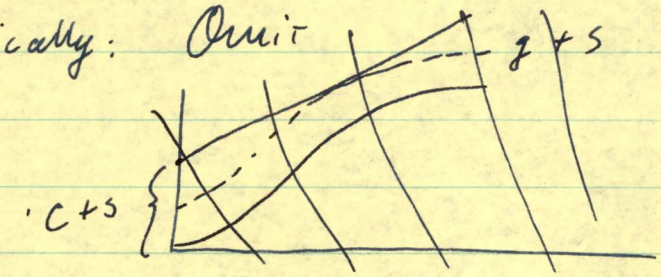
Ec. 302 Current

Marginally:

$$g' = \cancel{g+s} \; i(g+s)$$

Graphically: Omit



Summary:

Hi wages lengthen longevity

Hi int. shortens "

Hi l.v. " " , but more cumul. needed, bcs. land is parallel to labor as a hired input.

Hi l.v. shorten longevity in another way, by forcing intensive use of central areas & so speeding replacement of p.u.

In general, capl. on mgnl. land turns slower. E.g.s. from oil, water, inventories, downtown bldgs. Big macro. problem is syndrome of underuse of good land, premature divest. of mgnl. & worse.

Wicksell & others have a basically incomplete concl. of replacement bcs. they assume mgnl. land. & no changes can occur in wages or interest.

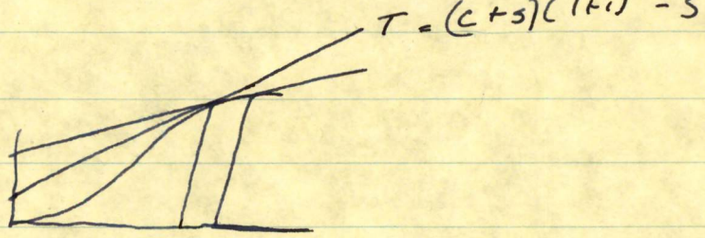
✓ ~~Is~~ Final on Thurs. ~~R~~ Jan 19 or Tues Jan. 17

Jan. 3

Effect of changing costs, & taxes on factor proportions.

1. Higher wages.

a. Graphically



i. Longer cycle -- sub. capl. & land for labor

ii. Effect is less than under Fisher solution — S gets smaller, curve flattens.

~~2. Taxes on~~ (Tax on gross output, same effect -- lower g curve, or Δ C_0, same effect. On log scale, const. % tax means parallel g-curve.)

b. Marginally.

$g' = gi + a$

a falls

c. Maximally.

$$\text{Max. } a = \frac{[g - C_0(1+i)^t]\, i}{(1+i)^t - 1}$$

Max a. is where % Δ in num. = % change in denom. If at C_0 they are equal, raise C_0 to $2C_0$ and that adds more leverage to % Δ, moves max. to right.

2. Higher i

Effect is less than under Fisher solution.

a. Graphically, Δ slope of T-curve is less. b. Marginally, a falls.

3. Higher a or S

Maximally: Shortens rotus. $r/t = \left[\frac{g+S}{C+S}\right]^{\frac{1}{t}} - 1$

~~Begin assuming S = 0~~

~~$g' = gi + a$ is more obvious~~

r reaches max when [ ] rises faster than $\frac{1}{t}$ drags it down. Now ΔS, and % Δ of [ ] is lesser, so you are past max.

Best summary:

The wages fund is that part of the capital stock that ripens, on matures each year.

$W_t = C \cdot T$, (Capital × Turnover).

Plus minor items:

