

NO FOLDER

LOOSE FILE

Notes from Ford Co. visit

Moore

(To understand oligop, go not to A. Smith, but E. Post)

Inst. & advertizg — a family of fine cars. P.R. does this, but straight advertizg is by each product, in its div-n, hires its own agency.

~~Shannon interested in family farm. Send reprint to him & Ligatti~~

Robert Bernard (for Dykstra) (from Chi)

Defense program, in Chi. Gov't controls bus. ad., etc,
to great degree.

great degree?

Intercont. bomber — escort fighters

Jet engines B-52; F-100, F-101, F-102;

Tanks

Automatic weapons

Defense vehicles.

Gov't controls schedules

In Cmi, making engine designed by P.&W. Govt tells ~~how~~ much to make, how fast, & w. what modifications
Govt inspectors go along line, watch methods
Profits are det. by renegotiation board

Substantially unintegrated, except maybe at legal, fincl staff level. Little useful exchange of info. Little advertising effect, tho is some effort that way by P.R., but Dykstra opposes.

Objectives, in order of importance: Quality, scheduling, costs.

Op. on fixed price contract w. gov't, not cost-plus.
Gov't is hard bargainer

Plants get amortized quickly, can be used afterwards
Says is minor factor

One point is to keep hand in defense work.

Duffy

In response to reduced farm demand they cut output & maintain prices. Gives no very convincing explanation of why.

Walker Wms.

'55, lost leadership bcs assembly plants cdn't turn out all cars demanded. Worked them 53 hrs a week.

Ford Co. puts out "daily op-g control" sheet, & thus teaches them something of accounting, pushes them into using it.

7 businesses in one. Co. has manuals for dealers, send out trig material

Have mobile training unit for mechanics, so they needn't assemble for salesman's school.

Can't depend on word of mouth getting back to dealers - must put ideas in writing. This is thru channels of Ford Dealers' Org-n.

Dealers come to Dealers' School, swap info.

Dealer's inventory turns on ave. 14 times/yr. Keep c. 20 days' supply on hand, vary's much w. time. Other co.s keep more.

Ave. dealer gets \$823 gross profit on a car. Expenses of \$411, leaves \$412, overall on \$335 on old car, leaves \$77 net profit. - after deducting his salary.

'46, dealers made 12.8% of sales.

Fell steadily to 2.2% in '56. — about same as prewar, but much greater volume in '56.

On dealer inv.

'38 17%

'46 10.5%

'56 18.1%, so far

Dealers' incomes are terrific — over \$100,000, many of them. — from a "sample".

3 mos. ago, a new "dealer policy board." The former hierarchy remains, but this is new sounding board

"in our opinion" — don't he have individual opinions?

Service is main advantage of dealer franchise system. W/o this, co. itself wd. have to set up service systems (why?), expensive

Wms' philosophy: man needs franchise to get him to invest money. (Yet the "franchise" is easily terminable!)

A Lilley

Ford Int. excludes Canada.

✓ Dagenham, Cologne, self-sufficient plants. Others are assembly plants

Is there ~~close~~ ^{less close} integration, more inventories?

65,000 people, \$468m, is co.'s 2d largest division
a "fixed, conservative value" - so returns look good as 70.

Growing faster than U.S. sales. '49 - '55, tripled

Expansion esp in Eng & esp Gy. Shooting for \$1b sales next year.

Line & staff

Techn. consultants may fly to Eng. if needed.

1. Op-m
2. Decisions re m
3. " " men

1. Basic responsibility is in overseas co.

U.S. personnel, c. 100, supervising, other 64,900, are over there.

Control mechanism. Once a yr, Belgian sales mgr gives objectives, & reviews plans w. staff. Then it's his responsibility. This is co. pattern. Gily the division gives plans to Breech & Ford.

2. Re m.

U.S. has final say on major expenditure decisions

3. Re men

Genl mgr selected at very top of Ford. Considered very impnt, gets no detailed supervision, over the shoulder.

Lilley, 2

Overseas mgr need not be an American. - is irrelevant, need not be a national.

Have series of mtgs, among fnd divs, to train personnel - exchange info. & know-how.

Foreigners have tradition of orders from top down, they fight vs. it

They seek out good human material, rotate them, train them, Look 10-20 yrs ahead

Mkt. share has remained about constant. They give figures in mkt shares, as always.

Each overseas w. is autonomous in advertizing - beams it to local mkt.

Ea. country tries to compel buyg raw material locally, often at hi prices.

Belgium co. sells all Ford products in Brn - not in Holland, etc.

Dagenham is a "little Rouge". Self-sufficient. 200,000 cars volume. That is plenty large to achieve e/s of scale, says Lilley. They are considering 12,000 unit op'n in Brazil.

Carry much larger inventories, overseas, due to vicissitudes of trade.

Tool & die tour

They use just one die, as a rule, for all the cars made in U.S. (I guess the world). These are stampings. Sometimes they duplicate them, set up two lines. And they usually make a spare, in case of trouble (including labor trouble)

No die is fully used, or few are - there are dozens in each car. They can speed 'em up, by using better metals, etc. At some point becomes cheaper to have 2, but haven't reached it w. most. About 600 an hour, can & greatly. But w. the larger presses, cannot get as many strokes per hour, can't speed them up so much (there is a disecon. of scale)

Now if using one die to the utmost were so vital, they would do like H. F. I. But after a while variety becomes more important. So they don't use die to limit, but change to some other, produce much variety. So that econ. of scale is not exploited by large co.

If small co. cd. turn out just one line, & market in super mkt for cars, no need to have full line, wd be ok.

They buy $\frac{1}{2}$ - $\frac{2}{3}$ dies from outside. Crowd tool & die onto $8\frac{1}{2}$ acres at Rouge. (Pink est. their annual outlay at \$75m.) Scale econ. not in making dies, but using them.

A big econ. of scale is close programming, scheduling cuts down inventories, also packing for shipment, inspecting, etc. (Taxes on inventories, too - thus L.T. wd. discourage vertical integrn.) This also makes whole opn very vulnerable to wildcat strikes, etc.

