.
Shut off water to nonpayers, who squawked.

1924, Fact Finders, recommended much. Some enacted, F.F. Act, 1924.

a. Select settlers

b. classify lands, charge more on better lands. (Land valuation, actually)
Recall Hak.
? D.s, too, sometimes.
Before, mgmt lands having trouble, excuse for all not to pay.
&
Prevented collecting full c.s, from all but worst lands.

c. Annual charges to be 5% ave. gross annual acre income - 5% of ave of past 10 yrs, not of potential - very poor, if actually adm. as Huff. writes it.

d. When 2/3 land covered by contracts, ID or water users ass. takes over to deal w govt.

1926, Omnibus Adj. Act.

1. Extended &/or forgave past unpaid taxes, charges. 40 yrs &up

Result of:

2/3 land under old projects (before '26) was pvt when proj. authorized. - p31 Not nec. used, but entered in antic. of irrig. by Spees.

Fact Finders found settlers cd not pay, despite lavish govt subsidy, bcs spees got all that. Was cap'd into l.v., etc.

I.D.s, pvt, no such trouble, tax a 1st lien before mortgage. Govt project, tax cd. be let go, & always was.

Projects were el., but cdn't pay off.

Revolvg Fund, failed to revolve. Frozen cap.

antic. leg. indulgences cap into l.v.
No int. on delinq. taxes, so why ever pay?

Joint Liab.

H. thinks peculiarly Fed., p86. No, all I.D.s.

until M.B.A.

Subsidy justified? Not w acreage lim., despite extended ben. Also, not w. higher munic - ind - power needs denied: Imperial Valley e.g. vs LA.

~~CA~~ Fri.

1. Lag in developing land.

(Opt. ass.

(Teele, Ec. of Land Rec. in US, ch.

(W&W, Problem of Securg, ch.

Prices inflated by spec, – lo i.r.

Settlers were, natch, men of small means, borrowed to buy, hi i.r.

Very hi int. burden.

Teele found – read from ch. 1. Pvt & public projects.

2. Anti-spec. leg.

a. T.D.s.

Now see why I stressed consolidat'g settlem't, etc.

b. Fed.

1. Work thru T.D.s. Thus has teeth: excess lands taxed.

2. 160 acre lim. & Since 1914, cd be smaller. ~~Lbut~~

Very hard to enforce.

a. ~~Pa~~ Comm. prop., 320

b. False sales, dummies, etc.

c. Ground water

3. 4 projects exempted. ~ a special reason in ea. case. Except San Luis Valley CVP ~~probly~~ may will be. – once have foot in door, for areas where doesn't apply, precedent, extend to C.V., where ~~all~~ probly shd have smaller.

4. Land p control, 1926 O. a. act

No water to buyer who pays > appraised value. Lasts until ± constn. charges paid.

Col. Basin, lasts indef.-ly. 1937 act.

40 acre max. -- 80 w wife. (more w. children > 18). Or under 40a.

Fed govt has 'option' to buy excess (i.e. can condemn?)

Buyer who overpays is "spec." p63

Chap. 8 riding hobby: predevelopment.

What is family farm?

"Needs", "income", "comfortable livg", little hired labor.

H. pro 'predevelopmt'. That is fine, if cheaper; & if settler has credit to pay. H. wd give away. But why develop family fms at any cost? & much work fm does very cheap, off hrs.

—

Durham-Delhi

Not so noble.

1. Anti-oriental
2. Shift land from competg w Cal. to out of state
3. Glorify E. M.
4. Polit. patronage. "Select settlers".

Bought at peak boom prices.

Ec. 149, Fri., 12-6-62

Conservation movement U.S.

Many movements together. Some strange bedfellows.

1. End of migration, & whole complex of instns. & attitudes attending it.
New emphasis on renewal, redevmt; permanent occupancy; stable, sedentary life.
Not entirely accepted yet. Opposition to urban renewal.
Migratory spirit goes way back. Medieval pioneering, r.e. devmt.
Postage-stamp pricing still shows it.

2. Reaction vs. past corruption in disposal of domain, the folkland; and current corruption in adm. of remaining lands.
East vs. west. -- let's use national assets for whole nation.
West vs. west ... let's divide up more equally. E.g. of Desert Land Act, Kern Cty. Land Co. Conservationists wd. prefer Fed. devmt., 160 a. farm.
N.E. vs. S.E. Let's apply more orderly concepts, less wild west.
Corruption undeniable. From the beginning. Indeed, at first, what we call corruption was the established order. Royal Grants to Penn. Govs. grants .. Spotswood, Wentworth
Midwest, sales to hi bidder, but bidding rigged. ~~Grants to Vets,~~ but Concen., regardless of corruption. Vets scrip concentrates, etc. Big land cos. then apply pol. pressure to get p.w. — another form of corruption.
West, Homestead Act overborne. R.r. grants. Swamp & Overflow. Timber & Stone, Desert Land

3. Realization of values other than farm land.
Minerals. Need for a policy. Unitization, e.g., to slow down.
Timber - no longer a mirage. Prime role. Pinchot
Water, for irr & power
Phosphate - Van Hise.

4. Realize of pol. power exercised by big holders

Populism & silver. Campaign shaped by sources of money. Manipulation of simple by sophisticated; also of tight-fisted by open handed.

Cost Nixon $2m to lose. Who pays, & why? Solution — educated electorate .... plus a class of Mandarins, or Levites.

5. New manifestation of Hamiltonism, valorization

Expansion had fallen flat on face.

6. Neo-Thomism.

Linked w. (5). Valorize by deferral. Linked w. socialism; western anti-bank feeling

7. Managerial revolution. Hays thesis. Good, but much too simple.

8. Recognition of offsite benefits

9. Objection to colonial status, export raw. Van Hise.

Also labor, wanting employment market.

10. Mapy. Linked w. 5 & 6. E.g. "conserv." of Ts. Reg. Comm.; of Forest Service.

11. Malthusianism

12. Desire to max. nat. benefits from public land; & collect them to finance govt.

Rt. & left wings. Strange bedfellows. Genius of T.R. for drama, made the movement. But was not enduring — too many conflicting aims. Remain for future. To put together a viable & enduring conservation movement. Problem is not lack of public spirit, but of good ideas

to what is conserv? Many things.

Slow down? Shd it always be. Finding optimum rate is conv.

Conservable flows. [Matric, c. flow, & expendable supplies.
E.g. of terracing.
E.g. of toothpaste tube. Waste of sterility

Use non-mkt. incentives & constraints, on theory of lag. (But speed. is often too much the other way.)

What is conservation?

1. Slow down depletion? Not always. In gen'l, find opt. rate of depln. Is waste from using too fast — as in mitigation case — but also too slow. Sterile assets ... e.g. virgin timber in nat. forests. Is waste from failing to convert surplus natural funds into scarce artificial ones

a sterile geolog. fund is only justified if its value is growing..

We are deceived on this by current practice re depletion allowances. They shd. only be discounted values. — use toothpaste tube e.g.

2. In gen'l, conserve all assets of society — max. capl. formation. Millman right. — altho some implications are wrong

3. Conservable flows.

a. Matrix
b. Conservable flows
c. Expendable surplus
Unreplaceable. (Infinite funds are matrix; finite funds belong here)
Revolving funds

(b) is conservation.
Terracing

4. amend'g mkt. to acknowledge externalities or spillovers.

A.C. Bunce, Es. of Soil Conservation. Ames: 1942.

Outline & comments for teaching use.

Intro.

Conserv. is "an objective of social planning", includes "purpose" of max'g wealth over time.

Is like for mgmt, but directed to areas where misuse is greatest.

Also includes intangibles.

Chap. 1. Defs. of Terms.

Weaknesses of Early Defns.

Ely: Nature; improvement; justice in distribn. as to last, p.c., Ely wd. reserve surplus for public use, above fair returns to capital, labor & mgmt. (Bunce calls this too indef. to use analytically. But the last is not indef. Is assertion of public ownership. Rent instead of give away or sell.

"Conserv" ~~ground~~ rent for public. Bunce may disagree, but not indefinite.

E.g. charg'g ec. rent for grazing permits, oil licenses, air waves, power sites)

(such charges wd. also affect use: both directly & indirectly by finding means to compensate losers. Is a most vital qu. Bunce wd. like to consign it to another pigeonhole, thus overlook it. Cen error — is too vital.)

(Assign SPE on relation of distribn & production)

Bunce

L.C. Gray. Problem is findg proper rate of discount.
(but in timber, is also problem of what to do w. it.)

Equal importance of present & futur wants --- wd. lead to ~~no~~ infinitesimal present use. (of stock res.)

[?; you (?) say time-pref. is irrational. also socialists. Basic qu., should consumer preference or the State prescribe time structure of cap. assets, of consumption & production ?]

Gray likens problem of conservation to problem of investment (I shd say rather disinvmt. Nature doesn't give you a choice of original form)

Physical scientists, consn. means full recovery, reduce physical waste (regardless of cost, or deferment of benefits [a special kind of cost]) This is another defn., w/o ref. to time.

p. 4, despairs of any gnrl def.

(My def. Conservn as a subject matter is a branch of economics ~~emphasizing use of those~~ dealing with natural resources which are limited by nature (hence "conserve") as opposed to those which may be increased by man (popn, capital). There ~~conservable~~ natural resources may be substituted for in part, (and this substitution is a part of the subject matter of "conservation") some are limited in the sense that they cannot be increased (e.g. space); others in the even stricter sense that they ~~are~~ may or must be depleted by use (e.g. soil, ~~mineral~~ ores). ~~Natural~~ The usefulness of limited natural res. may be enhanced by development, & the demand partly diverted to man-made substitutes. ~~but there remains a significant~~ These processes are part of the subject matter of

conservation economics.

Like all resources, limited nat. ress. are subject to both substn & devmt, & ~~These are ec. adaptations of man to the limits imposed by nature, but they by no means completely override these constraints.~~ (but the raw natural contribution remains fixed. by definition, and man's activity only modifies, it does not negate the constraints imposed by nature. Such substn & devmt are important parts of the subject matter of conservation.)

Conservation is study of the ec. of nat. ress. thru time.

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p. 4 "comm" is physical term. May be "ec." or "unec."

Fund (return is not an income (except A from waiting) (& it imputes in part to storage capacity)

Flow (pure fn. of time, analogous to obsolescence)

Biological. are like fund & flow, but "differ bes prody. can be affected by man." (? disagree – fund & flow can also be std)

(Also renewable, like ground wtr & virgin trees. They also occupy valuable space, a storage resource for wtr, a ~~fund~~ flow resource for timber (but also storage))

(Re biological ress, the limiting res. is usually space, bes all species produce redundant seed.

? gn. value of "biological" res. Fish, game, etc., see above.

)

Re soil, ...

? add a 3d categ: stored-up ress.; & storage capacy. (a subtype of flow res.) (subtype determines if they are rechargeable) Stored up ress. can be exhausted & replaced, like timber & grnd wtr. Storage capacity is constantly available, but its yield varies w. storage needs. Preemption of space by stored goods destroys its value, and may obstruct its use for growth, too (timber).

Bunce

"Consn" of bio. ress. is matter of present level of productivity (per acre? suppose.) (Liebig).

(Error – trying to define consn as a norm, rather than a subject matter. Like defining ecs. as "matter of full employt".)

p. 5 Consn. of fund ress. best obtained by mopy control.
Cites Hotelling, JPE 39:151-75
Consn of flow ress. is ∆ use. (w/o limit?)

p. 7 (Soil is also storage space for elements of fertility, received both currently, & from remote past; from man & from nature.)
Soil is both flow & fund res. (Fits my def. of storage capac. & stored fund. But "recharge" maybe very costly; & storage capacity may be depleted, too.) (Hence very complex.)
Conservation, exploitation, & "improvement" (depletion?): Latter includes restoring or augmenting fertility; & also irrn. & drainage. (I wd. distinguish the irrn works from the opn: latter restores fund in soil; former increases its capacity, a flow concept.)