1. Direct services
   a.) of labor
   b) of land
   c) of capl.
2. Current Saving

TABLE 3

AVERAGE INTEREST RATES
CONVENTIONAL 1st MORTGAGES–NEW HOMES
U. S. Average

First of Each Month										
1954:		1957:		1960:		1963:		1966:	
Jan.	5.30%	Jan.	5.65%	Jan.	6.30%	Jan.	5.90%	Jan.	6.00%
Feb.	5.30	Feb.	5.75	Feb.	6.30	Feb.	5.85	Feb.	6.00
Mar.	5.30	Mar.	5.75	Mar.	6.30	Mar.	5.85	Mar.	6.05
Apr.	5.25	Apr.	5.75	Apr.	6.30	Apr.	5.85	Apr.	6.15
May	5.20	May	5.75	May	6.25	May	5.80	May	6.25
June	5.20	June	5.75	June	6.25	June	5.80	June	6.30
July	5.20	July	5.80	July	6.25	July	5.80	July	6.40
Aug.	5.20	Aug.	5.85	Aug.	6.25	Aug.	5.80	Aug.	6.45
Sept.	5.20	Sept.	5.90	Sept.	6.20	Sept.	5.80	Sept.	6.55
Oct.	5.20	Oct.	5.95	Oct.	6.20	Oct.	5.80	Oct.	6.65
Nov.	5.15	Nov.	6.00	Nov.	6.15	Nov.	5.80	Nov.	6.70
Dec.	5.15	Dec.	6.00	Dec.	6.15	Dec.	5.80	Dec.	6.70
1955:		1958:		1961:		1964:			
Jan.	5.15	Jan.	6.00	Jan.	6.15	Jan.	5.80		
Feb.	5.15	Feb.	5.95	Feb.	6.10	Feb.	5.80		
Mar.	5.15	Mar.	5.85	Mar.	6.05	Mar.	5.80		
Apr.	5.15	Apr.	5.75	Apr.	6.00	Apr.	5.80		
May	5.15	May	5.65	May	6.00	May	5.80		
June	5.15	June	5.60	June	5.95	June	5.80		
July	5.15	July	5.60	July	5.90	July	5.80		
Aug.	5.15	Aug.	5.55	Aug.	5.95	Aug.	5.80		
Sept.	5.15	Sept.	5.55	Sept.	5.95	Sept.	5.80		
Oct.	5.20	Oct.	5.65	Oct.	5.95	Oct.	5.80		
Nov.	5.20	Nov.	5.75	Nov.	5.95	Nov.	5.80		
Dec.	5.20	Dec.	5.75	Dec.	5.95	Dec.	5.80		
1956:		1959:		1962:		1965:			
Jan.	5.20	Jan.	5.80	Jan.	5.95	Jan.	5.80		
Feb.	5.20	Feb.	5.80	Feb.	5.95	Feb.	5.80		
Mar.	5.20	Mar.	5.80	Mar.	5.95	Mar.	5.80		
Apr.	5.25	Apr.	5.80	Apr.	5.95	Apr.	5.80		
May	5.25	May	5.80	May	5.95	May	5.80		
June	5.30	June	5.80	June	5.95	June	5.80		
July	5.30	July	5.90	July	5.95	July	5.80		
Aug.	5.35	Aug.	5.95	Aug.	5.95	Aug.	5.80		
Sept.	5.40	Sept.	6.00	Sept.	5.90	Sept.	5.80		
Oct.	5.45	Oct.	6.10	Oct.	5.90	Oct.	5.80		
Nov.	5.55	Nov.	6.20	Nov.	5.90	Nov.	5.85		
Dec.	5.60	Dec.	6.25	Dec.	5.90	Dec.	5.90		

TWO VIEWS OF THE 1967 HOUSING MARKET

For a number of years the state housing starts data has been lacking and market analysts have had to rely on building permits or contract awards for information on these local trends.

Reinhold P. Wolff of Coral Gables, Florida, has recently developed a 1967 housing forecast by states, using multiple correlation analysis. This computer technique, which has been developed in recent years, makes possible the examination of a number of leading economic indicators and analysis of their relationship to housing starts. By applying these leading indicators to the state data available he developed a total private and public housing starts forecast based on a monthly average for a period ending October 31, 1967.

Figures are for *all* housing, including non-permit areas. Please note that the percentage changes are for two slightly different time periods (12 months ending October 1967 vs. 12 months ending August 1966) because local data were not then available for September and October, 1966.

1967 REGIONAL FORECASTS
(Units)

	WOLFF	NAHB
Northeast	207,500	198,900
North Central	297,400	309,100
South	392,900	399,800
West	315,000	210,600
U.S. Total	1,212,800	1,118,400

Comparing his data with regional data developed from the NAHB metropolitan housing forecast (see Table 2) a close correlation for the Northeast, North Central, and South was obtained. However, a major difference is noted in the West. An examination of the state breakdowns reveals that this is undoubtedly accounted for by the 42% gain forecast for California and a 392% gain for Nevada. While NAHB's forecasters in the West were for the most part more optimistic than forecasters in other portions of the nation, they do not foresee an increase of the magnitude forecast by Reinhold Wolff.

Using Mr. Wolff's data it is now possible to gain an insight into the magnitude and the direction of housing starts for each of the 50 states and the District of Columbia.

FORECAST OF TOTAL PRIVATE AND PUBLIC HOUSING STARTS
Monthly Average, 12 Months Ending October 31, 1967

Region and State	Number of Housing Units	Percent Change from Year Ago*
UNITED STATES	**101,065**	
Northeast	**17,289**	
New England	4,404	
Maine	172	+ 27.9
New Hampshire	373	+ 19.1
Vermont	115	- 5.0
Massachusetts	1,771	- 37.1
Rhode Island	539	- 8.0
Connecticut	1,434	- 34.8
Middle Atlantic	12,885	
New York	6,339	- 19.7
New Jersey	3,360	- 38.5
Pennsylvania	3,186	- 29.0
North Central	**24,786**	
East North Central	18,432	
Ohio	4,862	- 8.4
Indiana	2,218	- 18.7
Illinois	5,134	- 8.1
Michigan	4,002	- 17.5
Wisconsin	2,216	- 3.2
West North Central	6,354	
Minnesota	1,596	- 7.5
Iowa	1,082	- 9.0
Missouri	1,795	- 32.0
North Dakota	284	+ 70.0
South Dakota	143	+ 16.0
Nebraska	642	+ 19.5
Kansas	812	- 8.9
South	**32,738**	
South Atlantic	20,343	
Delaware	192	- 61.7
Maryland	4,288	- 14.9
District of Columbia	488	- 18.5
Virginia	3,005	- 28.8
West Virginia	309	- 13.5
North Carolina	1,895	- 14.1
South Carolina	404	- 49.7
Georgia	3,115	+ 21.3
Florida	6,647	- 2.7
East South Central	4,269	
Kentucky	710	- 45.2
Tennessee	1,435	- 28.8
Alabama	1,353	+ 8.2
Mississippi	771	+ 34.5
West South Central	8,126	
Arkansas	406	- 1.0
Louisiana	910	- 43.3
Oklahoma	813	- 7.0
Texas	5,997	0
West	**26,252**	
Mountain	5,169	
Montana	207	- 60.5
Idaho	65	- 40.0
Wyoming	115	+ 10.0
Colorado	1,265	- 14.7
New Mexico	492	+ 56.2
Arizona	1,754	-126.4
Utah	705	+ 61.7
Nevada	566	+151.0
Pacific	21,083	
Washington	2,173	- 13.1
Oregon	1,189	- 11.0
California	16,797	+ 42.1
Alaska	12	- 83.0
Hawaii	912	- 26.0