Very backward handicraft techn. in making dies

Why not inv. in co.

How many employees are on annual, how many on other?
Where located in T.O.

Dick Johnson, of force, on G.A.W., which they call "Supplementary unempl. comp."

✓ To what extent use incentive payments?

Plan:

Co. pays 5¢/hr into trust fund for all hourly employees. This limits their obligation.

Max. ben: \$25/wk

Max time: 26 wks

Varies w. seniority, regularity, & level of trust fund.

Normal layoff is just 4-5 wks.

Employees get credit units for time, & their value varies w. level of fund.

140,000 people covered by trust fund

It was this or an equivalent wage increase.

1950-55, hourly labor cost Δ 44% - includes fringe benefits.

Bugas.

'44, no fixed authority, continual struggle for power.
Decisions off the cuff, w/o analysis. In bred.

Inherited a foreman's union, had to break it, May '47. They struck, but had become no damn good, they kept going during strike.

Have over 100 plants

Originally, ind. rel. man in LA rep'd to Dearborn. Now decently, he rep's to plant mgr. A forerunner of good decentraliz-n.

Feels ind. rel. shd not be isolated, but integr. w. finc, eng-s, sales, etc.

Committee system, Breech introduced. Multiple-judgement approach. e.g. '55 union negotiations. G.A.W. came up. Very free discussion. This prevents serious errors — also delays decisions, irks those straining for quick decision.

Styling

Walker refers to engine appurtenances as "crap". Vague on who reconciles conflicts

Mc Guire says main advantage of bringing together many co.s in one styling staff is interchange of ideas.

Cranbrook - should see, on development of machines.

Proving grounds

New one in Romo, Mich., not finished. Much larger than present one - a real jump. Will also keep present one, which is occupying vast area in center of town - has buildings which are ok, but e.g. wind tunnel & cold rooms which let them fix things before taking car on long road trips.

Everything is duplicated - all their special equipment. But the design that goes into it is a great fixed cost, & that is not duplicated - in the firm. Ea. firm develops its own test tools. & ea. firm tests cars of all other firms.

Here, again, the ec. of scale is developing ideas, not things.

Research: fundamental, in metals, fuels, etc. Hire college men & let 'em go. Free exchange of info. They sharply distinguish fundamental from eng-g research. Former they publish, circulate to all ind-y. Is a sort of college they endow, yields no unique benefit to them. The latter is secret w-in co. Now there, again, is ec. of scale - free exchange of info inside co. No limit there, as long as there are barriers between co.s.

Eggert

Ex. of scale - prediction. Mkt research

?? (Can get hi % on Δ inv.; can borrow cheap, etc, why not expand.)

Children are more prestige conscious, keep up w. Joneses, are first to know about new car down street.

Est. elast. for cars at 0.8.

(Tend to assume in bad yr that purchases are being deferred. So prepare for better yrs ahead - may be fooled)

$e = 0.8$ for all cars. For one car much higher, but expect retaliation, so don't cut p.

Follow G.M. price leadership, often. Often whoever comes out first w. a product prices it, & others follow suit. A matter of manners, an Emily Post code, unspoken "gentleman's agreements". - after all, most human relations involve some such, so why shouldn't they in competition? People naturally evolve an unspoken code of "go slow, take it easy, some things just aren't done", in any group, means of social control.

Ford Station Wagon came out first, G.M. followed them.

"Competitive" price means one that will allow them to sell enough to stay in ~~overhead~~ bus, spread overhead, etc. They don't sell as low as they could.

Secret

Wage bill is considerably less than $\frac{1}{2}$ cost of auto.

Plant capacity is reached, is limiting factor
Steel claims

They follow G.M. prices, even tho this means selling way above cost. Why not lower? Fear of retaliation.
Very frank.

Those who try to enter haven't been able to raise the M.

He emphasizes how they compete tooth & nail vs. G.M.
Yet won't cut price for fear of retaliation

At lunch, he admits freely they make mny profits. They cd. borrow at 6%, invest at 20-100%, but don't. They equate MR & MC - consciously. Expect retaliation for price cuts, so hesitate to do it.

They carry land on books at historical cost. They maybe losing money, if they put present annual p.c. value on it.
He doesn't talk much to this

Secret

What is a "reasonable return" on inv.

Circular process of pricing? GM set price, you follow?

How can I convince you that I am price conscious
Always discuss "mkt share", rather than
absolute.

4 requisites of pricing

Balance volume & unit profits.

1. Relate prices to cost & return on inv.

But G.M. prices are more important determinant, not cost-plus.

31.62% a "plus", used in one place.

Standard volume — assign fixed charges to units on basis of expected volume.

Var. costs include design changes.

Many ~~pt~~ engine plants, old & new, don't price on basis of ea. plant, but ave.

2. Measure differences in value among competitor's products

- a. Cost basis. Tear down competitor's cars, est. their cost
- b. Mkt basis.

Try all methods, then rely on final judgment

3. Est. elast. of demand (use M.R.?)

Price cuts more effective at yr-end — these are price conscious
Govt buyers are price conscious, so discrim., sell lower to them.

When demand strong, "enrich the mix."

~~2~~ Raise price of car in mid-'55, lowered it ~~late~~ ^{mid} '56

Retail price of car up 5% since '49; but wholesale up.
But even in '55 dealers made 25% on inv. bfr taxes.

Wage rates & steel prices rose more (but they produce own steel)

4. "Revenue control" systems — counterpart of cost control.

Summers, re return res.
Ralston, re promotion

Gossit

(Hecock says decentraliz-n has not gone as far as T.O. suggests.
Ward, (or Bond?) said top decision he can make is \$50,000.

(Martin says GM ~~maker~~ shoots for min. of 20%, after taxes,
actually makes more - citing anti-trust study)

Has competitive system so declined that we have to rely on
conscience of corps --- we exist at yr pleasure? Depart from A.
Smith.

