For an Effective Value Program

1. Friend in Court
2. Strong Leader
3. Patience
4. Low Key
5. Recognize Authority
6. Cost Responsibility Cannot be Delegted
7. Build Internally
8. Fit to the Organization
9. Promise the Possible
10. Measure Effectiveness
11. Motivation Not Enough
12. Solves Only Problems
13. Teach by Involvement
14. Design Team
15. Depth of Knowledge
16. Key Man
17. Preparatory Staff Work
18. Convince Every Participant
19. Function Analysis
20. Function Cost Analysis
21. Function Acceptance Analysis
22. Create by Function
23. Ideas are Not Solutions
24. Implementation

Courtesy - Ted Fowler

TO BE TAUGHT	TEACHING METHODS	PROPERTIES
FUNCTION USE ASTHETIC BASIC SECONDARY DIVIDE INTO STEPS JOB PLAN INFO — FACTS-ASSUM ANALYSIS CREATIVITY JUDGEMENT DEVELOPMENT MAKE IT SOLVABLE SOLVE IT EFFECT OF ATTITUDES HABITS GROUP Relations BOSS DO WHAT EXPECTED MINIMIZE RISK NEED OF SUCCESSFUL MEN	TELL IT. TELL EXAMPLE ASK ABOUT IT ASSIGN DEBATE ASSIGN READING GIVE EXAM USE CASE STUDY ASSIGN PROBLEM Assign DEVELOPMENT of SOLUTION LIST PROBLEM FROM STUDENTS	CARRIER I & CHECK STAC MOTOR OUTLINE #50 FLASHLIGHT SHAFT VALVE STANDARD TELEPHOTE PARTS ELECTRONIC RADAR ROANOKE CONTROL SI STEEL SLICE DOUBLE NUT DIRER STUD DISPOSAL STUD FLAME DETECTOR STUD INS. STUD SPOT CENTERER MOTOR SCREENS REFRIG COND. COLD CONTROL METER WOLVERINE CALROD SCREENS - ATTITUDE WEIGHTED VALVE DIRT TAL - CONDENSOR SWITCH BLADES AL - CU SEAL ABACUS
COMMUNICATE UNDERSTANDG. IDENT. STEPS SCHED STEPS MEAS. STEPS		

IDEAS

The product had a variety of specifications and features. It was what the product planner seemed to like in the competitive offering.

Many machines were built for a market that does not exist.

The systems of mathematics in use optimized other things... stack, length, etc...but not cost. (Value Control optimizes cost.)

"What is lost through not implementing important change does not show up (as a loss) on the balance sheet."

LD Miles/H
12/24/63

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LD Miles/H
12/24/63

X-FILE

STRATEGY OF ALEXANDER

1. OPERATE FROM SOUND BASE
2. FLEXIBILITY
3. SURPRISE
4. PURSUIT
5. CONCENTRATION OF FORCE
6. STRIKE AT THE DECISIVE POINT

X FILE

The human mind starts to operate at birth and continues until a man starts to make a public speech.

In connection with my work with the military, I was advised that Section 8 of some instruction book says that "the military may have no marketing."

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DECEMBER 11, 1963

TO: OFFICE

Comments by Lester Cone, graduate student on a Ford Foundation grant studying some advanced concepts in business management and especially emphasizing marketing management.

Mr. Cone called on Monday and said:

"You have something in your management system that others don't have."

"You have an understanding of the psychological basis on which unnecessary cost creeps in."

"I have tried it and I know we can put value analysis points on the critical path."

"You have an odd combination of
factor analysis
situation analysis
systems analysis."

Mr. Cone asked for an appointment to learn more about value analysis. We arranged for him instead to have his appointment with Value Analysis, Inc. uptown and get a "learning" there. My contact was to have lunch and chat about a few generalizations with him. Since he represents such a totally uninvolved viewpoint of value analysis, I am sending these comments around for you fellows to note.

L. D. Miles/H

Holding the Horses

F. Jones

DURING the early days of World War II, at a time when all kinds of armaments were in short supply, the British made use of some old field pieces, some of which traced their ancestry back to the Boer War. These guns were hitched to the backs of trucks and in that way served as very useful, mobile, light artillery. Someone, looking into the matter believed that it would be possible to increase the rapidity of fire. A time-motion expert was called upon to see if he could suggest some simplification of the firing procedure.

After a careful analysis, he became curious about a certain phase of the operation. He ordered slow motion pictures taken and ran them over several times. He saw something that piqued his curiosity. A moment before the firing mechanism was touched, two members of the gun crew stopped all activity and stood perfectly still for a three second interval while the gun was

fired. Unable to find any rhyme or reason for this strange behavior, the expert asked an old colonel of artillery what it meant. The colonel ran the picture through several times and said, "Oh, I know what they are doing, they are holding the horses".

This story impresses me as a very good example of the way human beings resist anything in the nature of change. We are reluctant to accomodate ourselves to new situations and tend to continue familiar habits no matter how incompatible they may be with new environments.

MATERIALS SERVICES DEPARTMENT

TRAFFIC SERVICES SECTION

Schenectady, December 4, 1952

This amendment supplements Amendment 2, which stated that the second revised I. C. C. Service Order 856 pertaining to the inclusion of Saturdays in computing demurrage on freight cars was suspended entirely from April 16, 1952 until May 31, 1952.

Second Revised Service Order 856 is now back in effect, and will remain in effect until further notice.

This means that Saturdays will be included in computing demurrage.

One of our managers said, "Largely as a result of the Value Analysis program, our cost reduction in 1951 was about $5,000,000. That is twice the cost reduction of the year before and ten times the amount of the year before that. Now, I know you cannot realize what that means, so I want to our accountant and asked him how much more sales would have been required to affect our net profit in the same manner. He said--$62,000,000.

"I asked him how much plant and equipment would be required. He studied it and advised--$67,000,000.

"I asked him how much must be tied up in raw materials, in processes and finished goods inventories to sell the additional $62,000,000. He said--$35,000,000.

"I asked him how many people would be required to produce it. He said--6,000.

"So I am now able to tell you that your work has affected our company to the same extent as the investment of another $100,000,000 and the employment of 6000 people and, in addition to that, it would have been necessary for the Sales Department to somewhere find market for and sell an additional $62,000,000-worth of our products.