(I wd. distinguish a conservation invmt. from other invmts thus: if designed to reduce depletion, is consn: if designed to get more from flow aspects, improvement.)

pp. 9-10 Why exploitation is ec., consn & improvement are unec. (No: improvement to facilitate depletion is still ec.] Etc.

p. 11 Ec. rent can be "capd" only if no depletion (Yet depletion can be ~~capd~~) handled by discounting individ. years.)

p. 12 Includes in rent, returns on sunk indistinguishable capital

(His "rent" ∴ is just the return to the flow resource — good. An income — stress that)

Land is "residual", but only for convenience, isn't strong on it.

p. 14 Fertility depletion (loss of ~~storable resource~~ stored value) vs. soil deterioration (loss of storage)

p. 15-16. Society shd. act vs. soil deterioration, not let individs. do it. But criterion shd be ec.: whenever permanent, irreparable damage is occurring. (But is this definable?)

E.g. of grazing lands turned to grain. 1915-20. (But this is a problem of mgnl lands, separation of cost & benefits. There is rationale for govt. action, mgnl land reverts to its But is not govt)

2-6-61 & 2-8-61

Def. of conservation

1. Rationale for i.r. (cash class)

Sacrifice in saving? What if $i = 0$? Keynes etc.

Borrow freely (saving = ec. rent buys never see this side of coin)

Inf. l.v. – or else zero ground rent. (but taxes stop you short of inf'ty)

Never deplete – time stands still. (unless res. is deteriorating physically)

Never hurry – build half a bridge, finish later ... or never, no loss.

No cap. fmctn

surely, rent time as a free good. Best time is money

Basic qn – State or ~~ctn~~ mkt prescribe structure of prodn. Here is a real issue.

2. Rationale for x fmctn.

Isn't necy. waste, or reducg nat. assets. Aggreg. cap. fmctn is another qn.

Virgin timber, turn to production use. – both stored cap. & site.

Increase nat. assets, by xforming to more productive forms.

Corollary – use best ress. first. (Unlike U.S.S. at Mesabi)

Def., return to

2½. More defs. of consn.

Reduce waste, w/o regard to value of time, or other inputs necessary.

Maintain const. level productivity – Liebig

Mnpy -- euphemism for

3. Bunce comes to no def. Res tries to define as norm rather than subject matter. Like defining "ecs" as full empl., absence of mnpy, or some other norm.

He dodges ~~to~~ establishing norm by saying consn is physical & may be ec. or not.

3 aspects consn
Land not ress
Time
Distrn of income –
Ely not vague on this.

4. Subject matter: ress limd by nature.

Substn, true, but not 100%. Limits remain. Decmt & substn are important, & part of subject matter.

Consn. is study of man's use of limited nat. ress. thru time.

4½. Doesn't mean put exclusive focus on ec. of time. But balance time vs. other values. E.g. why not extract all minerals today? a. Ag costs $\frac{MC}{\text{output per yr.}}$

b. Antic. ↑ real price in future. & decline today if much output.

5. Bunce teaches.

Fund (return not income. $ value is income to individual, & sometimes to society at time of $, not time of sale.)
a. Renewable b. Nonrenewable.
Flow. (Latent potential vs. realized net income) Return is net income.
a. constant service capacity. b. Storage capacity. c. Recharge or acceptance capacity.
Bio — ~~discard~~ Genes. ~~of~~ valuable species. Not a fund bec. can be ~~destroyed~~ augmented - not the genes, but the ~~protoplasm & blood~~ they control. Not a flow bec can be destroyed in part or whole. (over)

(~~Storable resources~~: wtr (a flow resource); timber (a bio. res.)
(~~Storage capacity~~.)
(~~Recharge~~ ")

[Differ two in growing, individuals do, appreciating while under mgmt of man, but is something else.]

6. 2 controversial propositions in Bunce, re def. of conservation.

a. Ely vague? Ground rent, pretty clear.

~~b. pp. 8-10. When depletion is ec.~~

b. Mnpy rec. for consn? Or is consn euphemism for mnpy?
Read Hotelling, JPE, 39:151-75.

c. Consn of flow res. is Adme. Very imptnt & often overlooked. But is a limit.

7. Soil - a very complex resource, has every aspect
Fund, renewable & non-renewable
Flow, constant service, storage, acceptance
Bio. Micro-organisms, etc.

8. Bunce dists. "consn," "exploitation," & "improvement."
I prefer ~~"stability"~~ maintnce, depletion, & renewal.
"Improvement" is something more ... not restoring nature, but adding to her. Might improve to help deplete. Usually, to
A capacity to yield income.

Is also worth distinguishing depletion from destruction.
Can deplete renewable resource; destroy a flow resource, e.g. storage capac.

Is qu. whether value often imputes to bio. genes, since they can be increased w/o limit. ~~But~~ Stud service commands a price, but . . .

In qual, suitable space is the limit. And the mgmt capacity of men to expand the sway of the better genes.

9. Bunce says where exploitation (depletion) is ec., consn & imprmt are not ec. Too pat. Improvement to help deplete is ecl.

10. p. 11 Ec. rent can be "capd" only if no depletion.

Class – explain.

Bunce is fuzzy – if depletion, is not rent, not income, but sale of asset.

11. Society shd. act vs. soil destruction, not depletion. But is this definable? "peril point" idea.

Mgmt grazing land, separation of cost & returns, rationale for govt acting. But is not a govt rule to draw from that.

Fuzzy in ecs. there is a continuum. Solutions presupposing sharp lines are tough. (but sometimes necy? Lvt?)

Chap. 2 –

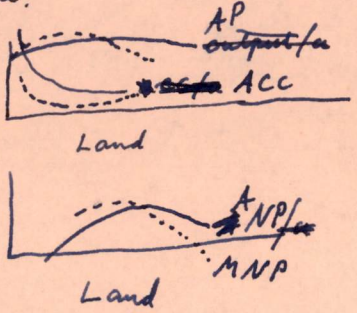
Firm vs. land

Eff. vs. capacity

Elast. of production = $\frac{\%\ \Delta \text{ output}}{\%\ \Delta \text{ input}}$

Means of analyzing ecs. of scale.

I suggest another means.



Assignments in Conservation Ecs.

Some good essays in Jarrett, Henry, (ed) Perspectives on Conservation, RFF-JH, 1958

E.S. Mason has competent essay.

Hysterical conservation - Malthusian -

bird-watching syndrome.

CHARLTON OGBURN, JR.

AMERICA THE EXPENDABLE

Will Americans ever realize that they have made a monstrously bad bargain with the future? . . . or will we continue to destroy blindly our chances for fulfilled and satisfying lives? . . .

WHEN I was a boy, in my late teens, I used to tramp about in the summer in the mountains of North Carolina. They meant to me, I believe, what mountains have always meant to human beings: grandeur, tranquillity, the strength of permanence.

I had not reckoned upon the cleverness of our species. The proposal to create a new harbor in Alaska by blowing out a section of the coast with a hydrogen bomb suggests that talk of moving mountains with atomic energy—such as we heard from Vishinsky when the U. S. S. R. produced an atomic explosion—is more than rhetorical. Indeed, our scientists have already lifted a mountain a few inches into the air, all in one piece, with an underground nuclear explosion. We cannot today look upon the noblest mountain with any certainty that it will outlast even us. It may be in the way of a planned twelve-lane, coast-to-coast, gradeless super-highway, or it may have to be leveled for some other installation of the future—an outer-planetary rocket-launching pad, perhaps. Then, waiting for it beyond our lifetimes, will be the teeming, insatiable consumers of the next century, starved for living space and raw materials, including the minerals of which the mountains are storehouses.

If even the most imposing geological formations are not proof against the pursuit of the ever more mobile and abundant life by our ever multiplying throngs, what is? Based upon what I see around me, my guess would be—very little.

Ten years ago my wife and I did what millions of others have done and moved out of town. We were willing to pay the price of all the inconveniences for the chance to plant a tree and watch it grow and bring up our children in a house that could well be home to their children too. We have moved twice since then. We have learned that life on the fringes of a metropolitan area is like life in a frontier settlement of early America or a modern Israeli kibbutz—with the difference that the news of imminent disaster comes not from the lips of a panting runner but in the headlines of the newspaper: *Alternate Route for Inner Loop Debated . . . Commercial Zoning Extended in Three Areas . . . Jaycees Seek New Industry for County . . . Route 123 to be Widened . . .*

Recently the fall of a centuries-old white oak was described in the paper by a neighbor of mine, a writer, Scott Seegers. He told how the mighty, old tree refused to move even after its bole had been cut through and how stubbornly it resisted all efforts to topple it. But the memory of the Father of Our Country had to be honored by a highway, and the tree, which quite possibly had looked upon Washington himself, had to come down. Ahead of the George Washington Memorial Parkway a swath several hundred feet wide is being cut alongside the Potomac through forests, farms, and estates. It has already reduced the ageless bluffs across the river from Washington to a series of great slag heaps.

This speedway is only one of our advances in the field of transportation. The strip of unspoiled woodland bordering Foundry Branch which was given to Washington as a park by the Glover and Archbold families will be gutted from end to end by a four-lane highway unless the legal action taken by the donors can pre-

Similarly, with a little practice, you learn to suffuse the resumé with a positive aura. You were, of course, never fired. Indeed you were not hired in the first place—you were *asked to join*. You never objected to signing six copies of letters; you reduced overhead by simplifying office procedures. You also become adept at reinterpreting your own history. For instance, you may once have thought that you made $30,000 for the company on that polyethylene deal and that the 10 per cent economy in staff was your idea. But the boss, after all, signed the polyethylene contract; *he* fired all those old biddies in shipping. And he, of course, is the man your new employer will check with.

THE best resumé I ever composed was written with the help of my previous boss over a three-martini lunch. Our coup was in remembering that he had been president of a small defunct company. By using this title we were able to promote me to Assistant to the President. That resumé made glorious reading—rather like an Irish obituary.

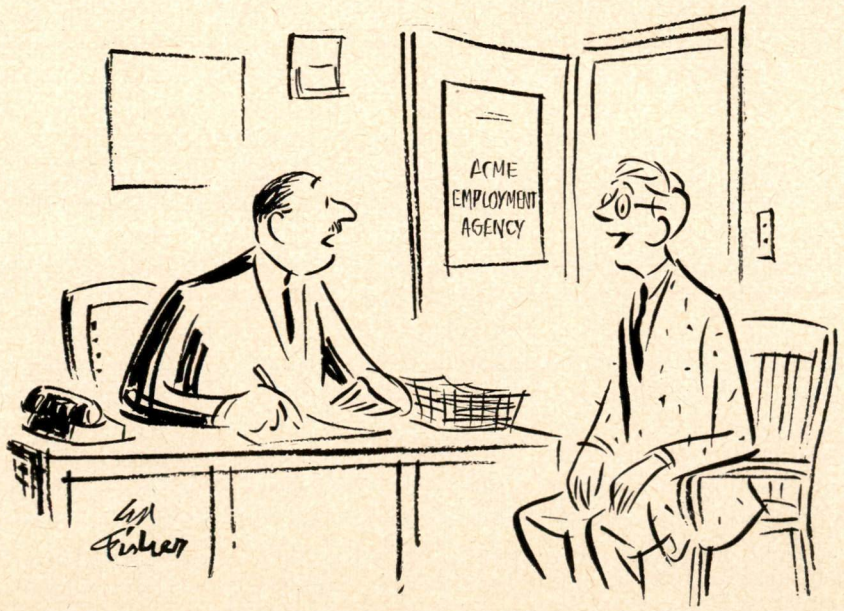
I still carry a few copies with me as I go on my rounds, a seasoned veteran in dark suit, vest, and regimental tie, equipped with confident mien and a do-it-yourself job-hunting kit. In it, besides my vital resumés, I carry a sheaf of letters from carefully selected authors (my prize is from a former staff member of a Senate Investigating Committee), the latest *New York Times* and *Wall Street Journal*, a sack of dimes for telephone calls, and an appointment diary.