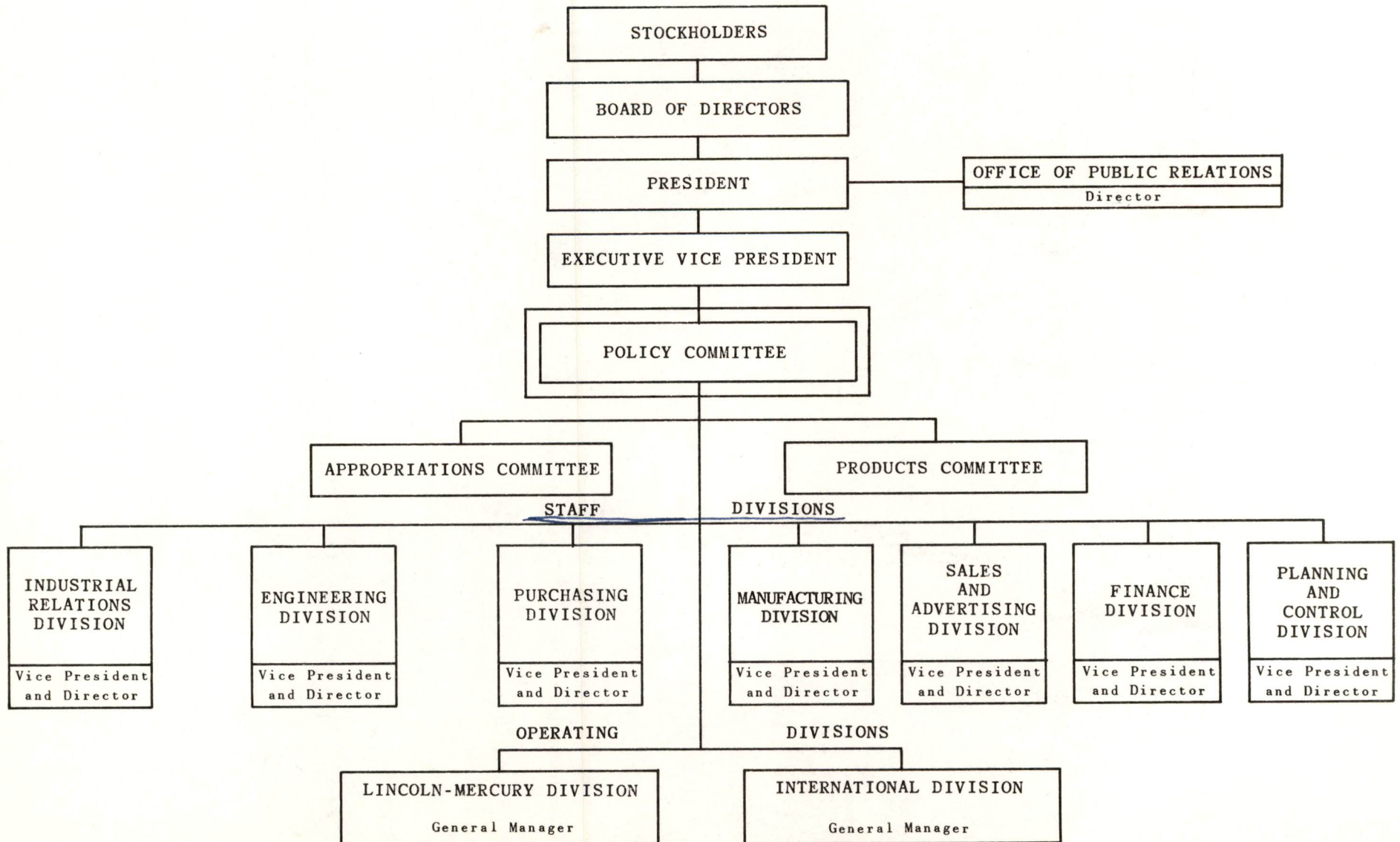
Sense of perpetuity --- mean no danger of competition?

?/ stronger co.s compete w. ea. other, may drive out smaller

Corp. may keep up old plant where it is sole source of income for
a town.