"You can perhaps now only begin to realize how tremendously important these cost reduction dollars are."

M/

GENERAL ELECTRIC

1878 75 1953
YEARS OF ELECTRICAL PROGRESS

SUBJECT

COPIES:

VALUE ANALYSIS STORIES

"We never adequately understood this planet until men were able to use a telescope and look away at a distance at the other planets."

"Salt (Value Analysis) is what spoils the potatoes--if it is left out (is what spoils the Purchasing if it is left out.)

Can also be used with techniques, etc.

GENERAL ELECTRIC

1878 75 1953 YEARS OF ELECTRICAL PROGRESS

SUBJECT

COPIES:

VALUE ANALYSIS STORIES

"The best ideas are from unexpected sources."

"You can't win a fight blocking punches."

"Purchasing is a road to management the same as engineering, manufacturing, finance, law, etc."

STORIES

Life Magazine in a recent issue took a strong stand apparently that manufacturers should have no say about the retail price of their products--that they should fix proper prices at which they sell to distributors or dealers--from there on it is not their affair.

The Toastmasters' Appliance Company scored a very interesting touché on this point at an appliance meeting in Atlantic City. They decided to sell Life Magazine at their booth as a "loss leader," at 5¢ instead of the usual 20¢.

They advised Life's distributor and ordered an appropriate number of copies. The distributor did not fill the order. They, thereafter, went from stand to stand and purchased at 20¢ apiece, a large supply of Life Magazines which they took to the booth at Atlantic City and sold for 5¢.

This apparently brought home very forcefully the interesting human angle in even the thinking of Life Magazine; namely, that maybe we need one set of rules for the other fellow to operate under and another set of rules for us to operate under.

L. D. Miles/M
September 1, 1955

Harris

"One of our managers said that, largely as a result of the Value Analysis program, our cost reduction in 1951 was about $5,000,000. That is twice the cost reduction of the year before and ten times the amount of the year before that. Now, I know you can not realize what that means, so I went to our accountant and asked him how much more sales would have been required to affect our net profit in the same manner. He said--$62,000,000.

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M/

D R A F T

GENERAL ACCOUNTING INSTRUCTIONS

(For Use of G-E Employees only)

COST AND EXPENSE REDUCTIONS

TAB No. 301

I. GENERAL

The purpose of this Instruction is to outline a standard basis for measuring specifically the effectiveness of certain cost reduction efforts.

In order to facilitate the prompt measurement of actual accomplishments against cost reduction objectives and budgets, it is customary (1) to compute cost reduction results in terms of budgeted rather than actual output and (2) to report in the current period the estimated savings for a full year rather than only for the remaining months of the current year. For these reasons, the aggregate amount of the specific cost reductions reported in any one year will not be fully reflected in operating results for that year. Rather the profit and loss statement of a Department for the current period will reflect the results of only a portion of the cost reductions reported in the current year plus the results of reductions reported in prior years. This discrepancy between the period in which cost reductions are reported and the periods in which they are included in operating results should not, however, affect the basis of computation of cost reductions. The amount of each cost reduction should represent the saving in cost or expense which will be reflected in the Company's income from sales (although not necessarily in the current year) provided actual output is equivalent to budgeted output.

II. DEFINITION

Cost reductions may be defined as the lowering of the accepted standards of cost of either a product or a specific element of cost not directly related to a product. A cost reduction should result from a specific project, program or individual effort for the purpose of reducing costs by means of simplification of design; improvement or elimination of a method or procedure; conservation of materials and supplies, or substitution of less costly materials, supplies, or services; purchasing negotiations affecting previously established sources, prices and terms of purchase; or any combination of these.

While it is recognized that cost reductions do occur as a result of changes in investment, because of the relatively high proportion of intangible factors entering into the evaluation of such cost reductions, they should not be included in cost reduction budgets. Likewise, the reporting of such cost reductions should be confined to a memorandum basis.

In the foregoing definition, the term cost includes not only direct material and direct labor but also specific elements of indirect manufacturing expense, product engineering costs and expenses, distribution expense and administrative expense.

All cost reductions involving a labor saving should also include provisions for reductions in overhead expense directly related to the labor involved. This does not mean that the normal overhead rate or theoretical overhead factors should be applied to labor reductions but rather the items of overhead expense that are actually eliminated as a result of labor savings, for example, Employee Benefits expense.

Savings which require the purchase of new machine tools or replacement of an old machine tool should be reduced by one year's depreciation at normal rates (in the case of new tools) or the net annual increase in normal depreciation (in the case of a replacement tool). Full cost of new machine tools and their installation will not be considered in evaluating the saving.

In the redesign of a product or a change in method or material, the savings should be measured in terms of the specific differences in direct material, direct labor, and those manufacturing expenses which are affected by the change. These savings should be adjusted by the deduction of one year's amortization of the engineering and tool expenditures which were necessary to create and put into effect the change in manufacture. Expenditures for new dies, jigs, fixtures, templates, etc. should, for this purpose only, be considered as amortizable over the expected useful life of the tools.

5. Transportation

Savings in incoming or outgoing transportation because of change in terms, freight classification, reductions in weight, etc., as the result of cost reduction effort should be reported as cost reduction savings.

6. General

Savings on new products or products redesigned for higher performance standards should not be inflated by the reporting of decreases in starting costs. Only savings which can be realized after the elimination of starting cost difficulties should be considered cost reductions.

Where a cost reduction involves both increase and decrease in cost and the two are obviously related and readily ascertainable, only the net of the increases and decreases should be reported as cost reduction savings. Changes of a temporary nature only should not be reported as cost reductions.

VI BUDGETS

A budget of anticipated cost reductions may be requested each year showing information similar to that on the attached Exhibit A.

It is essential that the budgeted amount and the budgeted percent of output be established on the same basis as will be used in reporting actual results so that a correct measure of accomplishment in relation to budget is subsequently shown.

