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Cumulation:

Prosperity, so labor gets dearer. This incites inv-mt in labor-saving capital. But the inv-mt requires labor. Cumulates. Then busts. And unemployed find no work anywhere.

Some with land. Cap. subs for it, takes land to do it.

Then labor & land become very cheap; & liquid capital dear.

When inv. ^{is} turnover slows, cap. becomes
more like land, less reproducible.
Hence more restrictive

Cumulation:

Mec falls, $\rightarrow -\Delta M, \rightarrow$ further
 $-\Delta M_{ec}$

In internat. cartel bargaining, the poorer entry has advantage, for domestic mkt already closed to foreigners, while - for trad. entry cart has to use bribe to keep foreigners from home mkt.

Thus cartelization gives strong impetus to protection
--- cumulates, too, ~~for~~ because
v.v.

Δ demand for M ,

$-\Delta V$, $-\Delta I$ supply.

But this hurricane,
 $-\Delta I$ demand -- cumulores.

Cumulative processes:

Spiralism ... indeterminacy.

No good. Must have determinants.

In K , is inv., outside circle.

In wage Δ_s , is redistrib.

Above spurious. Genuine
cumulation ... give many

e.g.

From these, can understand
cycles.

Low inv. opp. mean
cap. goes into existing assets,
as often aforementioned.

But this is precisely
process of monopolizing.
-- to buy up existing
assets.

So Low inv. opp. →
monop., cumulates.

Cumulation:

Δ liq. pref. $\rightarrow -\Delta V$, $\Delta_{i.r.}$
 $\Delta_{i.r.}$ would not stop gross
inv. if antic yields Δ ,
but $-\Delta V$ makes them
fall, cumulates.

Abstract
VI. 13

Depression is simply a time when new land & surplus aren't being committed. Sites & investment are holding out, because of low home power demands, low anticip. now. But high anticip. make land ho, low antic make surplus ho. Hence land starts it, surplus keeps it going, makes it extreme. Land then persists, esp. after deflation.

I.e., there are factors which only enter production by committing long term: site, inv., natural resources (as they commit forever). ~~Low~~ anticipations ~~etc~~ affect them most.

Hicks
4a

Land values rose phenomenally in 80s.^{Prairies} (The capital that migrated, on security of rising l.v., caused the l.v. to rise -- cumulative., & vulnerable, "burstable".)

Inelastic d & s as cause of cyclic boom & bust. Temporary inelastic^{d & s}, i.e., while cap. being prepared for Δ s.

→ Cumulative changes in terms of trade.

This inelasticity situation re money flows between nations may have its counterpart in intra-national situations, and may have some significance for business cycle. Suppose a given area enjoys an increased demand for its exports. ~~It~~ No, don't have to start off that way: just suppose an increased demand is anticipated, and so investors flow in to produce capital to meet the future demand. Immediate effect of this is to draw resources away from producing the article, and into capital production. Suppose inelastic demand. Its price rises, more m flows in. This m is used by its recipients to bid up resources for their own use, thus further restricting supply of the item -- if their demand is entirely for local products, indeed, the increased price of the exported product will not encourage its production, as other prices will rise proportionately -- well, that's only true if the export is the sole source of money. Anyway, m will continue to flow into the area, both for the export & for securities. For a time this may be an explosive or cumulative situation -- over a considerable range at least -- until price of the export rises out of the inelastic range, and the declining supply of it brings in less, rather than more, money. About that time the capital built with the securities may come into production, and the price of the export fall as spectacularly as it rose, to the great loss of the investors. Here would be a situation ideal for miscalculation.

I suspect this may be involved in many booms, such as our urban booms of the 20s.

Natural resource industries are tax exempt, because main 'income' is from depletion, which kind legislators have exempted. So such industries, or securities should ~~to~~ be especially war proof. Ask Woodruff.

When you get enough producers of a certain kind to make some external economy to industry economical, you get over that hump, it makes many more plans ec. This is a limited kind of cumulation.