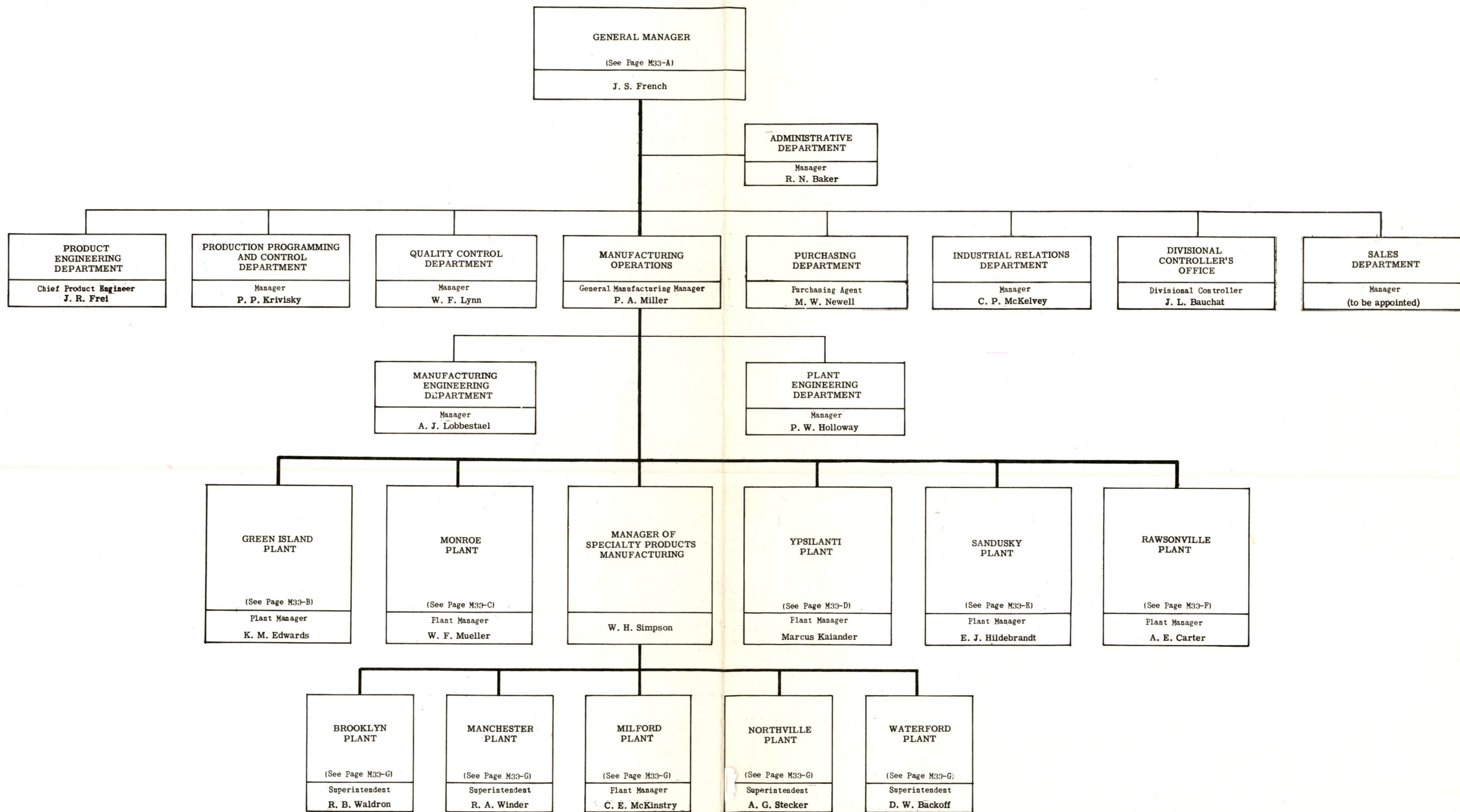
Anti-trust judgements are paid by officers, not corp.
(I'm not impressed - corp. can repay them)