The last is indispensable, for a job hunter is a busy man now that the installment-plan interview has become fashionable.

For instance, last October I had a very pleasant meeting with a business acquaintance. He was off for England next day but left a memo for his Vice President, who saw me when he got back from Canada two weeks later. He suggested I chat with the Divisional Manager who was due home from Malaya in mid-December. I phoned just before Christmas to learn he was in Turkey but his assistant would see me when he got back from Guatemala early in January. We had a nice visit just before he left for Mexico. The DM got back in February, I saw him on the twelfth, and he felt that he wanted to talk things over with an assistant who would be back from South Africa at the end of the month. Meanwhile, he suggested, no harm would be done if, next time I was in town, I dropped in to see the Export Manager when he got back from Costa Rica.

I saw him last week. Delightful man. One of the most enjoyable interviews I've had yet. He seemed to like my resumé too. Took an extra copy for the Regional Director who won't be back for quite a while. Always travels by ship—which is hard luck for me in the jet age. But you learn to be philosophical in my line of work.

Harper's Magazine, August 1960



"Experience?"—

"Vicarious."

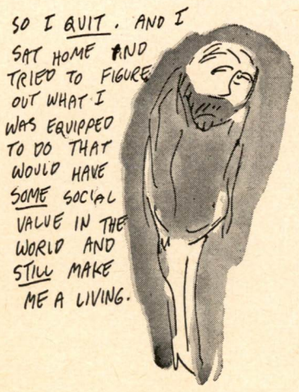
back some little time. What James had in mind, and more besides, is described in the current phrase, "The Rat Race." It is a powerful and graphic analogy, and at first thought it seems a remarkable one for the most privileged people in the world to have hit upon to describe their existence. Perhaps on second thought it is not so remarkable.

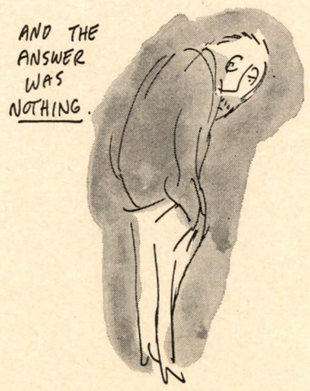
EVERY MAN FOR HIMSELF

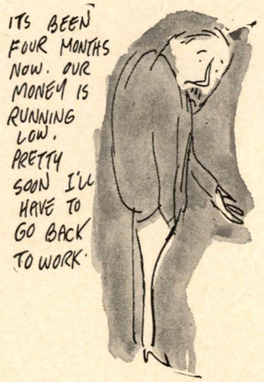
WHEN the Bolsheviks made their revolution, they promulgated the formula, "All power to the Soviets." With us it has been "All power to the individual," and so far our formula has worked better. We have dazzled the world with our productivity and standard of living. These have come about, we explain, because we have supplied the individual with unprecedented opportunities and incentives. That is true. It is also true that by making material success a measure of worth and by depriving ourselves of any excuse for not succeeding (each of us has the same chance, more or less, as the rest of us, hasn't he?) we put the individual under terrific pressure to succeed. It works, to be sure. Our output is sensational; our rats really race! If the individual does not succeed, of course he is left with the cruel fact of his human failure. If he does, there is still a catch. He is left with the question of what—apart from individual gratification—it adds up to. What is the purpose of all he has gone through?

If the experience of mankind teaches anything, I think it is that human beings find fulfillment when the focus of their lives is outside themselves, in something greater and more lasting than they are, something that can give meaning and perpetuation to their otherwise brief and not always joyful existences. It tells a good deal about the human race that in London during the bombings, when the needs of the nation were paramount to all, the incidence of nervous breakdowns declined. That which is "superior in force and continuity to good and evil fortune can alone"—in Joseph Conrad's phrase—"give us the feeling of an enduring existence and of an invincible power against the fates." Men who achieve this feeling achieve it generally through a sense of relationship, deep and real, to the quest for truth, God, or Country, with all that Country implies; it was of the "national spirit" that Conrad was writing.

And what about Americans? Are we not religious and patriotic? The percentage of us attending church has risen steadily since the founding of the country and is now up to half. The churches are bulging. We have amended our Oath of Allegiance to the Flag to make us one nation "under God." On billboards and on stickers on loaves of bread we urge our fellows to attend religious services. One of our most popular syndicated columnists is a divine who tells us not only how faith can move mountains but how it can make you the owner of a big hotel. We distribute more American flags than ever before through our veterans' organizations. The base of the Washington monument is now encircled by a veritable wall of American flags. We have become so alert to un-Americanism that an unguarded remark made in college can get you into trouble twenty-five years later. Where once we marched to war singing the flippant ditties of "Yankee Doodle" and "Dixie" we now solemnly intone the elevated phrases of "God Bless America" ("My home, sweet home").





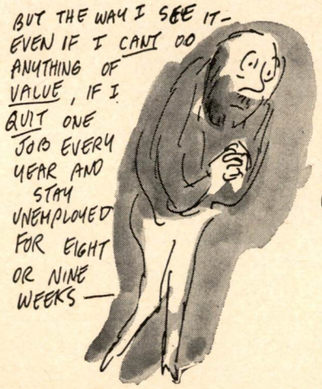


That the American people are seeking emotional security—even desperately seeking it—may not be doubted. Whether we are finding it is another matter. When a choice must be made between a new highway and the preservation of the integrity of a community or a masterpiece of nature, we seldom hesitate to embrace the highway. When the Pennsylvania Turnpike bypassed Bedford, *The Rotarian* tells us, despair settled over the three thousand inhabitants, but Bedford was made a turn-around terminal and now well over a thousand trucks a day pass through the town! When the choice is between the interests of future generations in an unspoiled seashore and a real-estate developer's opportunity for profit, we can be counted upon ninety-nine times out of a hundred to let the developer have his way.

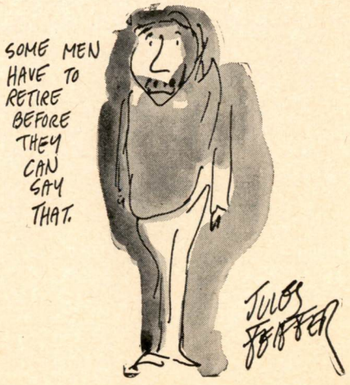
"Take what you want and pay for it," says God (a Spanish proverb tells us). What do we want? A country in which nothing is too garish, ugly, crowded, or dislocated, provided somebody is making money out of it? A country in which everything that could give us a feeling of continuity and permanence has been sacrificed for the ever-faster buck? If so, there will be a price. It will be, I think, a continuing rootlessness, homelessness, and emptiness at the core of American life. It will be more of the tension and anxiety that are so striking to visitors to our country and that somehow we cannot relieve with the mounting billions of cigarettes we annually smoke.

Within two hours' drive of where I live is the Shenandoah National Park. This is a tract of over 180,000 acres from which the Blue Ridge Parkway extends southward through the George Washington National Forest. Eventually, after also passing through several state parks and the Pisgah National Forest, it will reach, when completed, the Great Smoky Mountains National Park. Together, these reservations form a protected zone of forest, meadow, and mountains that is unbroken for five hundred miles. Within it there are no compulsively driven throngs, human or vehicular, no goading and peremptory traffic lights (or any need for them), no frenzied billboards or dazzling store-fronts shrieking one another down for your attention. Some of the same effect may be found in certain parts of American towns which have escaped commercial exploitation and retained the character and dignity they have had for generations—certain streets of New England whaling towns, for instance, or the heart of Savannah around Forsyth Park. Only here in the Shenandoah the sense of serenity is greater. In a national park you do not fear to form an attachment to what you see lest you return to find it bulldozed out for a gas station. You feel as if you had escaped the battlefield of a war you had been fighting and losing. You have for once the feeling of being at peace with your surroundings.

A hope of "getting away from it all"—somehow, sometime—is part of the American dream. The drive to get away from the civilization we have built is today sending us to the national parks in ever greater numbers. It is also bringing tourists from the hinterland of America to the historic places of the Atlantic Seaboard and sending others across the ocean. Within a few years, a million Americans are expected to visit Europe annually, an amazing number considering the costs of the trip. In all these pilgrimages, I suspect, there is a common motive. It is a longing to regain something we feel we







have lost in our pursuit of the future. What we seek is reassurance that existence has other dimensions and values than those of the transient and harassing present. We seek it in the changeless mountains and forests, in the New England fishing villages and medieval French towns. We have a hunger for that which is enduring, which is rooted, which belongs, as we should like to belong, for that which men have made not to see how much they could get out of it but to see how much they could put into it. There is a fine irony in this. We go to ever-greater lengths to recapture precisely those things that we happily raze to the ground when we find them near at home—to make way for more of what we flee from.

THE REAR-GUARD ACTION

TO preserve that which could "give us the feeling of an enduring existence" requires unremitting battle, with the hope of winning only a small part of the time. When a landmark of our history or a spectacular remnant of our natural grandeur is threatened with destruction for even trivial or perverse reasons, the struggle to save it can be exhausting. It took conservationists years of effort to defeat the scheme to flood Dinosaur National Monument and use the impounded waters partly to bring more land under cultivation at a time when we are burdened with $9 billion in farm surpluses. A state-wide, even nation-wide mobilization was necessary to save the virgin forests of Porcupine Mountain State Park (which Michigan had acquired fifteen years before to preserve them "for all eternity") from copper mining—which was to have been subsidized by the taxpayer while the Department of State worried about the shrinking markets for the copper produced by our allies. The plan to level over the bed of the historic Chesapeake and Ohio Canal and convert the wooded corridor which it occupies beside the Potomac into a "scenic" highway was given up only when a Supreme Court Justice and other angry citizens hiked the 160-mile length of the canal to call attention to its value as a park. In another recent case the popular addiction to highways proved invincible. The Adirondacks are to be invaded by a "Northway" which will bring their fastnesses within a beer-can's throw of whizzing millions who are not content with having almost all the rest of the country to whiz through.

"We cannot hallow this ground," said Lincoln. The question is, can we refrain from desecrating the battlefield of Gettysburg with subdivisions and Bar-B-Qs? The field of Antietam, soaked with the blood of more brave Americans than any other plot in the world, was saved only by Congressional action at the last minute.

The conservationists may well be fighting a losing battle. Perhaps we must plunge on to some ultimate reckoning. But there are some grounds for hope, some indications that a stand can be made. The ferocious slaughter of wildlife following the Civil War led to the federal and state laws and to the game and wildlife refuges that now afford the survivors some protection. The ravaging of the wilderness led to our incomparable system of national parks which, starting with Yellowstone in 1872, now encompasses 24 million acres, including some 130 national monuments and historical and battlefield parks. The threat to historical sites has called into being at least 800 organizations to protect them; that is the present membership of the National Trust for Historic Preservation. Thanks to these organizations, 22 cities now have ordinances protecting historic sections and 50 others are said to have such ordinances under consideration.

Three recent developments in Congress could be indicative of a growing public concern. One was the act authorizing a higher payment under the Interstate Highway system to states forbidding billboards along the right-of-way. The differential is a small one (one-half of one per cent) but it establishes a principle. A second was the creation by Congress of the Outdoor Recreation Resources Review Commission which will inventory our remaining unspoiled areas under the chairmanship of Laurance Rockefeller. The third is the Wilderness Preservation Bill, which would preserve remaining wild areas in federal ownership from invasion by roads and buildings.