What made Land holdout so bad in 30s was breakdown of capital markets -- increasing disparity of individual m.r.s.

This is an example of a general cumulation: breakdown of one institution hurts another, which hurts not just the first one, but many others. This kind of cumulation may be more important than the

Whenever have cumulative processes, have instability, all cumulative processes should be prevented -- by means comparable with full production, i.e. by non-restrictive means.

Depression, I have decided, is a sum of cumulative downward processes. -- "triggered" by a sum of anti-cumulative processes which build up after a long upswing. Long ago I listed what I then saw as important cumulative processes, but since then I have learned much, & never compiled a new list. So here is the new list.

1. Extreme complementarity, some resources withdrawn or hold out for too much, lower rewards of others, who holdout, cumulates. This is basic idea, applies to most all the others.

2. Investment prospects. As one collapses, this makes others less feasible, all decline. Closely related to (1) & (3). Before political power removes guarantees of repayment for inv., so risk Δ s, inv. declines further. -- cf. 6)

3. Banking collapse - long term loans on r.e. esp. go unpaid. As each bank starts contracting, acting as a liquidity trap, others must too. Money supply reduced. Extreme variability of M supply, due to fractional reserve system?

4. Fall of i.r., increases holdout prices of all natural resources, which further reduces inv. opp & $\therefore$ - Δ i.r. further. Great deflation also makes them anticipate higher money prices later, hold out more. (to many, real i.r. actually rises. These fail to hold out, while former lenders have lower i.r., hold out more. Hence the change in terms of trade vs. poor primary producers... who have less capital not just because of fewer loans, but due to lower cash income too, & this cumulates in this sense.)

5. Cumulative fall in terms of trade, & loss of money by some countries or regions, w/o money's being used in areas to which it flows, thus lowering in supply.

6. Growth of restrictive practices, in defensive political climate caused by crash.

7. Growth of interdependent credit structures in boom, which are too easily destroyed by crash. -- e.g. Gold Reserve Standards of 20s.

8. Easing credit simultaneously Δ s inv. opp. thru infl., & lowers cost of getting credit. Then, by rising land values encourages new banks, more easy credit. We get the benefits of low i.r., by getting it on supply side, w/o its injuries, which would come from having it on demand side too, & getting high land values.

9. Cumulative Δ V, as people try to Δ c.b. & all related complications -- see *Chouhroun Multiplier*, etc.

10. Making (& breaking) circle of credit confidence. Related to '9', or least to the 'expenditure on Δ c.b.' aspect of 9.

HD 9161

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&
JPE v. 39 Aug

In construction boom, 'fillers' are
overproduced, patronizing construction
factors who are building them as
'builders'

High inv. opp & $\therefore$ i.r. pushes land into
compl. production in many ways.

Lower cap. values cause more inv. & more
productive (vs. residential) land use. (to gain inv.)

Lower land values allow more inv., raise inv. opp.

Less misallocation from differential inv.

all this complements & cumulates in
many ways besides.

)(There are in the economy numerous interdepent situations, capable of giving rise to fairly slow cumulative expansion, or rapid cumulative collapse. None of them is very well expressed in the weak & common concept of the "spiral" of inflation & deflation, where, e.g., lower wages mean lower purchasing power mean lower prices mean lower wages etc. But this cumulation can be understood as the sum of a number of specific cumulative relationships, such as banking collapse.

Among these (complementarity & 2dary benefits analysis are vitally involved) a very important & little recognized one is that when i.r. gets low, I mean inv. opp. low, this bids up land prices, which further suppresses i.r. by keeping inv. opp. down.)

Low i.r. lowers inv. opp. by making land

Long term: accumulation:

M economy, towns, central store
hiring a civil servants, breakdown of
feudal land system, etc.

Inv. takes goods away from
consumption, ~~thus~~ thus raises
cons. prices, encourages more inv.

Reduced desire to invest
takes land into consumption, non-
compl. use, lowers inv. app.