1946



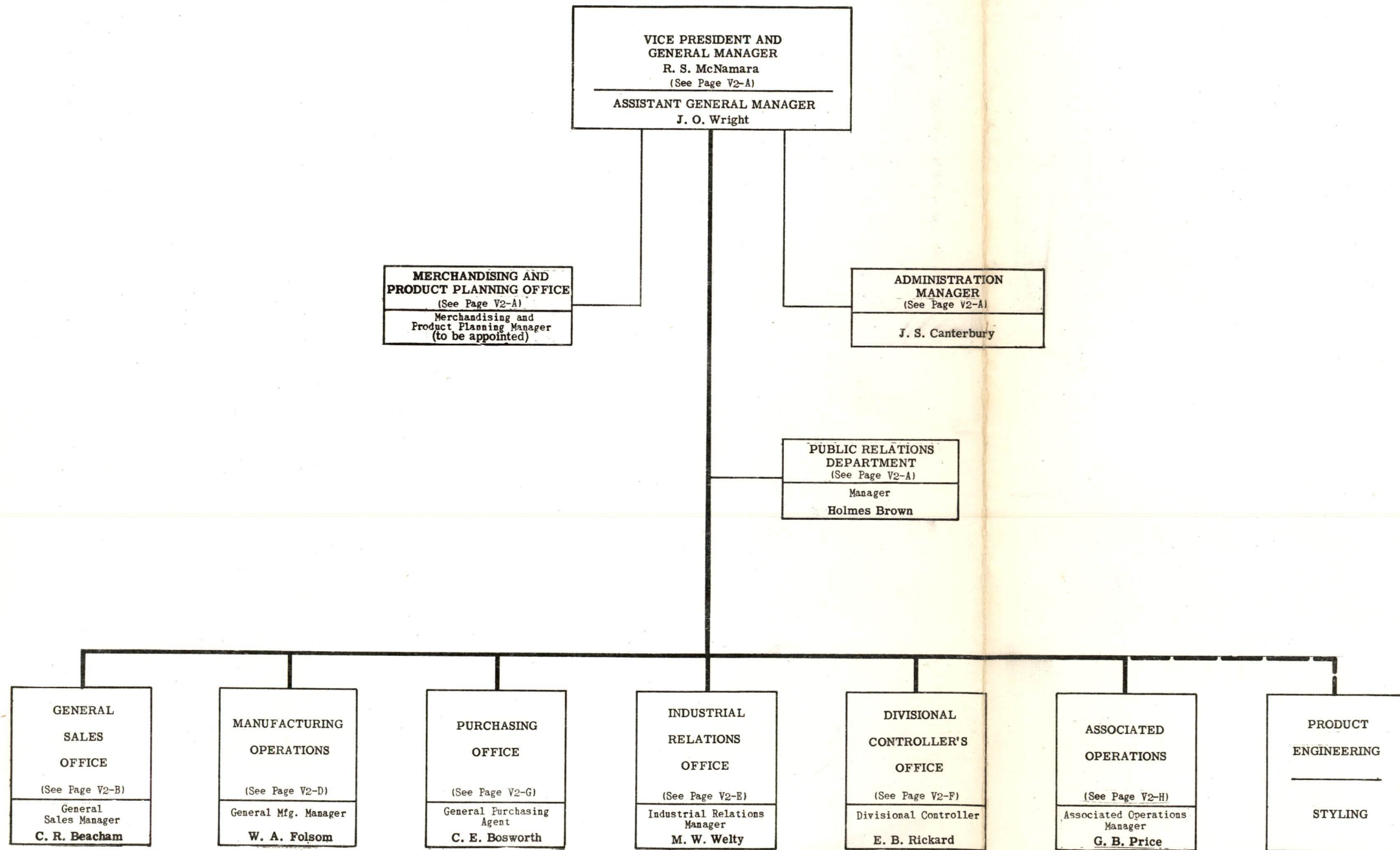
PARTS AND EQUIPMENT MANUFACTURING DIVISION

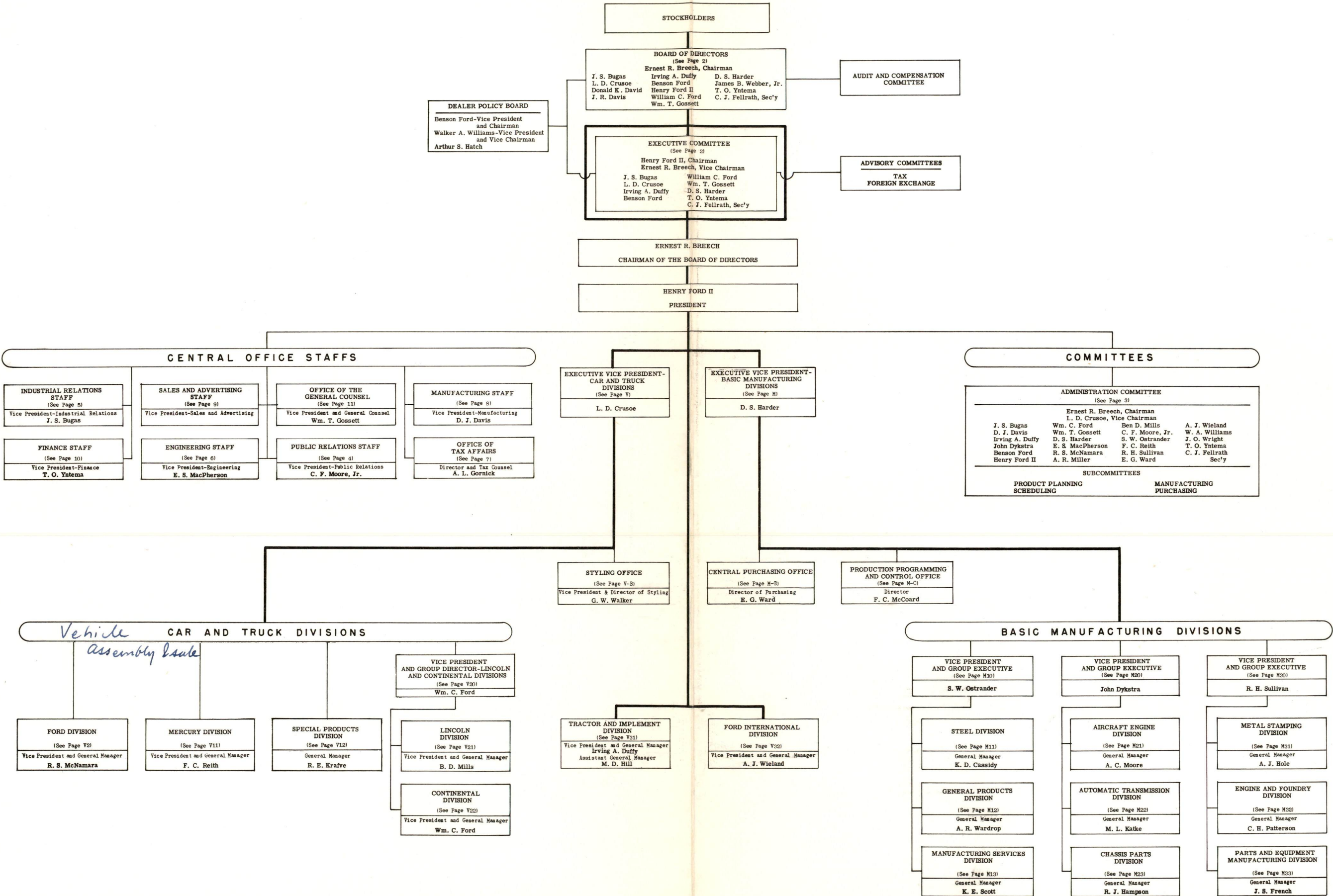
M 33



FORD DIVISION

V2





"Special tools" are a separate category because designed for just one model.

"Reeling balance" method of deprec'n, for taxes. For analysis, sometimes *bring up to date*. Before '54, use *straight line*.
Booth.

Amortiz'n of commercial special tools & tooling costs: 1955, \$120m
Domestic. Includes outside purchases.

European plants can be smaller bcs no annual model change

Studebaker is big enough, he thinks, but their cars aren't much good. All have different opinions.

Packard has pioneered more eng. ^{advances} ~~costs~~ than G.M.

*They don't figure any interest, implicit!! in their annual cost figures. (No deprec'n on land, either, of course)
But do expect to earn profit on historical "money in business"*

Roos & von Selinsky, Elast in auto ind-y

What profit objectives?

Why not borrow to expand?

14C

Risk — bigger co. can ~~only~~ try riskier things, ave. higher returns
" " " carry full line.

" " has established base of mgmt, can keep branching out into related items.

Questions at finance

Balance sheet

Income statement

Break down costs by types of input
" " " " Divisions

Methods of depreci-n & apprec-n

Crisoe

Ex. of scale - central info, e.g. in shuttling around excess parts.

Lectured in auto's at U. of Detroit

Car & Truck Divs.

Ford sells for 65¢ a lb. How much/lb. do raw materials cost.

Why no stockpiling. Could keep cars on lots, as dealers do, or crudest shelter. "Only the uninformed" suggest this. Why? But are no expansion joints. Why? There just aren't. No answer.

In '55, 5.1% N.Y. went for autos.

In '41, 2.7% do

Miller says run on 2 shifts, to economize on cap. Haven't considered 3 shifts.

Wright, J.O. Auto mkt has weakened, & shift to cheaper cars.

Apr. '56, spring revival of sales didn't come.

Cut down June prod-n schedules. Ask suppliers to stockpile parts.

Peak yrs, use overtime. Now, revert to straight time, & 4 day week.

Dealers' trading posts

Ford div. profits, 1956, will be c. \$200m

Reith

Eng-g costs, \$151m in '56

Tooling 137m in '54 - less in '55
(365 for 9M)

Both rising. Due to design changes

Fixed costs on Merc. fall from \$400 at 300,000
to 240 at 500,000

~~the~~ "Fixed costs" include advertising, sales, eng-g, tool's,
& who knows what, he's vague.