*12 months ending August 1966.

Checkon Brems on rent

ec. 302

Notes on Wicksell's Lectures, pp. 172-78

1. Study w. greatest care, is deep, important, and not understood by many.

2. Assumes away land by planting trees on barren land.
Later refs. to rent are inconsistent with that. Interpret them, here as part of planting costs. (p. 175, that is evidently what he has in mind -- rent is advanced as part of C.)
Elsewhere, W ~~B B~~ has interp. rent as $f(t)$; but never worked it out as it needs to be.

3. Actually, the assm. vitiates his later analysis. Bec. he has i rise, and that wd. make "barren" (marg.) land submarg.; and i fall, which makes it supramarg. and ∴ rent-bearing. So really, one cannot escape rent. But w. that reservation, noting that need for feature analysis, we proceed.

4. Fn. of capital
Advance subsistence to labor (& land), hired factors.
Freeze them up. Store them.
Vital. Most people don't get this understanding of capital. E.g. re machines. We know they sub. for labor; & also require labor to be produced. But how much do they add to output above labor cost? A simple fn. of time!

5. Assumes "closed" ec.

Another weakness, bec. ~~the~~ a) He really doesn't
b) He should.

a) He sells w.c. on world mkt. at price externally determined. Thus he doesn't get into monetary questions. Brems faults him for this. Doesn't get into circular flow of real goods, either; or basically, the gen. of net saving by hired factors.

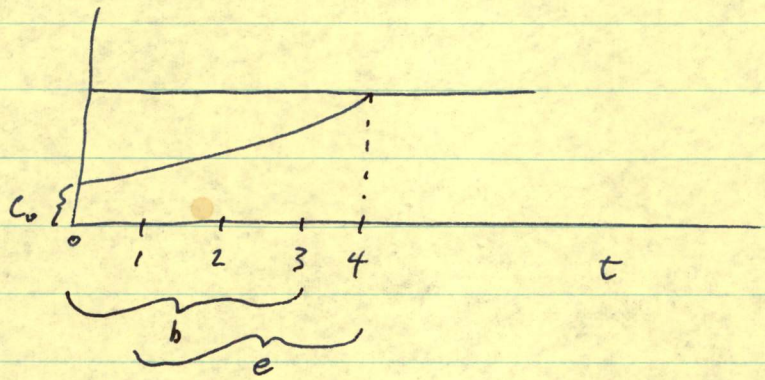
We can see basic reasoning better w/o M in a truly closed ec. Capl. ~~If~~ is a storehouse.

If is a surplus of goods for sale, just lengthen pd. of produc. — absorb infinite amount of saving that way. If we should be so lucky as to have that problem!

(M. Bailey comes at this same point by discussing value of "rent-goods" $\to \infty$ as $i \to 0$. [Actually, before $i \to 0$, due to antic. appreci., a floor under i. E.g. banks in '30s clung to frozen assets which they might have liquidated by sale or settlement and re-loaned the M. But these lands were expected to appreciate.])

[As volume of capl. As, capl. becomes a hired factor, As need for circ'g. capl. — one reason for the "rising rate of profit"; or complementarity of capl. to capl. This also needs to modify W's anal. of falling rate of profit.]

p. 176, Wicksell shows that one year's interest on the total stock of staggered wine = n years interest on C_0.
Which is corollary of fact that the stock at any time equals the mean stock x no. of years longevity, but this is better bec. it allows for growth of C_0 at comp. interest.



Bracket b shows value of stock at beginning of yr.; e at end.