Cumulative.



When oligopolist figures on restricting output, he must take account that the resources he dis-employ may work for his rivals.

In depression, his rivals have all the help they want anyway, so he disregards this, restricts output more than otherwise. Making unemployment worse,

cumulating.

Cumulative process.

While an economy is expanding, un-perfect competition is ok, for situations are too fluid for significant monop or oligops of particular markets to be created. But when it stops, e.g. as from external worsening, e.g. Venice 16th, then there 2-3 competitors join. This makes economy less dynamic, cumulating.

When future prospects improve, assets rise, you are more liquid; also, tend to consume more, as will have more in future anyway.

→ ΔV . This may further improve prospects, cumulate.

LVT would ~~avoid~~ prevent.

If I establish that inelasticities
cumulate, in bilateral monop.
situations, then it follows that
if one becomes less elastic, the
others do more so, & here is
another cumulative effect.

Add to list of cumulative processes:

1. Anarchy - seeing others going that way,
each nation tries to protect itself.
2. Fear, loss of confidence

Cumulation due to lots holding out
in early subdivisions, keeps up lot prices,
causes more subdivision. Works in
with cumulation of 'overinvestment'.

Fisher, Ernest M., AER suppl., March '33, v. 23 #1,
'Speculation in Suburban Lands.'

p.160 Observes residential is overdone especially,
overest. relative to other uses. Reveals cumulative
effect.

But Piobram, Econometrica, 1940, p.67
mentions a late boom trend into commercial
construction. (Maybe that is the 'filler' that
chokes the 'builders')

Read:

Johannsen, who attributed crises to savings being invested to buy prop, rather than to produce.

(Ref. in Mitchell)

When collateral on which you lend
gains its value from fact you are creating M.
cumulation. Same for whole system. More
you lend, more you can lend.

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p. 163-71, Herbert D. Simpson, Real Estate Spec. & the Depression. p. 164, banks lending on wild spec. Banks tied with re.

Simpson, 2.

^{p. 165} interests. These were commercial, not mortgage, banks. Depended on continual rise of re. values. 'Banks loaded with frozen assets' - they ho. Attributes banking collapse to re. primarily.

166. - cities borrowed on credit of spec land values.

Re. fall not circular. Land falls first, money follows. Then circular too. Hq too high

166 - ownership widespread, fall caused reduction in cons. expenditures by owners. Even more than original purchase? Maybe - thru credit.

169 - 'Subdivision... has destroyed 1000s of acres of valuable agric land & has surrounded our larger cities with a no man's land of devastation & desolation'

Often said that 18th c. Tory landowners worked their land harder because of jealousy of commercial fortunes being made. I doubt. Higher inv. opp, lower land values, better markets for crops, more likely. Is also said because Torgs lost influence at court, they went back to fields. & loss of labor to cities. Possibly a small influence.

~~40~~ Hoyt, p. 294: Chi. has not grown in a compact body because xport made it possible to pass over old areas that were partly built up and marred with obsolete buildings to virgin tracts, and the cupidity of the owners frequently caused them to raise prices of land ~~to~~ adjoining new improvements to prohibitive figures."

~~41~~ p. 293: examples of holdouts in Chi causing business to move out.

There is a true relationship, somewhat corresponding to underconsumptionism.

When investment is heavy, this creates the illusion that labor is more productive than it really is. In a locality, at least, this is clear, where the labor hired to build the houses is also hired to build stores to serve the people in the houses, and also to serve the laborers who build the stores. Now when the stores and all are finished, suppose the laborers remain there, and are either unemployed or find much less productive occupations. Now they have much less to exchange, in real terms, for the services of the stores. And suddenly, cumulatively, it is realized in all segments of the economy, that they have been investing on the assumption that other segments of the economy are much more productive than they actually are. -- that their potential customers, the rest of the economy, do not have so much to give in return for their products as they anticipated. This would be especially striking & cumulative where, as in the urban example, the customers anticipated were being financed by the very investment of those who expected them as customers. But it is much the same when, for the economy as a whole, they are being financed by investment as a whole, and it stops in a cumulative panic.