One reason for not stockpiling finished autos is
obsolescence.

Vast ineffic. from mngy, bcs comp. wd. produce that volume
that wd min. AC, ea. yr. Ford varies w. "mkt"



Mills.

(~~Execs~~ Execs strolling around sniffing the grass)

Separate markets by R.L. Polk system
Point to center of mkt, don't try to compete w. lower ranges.

First figure total for industry, then Lincoln's share.
- a common approach they've used in several contexts.
Mgr sets his goal as some % of mkt.

Operate 2 shifts, to use plant intensively

Site det.

a. Area

7+ cost
Taxes, state & local
Labor (unemployed?)
\$

b. Site

Size
Ease of acquis.
r.r.
hiway
topog.
labor
util.
Local taxes
Zoning

Nori plant, Mich.

325 acres
C&O
US 16
good topog. & substructure
labor
ut. on-site wells & sewage
Got zoning changed.

Mills, 2

("Meeting the test of the mkt place")

(Contrast brutal obsolescence toward man who doesn't perform; & size of co., vacant land, etc.)

Plan 3 yrs ahead

Co. pays for itself directly. Does Thunderbird?

Lincoln div. org chart has much same as main staff.
Public rel., sales, purch., ind-l rel., etc.

Must earn return on their plant — what?

Sometimes a division does not carry part of overhead. Lincoln does.

Mills, like Miller, identifies mgmt concept w. short run mgntism, doesn't get l.r., & i: "doesn't like mgmt concept."

Different parts of co. compete vs ea. other hand, bcs otherwise wd tie them down in competg vs Buick etc.

Miller, 3

Men from finance have taken over most divisions. Place is full of ~~even~~ college men.

How much of service of fincl men is net gain to divisions, & how much is just checking up on them? Making them act in interest of whole?

I see ex. of scale in advertizg; in nationwide net of service; in borrowing. But these govt might do? ---- etc.

An. - Obvious why co. wants to be big - mmpy power
But what adv. to U.S.

Miller

Integration - misnomer?

Auto industry makes 39% cost of car, makes 61%
GM ~~buys~~ ^{rides} 44%
Ford makes 34%

GM is horizontal, better e.g.
Ford is more spectacular

Some is result of historical accident.

Have sold Amazon, 5,000 acres Timber land,
soy land, soy plants.

Kept steel mill, safety in unsafe mkt.

"Hard core" of parts, no freedom of choice: motor
xmen, diff. - "guts of car". Bcs

I. Mgmt basis
II Total "

I. Mgmt

A. Mgmt profit

Purchased cost	1,000	(allocate no overhead)
Less variable "	600	
= Mgmt profit	400	

B. Δ l inv. required

Expenditures req. ¹⁴⁰⁰ $\div 2$	700
Δ l work's cap.	300
= Δ l inv.	1,000

C. Mgmt return = $\frac{A}{B}$ 40%

II Total basis

A. Acct'd profit

Mgnl profit
Less fixed costs
= acct'd profit

B. Total inv.

Δ inv.
+ alloc. inv.
= total inv.

$$C. \text{ Ave. return} = \frac{A}{B}$$

Ask ea. div. to look 5 yrs ahead

Const. balancing at margin. ^{B.S.} Use long & short run m.c., tho don't call it that.

Limiting factor is mgmt, in expansion. They just are over loaded, over pressed. Have many plans, can't get around to it.

Transfer price among units is set at top

Haven't complicated bookkeeping system w. appreciation from price infl. just reckon roughly.

Pricing, just try to recover historical cost.

Sometimes have to buy outside bes of patent

Tremendously hi % rates of mgnl return --- 111%, before figuring plant cost, 48% ave., in one example.

Land not appreciatg that fast.

They don't count cost of land as part of gnl co. overhead! Is a separate account.

What % return is their minimum?
Figure lower price as loss
Vacant land

Miller, 2

"Bes we like the smell of grass."

One supplier can shut down, & force whole co. to shut down. So why don't they stockpile more? Ward lamely cites cost of building. But they can get money for nothing, & surely stopping shutdowns is very productive

Evening session.

Where are cus. of scale? In finance dept., says Miller, - tooting own horn? Good accounting, cost control.

What can they do on large scale others can't do on small? Attract good men, he says - they have best, only the 3d stringers accept jobs at Studebaker. Why? Bes the top ones know that the top ones will go to Ford, so they go there to be with them. Circular reasoning.

They provide acit'g advice for \$10/car. Est. same advice in open mkt worth \$300./car. Ridic. If were true, fine men cd. set up own firm & sell advice to others (unless he is talk'g of co. secrets which are irrelevant) for 30 times present salaries.

In justify'g vacant, he said they paid most of Dearborn's taxes, imply'g they were on vacant. But later he said vacant was of little value in whole co. picture.

In firing people, advertiz'g, etc, they justify by need for profit, they ~~are~~ just work here, give customer what he wants. But in justify'g vacant shift grounds, discuss green belt, parks, public functions.

Talk as tho a few little ships & they go broke. But H. Bennett failed to meet test of mkt place for 15 yrs or more, & when he was thru whatever was basic to co. was still there, & all they had to do was put in good mgmt to make M again.

✓ What was that basic thing? Ask H. Ford.

Bean

ENAMS - automation agency

Russ grant "patents" - maybe 2,000/yr.

Russ have surpassed w-n Em in coal, steel, hydrel

~~Hardee~~

Cummins

Bean

Every specific fn could be subdivided, so far as I c.d. see

"You reach point where plant gets too big" - press on limits of labor supply, xptn. E.g. scarcity of workers in Cleveland, move out to Lima. (An "external disecon.")

Bean - reach limit of size - "unwieldy & ^{cumbersome} ~~too big~~", after 800-1000 units on automatic xmsn line.

a. Why bad?

b. Why Ford?