K_b = Value at $b = C_0 \dfrac{(1+i)^4 - 1}{i} = C_0\left[1 + (1+i) + (1+i)^2 + (1+i)^3\right]$

K_e = Value at $e = C_0 \dfrac{(1+i)^5 - (1+i)}{i} = C_0\left[(1+i) + (1+i)^2 + (1+i)^3 + (1+i)^4\right]$

$$\Delta V = V_e - V_b = C_0\left[(1+i)\frac{(1+i)^4 - 1}{i} - \frac{(1+i)^4 - 1}{i}\right]$$

$$= C_0(1+i-1)\frac{(1+i)^4 - 1}{i} = C_0\, i\, \frac{(1+i)^4 - 1}{i} = i \cdot V_b$$

That may be making it too hard.

$$K = C_0 \frac{(1+i)^n - 1}{i}$$

$$\frac{\Delta K}{\Delta t} = K_n i = C_0 \left[(1+i)^n - 1 \right]$$

But $C_0 \left[(1+i)^n - 1 \right]$ also is n years interest on C_0.

It makes sense, bec. one years interest on Σ or K_n is int. on each of staggered components; and n yr's.' int. on C_0 is the same, only in sequence.

Comments on Brems.

Map. 18: Neoclassical Theory of Wages, Capital, & Output:

1. Erro, p. 202, says BB model "ignores effective demand." Sees BB as having goods sold in open world mkt., so any amt can be sold. Thus he puts severe limit on model, makes it seem micro.

Maybe BB & W etc. thought it too obvious to mention, that when capts. advance subsistence they earlier prepare to replace it by investing. The supply of final goods, or subsistence, creates its own monetary demand by preparations for its replacement.

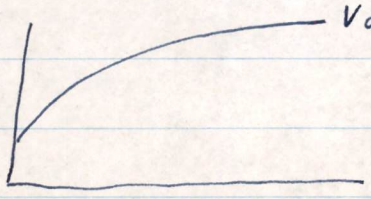
There remains a Keynesian or rather underconsumptionist dilemma that net $S_{planned}$ may go uninvested; but that is to have inconsistent assumption that net S can pile up while replacement of disinv. is automatic

1. Adopt same unreal model as W & BB: a man works $h_{p.c}$ hours per yr. for Φ yrs. "to finish his product." (How much more real are my models of trees and housing.)

3. Uses "profit" to mean i.

4. p. 205 seems to use simple interest

5.



6. Has entreps. max. internal i — imputes this approach to BB
But uses simple i — (again ff. BB).

7. p. 207

Longer pd. of produn. gives higher output per unit, but absorbs more capl./unit. If i↑ lowers i, better to use the extra capl. to hire more men.

7. Shortage of Liquid Capital

David Lewistron

Banking Mag. 12 E. 36th

MU 5-5100 N.Y.

ac 212

Long historical perspective

Exploratory thinking. Maybe led to false generalizing by reliance on conventional indicators [e.g. corp. bond rates fell from 5-90 to 4-90, '60-'62.]

L.A. S&Ls pay 5%. Comml. banks can pay 4%. Reduced spread perhaps.

Mkts. are compartmentalized. Glut of mortgage M partly due to particular instl. factors.

a. Recent changes in comml. bank policy. Higher i.r. on savings; .. 4%; rediscount rate to 3½%

sticky mortgage rates don't fall in response, so get a glut in one mkt.

Banks going into mortgages, not loans

✓? Opn. Nudge, diverting funds to long term. U.S. borrowing short rather than long, pushed up short term rates in '62. Learn more re this.

Ag bankruptcies on cons. credit

" foreclosures . . .

Outflow of U.S. capl. maintains a flow

✓ Fear of infln., prem. on liq.

✓ Some areas drained of capl. – S.A. – w/o easing world crisis

Overcommitment in underd countries -- and U.S. Massive demands of capl. for automation, & balancing the unbalanced.

Liquidation – Zecke; Fla. booms; Grayson-Robinson cash bind

Softening suburban land prices

✓ General efforts of comm. & indy. to save on working capl., despite adequate floor space. Stress on inventory control.

If mps = .04

$\Delta T = \$256$

$-\Delta S = 16$

$-\Delta C = 246$

$\Delta(S+T) = 24$

Now, Y must fall ~~by~~ enough to lower S by 24.

$\frac{dS}{dY} = \frac{1}{25}$

so Y must fall by $24 \times 25 = 600$

Anti-i. infln. causes us to keep my ~~money~~ assets "inverted"; but that not same as investing currently. See Latin America.

✓ I inv. = stock of inv. x turnover. How simple!

Ec. Th, 11-25-62

p. 89. Why do we get perfect rectangles each time?

Summarize whole theme; Chaps. 6 & 7 & 8. $-\Delta r \rightarrow \Delta I \rightarrow \Delta Y \rightarrow +\Delta r$, thus a brake & equilibrator. Already have one ... ΔS. Now says =n comes via damping ΔI as well.

Distinguishes Keynes from old oversaving idea. Oversaving implied $-\Delta r$ before crash. Observation shows Δr, shortage of capl. rather than surplus. K. explain by ΔL_2? Not adequate by itself, but gives them a foothold.

Actually, w. given M, can have reduced willingness to lend, or to invest, due to slower replacement – also reduced saving. So demand to borrow M is not met from existg M. supply. Is crude to express in K-n int. thy, but can be "subsumed." – i.e. forced in.

a subtle change from original emphasis: shortage of loanable funds becomes cause of stagnation, not underconsumption, not lack of invmt. opps.