Then of course comes the realization that investments have been made below the margin at which people want to invest -- probably below zero, in fact. And investment ceases abruptly. These investments were made by people who thought that what they produced from them would exchange for a great deal more in real terms than it turns out to, because they thought the ~~xx~~ non-investment part of the economy, i.e. labor, was more productive than it is. This last answers the question, why were terms of trade less favorable for investors just because economy as a whole turned out to be producing less -- wouldn't this apply to their competitors as well as complements. But their competitors are other investors, their complements in ~~xxxxxxx~~ market are mainly labor. They expected their investments to live in an economy where they were scarce & desired, and the thing that would make them so was that the economy was producing lots of other kinds of goods to exchange for them. The people they expected to sell the services to aren't producing anything. -- this is not only labor incomes that are cut off, but property incomes too, that aren't producing anything.

In other words, we produced a lot of houses. While we producing them, we thought we could sell them for a great deal of claims on goods in general. But the people to whom we expected to sell them only appeared to be productive enough to give us what we expected for the houses because they were producing houses themselves, which were overvalued by the investors. Our laborers were trading their claims on the houses they built for claims on goods, and we thought they were actually that productive of goods. When we stopped building houses and started selling them, we discovered the

buyers could not give us the goods we expected.

Work this out more later. Is a basic element in cumulation. Like any situation where the value of the thing produced depends on the fact that you are producing it.

John Law's Miss. bubble, the essence of
a monetary boom shown in one bank.
The money was backed by his stock, but
stock's value depended, *inter alia*, on
existence of the money. Which reveals
limitations of trying to increase M
real supply, by $-AP$. As prices fell,
Law's stocks would be worth less,
& nominal M supply be also reduced.
-- tho had it been wages that fell,
would not have lowered *sec. values* --

so - SP still has good possibilities.
Depends on which P ~~latter~~ falls.

As long as much in depends on land
value, we have good case vs. lowering
them

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Soule, 1920

Some said was a buyer's strike. Was, indeed, widespread
resentment to inflation; but money spent on goods did not fall.
However physical volume fell, for money spent didn't rise, either.
When they started to throw inventories on market., cumulated.
Another factor in cumulation was that bank credit, with which
the inventories were being held, was withdrawn -- and, as
prices fell, I suppose more & more was withdrawn, forcing
more sales. (which is very interesting regarding depressions
in general. When real inv. opp. fall, banks etc. look for
lending opp., and their short term funds find way, inter alia,
into making it easier to hold inventories. And when banks
have trouble, & call loans, this forces inventories onto
market -- as well as many other things. Land? Which in itself
is a good thing, but it cumulates, & ruins banks. Bankrupts
individuals, thus destroying investment opp. which those
individuals represent.)

Cumulation:

Anticipations fall, so cap. values fall,
so people's psychological assets fall, so
they try to Δ assets by spending less.

→ $-\Delta v$, cumulates.

Mitchell, p.8

'Clamius' observed when real profits fall,
funds go into 'speculation'...

Circular interdependence ^{of price} is (also) a characteristic of oligopolies, may get cumulative processes around this -- the mostly just concurrent price changes, or lack of them.

What gives land values their boost, before
spec. funds pour in, is foolish constructive
investors, investing for neg. returns.

Then they tire of this, see who is milking
them, decide to get in on it, so rush into
land buying?

Interbank deposits.

Banks using ~~new~~ deposits in other banks as reserves.

Gold exchange standard.

All such tenuous, interdependent arrangements tend to lead to cumulation.
Interdependence is the essence of cumulation.

When inv. booms, threat of entry makes all
more competitive.

When it folds, monop. restriction As,
cumulates.

Hacker, ch. 17, cont

● Cause of
boom &
bust. At least
one key
circular
process.