A few years ago a publication of the Audubon Society of the District of Columbia contrasted the virtually parkless suburbs of Washington with an equal area of London, where, in addition to innumerable smaller parks, there are 37 parks of over 50 acres each, of which 13 are of 200 acres or more, Hyde Park having 363 acres and Epping Forest over 5,000. Since then, two of the jurisdictions—Fairfax and Montgomery Counties—have voted for multi-million-dollar bond issues for parks, and the prospects of saving a minimum of green areas while there is yet time have radically improved. There is plenty of evidence of a growing nation-wide interest in zoning laws, planning bodies, and acquisition of parkland. It would be remarkable if there were

over after a forty-hour week; it is a spirit, an outlook on life. Charles Morgan defined it when he observed, "The party had that quality of ease and leisure which is peculiarly Italian, none of the guests having an axe to grind, an appointment to keep, or any desire to excel." It wasn't an American party.

Whatever we may profess, our religion is in fact a cult of contemporaneity, its object to be up-to-the-minute, up-with-the-Joneses. Cronus, the god who consumes his own children, is our deity. An embattled minority may save the cable cars of San Francisco and prevent the construction of giant apartment-hotels that would destroy the character of Washington Square in New York, but it is a thousand times more typical of us to let the double-decker buses that had come to symbolize New York be scrapped because the other kind is a shade cheaper to operate and to let the picturesque houses bordering Lafayette Square, in front of the White House, go down to make way for more government office buildings designed by and for robots.

We pay a price for condemning the familiar to extinction to make way for the new; we condemn to extinction something of ourselves. To witness the disappearance of that which we belong to and which belongs to us and to acquire a feeling of homelessness is the fate we reserve for ourselves. Ours is a society that is cruel to the old. We provide the old with welfare services and miracle drugs to prolong their lives while sweeping away the world in which they had a place.

The idolatry of age that is found in traditionalist Asian societies is replaced among us by an idolatry of youth. I do not mean that we sacrifice much for the education and improvement of our young—we don't—but that we make a fetish of youth. Advertising and popular entertainment on the screen and in magazines is directed largely at our preoccupation with youth and its physical attributes. The only product I recall of which the consumer is shown in the advertisements as being unmistakably past his twenties—other than those related directly to age, like insurance—is the Cadillac. But here, I am told, the reason for showing the proud possessor as a man in his forties or fifties has to do with the unconscious identification of the motorcar as a symbol of sexual vigor, a consideration to which wealthy men past their prime would presumably be peculiarly vulnerable.

Pregnancies in high school, coronaries in middle age; we are determined to force the pace. We cannot wait. We pursue time—but only to find that we never have enough. Sustained attention is becoming difficult for us. The media in which our society chiefly expresses itself are given over to trivialities or what may be grasped on the run—certainly that is the case with television, radio, and motion pictures. In some quarter of a million hours of television broadcasting in the past decade it has been impossible to schedule three consecutive hours for a complete play of Shakespeare's. The parochialism of time, as Van Wyck Brooks calls it, has invaded our schools and the humanities have been crowded to the side by technology and community adjustment. (An early product of progressive education, I was graduated from high school without having had an hour's instruction in history, American or other.)

"Our silent past, our deafening present, the constant pressure about us of unlovely circumstance," Henry James exclaimed—for this goes



we belong to and can expect to endure. This does not require making an end of change and progress; it does mean introducing a steering wheel and some brakes before the machine runs away with us.

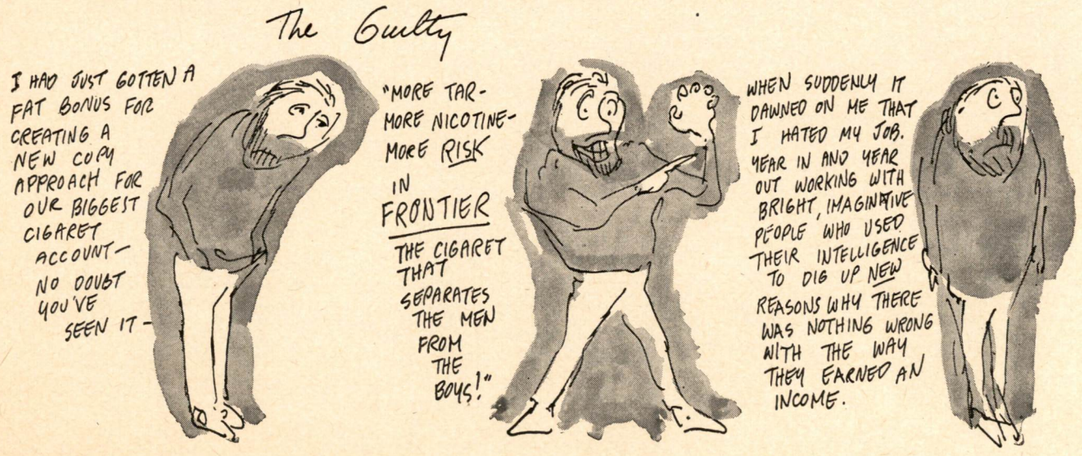
What the conservationists are up against is enough to discourage all but the dauntless. The encroachment of urban civilization upon the legacies of traditional America proceeds unchecked and at a dizzy pace. By the year 2000, according to a study by Jerome P. Pickard for the Urban Land Institute, the city will dominate every section of the country; of the ten supermetropolitan areas, New York will have a population of 23 million, Los Angeles 20 million. As August Heckscher, Director of the Twentieth Century Fund, points out, "The modern city has burst its walls, it overruns the countryside, stretches along the highway, at a thousand points penetrates the rural community. The proliferation of the city takes place under the guidance of no standards, at the whim of private interests." Villages and towns rich in associations for Americans as individuals and as a nation are being swallowed up, are vanishing. And for what? "Extended urbanism"—to quote Mr. Heckscher again—"has given him the rewards neither of intimacy nor of isolation."

We have hatched a Minotaur, and to slake its appetite we have to feed it a million green acres a year—twice the area of the Great Smoky Mountains National Park. The shrinking remainder of the country—that which escapes the city's spread—will be increasingly overrun. We already have 70 million motor vehicles, and by driving them 700 billion miles, as we are expected to this year, our population of 180 million will saturate more country, probably, than 600 million pedestrian Chinese. The number of cars we drive is continuously increasing, and as demands for ease and safety at sixty miles an hour require highways with more and wider lanes, broader shoulders, and more elaborate cloverleaves, the motorcar becomes an ever more voracious consumer of land and of whatever happens to be on the land.

U. S. 66, the monster which is to sweep through Arlington with eight lanes on its way from Washington to the Shenandoah Valley, will have within seven miles of my house one interchange taking over sixty acres and another eighty. The planned 41,000-mile Interstate Highway system will gobble up two million acres. Of the $20 billion to be spent on roads this year in the entire world outside the Iron Curtain, over half will be spent in the United States. And the highways are only the beginning. With them comes the vast and tawdry infrastructure of the motor age—the gas stations, bar-grills, tourist cabins, outdoor movie theaters, auto-wrecking lots, and roadside menageries ("Pit of Death! Man-killing Monkeys!").

PREMATURE PREGNANCIES AND CORONARIES

MUCH is being made over the growing amount of leisure in American life. In fact, however, leisure is alien to us. The time we save with the latest in labor-saving machinery we characteristically spend in filling our lives with more noise and movement. According to the pollsters, the number of Americans who claim to be reading a book is only half the number who own an automobile. Leisure, contrary to what we may believe, is not what is left



not, in view of the specter that has been conjured up for us of a super-megalopolis of the future that will engulf the entire Atlantic Seaboard from Massachusetts to Virginia.

THE SECOND FLOOD

THAT specter calls up an ugly truth, however: What we have seen so far of the ravaging of the American countryside and the American past by the bulldozer and the wrecking crew is nothing compared with what we shall see in the future, no matter what actions we may take to control the evils of urban sprawl. We are adding three million to our population every year, and every year—unless something happens to lower the birth rate or raise the death rate—the number will grow larger. The parks will offer no refuge from the future's hordes; you will merely meet them there in different clothes. Not only is our population expanding but so are income and mobility. Annual visits to state parks rose from 75 million at the end of the war to 237 million in 1958, the increase from 1957 to 1958 being 9 per cent. In *The Crisis in Outdoor Recreation,* Marion Clawson of the Ford Foundation estimates that by the year 2000 the demand upon our national parks and forests may well be forty times what it has been in the recent past; a projection of the current trend shows the number of annual visits reaching five billion by that time.

To the world's population there is yearly added a number greater than the population of France. If the estimated one-third of a billion inhabitants of the world at the time of Christ had increased at the rate at which the world's present inhabitants are increasing, P. K. Whelpton tells us in *The Population Ahead,* we should now have a million persons for every square *foot* of the earth's land surface. By reducing mortality rates without correspondingly reducing birth rates, science has opened up for mankind a fate as ghastly as the trick it has up its other sleeve—atomic annihilation. One important difference is that to escape the latter we need only refrain from using nuclear weapons, whereas to escape from being drowned in the flood of our own numbers, positive and perhaps drastic action is required. As for what the action should be, the issue was posed sharply last November when the Catholic Bishops of the United States came out with their statement on birth control. "United States Catholics believe," they said, "that the promotion of artificial birth prevention is a morally, humanly, psychologically, and politically disastrous approach to the population problem." Those who disagreed with them were accused of "promoting a moral evil" and the United States was warned not to let itself be terrorized by the "'guesstimates' of special pleaders with respect to the population explosion." The Bishops implied that the solution lay in migration and in "increasing the acreage or the acreage yield to meet the food demands of an increasing population." The pronouncement was followed by a brief flurry of controversy, and not much more.

It is hard to think of an occasion on which our statesmen and editorialists have showed to worse advantage than they have in their pussyfooting on the issue of the population explosion. It is much as if they had been acting on the premise that the Communist threat would go away if it were made unmentionable. The two issues are not only of a comparable seriousness but closely related. Only the blind could maintain that China's overpopulation had nothing to do with the Chinese Communists' success or that the present rate of population increase in the underdeveloped countries of the Free World does not tend to negate the value of our economic aid and vastly complicate the problem of satisfying the ever-mounting demands of their inhabitants for a better life. In Kerala, in India, we have recently had an illustration of the sequence of overpopulation, unemployment, poverty, Communist success at the polls, attacks on Christian institutions. (The Catholic Church is especially strong in Kerala.) If the population of Africa is going to rise to 517 million and that of Latin America to 592 million by the year 2000, as George Washington University predicts, we may face scores of Keralas. May the Bishops not have to ask themselves what it shall profit us if we shall gain all these souls and lose the whole world?

STOPPING THE SWARM

WHILE the Population Reference Bureau declares that "unless population growth is controlled in some underdeveloped countries, world chaos is inevitable" and two eminent scientists—Philip M. Hauser, a University of Chicago sociologist and Sir Julian Huxley, the British biologist—call for all-out use of every practical method of birth control to save the world from political and social catastrophe, our President declares that "as long as I am here" our government will never "have a positive political doctrine in its program that has to do with birth control."

What the opponents of birth control may not fully understand is that many of us are aghast at the senseless, runaway proliferation of population not only because of the effect among the less fortunate peoples who even now go to bed hungry but because we happen to love our own country. Our nation spends $40 billion a year to insure itself against invasion from another country. We should like to see it spend some tiny fraction of that sum to insure itself against an invasion from another time, against being overrun by the teeming masses the future could spawn. Let us recognize that one invasion could be as destructive as the other, not only of the outward character of America but of all else we value; for surely we cannot assume that the idea of individual rights born in the New England town meeting and the assemblages of Revolutionary Virginia will still flourish when a human being is only one 500-millionth or a billionth part of a human mass packed into super-cities like monster, crawling bee swarms.

If that growth is to be forestalled, a determined and resourceful effort must be made, and made soon, to develop simplified means of contraception and effective incentives to hold down the size of families. There seems to be little doubt that we are on the way to a solution of the contraceptive problem. As for the other—if women from Patagonia to Manitoba and from Santa Monica to the Kurfürstendamm can be shamed overnight into raising or lowering the hemlines of their skirts at the whim of a Parisian designer, it should be possible to build up social pressures that will restrain parents from heedless multiplication. About 2.2 children per couple will maintain the population in the United States. Do we need many more?