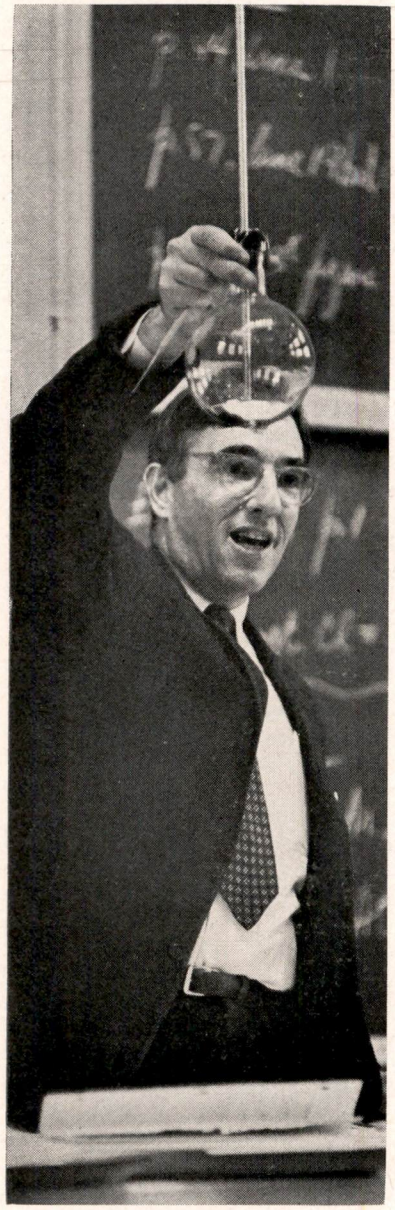
Summary in one =n:

$$Y = C + I = a + bY + c - di = a + bY + c - d(e + fY)$$

Stages of evolving realism.

1. Pure naive underconsumptionism. M, not consumed is never spent.
2. ~~Oversaving. Savings are not invested.~~ Savings are invested, but output cannot be sold. Overprodn.
3. There is invt, but indep of S
4. Invt. is increased by S.
5. Invt = S is det. by S.

'Teachers Don't Teach'



"To me it seems that students become engaged with the problems of a subject only after they have chosen for themselves a certain life image. The most effective thing the teacher can do, then, is to act out for them. . . seeking to evoke their commitment by his own."

Their job, says a prize-winning professor, is to evoke commitment—and to show why questions can be more important than answers

By Leonard K. Nash

GOOD STUDENTS are what make teachers look good (and feel good), but students must somehow learn what their instructors cannot teach them. Thus nobody at once learns to ride a bicycle when he has been instructed to steer in "a curve with radius proportional to the square of his velocity divided by the angle of his imbalance"—though this is actually the way in which the competent cyclist, all unknowingly, maintains his balance (see Michael Polanyi, *Personal Knowledge,* Harper Torchbook ed. p. 49-50).

At a higher level of abstraction, anybody who has taught a subject like ionic equilibrium or thermodynamics must be painfully aware that no encapsulated mathematical or verbal formula suffices to impart his own competence to those who have it not. About all the teacher can do is to point to the problems and to the tools for their solution—guiding the students' endeavors by his own example, and stimulating their efforts by demonstrations that the problems are not only soluble but *worth* solving. If he succeeds in this the teacher is able to place his students in a learning situation. More than this he cannot do, but if he does less he is doomed to fail.

TO PUT one's students in a learning situation, one must somehow get them *engaged in inquiry*. For this purpose good questions are far more effective than good answers. A profound insight is contained in Weizsäcker's comment: "Even if someone came today who knew the answers to all unsolved problems, we should not understand him if our own need had not already driven us to put the questions which he answers." Demonstrably sound where scientific discovery is concerned, this view surely is equally applicable in pedagogy. Everybody who has sought to master a new subject finds that he first begins to grasp the subject only at that instant when he first apprehends the thrust of the inquiry: the sense of what is being sought, and how. As teachers our task is not simply to give answers; our primary responsibility is to ask questions. Answers become meaningful only if students have seen the force of our questions, only if we have been able to make the questions live issues students can regard as significant enough to justify *their* efforts to grasp our answers.

How can one make problems come alive for students? One seeks to relate chemistry to their lives by stressing, for example, its vast economic importance, but most often this seems too remote to make students feel it *their* concern. One tries to convey, both in lecture and in laboratory, the challenge of science as an open frontier, but one has first to convince students they *want* to explore this domain. One confronts them with lecture experiments that pose arresting problems, rather than with the more usual lecture demonstrations that merely enforce trite answers. Yet even this may be insufficient. To me it seems that students become engaged with the problems of a subject only after they have chosen for themselves a certain life image. The most effective thing the teacher can do, then, is to act out for them what it means to be a chemist, seeking to evoke their commitment by his own. The teacher asks questions; he encourages students' participation by answering theirs. My own experience is that one can do this in a limited way even in

(1) So make out study qus for final, before Xmas.

to the board tomorrow. In the evening I studied Herodotus, with Johnson. The studies of the day and the confinement attending them made my mental corporation feel quite weary and fatigued. In such cases there is not much patience, as I found this evening, for I retired at nine.