The p.w. were far in advance of pop. & mkts, hence "the bubble burst" -- (a process I now think I understand: investors employ factors, are fooled into thinking the things in which they invest will find consumers ultimately because of the pop. ~~W~~ & p.p. which the investments themselves engender. This process is cumulative, upwards & downwards; is variously described in different theories, but is ~~W~~ often there underneath. When the investors slacken off, as they eventually must, present markets are reduced, this causes more slackening, & a panic, a bust)

Money
supply

(Wally Crafford mentions practise of bank of lending to importer on basis of fact that importer has sold to a customer, the customer paying by a letter of credit on another bank; and perhaps selling to someone again who is borrowing to buy. Thus the interdependence of banking structure, so that if one fails or constricts credit, many more constrained to also. The more numerous transactions a good undergoes on way to final consumer, the more pronounce this interdependence, this great elasticity in m supply)

Soule
WW I

were great inventory losses after 1920. Which stopped new investment (& reinvestment) for a while. (for, if you are holding back inventories, you have nothing to reinvest, after all -- a big point. It is not just that you have no place to put the stuff if you did buy it, but also you have nothing with which to buy it.)

~~Notes on Chap 5.~~

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1. Inflation lowers real holdout prices partly by overcoming institutional difficulties. For example during world war 2 delinquencies on Portland real estate were mostly paid up, clearing the titles so property might be more easily put into use. Survey of Portland Finance, p.24

This would Δ inv, opp, cumulative

'Acceleration principle', for what it is worth, is a cumulative process.

It has real counterparts, other processes I have listed.

When people save more, lowers P , raises real r ,
causes more sav.

Esp. true when no deflection: when S suffers
distoarding or SM , have inventories etc growing.

Johansson, N. 'A Neglected Point in
connection with Cites', NY, 1908

&
'Business Depression: their cause. A
discovery in Economics'. Stapleton NY, 1925

ref. Mitchell, p 28

re shift of inv. to non-production, -- probly
wrongly stresses p.p. effect.

Be sure to distinguish between real
cumulation & mere algebraic $a = b + \frac{1}{2}a$

Sometimes, tho, cumulation may work
something like this, the eqn. limiting how far
it goes. -- as in simul. multiplier reasoning
q.v. -- flying wedge. - which is 'b' in above eqn.

A prime cause of depression deflation was that contingency reserves had to be higher because lines of credit were smaller. But these lines were smaller not just because business prospects were worse, but because banks were going ge-bust, and this was due to land speculation inter alia.

In the cumulative movement centered around
shifting capital demand to existing assets
remember this involves great Δ in T ,
speculative ones.

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Warren and Pearson, Prices, NY, John Wiley and sons, 1933

Ayres, Leonard, Turning Points in Business Cycles, NY, 1940, Macmillan.

p. 19. ".....until they become willing to sell at prices low enough so that the properties will pass into the possession of people who do want them."--says depression in r.e. values continues until then.

p. v. : changes are in durable production mostly.

p. 9: 1836 land boom, "an exceptional advance" in short term *ir*", and downward movements of bond and stock (*italics mine*) prices"

(What more natural, in time of good prices and easy capital issues, that competition should take the form of bidding up factors, and that the proceeds of issues should be used to buy land for industrial expansion or speculation. I have no figures or anything on spec. in industrial sites, but I predict that when I find some I will discover they kept going up until 1931 or so, since industrial construction kept going. Still, industrial construction was more revived in 30s, no? Yes, by FRB, April '47, p. 439. It didn't recede as much and it revived more. Perhaps because the speculation was done by the potential users to greater extent.)

Since most factor rewards are investment when investment's residuum is squeezed out no factor rewards are paid, despite existence of demand for consumption. Since margin of profit is fairly small, ~~1/2~~ a small change in the margin can change investment greatly, change current factor rewards greatly. This involves showing that income doesn't equal $c + i$, but mostly just i .