Raymond B. Cowles, a zo-ologist at the University of California, said of the population explosion, "I can come to only one conclusion, which is that no rational solution can be achieved in time to avert disaster to both wildlife and man himself." Let us hope that he is wrong and that once again we can rally at the eleventh hour in defense of what remains of our homeland.

Thomas Griffith, the foreign-affairs editor of *Time*, in his book, *The Waist-High Culture*, speaks of Americans today having a "sense of blighted intentions." Convinced of our discontent with the noise, speed, hypocrisy, and triviality of our society, Mr. Griffith believes that nothing less is required than "a revolution of goals, a change in what we value, what we preserve, and what we pursue."

Perhaps never before, even in the depths of the great depression, have doubts about the direction of our civilization been so widespread among us. And from that, more than from anything else, we may draw encouragement.

THE FATHER OF AMERICAN CONSERVATISM

ALTHOUGH not valuable to the United States for settlement, [the Louisiana Purchase] is so to Spain, and will become more so, and therefore at some distant period will form an object which we may barter with her for the Floridas, obviously of far greater value to us than all the immense, undefined region west of the river. . . .

When we consider the present extent of the United States, and that not one sixteenth part of its territory is yet under occupation, the advantage of the acquisition, as it relates to actual settlement, appears too distant and remote to strike the mind of a sober politician with much force. This, therefore, can only rest in speculation for many years, if not centuries to come, and consequently will not perhaps be allowed very great weight in the account by the majority of readers. But it may be added, that should our own citizens, more enterprising than wise, become desirous of settling this country, and emigrate thither, it must not only be attended with all the injuries of a too widely dispersed population, but by adding to the great weight of the western part of our territory, must hasten the dismemberment of a large portion of our country, or a dissolution of the government.

—Alexander Hamilton, New York *Evening Post*, July 5, 1803

Harper's Magazine, August 1960

vent it. We also have U. S. 240, a super-highway which has been bearing down upon the nation's capital out of western Maryland for the past five years to an accompaniment of controversy as to what its route of invasion of the District of Columbia should be. Should it plow through the fine residential area of Cleveland Park? Or should it be brought behind bulldozers ten abreast through the forest glades along the Chesapeake and Ohio Canal or through those of Rock Creek Park (which, in the memorable words of one of the commissioners concerned, would "develop the park and make it a better place for people to take their children")?

Then we have the international airport at Chantilly, Virginia, the runways of which will be the equivalent of a twenty-four-foot-wide highway a hundred miles long. For this facility, fourteen square miles have been depopulated, six hundred houses removed, and 250,000 trees pushed into piles, doused with oil, and burned. Those who live under the projected flight patterns are awaiting their introduction to the screams of jet aircraft.

Progressiveness being a national characteristic, I am sure the inhabitants of other metropolitan areas are as familiar as we around Washington, D. C., with the chronic anxiety of not knowing where progress is going to strike next. We all have in common the new Interstate Highway system. This project, if it lives up to expectations, will wipe out 100,000 homes. It will be Sherman's march to the sea on a continental scale. It is of a battlefield that you are irresistibly reminded as you watch the bulldozers and graders at work. There is the same sweep of muddy or dusty devastation, impartially unsparing of the works of nature and man.

A BAD BARGAIN

IT HAS been said that for the present generation of Americans the principle of the "greatest good of the greatest number" really means the "greatest pleasure of the greatest number." Looking at American life today, you sometimes have the impression of a people who have heard on good authority that the world is about to end and are bent on getting all they can while the getting is good—especially in the way of sensation.

Our record of crime, delinquency, and vandalism is the world's most shocking. We spend prodigally on self-indulgence and parsimoniously on the nation's future; as Kenneth Galbraith has observed, if we had a bigger national income we should probably spend the increment not on better schools, parks, and national defense but on raising the car quota per family to three. The cost of an hour-a-week television show providing only a transitory distraction can amount to as much as we pay the entire faculty of a large university or a couple of thousand elementary school teachers. We seek to lose ourselves in material possessions, entertainment, alcohol, and the fascination of sex. Like tenants on a short lease, we waste the resources of our country, litter it with papers, cans, and bottles, deface it with billboards, and carelessly burn up thousands of acres of forest annually. From almost any highway the United States presents an appearance of abundant wealth combined with trashiness and neglect. There can hardly be another country in the world which has offered its inhabitants so much and received so little from them in return.

If we act like the inhabitants of a world under sentence of destruction, it may be because that is what we are—and I do not mean destruction by atomic war. We have always heedlessly plowed under the past together with the natural treasures of our continent, but the pace of change has been quickening. Never before have we had such reason to feel that what surrounds us and gives continuity to life lingers only on borrowed time. The truth of our situation is slowly dawning; we did not know what we had bargained for when we set material expansion as the supreme goal of our society.

Conservationists—whom experience has made rather defensive—generally describe their purposes modestly and even apologetically. They are for the preservation of historical values, scientific values, recreational values, aesthetic values, economic values. But what they are ultimately concerned with is what men live by. Their object is to preserve their country as something more than a political and economic expression, to preserve a world that we can feel

---

Charlton Ogburn, Jr., vice chairman of the Fairfax County (Virginia) Park Authority, got his start in conservation as a boy bird-watcher on Long Island, the New Jersey marshes, and in the Bronx. He was a lieutenant during the World War II Burma campaign and wrote its heroic story in "The Marauders," a best-selling book which is to be made into a movie by Warner Brothers. He has been writing since 1957 when he resigned from the State Department after eleven years' service in policy planning and intelligence work.

Before Aug. 15 → Check with Elder, Woodruff. Forestry, etc.

Prerequisites? Junior standing e.g. Permission of Instructor.

Ag. Ec. 386 2 hrs? Economics of Conservation

Economizing on natural resources through time. Conservation, capital formation and turnover. ~~Benefits/x~~ Balancing of conservation benefits and costs. Considerations peculiar to specific resources: timber, soils, water, wildlife, minerals, location (emphasis to vary with interests of class.) Conservation in relation to other social goals. Criteria for policy. Taught alternate years.

Ag. Ec. 468 Resource Economics and Development

Suggested prerequisites: Ag Ec. 350; grad. standing; Ag. Ec. 386; Ag Ec. 338 (Land Ec.); Ec Theory 270 Welfare Ec.

Optimal economic development of natural resources. Benefit-cost analysis of developmental projects. Spatial and temporal interdependencies, multiple uses, external economies. Measuring quasi-market values. Coordination of competing and complementary inputs and outputs. ~~In-suboptimal programs. Raising the level of suboptimization, and finding the optimal suboptimum~~ The problem of suboptimization. Dynamics of resource development: adaptation to uncertainty; synchronization of complementary developments; ~~effects of resource development~~ relations of resource development to capital formation and turnover, and ~~[illegible]~~. macro-economic fluctuations. Term-paper encouraged. Taught alternate years.

#Hays, Samuel P. Conservation & the Gospel of Efficiency.

1890-1920. Harvard UP '59.

Uneven quality.

Chap. 2, "Store the Floods", ok on history of irrigation. [Tends to include too much narrative detail w/o analysis.] p. 14, West got irrn. by refusing to let eastern rivers & harbors stuff pass w/o logrolling.

p. 16, some exposition of wtr rts & BR efforts to improve, as prerequisite for irrn. Etc. Worth rereading for research sources, and assigning

Chap. 5, "The Public Land Qn." too tedious.

Chap. 13, "The Conservation Movement & the Progressive Tradition." pp. 261-76.

Good. Analyzes T.R. motives. Progressive belief in science & specialists, vs. local desire for grass roots control. In process, Hays wd. whitewash the large landholders & despoilers.

Local repn. made for log rolling, too many starts, too few completions & allocations of funds to high priority projects. Brings this out well.

(Solution: give funds to best projects, compensate losers by heavy land taxes on favored lands. Another e.g. of the great anomaly of our system, distrn. vs. allocation, failure to see Lvt. as welfare solution.)

→ Return to this book. And put on reserve for both spring courses.

Bunce, Chap 2, "Efficiency, Capacity, Elasticity, & Intensity."

Sketchy outline

p. 20-21 excellent, chides Ely & W. for confusing firm & land, chides all for this. (Expand in class: efficient & inefficient farms, etc.)

"Eff." - goofs. ($\frac{\text{output}}{\text{input}}$. Input = max. possible output.)

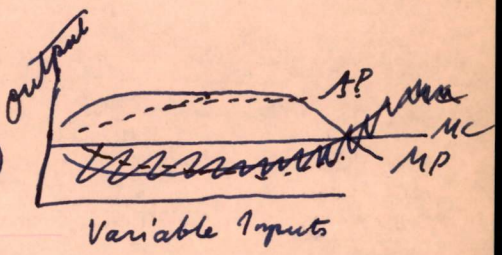
(Eff not a quality of land but mgmt)

Capacity. (vs. eff. Ozarks vs. Putnams or Marshalls)

(Hamman

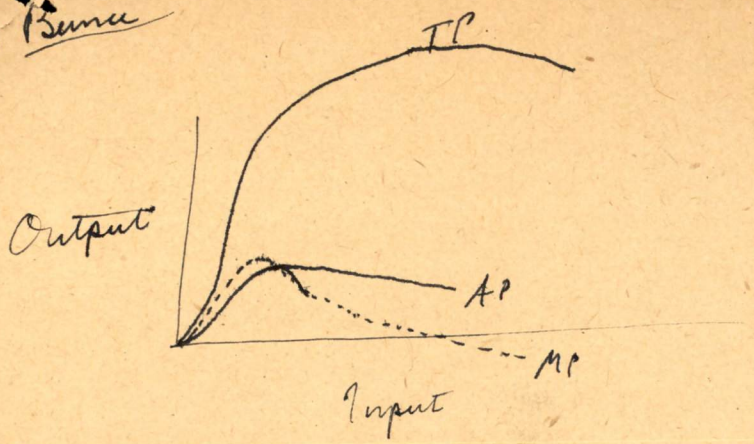
Elasticity of production.

$$\frac{\%\text{ change in total returns (value product)}}{\%\text{ change in inputs. (variable)}}$$



Can have all inputs ~~fixed~~ vary, or ~~let~~ hold some fixed, as desired.

Bauer



$$\%\,\Delta \text{ output} = \frac{MP}{TP} = \frac{MP}{AP \times \text{Input}} = \frac{MP}{TP}$$

$$= \frac{MP}{TP/TC} = \frac{MP}{AP}$$

$$\%\,\Delta \text{ input} = \frac{MC}{TC} = \frac{MC}{AC \times \text{Input}} = \frac{1}{TC}$$

Why is elast. of prodn input? Not clear. Is not a way of analyzing scale ecs. bcs land held constant.

When all inputs vary, if a 1% Δ input brings a 1% Δ output, have reached constant returns to scale. Likewise when one input varies, when reach const. AP, ~~a change~~ or const. returns to that input, % Δ output = % Δ input. That is nec. to keep const. & radius vector.

Elast. of production turns out to equal $\frac{MP}{AP}$, so = 1 when MP = AP.

Use? Gives new insight into meaning of MP & AP. Used in Euler's theorem.

Bunce, p. 21-28

Cash grain farms, low elast. of prodn, i.e. rapidly dim. rets. per acre.
(Is still considerable: witness Δ yields ff. reduced acreages
But livestock enterprises, can buy feed, etc., Δ ratio of variable to fixed
costs, get enormous gross per acre, w. a much smaller Δ of net.
(also, less Δ of value added on site & from site.)

Fruit ranch, "highly inelastic production curve." (Bus trees are fixed. But note
this is after have already reached hi gross/acre & low net/gross) (Also note the
fruit fm. returns come from the site's soil, more is "value added" on site.)

(Long run can shift from cash-grain to feeder or to fruit, hi
elast. of prodn.)