The engineers are very clear. A plant can only get so large, or plant mgr loses touch.

You can't speed up some op-ns - must build whole bank of duplicating machines. (Like Breech's 2 chickens on eggs)

• Hinder

(Great advantage of scale - integrate movement. Interplant relations difficult bcs of inadequacy of public transportation)

(Op-ns are much alike, every plant. Move corpus, tack on things, supply all points on line by ~~hand~~ truck thru wide ~~as~~ lanes)
Continuity, cd. put whole op-n together? Limits - ...)

Vapid generalities, vague platitudes

Location: Freight problems
Utilities
Labor
Markets

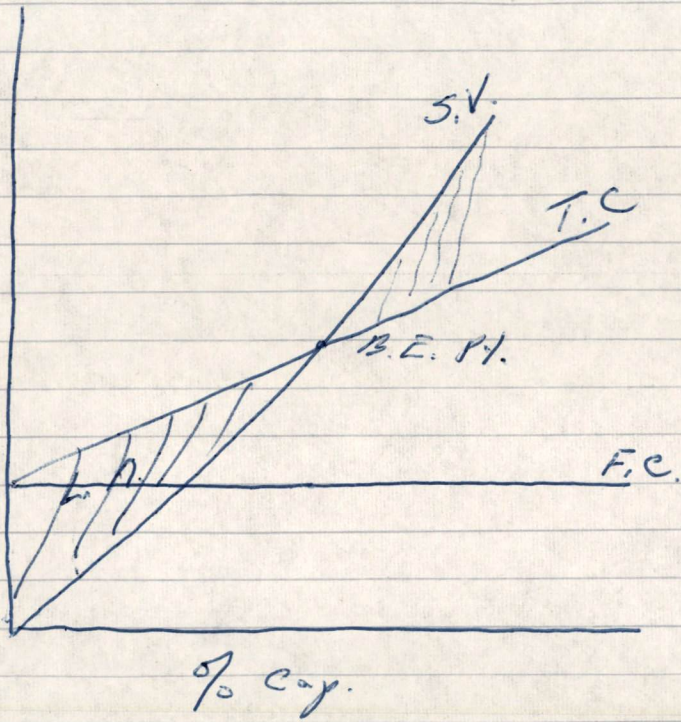
(Mines keep moving, so no point locating permanent plant near there. Locate in pt. of easy access to much.)

Moving coal by pipeline, in water. (how about integrating w. irrig-n water distrib?)

Plant full of duplication. Parallel lines, several foundries e.g. unintegrated lines.

Shopping center advantage - does one get that in these plants? An economy of scale. Not exactly the same sort of thing - wide selection, e.g. Continuity of processes?
E.g. w/o reheating.

Costs
+
Sales
\$



Harder (at lunch)

Product eng-g is staff, plant eng-g line. Sometimes product is eng-d w/o due regard for plant eng-g problems.

✓ When get to eng-g staff, see if they are integrated, or broken down into sections correspond'g to plants, or at least diff. cars.

When get thru, add up genuine cos of scale. - both social & individual.

Work out formal expos-n of time problem - i.e., build a plant for antic. fluct'g mkt, how big?

Harder says smaller co.s hav'g trouble now not bcs small but bcs paid too much dividends 3-4 yrs ago. Now can't get money.

Automated ass. lines, some processes patentable, so one co. gets some, one others, & no line incorps all best features.

Harder double + thinks re cost. Emphasizes fall'g ATC, then suddenly reach plant 'capacity'; "can't produce any more". But discusses extra shifts, & can speed up line, crowd more men on it, work weekends, etc etc. Cd. build up inventories to reduce stoppages, eg.

1955, says they were at "capacity", cdn't produce more/day. Mean'g cost wd have risen.

~~Hitchings~~ Miller?

1. If are greater ex. of scale to realize, why not expand? Instead of expanding outside field.

It takes a long time to introduce profit center control.

Hitchings

"Standard Volume" - antic. ave. volume for pd.

175,000 employees.

To keep stable price, lose sometime, gain sometimes (except they never seem to lose. This is rationaliz-n for mngt price's)
'49-'58 mkt they underestimated

Great expansion of demand, '49-now. I suppose due to exploding cities - & when they collapse, boom shd end.

Now c. 45m cars in use, U.S.

Depends on pop. estimates, groups them by likelihood of buying cars. Use U. of Mich. survey of cons. force.

They look to big mkt Δ to come from multiple owners.

(~~they~~ cap. gains inc.)

Until '53, materials limitations held down.

'54 recession

'55, right conjuncture - easier credit, ample materials, genl prosperity.

'56. 3d best year ever, after '55 & '50.

"Short run" forecasting means 6 mo.s.

Favor low tariff to lower petrol price?

Other factors: price

dist. of pop., spatial

Figs given for total industry.

Dispersion has Δ d demand much, expect 2-car families.

• Break in w.gns

Ynterna

Hard core of ^{transferable} skills & abilities, ~~let~~ one do most anything

1. Scientific method. To see problems. Schools tend to kill it.
2. People - getting them to do what you want.
3. Communication
4. Org-n: marshalling scarce resources for objective.

1. Presumption in favor of status quo — (as to size, at least.)
2. Economies of scale, spurious:
 - a. Dies - is proportions
 - b. Distribs have full line - they cd use other products.
 - c. Advertizing

They make ea. profit center carry its share of staff overhead.

Misc.

~~Argy Miller~~

Ea. div-n has own staff, ^{counterparts} ~~replac~~ of top staff. One fr of top staff is no doubt to watch lower staffs

Solution by infinite retreat - they keep backing up, send's ees of scale to some other dept., up the line, finally to very top?

Pose this way; to staff fr: what is adv. of centraliz'g? Why do it here instead of parcell'g to div-ns?

They seem to have immense inv. opp. They can invest M for very hi mgntl returns, on books at least. But this is w/o figuring extra use of top exec. time, which is worth fantastic amts b/c it must be drawn from other op'ns on which returns are equally hi, or still higher.