GAI 301

_____ Department

COST REDUCTION REPORT

Period ending _____

	Current Month at an Annual Rate	Year to Date at an Annual Rate					Annual Budget
		Actual		Budget			
	Amount	Amount	% of Annual Budgeted Output-a)	Amount	% of Annual Budgeted Output -a)	R%	% of Output-a)
Savings affecting own operations							
Direct Material							
Direct Labor							
Expenses:							
Manufacturing							
Engineering							
Transportation							
Commercial and Administrative							
Total							

As a memorandum:
Savings effected for other Departments-b)

(a- Annual budgeted output at manufacturing cost
(b- Show details by Department and type of reduction

EXHIBIT A

10-7-65

ASSUMPTIONS

1- ENERGY RATE FIXT

2- ENERGY SHOULD BE SPENT IN

2.1 PATTERN THAT MATCHES THE NEEDS (SUPPLY) OF THE INDIVIDUAL

2.2 OUTLETS THAT MATCH THE MOTIVATION OF THE INDIVIDUAL

3- IF THE ABOVE ARE DONE - A NORMALLY HEALTHY, (HAPPY?) (CONTENT?) INDIVIDUAL IS THE RESULT

ELABORATION

2- ENERGY SPENT NEEDS

PHYSICAL
EMOTIONAL
MENTAL
} IN SOME BALANCE

Some Questions

what Efforts This OUTPUT should take

Anything effort it long range?

what effects physical need SHORT RANGE

" " " " LONG "

" " EMOTIONAL " SHORT "

" " " " LONG "

" " MENTAL " SHORT "

" " " " LONG "

11

HOW DOES UNDEREXPENDITURE OF PHYSICA
EFFECT EMOTIONAL NEED ?
MENTAL " ?

HOW DOES OVER EXPENDITURE OF PHYSIC
EFFECT EMOTIONAL NEED ?
MENTAL " ?

HOW DOES UNDEREXPENDITURE OF EMOTION
EFFECT PHYSICAL NEED ?
MENTAL " ?

HOW DOES OVEREXPENDITURE OF EMOTI
EFFECT PHYSICAL NEED ?
MENTAL NEED ?

HOW DOES UNDER EXPENDITURE OF MENT
EFFECT PHYSICAL NEED ?
EMOTIONAL NEED ?

HOW DOES OVEREXPENDITURE OF MENT
EFFECT PHYSICAL NEED ?
EMOTIONAL NEED ?

HOW DOES EDUCATION EFFECT THE
MOTIVATION SUITABLE TO THE
INDIVIDUAL ?

HOW DOES PHYSICAL EXPERIENCE
EMOTIONAL "
MENTAL "
EFFECT THE MOTIVATION SUITABLE
TO THE INDIVIDUAL ?

HOW DO WE LEARN THE RATE OF
ENERGY SUITABLE TO EACH
INDIVIDUAL?

HOW DO WE LEARN THE AMOUNT OF
ENERGY EACH INDIVIDUAL HAS
AVAILABLE FOR PHYSICAL EXPENDITURE
EMOTIONAL "
MENTAL "

HOW CAN WE LEARN THE OUTLETS
WHICH ARE SUITABLE FOR
EACH INDIVIDUAL FOR
PHYSICAL ?
EMOTIONAL ?
MENTAL ?

HOW DO MENTAL BLOCKS ACCUMULATE
EFFECT THE PHYSICAL)
EMOTIONAL / NEED ?
MENTAL /

HOW CAN WE DETECT THE EFFECT
OF BLOCKS ON PHYSICAL NEED ?
EMOTIONAL " ?
MENTAL " ?

HOW ARE AN INDIVIDUALS CHOICES OF
SUITABLE PHYSICAL ACTIVITY)
EMOTIONAL " } MODIFIED ?
PHYSICAL "

MANAGEMENT PROBLEMS

February 1958

San Jose, Ca

"THOUGHTS"

LD Miles

Ware
- Drafting
- Lower wheel
- only wheel

Bo Vea - Guernsey
- 1/3

Farrell
- Shelbyville motors

Art Lauter
- Ballast
- Tel pin
- 4.75 - 23¢ nut

Aloofness -

Mr. Anderson
- J Bolts

Linder - Leader
- Embarrass by VA

Show MAC-SAC drawings

Rubber Ruler

Mat'l	1.00	1.00
Labor	.50	.50
OH	1.50	.08
	3.00	1.58

20 weeks tools

20 years

Persist
1. Value people evaluate - functional components
2. Component go into the shop cost at its value

If any above have V pres. OK

Rubber Ruler
- Trumbull
- Rome
- Only labor & mat'l

Detroit Mgr. - 50% Ford

1. El.
2. Throw out rubber ruler
3. Mkt quit taking snow jobs.

M/

MFG CANMAKE
IF GET A DESIGN FROM ENGRS
PURCH GETS MATL

EVEN THO

DESIGN wont Work
MKTG CANT SELL
CUSTOMER Doesn't want
MFG costs too high
Design not too costly

MANUFACTURING

FROM ENGINEERING, RECIEVE DESIGNS WHICH CAN BE MFG'D AT THE ESTABLISHED COST, AND THE COST INFORMATION

MFG'R TO SPECIFICATIONS FOR--NOT ABOVE-- THE ESTABLISHED COSTS

MAKE THE SHIPMENTS AS REQUIRED

PURCHASING

RECIEVE FROM MFG'RG-- SPECIFICATIONS, QUANTITIES, AND DELIVERIES REQUIRED

GET THE MATERIAL IN THE ALLOWED TIME

BUY IT AT LOW ENOUGH COSTS TO MEET ESTABLISHED MAXIMUMS

OPERATE AT COMPETITIVE PURCHASING COST

ACCOUNTING (Related to Product design and MFGR)

RECORD AS REQUIRED

PROVIDE RECORD INFORMATION TO AID DECISION MAKING

RECIEVE FROM SALES CUSTOMER QUANTITY, PRICE AND TIME REQUIREMENTS

BASED UPON COMPANIES PLANNED EARNINGS, DETERMINE MAXIMUM PRODUCT MANUFACTURED COST

TASKS FOR A PROFITABLE COMPANY

SALES

KNOW PERF., QUANTITIES, PRICES, TIME, OF WHAT CUSTOMERS WILL WANT

HAVE IT FOR HIM

SELL HIM

BE ABLE TO SELL AT COMPETITIVE PRICES

OPERATE AT COMPETITIVE SALES COST

ENGINEERING

LEARN PERF, QUANTITIES, TIME OF WHAT WHAT CUSTOMERS WILL WANT FROM SALES

LEARN MAXIMUM ALLOWABLE COSTS FROM ACCOUNTING

PROVIDE DESIGNS OF LOW ENOUGH COST TO MEET THE ESTABLISHED MAXIMUM

OPERATE AT COMPETITIVE ENGINEERING COST

ACCOUNTING - (CONTINUED)

ADVISE ENGINEERING MAXIMUM ALLOWABLE COSTS OF PRODUCT

OPERATE AT COMPETITIVE COSTS

COST MEASUREMENTS

SECURE FROM SALES PERF, QUANTITIES, PRICES, TIME, OF WHAT CUSTOMER WILL WANT

CONVERT INTO A GROUP OF INDIVIDUALLY SOLVABLE AND MEASURABLE PROBLEMS.