(Re conservation, enterprises w. hi net/gross (& usually low gross)
are exploitive. Note relation of scale ecs. to conservation.
Enterprises w. low net/gross use many imported inputs, tend to become
some as enrichment in soil.

(Cash grain, hi net/gross, may enrich soil by partial disutilization
of products, e.g. ensilage. But livestock uses ensilage & improves on it
by leavg manure.

(Fmr w. little land but hi turnover will probly also want hi
turnover of wealth stored in soil, but this is to be distinguished from
depletion. Simply means he will put it in & take out rapidly, but not
that he will not deplete.

Money will have a hi mp to him, tempting depletion, but land
will have even more so, bcs of his intensity & rapidity of use, so he will
keep it up.

Bunce pp. 28 ff.

(Historically, land exploitation assoc. w. large scale farming. Today, claims are opposite. Some instances true. On balance, skeptic.

Intensity

Primary & 2dry, e.g. feeding on dry lot.

Chap. 3 Relationship of Rent to elast. of production & intensity of landuse.

p. 36 Effect of lower costs on intensifying farming depends on elast. of prodn. or capac.

p. 38 At hi input costs, a grain farm may ~~com~~ yield rent = to a dairy farm; but when input costs fall, grain farm can no longer compete bec dairy farm exploits its greater capacity & get more rent.

(So in prosperity, higher labor costs, move toward low-capacity uses. Hence trend to large farms. Mechanization is nothing new, not in itself adequate explanation.)

Off-again on-again. pp. 41-43. He almost wrote a good book. Have to analyze sentence by sentence to agree or not. Manages to neutralize himself. Read p. 42 to class to illustrate problem.

Moral. Don't feel every word is true, or important. Read judiciously.

Bunce, Chap. 4 Exploitation of Virgin Fertility & the Intensive & Extensive Margins.

(Great swings of thought. First, supreme ignorance, western pioneers ~~or~~ unaware they were exploiting virgin fertility, overpriced land – (& gov'ts presumed tax income they cdn't maintain). Then oversold soil destruction, idea you cdn't replace, renew. In '30s. Now learning you can.)

(When is public intervention justified? When costs & benefits dissociated, & public, as tax claimant & "remainderman", is left w. empty shell.

(This is when land is submgnl on basis of fertility nature, but supermgnl or intramgnl on basis of continued depletion. In periods of boom, get dynamic complication, assume rising incomes, exploit for a while, expect to move into permanent use.)

(Is continual problem at margins.)

(Study our public land disposal system, :.)

p. 50 Exploiting grain fmg led westward movement. After it had exploited soil, turned it over to more conservational dairy, bec w/o exploitation, grain fmg not ec l.

(N.B., tho, today large fms on good land are grain fms. Still exploiting soil)

p. 50 Conservation in midwest, meaning shift to dairy, is obstructed by anti-dairy milkshed protection in east.

(We moved west too fast, kept l.v. too low. Migratory system. Due to premature xptn)

Arbitrary priorities. Navigation, rip. 'domestic' uses, munic. uses – domestic only, agric., industrial – too far down line.
└ actually more favored, gets lowest rates

P discrim. — special favors for agric.

Exist'g use usually held > future use ... that, e.g., is basis of Ariz's present claim. Don't let land now used be dried up.

Appropriative Doctrine. Useful, in early days, to counteract land spec. ? if you didn't use land, you didn't use water, established no right.

1. Rt. estab. by use. "Rt. of use". Cal. miners custom. "Possession is 9 pts of law"

2. Priority of claims by seniority. "First in time is first in rt".
(Doctrine of relation, 1st to file claim is 1st)

3. How get access to water?

a. Over public domain, Nat. Fast, etc

b. Eminent domain.

E.g. cities go up to hdwtrs

Municipalities, utilities (even pvt parties?) have it. (I.Ds.) (MWC?)

Yes, says B.E. Rhodes Jr, since 1862 in Cal. / no, says ST Harding? That's what I have in working paper.

c. Pvt. contract

d. Rip. himself may do it — e.g. his rip. share may be small & tenuous, subject to later proratings. So says Harding.

e. Sometimes can't — thus rip. controls water despite approp. doctrine.
Grazg country, are no rip. rts, but much rip power

4. Sometimes rigidly app. to land; sometimes xferable, but only where no harm. When rts get complex, King's R., rigid.

5. Xfer out of watershed? Sometimes, sometimes not.

6. How is approp. possible if are rip rts?

a. Public domain, gov't allows. Gov't waived its rip. rts, (1877?), subseq. riparts. } old days

b. adverse use, unchallenged, 5 yrs est. rt. } yr. to prev. est. appr. rts.

c. Statutes limit unused rip rts.

Ore, 1909, 2 yrs disuse forfeits rt

Cal., 1913, 10 yrs " " " But vague, & 1928 changed it, says P-body v. Vallejo

So in cal, rip rts do limit approp. But limited to 'reasonable use' — but not so limited, as in MEL v Madera I.D. & US v. Gerlach, rips won

deadlock, gov't intervention caused — thus extreme deference to vested priv leads to sac-m.

Approp. Doctrine 2

Weaknesses.

1. Encourages premature claims & use (same as any prescriptive rt, or rt of use. E.g. homestead act res. req.) — e.g. EBMUD now serves 1m; has water for 2.6m "took it ahead 30-40 yrs". Has to, too — might be none left if didn't.

2. Encourages wasteful use

3. Violates equimgnl princ. Water alloc. by historical priority, no relation to present needs (Msre MP net of conveyance costs, losses)

4. Risk, conc. in a few jr. approp., not spread — violates ins. principle.

5. No provision for abrogat'g unused claims

6. No inhibition on excessive claims

7. Something for noth'g --- not just something, in many areas it's everything. To a few.

8. Virtually non transferable. Extended benefits — Owens Valley case. If BR tries to claim 2dry benefits, "egheads". Take them away, dynamite. If try to serve neighbors temporarily, they declare you P.U.

9. Makes water claim, like land title, something w. long future, an inv. for future, gravitates to strong hands. Thus also makes it stickier

10. all rts fuzzy — adds to risk. You don't know until you begin to divert, someone may sue. E.g. if's sr. claimant ups tream, you estab. no adverse use.

over

We've left it to lawyers & engineers, they've made mess.

11. Sometimes upstream jr's must let enough water past their gates to meet all downstream claims — (even claims jr to them, sometimes) then what guarantee is there that downstream will use it?

12. "Beneficial use" cfsons take no acc't of channel losses.

13. ~~Upstream appr~~ Downstream jr est.s no prescriptive rt. – unused sr. claims ahead of him can take water later.

~~Previous Work (relate to Objectives)~~

List of defects of water law.

1. Analyze wtr law, approp. & ripn & other? special features distinctively Californian, many springing from the State's long effort to live w. both systems simul. – correlative rts?

Major elements hv. bn. digested & summarized, from ec. viewpt.

Major Elements hv. bn defined likely to lead to ~~major~~ unec. results. (was not thought nec. to go into detail on minor elements, bcs criticism of major features was so fundamental as to make that relatively inconsequential) These elements are stressed

Reorder all.

a. Rts based on historical priorities of uses, w. no nec. relation to current productivity. or on ripn position,

a½. The social opp. cost of wtr is not felt by claimants, they are insulated

b. Such constraints as are applied are based on obsolete standards of wtr conservation not in keeping w. its current value. Higher standards are applied to some users, but as the application is uneven this constitutes another diseconomy. [There is no ec. penalty on waste except foregone gain, which may vary on the lands to which the rt. applies.]

c. The constraints are vague & unpredictable within a considerable range. (cf u, v, w)

d. There is no ready mechanism for transfering wtr rts once granted, and little or no incentive to dispose of surplus claims, which are ~~[illegible]~~ salable, if at all, only by devious routes. no mechanism for abrogating unused claims. objective. indirection. unburdened by royalties & taxes, and

~~e. The law hardly recognizes differences of degree: water either is or is not in~~ (There is absolutely no quick xfr, for day-to-day needs: no fungibility. At best a very slow viscous flow.
~~"beneficial use," and only the most flagrant and notorious waste fails to qualify~~
(No fungibility; no xfr of rip. rts bcs veto situation)
~~as~~ The pattern of use is thus virtually frozen from its inception. This has the added disadvantage of arousing strong local opposition to new ~~all~~ exports of water, surplus ~~however uneconomical.~~

~~e. Water transfers being virtually irr~~

Consol. w. (4)

e. There are special barriers to export transfer of water from over counties & watersheds, ~~which~~ value at no cost; " natch haste to claim before others.

f. System puts premium on premature inflated claims, "doctrine of relation," Rt. holders are getting something and the ripn "declaratory injunction"

f. The ~~approp. principle~~ based on priority of claim, puts a premium on ~~encourages~~ premature inflated claims, ~~the~~ which are virtually costless to the individual, ~~and the~~ but costly for later claimants to dispute.

b½. Favored senior rt. holders on variable streams are ?? it is considered legit to claim waters for vague alleged future needs and these claim take precedence over current demands if they are entered earlier. ~~The~~ Stricter standards are applied to some claimants, but this creates further discrs.

g. ~~Rts are~~ Many ripn. rts have never been & cannot be ~~reduced to ec specific quantities~~ stated in specific quantitative form, no can individ. learn even their vague outlines from any central source of info, but must search local records at probab. cost,

all rts jeopardized by "sleepers".

h. ~~Rts are~~ Risk of Variability is ~~very one~~ unequally distributed, imposed on violating the insurance principle.
~~Risk of drought is not pooled, but imposed on some, while others are free of it.~~
The central source of info that there is is of little value, excellent as its records are, bcs they do not conn

i. Rts are expressed in const. rates of flow. ~~Rts~~ Pre-1913. based on the season of max. demand, ~~thus tying~~ tieing up waters the yr round. (~~recheck LS case~~)
Thus users of summer wtr are given a preclusive hold on winter water, which, to these summer users, having a summer supply, have no incentive to develop store.

j. ~~Precludes winter storage somehow.~~

f'. System puts premium on diversion for sham use. Bcs history of actual diversion is sometimes made basis for dividing wtrs, when all parties claims are inflated, adjudication nec. All streams now being adjudicated.