THURSDAY, SEPTEMBER 6TH

[After prayers and breakfast] we turned our steps to Un. Hall, & took our seats in the Freshman recitation rooms. There we were screwed by Mr. Mason —*manifestly* to ascertain whether we knew our lessons, but the truth is, I think, that Mason cared very little about it, and would rather have been among the missing. From his vinegar face and crabbed tone of voice, he showed impatience for some cause or other. Leaving him at ten, we went to Very, where we were sure to get a *moral* lecture, averaging from fifteen to twenty minutes extent.

But one sentence had been read before he commenced. He told us the motives, which influenced Darius, the Persian King, to extend his power and to make an expedition into Greece—that they were wrong, and that we should never entertain such feelings etc. etc. He dismissed at eleven, and *again*, took the road to Divinity Hall. There I studied Geometry till one and *again* locked my door, and walked to University Hall, where I took dinner. *Again* I proceeded to my room, and studied Geometry till 3 and *again* remeasured my steps to Un. Hall. At 3½ I went back—at ¼ of six came to Prayers—at 6½ went to room—studied Roman Antiquities & Herodotus till ten & retired. Twelve times, I measured the ground between Divinity & University Halls, being twelve quarters of a mile, in all three miles of exercise.

FRIDAY, SEPTEMBER 7TH

The ding-dong of the church-bell pierced the brick walls & wooden partitions of Divinity Hall, and sounded in my ears. This very naturally restored my slumbering energies to their wonted activity, which was first exercised in the process of adjusting buttons, strings, coat & stock-washing etc. I called up Johnson, who had slept on in spite of the bell. I went to prayers, and was the first student in the Chapel that morning. Nothing occurred today, differing from yesterday's proceedings, save a trick of the Sophomores. I left my room open at three, in my absence two Sophs. (Bacon & Partridge) came, removed all the moveable furniture in my room over to Johnson's and all his furniture to my room. Making a complete metamorphosis in external appearances. J. & myself promptly returned our furniture to its own proper place, and then studied very quietly, as if nothing had happened. I retired at ten-o-clock.

SATURDAY, SEPTEMBER 8TH

I arose in the morning with the agreeable prospect of *nothing to do*. For after prayers were said and my lesson in Roman Antiquity recited, I was to be at liberty until 6 P.M. . . .

[After reciting] I then returned to my room and changed my externals, preparatory to going into Boston. At ten, I started with Johnson who left me very soon however to call Stephen H. Phillips, who was to join us. I continued on slowly and they overtook me on Cambridge bridge. I had just reached the Boston side, when the Cambridge omnibus passed on its return to C. I cast my eyes on the passengers, and among them saw my father. I went to the door, and upon seeing me, he concluded to get out. We then went to the City Tavern, where he questioned me concerning the lessons, scholars, etc. I told him that I had come over to get a Buttman's Grk Grammar and Genophon's Memorabilia. In the meanwhile Johnson had purchased a Grammar at Crocker & Brewster's and came to the City Tavern. My father went there—but concluded to give me $4.00 and let me get one at Cambridge, either second handed or one of a new edition, which is coming out. He brought a bandbox with him, with some articles of apparel. He soon after left me to return to Beverly in the 12½-o-clock train from Boston.

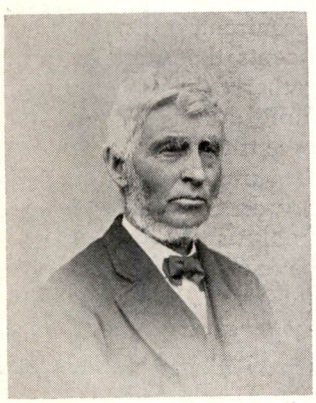
I arrived in Cambridge in time for dinner. In the afternoon, I went to my room, examined the contents of the bandbox & found some crackers and Pears with which I made acquaintance in the course of the day. I was then employed until supper time in writing in this Diary. After supper had been duly attended to, I studied my Livy for Monday. After eating one of the pears, I went to bed.

SUNDAY, SEP. 9TH

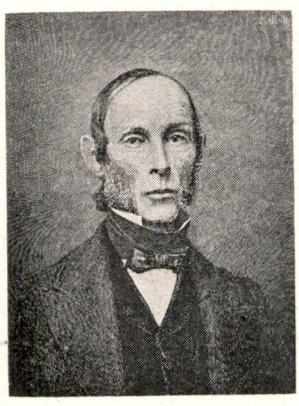
The Sabbath being a day of rest, the Faculty postpone prayers till seven, thus affording the students an opportunity of lying in bed late. So I took advantage of this and did not rise till 6½-o-clock. I attended services in the Chapel, and then returned to my room, where I wrote in this Diary till ten-o-clock. Johnson came in to accompany me to church, but I, not being ready, did not detain him. In twenty minutes I started and entered the Chapel, rather late, after the 1st prayer, reading of the Bible and singing. The church services commenced at ten, instead of half past ten, as I had supposed. In the afternoon I attended Mr. Very's Sunday school, where were assembled twenty Freshmen, who read two verses each of John, 1st Chapter, which Mr. V. then explained to us. In the evening, I studied Livy & tomorrow's lesson in the Genophon.