ESTABLISH COST MEASURE MENTS FOR EACH

PROVIDE THE MEASUREMENTS NEEDED TO ENGRG. TO MFG AND TO PURCHASING

WHEN ANY MEASUREMENT IS FOUND DIFFICULT TO MEET -- PROVIDE THE NECESSARY ASSISTANCE

TO TAKE RESP ↗ IF ↗ KNOW what customer wants

ENG CAN MAKE IT WORK EVEN THO
SALES DONT SELL
PURCH DONT BUY GOOD
MFG- WASTS
MGT MAL-ORGANIZED

SALES CAN SELL IF
PRODUCT WORKS
MFG MAKES
CUSTOMERS NEED IT

CAN SELL AT COMPET PRICES
EVEN THO

Mgt Mal-Org
DES Too Costly
MFG Costs Too high -
PURCH have wrong Supp.
Pay too much
Make or Buy wrong things

[redacted]

ACCTG Can Record
CAN

IF Cust DONT Buy
7 MKT " sell
Product " work
Mfg " make
Purch " Buy
DES Too costly
Mfg " costly
Purch pays too much
sched mfg not met

MEAD MEN CAN
ASSUME A PROFIT

IF

Engg Des what cust wants at Rt time at Low enough cost - Right perf -

Mfg makes it at Low cost

Purch buys at Low cost

Acctg operates as eff as compet

Mgt org as well as compet

KNOWLEDGE AND SKILLS IN 5 GROUPS

BUSINESS NEED
DISCUSS
QUESTION
WITHOUT "BUSINESS NEED KNOWLEDGE" IT IS "LIKE GUIDING A HORSE BY THE TAIL"

used many ASEIA ADVANCE!

HUMAN UNDERSTANDINGS AND ACTIONS
COMMUNICATION
WHAT PEOPLE BELIEVE ABOUT YOU DETERMINES WHAT YOU MUST DO.
GET JOBS
INFO
ASSISTANCE
ACCEPTANCE
GET MEN TO USE YOUR OUTPUT
DEAL WITH EACH MAN AS HE IS;
(DEAL WITH EACH MAN AS I AM) NO!

MAKE A SOLVABLE PROBLEM
FUNCTION - USUALLY -
SCORES OF WAYS
SELECT NO METHOD BECAUSE OF RULES
WHAT WILL GET RESULTS
YOU WILL NOT QUOTE, OR BELIEVE, OUT OF CONTEXT

4 DEVELOPING SEARCH SKILLS
VON BRAUN - V-2

5 DEVELOPING PSS SKILLS

2-53) rev.

GENERAL ELECTRIC
COMPANY
MATERIALS SERVICES DEPARTMENT
1 River Road
SCHENECTADY 5, N. Y.

DOES IT MAKE SENSE?

A short time ago during a seminar one of the engineers presented this experience in his area.

1. He says he needed two dry cells costing $1.20 each and preferably needed then the following day.

2. He says he called in the Purchasing Department to find out how to get them.

3. Purchasing requested that we issue an engineering memo (this memo is made in twenty-five copies and goes to product planning. A material request is written from it which goes to Purchasing, Shipping, Receiving, and many other departments. Our cost of issuing the engineering memo is $60.

4. We felt it was wrong to do it this way.

5. We asked Purchasing what was the most economical way to purchase them. They answered, "Through petty cash."

6. We said, "Then let's buy them with petty cash."
Answer, "We are no longer allowed to use the petty cash system."

7. I asked what other way there is to purchase these batteries other than to issue the $60 engineering memo. He advised, "By use of an LW form."

8. I asked him how much the paper work for this was. He said, "$8.52."

The result--we bought the batteries by the LW method.

The cost--		
	Batteries	$2.40
	LW form	8.52
	Total Cost	$10.92

AND it was ten days before it was through and we got the batteries.

M/
May 17, 1955

PD-87 (2-53) rev.

GENERAL ELECTRIC COMPANY

MATERIALS SERVICES DEPARTMENT

1 River Road
SCHENECTADY 5, N. Y.

DOES IT MAKE SENSE?

A short time ago during a seminar one of the purchasing men presented this experience in his area.

"Our engineers needed some pamphlets costing 65¢.

A purchase order was issued.

Because of the extra cost of invoicing and collecting, the vendor would not accept an order of under $2 except when a check was enclosed. The order was returned.

We then had a payment voucher issued and sent with it.

So the pamphlets cost...

Cost of issuing and clearing purchasing order	$5.00
Approximate cost of voucher for 65¢	5.00
TOTAL COST	$10.65

We asked an auditor how else it could be done and he advised that the only method that would save most of this cost would be if the pamphlets were ~~to be~~ not shipped in the name of General Electric.

LDM:AEM
May 17, 1955

LOCOMOTIVE GOVERNOR STORY

A short time ago, manager called
"I've heard a lot, etc."
"I don't think you're doing anything we haven't done."
"I don't think you'll save us a cent."

"Maybe so"
"We're willing to prove it one way or the other."

"How"

"Select device - man - etc."

Prod. 700/year gasket

1 part $4.15 to 15¢	better supplier
5 ave. 50¢ ea. less	better supplier
14 parts found vendors stds.	- $3.50 total
10 involving p & mfg.	$14 was saved
10 involving p & engrg.	$19 was saved
5 add'l parts involving mfg. &engrg. &purch.	$50 was saved

Of course he won't be without PVA now.