The tenuous nature of wtr rts makes, understandably, more pronounced fearful of any change. The staggering costs & meager results of legal action ~~restrain all parties from~~ make all parties fearful of change.

k. The unequal position of wtr rts holders on given streams splits them into many groups of conflicting interests, thus preventing their cooperating for max-m of joint net benefits. Sr. approps & riparians, with assured supplies in times of low flow, have a little incentive to share the cost of storing flood flows, and a virtual veto over stream devmt. a fear of integrated stream devmt that wd. subject them to the same standards of economy as others,

l. The above, plus ~~barriers to xfrs, & low~~ special added barriers to xfrs among wtrsheds low xfrability & low flexibility, preclude coopn among neighboring streams, esp. kinds calling for flexibility.

m. The above factors prompt ~~short~~ wtr seekers to tap remote surpluses. The clumsiness of the law in recognizing diffs in degree of use creates a sort of threshold ~~below~~ above which ~~diffs are not recognized~~ water is considered in use, but ~~above~~ below which xfrs become possible.

n. Such standards of comparative economy as are applied give too little or no regard to conveyance costs, including channel losses of volume, quality, and altitude. Thus development is biased towards imports of remote waters that are below the threshold of "beneficial use" in preference to storage devmt or purchase of underused local waters. This further incentives to get unclaimed wtrs before competitors, worrying less re nearer wtrs surer controlled Thus while blocking ec. wtr xfrs & devmt, system encourages remote ones. Leapfrog pattern. among other evils, danger of instability, corn-hog cycle.

l ½. Premium on litign, but litign costly & unrewarding.

l ¾. Devmt by jrs. of ~~flood wtrs~~ episodic, ~~periodic, sporadic, sometime~~, intermittent surplus flows is discouraged bcs they cannot share, during low yrs & seasons, in ~~over~~ low flows

l ⅞. Srs. oppose export even of surplus flood flows, even intermittently, why? Mod-Turl. do bcs they think maybe someday they will want to store them for use as reserve vs. drought (wd. be cheaper to deepen their wells. Really, they just hate to let anything go.

n. There is no mechanism for relating power rates, the primary ec. constraint on tapping ground wtr, to the public interest.

o. Wtrs ~~served~~ admd by BR are subject to arbitrary land limitation, and a primary factor in allocating them is the priority of willingness to accept

p. Alloctn of wtrs admd by BR is detd ~~largely~~ in some msre by priority of willingness to accept contract terms prescribed by Congress & accepted by State

q. There is no provision for coordn of large-scale ~~storage~~ wtr devmt networks, so that several agencies have Statewide networks, uncordd, duplicating, criss-crossing overlapping.

r. Some wtr distrib orgns are prevented by law or custom from imposing differential charges to compensate for ~~higher distrn~~ differential distrn costs, either ~~the~~ variable or fixed.

s. Uncertainty of position of Fed govt. — what are its rts.

t. Bilateral mnpy situations

u. The law, where clear, allows ~~cond~~ vaguely expansible claims.
The law itself is unclear. 1935, TID v LSID, ct. reversed 1913 principle using 1928 amdmt. which was supposed to strengthen the principle!

v. A diverter cannot be certain of hvg a wtr supply free of litign until after he invests heavily in diversion & probly other devmt works.

w. Cf. (g.) No mechanism for clearing away idle claims, abandoned uses, etc., except
Cf. (v) ~~individual~~ interloper diverts & waits to see what happens.

x. Rip. rts discourage subdivn. otherwise ecl bes reduce wtr rt. Approp. rts may work to same effect, if approp has surplus wtr, has incentive to acquire more land just to use it, as standards of economy applied become more stringent.

Dubious

often conflicting w. each other, see Silverthorne. p. 18

y. Arbitrary priorities, Code R 106. Domestic
Irrigation

Municipalities pref.; & can hold for future anticipations. R 106.5, 1203, 1460-64.
Cities of origin & watersheds of origin prefs. (cf. consol. (e))

z. "Percolating" wtr gets separate treatment, is appropriable but not under statutory procedure, rather under court procedure. Subject to different rule, correlative rts.

aa. Upstream riprs., no one gets prescriptive rt. vs them, they can reassert at any time.

bb. Delays: in acting on applications
1956, new WRB inherited backlog of 1191 applns, some filed "20 or more" years previously.

cc. Inflexibility breeds grabbing. Since wtr once taken is gone forever, everyone feels he must assure his future by premature claims. ?Imperfect rights have this effect elsewhere. Including State. Thinking to reform the system they instead became embroiled in it.

f. The "defective appln" loophole lets one file prematurely. Silverthorne, p. 6.

dd. Huge State filings, held in cold storage, released only slowly.

ee. Large area of judgement left to Bd. - Silverthorne p. 18

ff. Distinction of perc. wtr & underground stream, often impossible to make.

Underground Water.

Pump freely, gnd wtr. No penalty for lower'g gnd water table. Power co.s love it.

a. Underground streams. Approp., also rip.

b. Percolat'g. Rip. rts only. Proratable. Surplus exportable.

Katz v. Walkinshaw. – only applies to definite underground streams, not perc. waters.

Raymond Basin Case, Pasadena, allocated & bene pd. use.
(1949, Pasadena vs ~~Alhambra~~) Alhambra) – c. 195-2? says WWR.?
WWR says they fixed rts & highest continuous use for 5 yrs
(i.e., applied a kind of approp. doctrine, tho these were perc. waters.
(thus encourag'g extra use in all places not now so adjudicated.
Those who had not taken water for 5 consec. yrs had decreed to have no rts at all.

Various methods to arrive at $\underline{a}$. Let $\underline{n}$ be yr. of replacement of challenger, and $\underline{t}$ any year.

1. Take net income of each year, annualize, then add them all up.

   R_n = net revenue, year n, (received at end of year)

   a_n = corresponding annual value.

   Method req. he must first determine life span, determine all $\underline{a}$s for that life.

2. Move all values to a common year, annualize from there.

   Choose e.g. the year of replacement of defender by challenger.

$$V = -C_0 + \frac{a_1}{1+i} + \frac{a_2}{(1+i)^2} + \cdots + \frac{a_n}{(1+i)^n}$$

$$a = Vi$$

Improve this later.

Topics from Green Book, etc.

1. Def. of benefits -- Chap. II, & IV (mirrnt)
   - Cons. & producer surplus
   - Other non-salable benefits
   - 2dry benefit. Regional Ag & decreasing returns

2. Complementary pvt. investments
   - Primary
   - 2dry & extended, various kinds
   - Developmental pd. Green Book & others skirt over. -- GB assumes "long run"
   - p.36. But transition is vital. We are always in transition.

3. Scale of projects

4. Priority

5. Discounting future stream of values.

6. Allowance for risk etc.

7. Period of analysis ... replacement policy.
   o.c. of land at best future use.

8. "Intangible" benefits

9. Treatment of taxes

10. Chap. V, "Application ...", is ng.

11. Cost Allocation

8. Complementary pvt. investments

Lags.

9. Water law.

10. Bunce. Complete, & use to bring out many points.

11. ~~the~~ Hirshleifer.

When it comes, use it to supplement these topics, in the order I choose. Discuss it considerably. But don't expect to lean on it altogether.

More Topics

1. Intensity of land use as related to turnover; to risk; to net/gross... "the net-gross ratio".

2. Effect of low i.r. on conservation --- effect negated by buying land.

Topics for lectures & discussion

1. MC pricing

2. Price changes, displacement of competitors, & project evaluation.

3. Replacement policy. Planning period, life of project, etc.
(This is to keep injecting time problem, w/o letting it run away w. everything. Later get to big problems of lags, dynamics.)

Throw in analysis of timber. Spend a week or two. Get into tax policy, differential effects of property taxes.

4. Measurement of benefits; & costs; & net benefits

Direct
Salable
C.S.
Non salable

2dry & extended. Δ & decreasing returns to region.
2dry benefits thru allocation vs. aggreg. multiplier effects
"Intangible"

5. Priority of projects
How many to begin at once.
What scale to plan if resources too limited? (~~Ask wsd. then fight to get more, MC~~ In the "meantime" while fighting for more.

6. Taxes - many angles
Local property taxes
Income taxes

7. The empty ritual of cost allocation.

Course Plan. Ag Ec. 385, Conservation. 1961.

I. Basic Theory
   Time
   Production & scale Ecs.

II. Instit.
   Water Law
   Fed. Policies

III. Policy recommendations
   Objectives — large & worthwhile

Topics, Ecs of Consn

Range adm-n.

Public lands adm.

Water ecs.

Soil depletion, erosion, & improvement, ecs. of.

Ecs. of distrib. networks

International & interstate wtr problems

Suboptimization vs coordination — but how much? How far?

Fed. vs. local, or intergovtl. problems.
(Reconcile — Fed. as wholesaler?)

Outline, Ag Ec. 386, 1961

1. Meaning of "conservation": Time; natural resources. (not too limited).
   Ownership & distribution
2. Some basic theory of economy through time. (Bunce) (Regan?)

3. Benefit-cost analysis of public projects

4. Water conservation. (for itself & as a vehicle for examining more general problems)

Review Questions Ec 455

1. Why are there 'extended benefits'?

2. Without counting extended benefits, what are direct benefits in excess of those which a private business would consider?

3. What are the economic bases of the political forces ranged for and against public wheeling of Shasta power?

4. Comment on the Bureau of Reclamation's reasons for supplying irrigation water below the very low cost of $4.15.

5. Explain the cost allocation procedures used for the C. V. P.

6. Evaluate the 9 - e contract dispute in terms of the equimarginal principle - or in other terms, if you think them more important.

7. Summarize the arguments for and against a high dam at Hell's Canyon. If you honestly can, reach and defend a decision.

8. What basic problems did the Inter-Agency report tackle?
What did they conclude?
Do you agree with them?

9. What interest rate should the Federal Government use in evaluating benefits from public projects? What are the issues involved in reaching a decision?

10. What are the major uses of irrigation water? What institutions deliver what proportions of the total?

11. What has been the greatest barrier to successful irrigation projects? Describe the problem. What are some of the outstanding efforts to solve it? Describe and evaluate them.

12. How would you figure the annual cost to society of a site whose highest use was growing timber? What is the annual cost to the holder?

13. What are some of the major problems of managing the revested O & C grant lands?

14. How do our water policies conflict with our farm price support program? (opt. ass.: "Resources for Freedom" vol. I, pp. 50-51)

15. How do you explain the extraordinary concentration of irrigated land?

16. Compare and contrast various institutions for developing irrigation water resources.

17. Discuss various ways of integrating irrigated land with dry land.

18. Describe and evaluate plans for a C V A.

19. There are many non-salable benefits from timber. What are they? Can private holders provide such benefits as well as National Forests?

20. When should you cut a tree? (This time I expect better answers.)

21. What water law is used in Oregon?

22. Describe several systems for allocating water.

Ec. 455.

1. Genl. Max. $\Sigma \frac{B_a}{(1+i)^a}$
2. Discuss Timber. Emphasize watershed protection. Offsite benefits.
   Economies of scale – why so big?
   Multiple use concept. Contrast OLC co.s.
   Conc. of ownership of C-J.
   Conc. tax system
   Depletion allowance – offset by cap gain tax?

Other subjects:

1. What is correct rate for discounting futures? Pretty low – bcs is much risk & loss in other inv.s
   What rate or rates are genly used? Probly very low rates are common, as natch resources gravitate to strong hands.
   Lo mn + mnpy for better ores; v.v. for mgnl.
   Is it better to use better resources first? Or does conservation calculus change all that.

2. Conservation movement – history.

3. Define Cons.

4. Mnpy & cons.

5. Malthusian alarmists.

6. War vs cons. – & hence pro full empl.
   I.T. & cons. – better cons. if fn trade.

7. Mex. & Canadian systems of subsurface property.

8. Exploration – H. G. Brown article?

9. Tidelands

10. Inducements to cap. fmtn. Can only justify depletion via i.r. incentive if i.r. due to productivity of cap. – not desire for cons. What policies encourage cap fmtn?

11. N.Y. anti-g depletion. Individ. co.s overstate depl; does NY anti-g ignore it entirely? Have we actually created any cap? over

11, cont. Valli, e.g, doesn't save. Just cuts trees, puts M in business.

12. Soil Conservation

13. Recreational "

14. Minerals, ~~fuels~~ – including scrap reclamation

15. Fuels

16. administering public domain

17. Fisheries

18. Cons. & cycles – time rate of use obviously central to boom & bust. Nature, the original storehouse from which all products drawn. Decision to change rate of extraction affects most ec. activity. as antics change slowly, is a rigid cost
Inv. opps speed depletion – e.g. Valli's Venetian Blinds. Cumulates.

19. Multiple use.

20. Taxation

W-n land use problems.

Grazg rights. Vested int. in low fees? Hardly. Establish low fees by political lobby-g, devious methods. No one estabs vested int. to collect rents off public domain. Pernicious philosophy. Should make them repay for past.

"Complement pvt holdgs" philosophy — to him that hath.

Preview of some ec. problems in irrig:

1.) Irrig: ~~Very little~~ No 90% from "pvt ent."; as W&C say. IDs, MWC, non Fed but not pvt.

2.) Recl. & acreage limitation consistent? In a perverse way yes — drive pop. off better land, create demand to invade submgnls. - govt resettlement projects.
Same as scattered settlemt problem.

3). 160 acre lim.

4) Are projects really ec?

5) If atomic power makes hydro obsolescent, good thing, if prevents irrig. projects?

6) Water law.

Dryland problems.

7) Complementation

8) Need for great flexibility.

9) Irreversible change, when break sod.