So they keep funds tied up in vacant land which requires no supervision. & top exec's time is limit on using those lands.

✓ On their books, it wd. look as tho returns to Δ l inv. were very hi. But when consider that to exploit these, must forego some others, & subtract that loss, then return is low. This they express by saying limit's factor is time of chief exec. Ask if Miller agrees.

Dave Martin expresses by quot'g Montgomery: if have 2 prts., need a corporal to instruct them. (But then can have several more prts. before need another corporal)

Ees of scale are found in ideas more than things. Not in dies, of which you make several, on parallel lines - but in design of dies. Like writ'g a book (+ho here, physical plates usually not duplicated; newspaper better e.g., they prob'ly set up several plates). Like advertiz'g

Culture of big bus. very diff. from small: human is more valuable, but also is more pressure on him. They can only have fewer men they have, the less org-n problems. So wd. prefer very productive, very able individs, & not so many of them.

Ford, by holdg most Dearborn, can capture l.v. As it creates itself. Very impnt ee. of scale. Also can plan lands as integral whole — tho they seem not to have done much of this.

I need figures on expenditures by unit — get idea of fixed vs vble costs.

When they cut back they get into decr. costs area, so MC is below ave. And their price covers AC, so they must be chargg well over MC. Why not expand? Maybe MR calc. Or maybe is risk, if expand, ~~until~~ they may be where $P = AC$, & as expand might never hit it again, even tho AC falls. Probby they hold back many times when shd expand, bcs overpressed exec. wants no risks

Breech's psych: cut back output now, but antic. infl., prepare for more future output. So result of fallg cons. is not fallg inv., as Keynes said, but long rather than short term inv. Except real inv. may fall as emphasis shifts to buyg existg assets, e.g. in antic. of shortage, like Breech.

Leonard. "Are not enough generalists in bus." Follow specialties too long.

In '46, no acctg breakdown, losg \$10m/mo, no way to know where it was being lost.

Break down by product, & fn. (region?)

Long range plan, '46.

Staff-line type structure, still retain ^{"the necessary degree"} central control

Clear lines of authority, clean-cut. Fix accountability, profit responsibility. Competitive sales & purchases among profit centers

2 div-ns: mfg, & vehicle

Vehicle div-ns develop styling & eng-g, recommend to top. Otherwise like sep. bus.

Mfg div. supply

"Competitive" means w. comparable outside bus.

"The necessary degree" of central control is to capitalize on advantages to be derived from size. Central office staffs. Decentralized fns are rep. still in central office, & "functionally supervise" them. Also are service depts - genl counsel e.g.

? "Functional supervision" - means what?

In xition, staff & div-n relations were unclear.

"Policy letter" is means of comm-n, down.

Div-ns autonomous "w-in scope of est. co. procedures).

Central staff stronger than in trad-l line & staff org.
To create line, & assist them,
& integrate interdiv-nl relations (why?), of which many

Brech

1. Advantages of keep'g in one unit.
2. Contrad. of cutt'g prod'n, & prepar'g for more future.
(New models, great hopes. Expand'g mkt)

Decentralized. Delegated auth. & resp. to op. divisions. 32 profit centers. & these further broken down. "Unwieldy giant" H.F. had overcentralized. Story of bundle of sticks, easier to break singly.

Paying men to think, not follow orders. Generate ideas down the line. ~~But~~ Offer incentives for performance.

Ended pushing around, "bossism", improved esprit de corps. Applied "golden rule of mgmt."

'46, losing \$10m/mo. Products obsolete. Brought in new eng'rs. Problem - get depth in eng'g, good men on details down the line. Took long time - had to train young men. Fourth of top men, today.

Eng'g the toughest cost to control. Trial error - spend lots of money discover'g wrong way to do something.

Plan cars 3 yrs ahead - tools & dies all being made now.

War II, found people cd. stick to old car.

Build in obsolescence purposely, keep people dissatisfied w. old car.

Cost control - Brech's specialty. Establ. standards, time studies approved by union.

Mfg overhead standards

Profit centers - ea. mgr responsible. Took a long time. How much you going to make this yr?

Profitwise, work on 4 mo. forecast. Never worked until publicized results, & showed effect on individ. pocketbook. Introduced comp'n among mgmt.

Price on standard volume basis - don't give public benefit of good yr., but in bad yr keep p from going up.

Expand'g, expect bigger bus in 1960, due to Δ pop, & antic. infl., are buy'g up things now.

Prefers overtime, plants bulging to excess plant capacity. Nothing eats you out like idle plant capacity.

Brech, 2

3. Keep plants bulging ^{overtime} - so won't Ad volume lower costs? So why not lower price now?

New plants from earnings, & deprec-n. ^{Almost} All previous plants were of no value - scrap.

Further integration planned - meaning ~~to~~ produce more of their own supplies.

Will probly borrow to expand soon.

Have excess capacity to try out future models - extra stamping lines.

"Encourage" dealers to be good citizens.

Bootleg's, due to freight changes, they changed freight charges, but that didn't cure. Most bootleg cars come from nearby. Franchised dealer just wholesales to used car man, makes \$50/car.

<u>Shares</u>	93,000 own	5 shares or less
	160,000	" 10 " " "
	360,000	total

Lapses into demagoguery occasionally - "Un-American", etc.

Only Ford has consumer at heart

G.M. owned ~~Douglas~~ N. Am., Brech went there. They owned 2590 Douglas. But sold, used M to expand. Brech went there from G.M. as president.

Auto plants scattered all over Detroit area. Why does Ford build its Lincoln-Mercury division way out west, instead of using Dearborn site?

Traffic control - they stagger hours of various plants to avoid congestion. A sort of economy of scale. Like building steel mill thereby

Nerins

(Fletcher Platt - promote hiways, safety)

H. Ford took out no patents. Factories open to all. Assigned 2 men to help them, wrote book, described all methods, kept no secrets. Discouraged suppliers from patents.

By 1910, Am. machine tools exported, world-wide excellence, acceptance.

Albert Kahn, plant designer