LDM/M

GENERAL ELECTRIC

SUBJECT

COPIES:

file stories

MAY 2, 1957

Mr. L. D. Miles
Office

From time to time, I run into things that might be of interest. One of them is an article in the Harvard Business Review by L. Cheskin and L. B. Ward, September 1948, pages 572-580, entitled "Indirect Approach to Market Reactions" which would appear to have some bearing on various surveys and studies that we have made. It deals with such cases as the survey of two package designs, one simple and one ornate by a panel of women. The ornate design was voted better by a large margin. When offered as a gift, three to one chose the simple one. Other examples are sited to make the point, "people judge designs as art critics but they buy by different standards."

R. E. Fountain/gf

"THE MEANING OF COST REDUCTION SAVINGS".

SAVINGS	ADDITIONAL PLANT INVESTMENT	ADDITIONAL SALES	ADDED EMPLOYE
4,000,000	40,000,000	66,000,000	5600
5,000,000	50,000,000	83,000,000	7,000
500,000	5,000,000	8,300,000	700
50,000	500,000	800,000	70
10,000	100,000	160,000	14
6,000	50,000	80,000	7
700	7,000	11,000	1
500	5,000	8,000	7
350	3500	5,500	1/2

(From the figures provided by R. E. Kelley, Cost Accounting Services.)

LD Miles

2/25/55

Value Service
SCHENECTADY, May 15, 1959

TO: OFFICE

The other day I came across this statement which is probably very pertinent to our type of activity.

It is normal for people to 'discredit' what they don't understand.

L. D. Miles/M

Stories

Value Service
SCHENECTADY, May 15, 1958

TO: OFFICE

In one of the projects at the recently completed Watervliet Arsenal Value Analysis Seminar, the men found that, among other costs, was $65 for assembly. It was of a nature that it could be taken apart and assembled at the seminar and experience showed that one man could assemble it in half an hour.

One of the trainees was a very experienced machine gun engineer. In commenting upon the extra high costs due to very precise tolerances, he said that a common phrase is that, if you shake a machine gun and everything rattles, it is a good gun.

Someone then told the story that during World War I Marshall Foch reviewed our beautifully and expensively made machine guns with close tolerances and perfect fits, threw a handful of sand into some of them, and, of course, they wouldn't work. Then he went over to a French gun, threw a half dozen handfuls of sand in from various directions. Then he picked up the ammunition and it clattered away instantly.

L. D. Miles M

EXAMPLES TO ASSIST IN FACING UP TO THE REALIZATION THAT SEVERE BASIC HUMAN NATURE CAUSES ALL GROUPS OF PEOPLE, LEARNED AND OTHERWISE, TO TAKE A POSITION OF EXTREME ANTAGONISM AGAINST ANYTHING WHICH IS NEW AND APPEARS TO BE STRONG.

Quotation from "Hypnosis in Medicine and Surgery" - William S. Kroger, M. D.

"Horace Wells was attempting to convince the medical profession of the value of nitrous oxide gas as an anesthetic agent. In 1846 he was demonstrating nitrous oxide anesthesia for dental extractions in the amphitheater of the Massachusetts General Hospital. His subject groaned and, even though he had no recollection of pain, the students not knowing this, jeered, hissed, and indicated that they thought it was a "put-up job." Wells, his head bowed, was driven from the amphitheater, a dejected figure. He later committed suicide because of his failure to convince physicians and dentists of the efficacy of nitrous oxide."

- -

In the period of approximately 1840, Dr. James Esdaile, a surgeon, found that hypnotism was effective in eliminating pain, allowing surgical operations. He found amputations and other surgical work of the most serious type could be conducted without pain to the patients. He also found that recovery was much more rapid than when the patient was forced to endure the pain. He demonstrated this to some of his medical peers. He was ostracized, driven from the Association.

He went to India where he set up a hospital, taught a dozen native people to do the hypnotizing and, for a decade, performed surgery by this means while constantly inviting members of the medical profession, government bodies, and others to view it and examine it in every detail endeavoring to secure its acceptance by the medical group. In spite of all of this accumulated evidence, he continued to be the subject of suspicion and ridicule and the use of hypnosis, then called mesmerism, was not accepted. In 1850 he decided that the only way to force this humane improvement in medical practice was to take it to the public who, in turn, would force the medical profession to use it. Hence, the book titled, "Mesmerism in India" was written and copyrighted in 1850.

Of course, then came Freud about fifty years later who provided a reasonable explanation for what Esdaile had learned and practiced. Now, another fifty years later, the medical profession is starting to study in earnest the use of hypnotism. Two years ago there was a society of fifty doctors studying it. Now there are two thousand.

So it is with a new--although proven--idea.

M/
3/9/60

REQUEST FOR MATERIAL

Z 07358

Order From: Value Analysis Unit
Materials and Purchasing Dept.
Schenectady, New York

ORDER NO.
Date Ordered
R.O.D. No.
File No.

QTY.	DESCRIPTION Do not order more than ONE kind of material	Wkly. Rate / Del. Wks.	Max. O.P.	ON HAND	GEN. SUB.	On Order	Total Available	Cons. Past ___ Wks.
1 set	Value News		N/C					

To: L. D. Miles
Bldg 2 165
per conversation
1/3

APPROVED
ACCOUNTING SECTION
By:
Date:

Delivery Requirements

SEND VIA: Frt. / Tr. / Exp. / P.P. / Best Way

DELIVER TO: J. E. LaPoint
Div. Pitts. Ord. Oper. A&OS
Bldg. 90 Door 102

CHARGE TO
S. O.
Req'n
Acct. 203-71V Sym.

SIGNED
Phone 343
Date 11-[illegible]-51
Stock Sect.
Prod. Sect.
Final Approval

1 2 3 4 5 6 7 8 9 10 1 2 3 4 5 6 7 8 9 20 1 2 3 4 5 6 7 8 9 30

GENERAL ELECTRIC COMPANY ← IN CORRESPONDENCE WRITE TO AND REFER TO → VOUCHER NO. GO- 567 SEP 195

GENERAL OFFICE
1 RIVER ROAD, SCHENECTADY 5, N. Y.