Ec 455 May 3, 1954

Answer No. 1 and 3 others.

1. What were the goals and the achievements of the early conservationists from c. 1900-1914?
5 min.

2. How would you determine the best rate of cutting timber crops?
15 min.

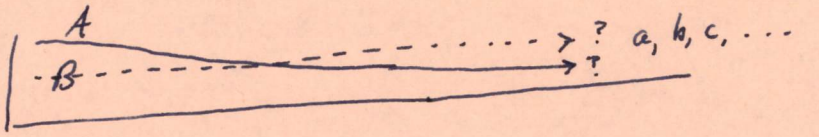
3. How would Bronson's tax proposal affect timber culture?
15 min.

4. What are the virtues and what are the faults of the appropriative doctrine?
15 min.

5. How do irrigation districts make possible projects otherwise submarginal?
15 min.

Notes on teaching conservation

1. The fundamental choice:



a. Unknown future cost of restoring depleted soil

b. Unknown future value of soil (& its produce).

c. " " i.r.

2. Improvement vs. conservation ... any distinction?
Conservation is <u>nurture</u> of <u>natural</u> heritage.

3. Transformation of assets from one form to another.

4. Effect of hi l.v. on land reclamation – cycle.

5. Subsidized xptn makes land too cheap. Exploit new lands (& old) rather than conserve old. Analogous to housing problem in cities.

6. Scale of farm & conservation.
Conservation gnrly neglected in evaluating ecs. of scale. E.g. of pumping ground wtr.

1. Individ. i.r. & conservation.

8. Depletion neglected in N.I. acctg.

9. Individ vs. social returns.

10. Preference of mgmts for deferred returns, slow turnover.

11. Space is the ultimate limiting resource, so space - conservation is legit topic.

12. Effects of mngy in fertilizer, etc. (Markham book?)

13. War: Anomaly of low i.r. but accelerated depletion, deferred maintenance

14. Why discount future values? Give this some weight. Review Staehner article. Productivity of capital + transformation among forms. Constraint on borrowing for consumption. Inf. l.r. No cap. fmtn.

15. Use best resources first? Why?
Note cycle when doit.

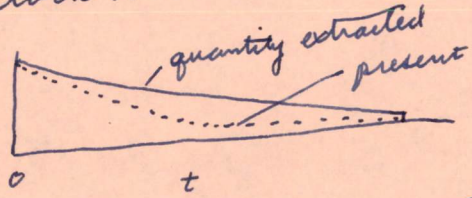
16. Max. or opt. use, w/o ref. to time neely.

Multipurpose use, i.e. use of by products.

Full use, i.e. high dams

16. Max.n of present value as a goal, summing up complications.
But be careful to set up problem right at first.

17. Stock resource



Why not take it all at once? a) Hi cost of doing things in a hurry.

b) Glut mkts (related)

as you speed up extraction, mc rises, so other resources come into use. (Esp. if mnpst, mmc rises, or mmr falls, e.g. US at Mesabi

18. Cumulative
Spec. panic, as mnpy impends, produces effect of mnpy w/o real mnpy.

LR, get premature new devmt, & collapse as mnpy. dissolves

19. Conservation & cap. fnctn.

Neither as a norm nor as a topic wd it make sense to dismiss the transformation of ~~stock~~ fund res. into other capl. from "conservation".

"Transformation" is one fn; destruction is another, related to aggreg. cap. fnctn.

20. Theorem: Much of our natl. cap. fnctn has really been xfnctn, unacknowledged.
Any nat. res. which can be transformed into capl. of higher yield is being badly used until so transformed.

21. Shd. consumer sovereignty determine i.r.? Is central to comm gns. If so, remains gn., under what conditions? Our society by max'g l.v. (& unused capac. at that) reduces incentive to save.

Earlier, by giving away stored ress. w/o ~~cost~~ charge, we discouraged cap. fmtn.)

19. (resumed)
Let depleters not regard their returns as income, but loss of capital, thus max. cap. fmtn.

22. Hi i.r. encourages cap. fmtn – but simul depletion!

23. Hi annual land charges may also hasten depletion of some kinds – empty storage &/or growing space.

24. Cap. mkts, varying i.

In gnrl, as you ↓ cap/acre, you ↓ annual input by less %, bec ↓ durability, reduce annual % depreciation & recovery.

Conservation —

make it a course in capital theory.

Better for students & instructor

R623--Seminar in Applied Urban Analysis January 22, 1962

FINAL EXAMINATION

Answer Questions 1, 2, 3, 4 and either Questions 5 or 6.

1) Under what circumstances and conditions does the market system lead to a non-optimal allocation of real estate resources in the urban context? Use theoretical concepts as well as practical examples to illustrate your answer.

2) "Despite the fact that most of the nation's wealth is located in the metropolitan areas a great part of the difficulties of local government is attributable to their fiscal condition. Why, when the city is the focus of economic activity, its residents have more than a proportionate share of the national income, its property is far more valuable than the non-urban sectors, it is the market place where most transactions occur, its fiscal base is far greater than other parts of the nation, must its governments operate under crises conditions?"

   What are the causes of these "crises"? Are they becoming more critical? Why, or why not?

3) "The rate of exploitation of natural resources, if determined in accordance with the choices of individual consumers, would surely be more rapid than if the rate were determined by collective decisions. This discrepancy between the individual and social point of view can easily be explained by the fact that no individual has any material incentive to be sparing in the use of natural resources, however sensibly he may consider the interests of future generations, because his efforts to conserve would be negligible in effect."

   Analyze carefully.

4) What are the various considerations which should govern the selection of a discount rate in the determination of present values of real estate assets?

5) Analyze and appraise the various tools and methods of regional analysis.

6) How would you go about determining the growth potential of a city for a decade or more into the future?

Mase:
I am happy that
I am grading this examination
rather than writing answers.
Jerry

Agriculture Economics 386 Exam
February 20, 1961

Answer any four

1. Discounting future values tends to pull all use-plans toward the present. What offsetting factors prevent immediate depletion of all fund resources?

2. Find the present value of $100 due on February 20, 1971. You anticipate interest rates of 8% from now until February 20, 1965; 5% from then to February 20, 1968; and 2% from then to due date. The table below shows values of $(1 + i)^n$

n ↓ i ⟶	2%	5%	8%
3	1.06	1.16	1.26
4	1.08	1.22	1.36
5	1.10	1.28	1.47
6	1.13	1.34	1.59

Show your work, and briefly explain what you have done.

3. Access to credit is very uneven and unequal as among different individuals. What kinds of resources would particularly tend to gravitate into the possession of "strong hands" with superior credit and other financial assets?

4. What is "elasticity of production"?
What is its relation to increasing and decreasing returns:

   a. To intensification
   b. To scale

5. Contrast livestock, cash grain, and orchard enterprises in respect to elasticity and capacity (primary and secondary).

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$1.36 \times 1.16 = 1.5776$
$1.5776 \times 1.06 = 1.672$
$100 \div 1.672 =$
59.79

Show your work, and briefly explain what you have done.

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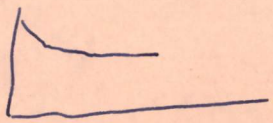
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Comments on Exams, 2-20-61

1. Δg mc. Few got relation to time

Antic. Δ net yield
Δ demand. Or antic. mnpy
Improved technique
Mnpy today

Some backwards on i.v., thought 0-int. wd. cause depletion bcs no reward for waiting. opp. cost vs. yield of invmt (m.e.c.)

2. $59.80 Explanations wanting. 

3. Resources whose value derives from remote future, so int. cost is paramount.

Fund? Not necly, only if antic. Δ P.

Large? Strong hands vs. large hands. Is big overlap, true, but small can be strong

Mgmt. requiring much capital? Capital depreciates. 
Interest less imptnt. Mgmt. resources fall to strong hands bcs of antic. Δ P, hi % wise. Deferred income.

Constant perpetuity as benchmarks. i is equi-important with a. Appreciating, to strong hands.

3 (cont.)

Timber. esply imptnt

Test problem

Discount $X due 5 yrs future to present value. You anticip. relevant i to be .05 thru years 1 & 2; .07 thru year 3; and .02 thru year 4 & 5.

Find the present value.

Midterm Exam, Agricultural Economics, 386

April 12, 1961

1. State the positions of the Green and Blue Books on the use of secondary benefits in project justification, including the rationale of the respective positions.

   Explain the distinction of technological and pecuniary external economies.

2. What is the effect of exploiting virgin fertility on the intensive and extensive margins of land use?

3. The interest rates of lenders and borrowers are separated by the marketing costs charged by financial institutions. How does this affect the allocation of durable assets?

4. What considerations led us to postulate a scalloped long run average cost curve where small individual wells are an alternative to public water supply? In this case, show graphically how to determine the choice between the two methods of supply.

   a. Beginning from nothing

   b. Beginning with some private wells already sunk.

5. Explain the argument for marginal cost pricing in decreasing cost operations.

   Does the argument apply to water supply development?

Feel rushed? Frustrated? Overtaxed? Not enough time? Then try this for a comeback. Hand in your exam, then take 24 hours to write another one, using your notes and any sources you wish. You will get a grade on both efforts. The second is optional.

2-25-61

Mary:

Please make following announcements to class, 9:40.

1. Monday —

Assignment is in "The Green Book", Chaps 2 & 3.

2. Wednesday -

Exam, ff. questions

a. Discuss economies of scale in farming as related to

1) The time element in production

2) The effects of transferring land from large farms to small ones

b. Define the benefit-cost ratio. When is this a desirable thing to maximize? When should a project be larger than the maximum benefit-cost point?

If question seems vague, take hold of it, make a reasonable interpretation. Don't spend whole paper wondering what I want. What do you want? (Story of lady, dream & psychiatrist)

A.

1. Time element

Short run vs. long

Conservation, depletion. Low i.r. holds low ratio of shorter to longer assets, hence won't care for short term conservation. Work out Int. cost of holding land & finite curve.

2. X for large to small

Gain ecs. of scale — (not lose, as some said)

Use mgnt. analysis.

Show LCR ... get thinking in terms of dispersion, freq. dists.

B. Define B/C. (≡ AP)

Mention support prices; mention decline of prices. Alternative sources of supply, costs of.

Mention basic problem, treatment of implicit costs .... site, & franchise to exploit given mkt.

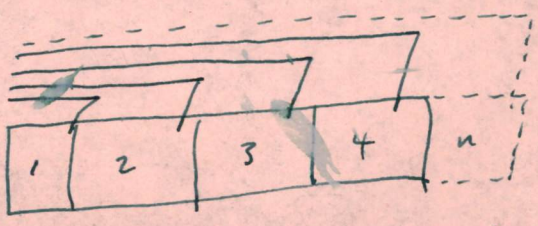
B/c seems simple but this is specious. Actually, defining costs is very hard. Beauty of mgnt solutions, avoid this problem.

When max B/c? When all inputs variable. None got this.

Otherwise, too small, shd. be larger. (Go back to Samuelson, Euler)

Final

1. S



Water is piped by an I.D. from a free source, S, to ~~lots 1-n~~.
an open-ended row of lots 1-n. Regard each service as a separate
costing & pricing operation. Wtr. subject to diing returns on each lot.
~~Show that the last~~
How far can service economically be extended; using principles
of MC pricing? Note last service is nearly ~~diminishing~~ decr. cost.

2. Explain the following rules:

Present value

Internal rate-of-return

Annual net benefits.

3. Discuss the market for water as it is & as it ~~should~~ might be if economists were Kings.

4. How ~~do~~ may the distribution of income or assets affect the allocation of resources controlled by individuals & by government.

5. How are interstate water questions handled?

6. How might anticipation of price increments affect the allocation of water rights, if they were held in fee simple?

7. What local secondary benefits are not offset by 2dry costs from a national viewpoint?

8. Relate elast. of production to ecs. of scale.

9. What policy conclusions follow from your term paper?

Answer any 8