MONDAY, SEPT. 10TH

I rose as usual at 5½-o-clock washed my face and neck and took my Genophon with me to the Chapel. On my return I reviewed the morning lesson in Genophon. When I reached my room, I had by walking slowly, nearly finished it. I then took up Livy. . . At nine I went to Mason's room, and recited Livy—at ten to Very and recited Genophon. Immediately after which I stepped into Massachusetts 6 and paid G. Minot 25 cts for the Geometry I purchased of him last week. . .



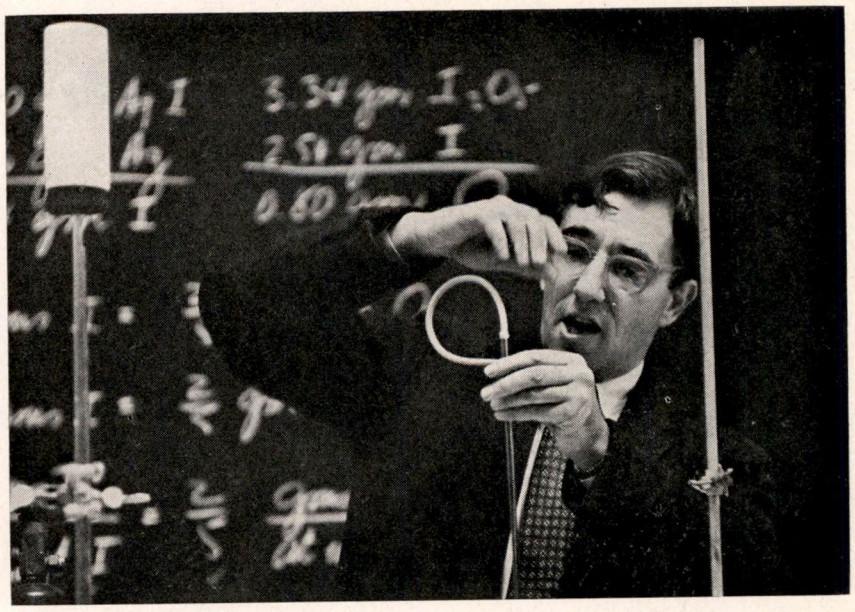




Boyden's teachers: George Mason '34, A.M., LL.B. '39, whose "vinegar face and crabbed tone" suggested he would rather be "among the missing" than teach Latin; Benjamin Peirce, LL.D. '67, a great mathematician who marked Boyden's first geometry paper "very well"; and Jones Very '36, who was to startle Boyden's Greek class by proclaiming that the end of the world was at hand *(see page 4).*

a class as large as 300 students. Answering students' questions offers the teacher a magnificient opportunity to be seen thinking things through on his feet—filling the role for which he destines his students. There's no harm in being a little slow, or even in occasional confusion: this dissolves the sense of magic and, rather than dazzling and discouraging, one's performance encourages students to feel they too could fill this role. The same priceless opportunity can arise from lecture experiments. I deplore the current decay of the art of lecture experimentation. Filmed or televised experiments, though tremendously useful as supplements, fail to express the teacher's active personal involvement and, even more notably, fail to offer one prime virtue of the live, on-the-spot experiment: it can, and often does, go wrong. Not the students but nature then poses you a sharp question you set yourself to solve in their presence. My students seem to remember best, and to get the most from, just those of my experiments that, nominally, have "failed."

If one would have his students respect his subject, he (representing the subject) must show his respect for them; for respect is a two-way relationship. Laboratory work, homework assignments, and examinations must appear to students not as sterile police measures, but as still further extensions of the kind of inquiry in which you wish to involve them. Searching questions rather than a demand for pat answers is the best way of conveying to students your respect for their potential competence as inquirers. Students are capable of such inquiry. Indeed, recent experiments in secondary-school (and even elementary-school) education convince me that our students are far more capable than we have supposed. There is then every reason to offer them the opportunity to wrestle with modern subjects, still living inquiries in which they can imagine themselves taking part. They can get surprisingly far with advanced subjects if the teacher is content to do a few things in depth rather than many things superficially, and if he deals as honestly as he can with all he does. By honesty I mean the conscientious effort to distinguish fact from theory, and even to distinguish the element of theory in fact and the element of fact in theory. By honesty I mean the frank admission that theories can never be proved beyond all doubt—thus preparing students themselves to make such discoveries as the non-inertness of the noble gases. By honesty I mean the rejection of reasoning more notable for its plausibility than for its integrity, and the spurning of facile pseudo-explanations (using such words as "tend" and "tendency," for example), which make a mockery of the critical inquiry we seek to promote. By honesty I mean a greater emphasis on how we know than on what we know, never seeking to conceal ignorance or doubt by the invocation of dogma or a smokescreen of specious (though technical) verbalisms. The concealment is in any case illusory. Students are astonishingly acute in detecting all such lapses from honesty. We can earn their respect for our subject only by treating alike, with respect, both subject and student.