CERTIFIED CORRECT

R. C. Nourie

APPROVED FOR PAYMENT

E. J. Wilkes

IN CORRESPONDENCE DO NOT REFER TO THIS NUMBER

10804

9-8-52 To reimburse you for credit balance as of 6-18-52. $.01

jab 8

DETACH BEFORE DEPOSITING CHECK PATT. PW-10 (4-52)

GENERAL ELECTRIC

THIS CHECK IS IN FULL PAYMENT OF THE ACCOUNT STATED ON VOUCHER WHICH ACCOMPANIED IT. AND THE PAYEE ACCEPTS IT AS SUCH BY ENDORSEMENT

SCHENECTADY, N. Y.

SEP -9 1952

No. 40881 .1

1-8
210

PAY EXACTLY $.01 CTS

TO THE ORDER OF

RICHARD W. BRADSHAW
c/o W. A. SCHMALL
ROOM 231 BUILDING 22

GENERAL ELECTRIC COMPANY

BY J. D. Lockton TREASURER

COUNTERSIGNED L. Minton CONTROLLER

To THE NATIONAL CITY BANK OF NEW YORK
HEAD OFFICE: 55 WALL STREET
NEW YORK, N. Y.

"The meaning of cost reduction savings."

Savings	Additional Plant Investment	Additional Sales	Added Employees
5,000,000	50,000,000	83,000,000	7000
4,000,000	40,000,000	66,000,000	5600
500,000	5,000,000	8,300,000	700
50,000	500,000	800,000	70
10,000	100,000	160,000	14
5,000	50,000	80,000	7
500	5,000	8,000	7

(From the figures provided by R. E. Kelley, Cost Accounting Services)

LDM:AEM
June 3, 1954

-

"X" File

Quotation from Admiral Rickover

..."The uncommon man who excells thus find himself a freak."

..."Outstanding performance (results) accounts for little if the administrative routines have been violated."

F 86

AMOUNT OF UNNECESSARY COST ESTIMATED BY A GROUP OF MANUFACTURING MEN ON A BASIS OF ESTIMATING THE PROFICIENCY WITH WHICH EACH OF THE [illegible] ACTIVITIES WHICH CONTROL THE EXTENT OF UNNECESSARY COST IS DONE

MO	MC	DC	[illegible]	Mf. C.	MO	P
75	75	90	[illegible]	80	85	85

100%
23%

77% unnecessary cost

H/
5/23/63

MASLOW VALUES (NEEDS) SYSTEMS OF MEN

As taught by Dr. Graves

It seems to be becoming increasingly clear that when communication of any type is made to an individual, his response is essentially pre-conditioned according to the values system which he has.

Experience is indicating that the five values systems here included do an almost phenomenal task in explaining the reactions from various men and in predicting their reactions.

Level 5

Needs knowledge or information.
What the evidence shows, is right.
What the facts and the evidence show, is fair.

Level 4

Needs importance, respect, self-esteem, independence.
What "I" want is right.
What "I" want to do is fair.
Essentially nothing else is important. My ideas--my wishes--are right.

Level 3

Need for belonging-ness.
What is good for my group is good for everybody.
What is fair for my group is fair for each.
It is good for everyone to be in harmony, even, and together, as my group sees it. Uniform team is the whole thing.

Level 2

Need for material, property, safety from want, safety from harm.
What I can work for, own, and get, is right, or...
What I can fight for and take is right.
If others want, it's up to them to work or fight and get it.
Work others as hard as possible, pay them as little.
Work is right, might is right.

Level 1

Need for physiological satisfaction.
What "I" think doesn't matter...
I am too insignificant to count.
I am too insignificant to be asked what is fair.

It appears that individuals or civilizations progress beginning from Level 1 which still contains large proportions of populations in India, China, South America, etc. progressing into the higher leveled societies.

STRATEGY OF ALEXANDER

1. OPERATE FROM SOUND BASE
2. FLEXIBILITY
3. SURPRISE
4. PURSUIT
5. CONCENTRATION OF FORCE
6. STRIKE AT THE DECISIVE POINT

L. D. MILES' CONCEPTIONS OF THE DEFINITIONS OF SOME OF THE COST-ORIENTED ACTIVITIES

"In Common Folks' Talk----------"

Industrial Engineering

Various and assorted knowledge and technique to minimize product or process cost.

Manufacturing Engineering

Knowledge and technique associated with arrangement of cost of and use of machines and processes.

Producibility Engineering

Knowledge associated with capability of and cost of production from various machines and processes...often a part of manufacturing engineering.

Production Engineering

Usually the modification of design details within the same basic design concept to accommodate manufacturing procedures or equipment.

Work Simplification

An assortment of concepts and knowledge assembled and/or created by A. Mogensen to reduce costs. Much emphasis on work arrangement, motion study, etc.

Cost Reduction-Cost Improvement-Value Improvement

An effort or emphasis in which everyone tries to assign a few hours each week to use whatever method he can to reduce costs--often of parts or assemblies.

Value Analysis or Value Engineering

An arrangement of techniques which ...

(1) make clear the functions the customer wants from a product or servi
(2) establishes appropriate cost for each function by comparison
(3) causes the required knowledge, creativity and initiative to be used to secure each function for that cost.