Cumulation:

Shift takes to improvements, lowers
inv. yields, get same cumulation as when ~~an~~
mtu. yields fall.

Keynes, p. 208, mentions -- w/o meaning to -- how
at lower i.r., divergence of mrs is greater, because
costs of cap. mkgs are a higher %.

It goes with his
idea of infinite lig. pref.

Add to cumulative processes re i.r. :
when ~~Δi~~ + Δ inv. opp., lower asset values, more
cap. acc., Δ ing productivity.

Paradox is that in plantation economies,
have low inv. opp., coupled with very hi cost of
capital, yet very low capitalization rates on land.

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*Another
cumulative
effect.*

Re #1: in times of severe unemployment, oligopolist less likely to calculate that his restricting output will release factors for his rivals to use. A cause of worse monop. in times of unempl., and cumulation -- another cumulative effect.

Δ ing returns as size of ex. rises, due to
factors returning to work, causes cumulation.

Aggravating fall of wages
in depression is that
marriages decline,
more women looking
for work.

Also others, who
were idle because
thought were rich.

Cumulation:

When ΔY , expect more ΔY , to spend more, save less. Just opp. of K's ans. It occurs sometimes, depending on psychology. -- can't be mechanistic about it.

Get no cumulation from ΔI spread
on inventories caused by ΔI . Only reason for
 Δ spread would be disinv. from inventories. If they
are maintained, no Δ spread. $\therefore$ resources rise as
fast as goods, or neither rises.

Would get it if ΔI makes people anticipate future better,
want to Δ inventories.

With infl., ΔP lowers burden of
fixed charges -- debts, pensions -- makes
potential borrowers better credit risks,
 $\Delta m. opp.$, accumulates.

Cumulation:

Banks, anticipating inflation,
have more security, loans, & inflation.

Any perverse elasticity
is cumulative.

Any decreasing cost
situation.

Cumulative vs. EQUILIBRATING
equilibrating

processes.

Cumulation:

When a few lots are improved, breaks ice in new subdiv-ⁿ (or rehabilitating slum).

Then other land has a present value, not just remote future as before, & can move to users.

Cumulation:

In boom, mergers up to
some pt. Δ eff., or at
least enc. new inv.

In bust, cartels org.,
reduce effie. (e.g. farm
cartels in '20s)

Cumulation:

$\Delta(Y-c) \rightarrow \text{cap.}$, which $\rightarrow \Delta(Y-c)$

Idea of D.I.R. making sites more available
sometimes seems crude, but NOT. Consider
analogy to stock resources. D.I.R. makes them
cheaper now. An uncommitted site like
stock resource.

Cumulation:

See Thesis, p. 218-222

p. 221: Hoyt, p 393, says
gross rents Δ , $\rightarrow$ greater Δ net rent,
 $\rightarrow$ greater % Δ construction,
 $\rightarrow$ " " " subdiv.

The bubble type of ¹⁷²⁰
cumulation, as John Law, &
1836, & 1929, rests on:

M based on land values; &
land v. based on M. Each
time the same -- not
likely to recur for some
time, in just that way.

Germany

Cumulative process:

- U.S. cap. outflow ceases, 20s,
- Δ demand for agr. countries
exports, & securities, lower raw
materials P for Am ind., higher
profit prospects, stock mkt boom,
sucking cap from abroad, further
- Δ raw mat. P , etc. ... Hilgerdt,
lecture.

More generally, when cap. flows
into any area, improves its terms,
causes further flow --- to buy
land there. L.V.T. prevails.

Write another note, for LVT file.

Cumulation

Import controls lead to
cap. flight & diseq. movements,
lead to more imp. controls. --

Cumulation:

Late boom, wages fall as labor opp. fall. This Δ rents & antic. rents. Int. r. falls, same effect --- & of course beyond this, effect of i. r. on cap. values.

so spec. rents Δ , & cap. values.

Cum. factor:

onset of dep. breeds fear,
breed restrictive policies,
worsen depression