W. H. Tobey

"I deplore the current decay of the art of lecture experimentation. . . My students seem to remember best, and to get the most from, just those of my experiments that, nominally, have 'failed.'"

MY MESSAGE, in a nutshell, is this. Teachers don't teach; at most they stir students to learn. Teachers promote learning less by the answers they give than by the questions they raise, less by their explicit instruction and profound erudition than by their example and their commitment, less by concern to gloss over the difficulties of their subject than by their respect for students' capacity to penetrate those difficulties. The most active role in education is not the teacher's but the student's.

ONE OF THREE distinguished professors who received this year's College Chemistry Teacher Awards from the Manufacturing Chemists' Association, Mr. Nash was selected to respond for the three recipients. These observations were prepared for the occasion. A teacher at Harvard since 1947, and Professor of Chemistry since 1959, Mr. Nash describes his Chem. 6 as the "toughest, most advanced course regularly open to college freshmen in the country." The man himself has been described as bouncing merrily around the lecture hall, "salting articulate monologues with puns, stunts, bellows, and pleas for questions."



A strong offense could make a big difference this year, and Coach John Yovicsin has been giving it special attention since the start of practice.

The Making Of a Team

Six coaches in search of 22 starters

SEPTEMBER 1. A squad of 114 men is working out west of the tennis courts. A day earlier they drew equipment, posed for pictures, and held group meetings with the coaches. Now it's all work, in eighty-degree heat: two ninety-minute sessions each morning and afternoon. The squad's 59 sophomores practise separately for the first few days, so the coaches can get a closer look at them. The offense is already running plays, working hard on passing; the defensive secondary, working on rotational patterns, shouts in unison, "Go east!"

Only fourteen men on the squad won letters last year. Yale has 25 returning lettermen, Dartmouth 23, Princeton and Brown 22. Fourteen is not enough. "To have an Ivy League championship club today," coach John Yovicsin says, "you must have eleven first-class offensive players and eleven first-class defensive players, and six on each platoon to back them up." Yovicsin starts this season with seven proven players on each unit. The offense has a great tackle in Steve Diamond; Maury Dullea and Carter Lord are at end, Joe O'Donnell and John Peterson in the middle of the line, Tom Choquette at fullback, and the fleet Bobby Leo at halfback. The defense has a strong end in captain Justin Hughes, fine tackles in Dave Davis and Skip Sviokla, and an excellent

11-12-62, Ec. Th.

Neo-orthodoxy of a dogma.

Mck. ch. 6.

What is "Commod. Mkt."? Purchase of goods & services.

Orthodox hyper-Keynesianism: gives enormous leverage to i, or "r".

✓ $i \rightarrow I \rightarrow S \rightarrow Y$

Some weaknesses:

1. Dim. ret. to I. Comply. ~~Fact~~ E.g. new roads need new houses. So has hit wrong bottleneck .... by implication, is nat. res. & labor. Actually, run out of liq. capl. first. "Induced inv."

2. Overlooks Δ inv. opps, & adjustment of other costs. One-year invmts, int. = 5% final product, ridic. to put finger on that, say means to ΔT is $-\Delta i$. How about other inputs? and that is where greatest volume of invt. is, short-term.

ch. 7 Money Mkt.

~~Act~~ Having given int. enormous leverage, in model, now seek to find what det. i.

Demand for M vs. supply.

Demand has 2 parts, x actions & spec. or "liq. pref." (Cf. earlier list. Spec. is Δ c.b. demand based on antic. $-\Delta P$, in this case p. of securities. X ctions is due to ΔT. Effects not mentioned are effect of low P. Also mentioned are M. & v. of v.)

Inf. liq. pref. below 2%. Nonsense? What is alleged cause? .. expect i to rise, Same as expecting costs to fall, e.g. timber prices. Is, anyway, source of K-ian assumption re inf. elas. of liqy. Contradicts belief in euthenasia of rentier, whereby no one expects better things to come. Calls for change in that particular above 2% .... & K-ians haven't made it.

If there is inf. liq. pref., then K-n assn that C → Y fails to hold. Why?

Bcs. replacement ceases to be automatic.

If there is not inf. liq. pref., then ΔS causes ΔI.

~~#~~ Keyn. has i.r. detd. by interaction of supply of M, & demand for M.

Implication of Keyn.: must saturate liq. pref. by ΔM; but under 2 cts, can't saturate, must resort to other expedients.

Otherwise, w. ΔY, Δ xctns demand for M, (M_1), reduces amt available for liq. satisfaction, pushes up i, stops invmt.

chap. 8 will go ahead to put together commod. =m & money =m into resolution of system, p. 111: as ΔY, pushes up i (in money mkt.) until that stops further Δ of n.i. (commod. mkt.)

Internal inconsistency in Keynes.

C → Y bcs. goods are automatically replaced. I.e., sellers who acquire cash by disinv. immed. by re invest.

But those who acquire cash by S are unaffected thereby.