LD Miles/H

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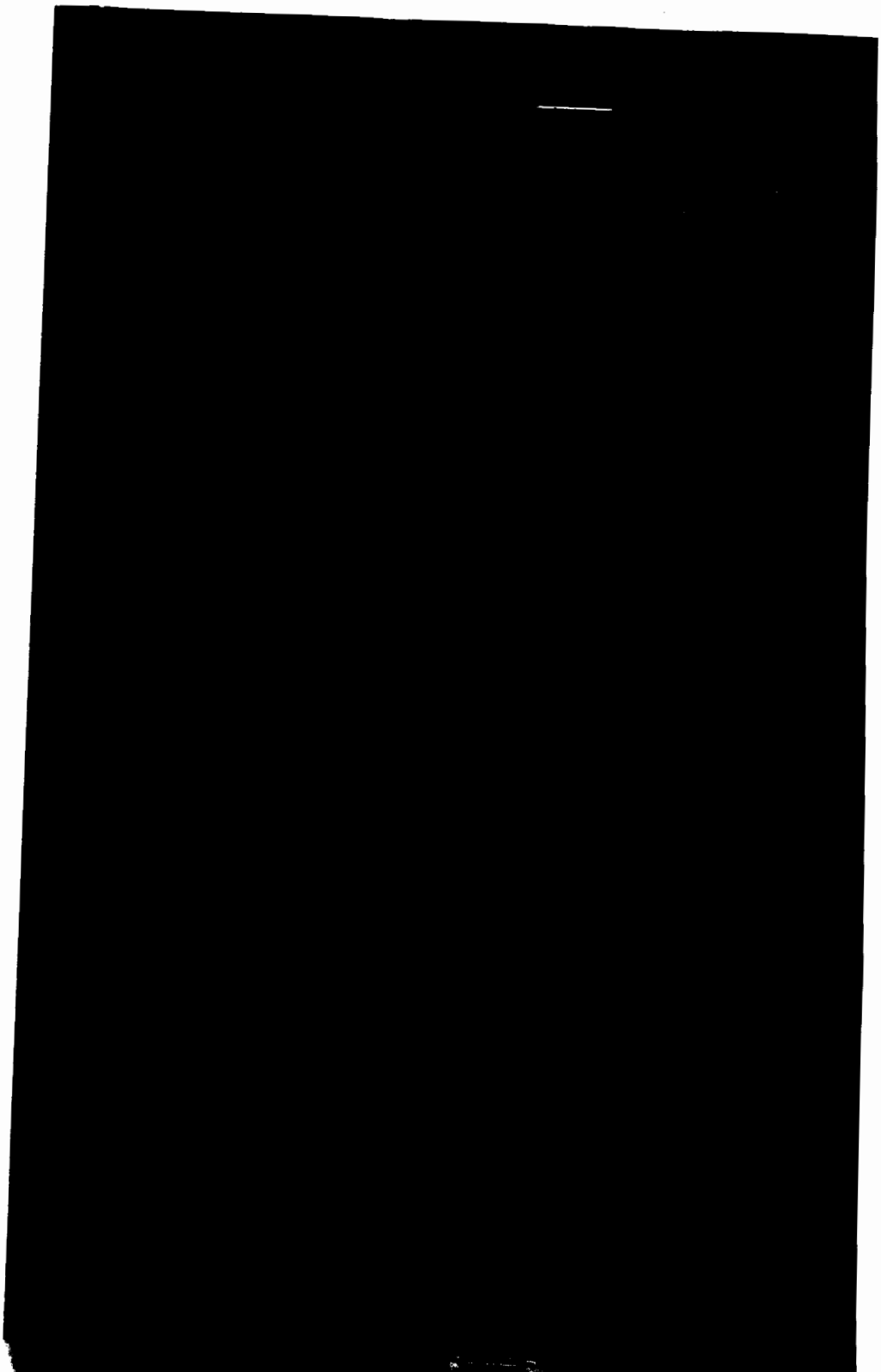
LD Miles/H

A fool often fails because he thinks what is difficult is easy, and a wise man because he thinks what is easy is difficult. —JOHN CHURTON COLLINS.



UNANSWERED QUESTIONS AFTER ASME MEETING IN CHICAGO...May 1, 1962

What is the difference between Value Engineering and good design engineering?

Isn't Value Engineering a crutch for poor training and a lack of experience? Wouldn't varied work assignments under well qualified people be the better long-term solution?

What are the borders..value research, value engineering, value analysis?

If the solution to a function is not known, how then may we evaluate the function?

Does production equipment design require the same evaluation as product design evaluation?

Can you comment on need for modernized accounting methods having greater definitions such as smaller and more specialized burden centers?

When "value engineering" an existing product, how do you overcome the "not invented here" complex?--this, when project responsibility is not in the hands of the value engineer.

Do you feel that a value engineer should be a full-time staff member?

Which staff function does the value engineer fall under?...product engineering, mfg.

Is the evaluating done better with teams and, if so, how many people should be included on a team?

How do you define "Value Engineering" and what makes it "new", bearing in mind that cost has <u>always</u> been a factor to be considered in design engineering.

In order to get the maximum benefits from value engineering, should it be applied at the industrial or design engineering phases?

How does low-cost with reliability affect design schedules? (timewise)

In following your technique, I feel there will be deviations from customer requirements. Should you develop the product as you feel it should be and then sell the customer on its merits? This will result from the fact that under the old method change was gradual but with your suggested method the product is likely to be quite different from that which the customer is used to.

MEMORANDUM

What you believe is important.

It directs your decision.

What percentage of the things you believe are wrong?

If I were a General Manager, what would I want from Value Analysis?

M/
12/27/56

SIGNS OF LEADERSHIP

Good memory.

Not inclined to sit still for long.

Has assurance.

Likes to lead.

Likes people.

Doesn't like to do things himself; likes to do what he does through others.

Never takes himself too seriously.

Quickly gets to the point.

Hard to sweep off his feet.

Is not usually a heavy reader.

Bored with too much logic.

A good loser.

Enjoys a contest of wits and a game of chance.

Easy to meet and easy to leave.

Makes sure you know the difference between his opinions and his facts.

IS YOUR V.C. O.K.?

TESTS FOR VALUE

Our Challenge — Our Obligation

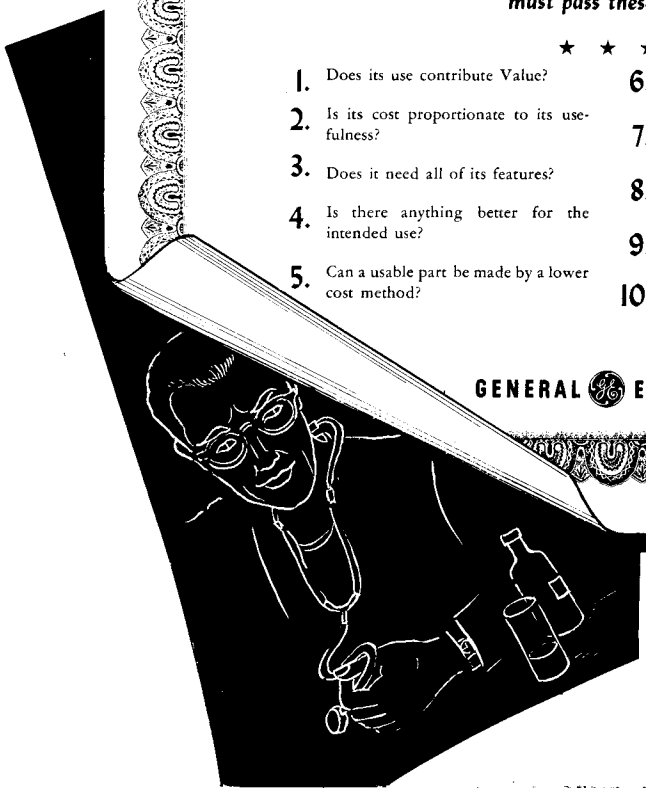
Every material, every part, every operation must pass these tests

★ ★ ★

1. Does its use contribute Value?
2. Is its cost proportionate to its usefulness?
3. Does it need all of its features?
4. Is there anything better for the intended use?
5. Can a usable part be made by a lower cost method?
6. Can a standard product be found which will be usable?
7. Is it made on proper tooling—considering quantities used?
8. Do material, reasonable labor, overhead and profit total its cost?
9. Will another dependable supplier provide it for less?
10. Is anyone buying it for less?

H. L. Fletcher

GENERAL ELECTRIC



You're the Doctor!

PLAN FOR SUCCESSFUL LIFE

1. Written Plan

2. Enjoy work - attitude

3. Use money intelligently
    1. Earn intelligently
    2. Spend wisely
    3. Save systematically

4. Schedule Time - Balanced

5. Imagination and Initiative

DECISIONS

To make large company value project out of the Philadelphia air blast breaker job.

BASIS

maximizing benefits to the Company.

To remove management discussion of personal loss as the principal criterion for decisions affecting value from the company-wide cost reduction junket program.

BASIS

to minimize my personal loss.

EXTRACT FROM MINUTES OF THE EXECUTIVE OFFICE
September 4 and 5, 1962

The chairman stated that to be included on the agenda an item "should be determined...first by whether the subject is important; second, by whether it is beyond the assigned responsibility of the proposing member; and third, whether it has company-wide significance."

H/

"X" FILE

R. J. Gillespie
"Design Creativity Performance"

Presented in St. Louis.....October 1962

"There has been a general over-all increase of 70% in the ability of our designers to think up ideas. It has been found that the most productive ideas come from our engineering designers' minds in the last 10% of their increased mental capacity in thinking up alternative ideas for improvement."

"The Sylvania value trained engineering product designer thinks with boldness and defines with care."

M/

"X" FILE

Light - unmixed blessing...

shows beauties of...
uncovers ugliness that...
darkness hid.

- -

We see things as we are...not as they are.

Not seeing is believing, but, believing is seeing.

Alfred J. Morrow
Write answer, what kind of person do you think you are?
and
what are you really?

Greatest opportunity broadening understanding and insight of the people on top.

X file

X file

August 30, 1962

Value Service
Schenectady Office

The following is quoted from a presentation made by R. L. Bartlett at the University of Chicago before a joint General Electric/University of Chicago project attended by forty people who were professors of economics from various smaller schools throughout the United States.

It is probably the first pronouncement which has been made to the public of the General Electric Value Control program and is here recorded for any possible future importance.

"In the last two years it (the Hotpoint Division of General Electric) has been a pioneer in the most recent and most comprehensive of the value approaches which we call Value Control, the subject of my talk.

"The purpose of Value Control is to systematically measure value and establish the plans and actions necessary to get and hold value leadership in the markets served. It is a disciplined approach to reaching profit leadership.

Nothing else in the paper contained any bearing on our Value Control program.

L. D. Miles/M

Copies given to Brad Stroup, and Svein Hvamb

THE CLAIM JUMPERS

JURISDICTIONAL DISPUTES are nothing new in industry, and they are not confined to the conflicting ambitions of craft unions staking out employment claims for their membership. They are just as rife among professional and managerial employees seeking wider authority and preferment through the subtler channels of functional job definitions and management organization.

One such dispute that has long been seething at the level of internal company politics now emerges at the broader professional level, in the proposal to establish departments of "Value Engineering", which would take over the value analysis activities that are now generally carried on in most progressive purchasing departments. This is a claim that was discovered by alert purchasing men a dozen years ago. It was originally staked and registered under the term "Purchase Analysis", and it has been profitably worked by purchasing men ever since. There is justifiable resentment among purchasing men now that the claim jumpers are trying to move in.

There can be no quarrel with the proposition that a real concern for value has a place at every stage of company activity, including engineering. One reason for the spectacular results of purchasing's value analysis is that engineering, by and large, let the value concept go by default. The most effective value analysis programs are those that enlist the interest and cooperation of engineering personnel, at purchasing's initiative.

The insidious thing about this most recent proposal is not that it seeks to alert engineers to their value responsibilities, but that coincidentally it seeks to curtail the proper scope of purchasing responsibility. It says in effect that Value Engineering departments will have the last word in "telling the purchasing agent what to buy."

The proposal is predicated upon the "limitations" of a purchasing department. For the benefit of eager engineers who have but a limited knowledge of purchasing, let us enumerate some of the positive assets that point up the limitations of engineering. Purchasing automatically scans the entire range of purchased requirements, and its records disclose items of common use that are seen only as isolated items in engineering product analysis, as well as supplies and non-production items that never receive engineering attention but have equal potential for cost reduction. Purchasing has a knowledge of markets and sources, which are as least as important as product specification in determining costs. Purchasing has daily contact with cooperative vendors, and thus has access to the technical resources of entire supplier industries in addition to its own company's engineering talent.

The search for value is inherent in the purchasing function. The two are inseparable. Ambitious "value engineers" and managements that fall for their arguments should not be surprised when buyers analyze and challenge their specifications for the sake of even greater value. Anything less than this is not in accord with the standards of modern purchasing. For where value is concerned, purchasing will always have the last word.

Stuart F. Heinritz

For More Information Write No. 197
←on Inquiry Card—Page 32

STUFF

NOTES FROM R. C. MILES ON TALK GIVEN BY MR. McCUNE--2/14/62

Mr. McCune pointed out that it is impossible to have the first design right--we can't afford it and can't wait for it.

What is needed is to recognize these facts and follow them up with cross-functional efforts and by cross-functional reference to a combination of engineering, manufacturing, marketing, and cost.

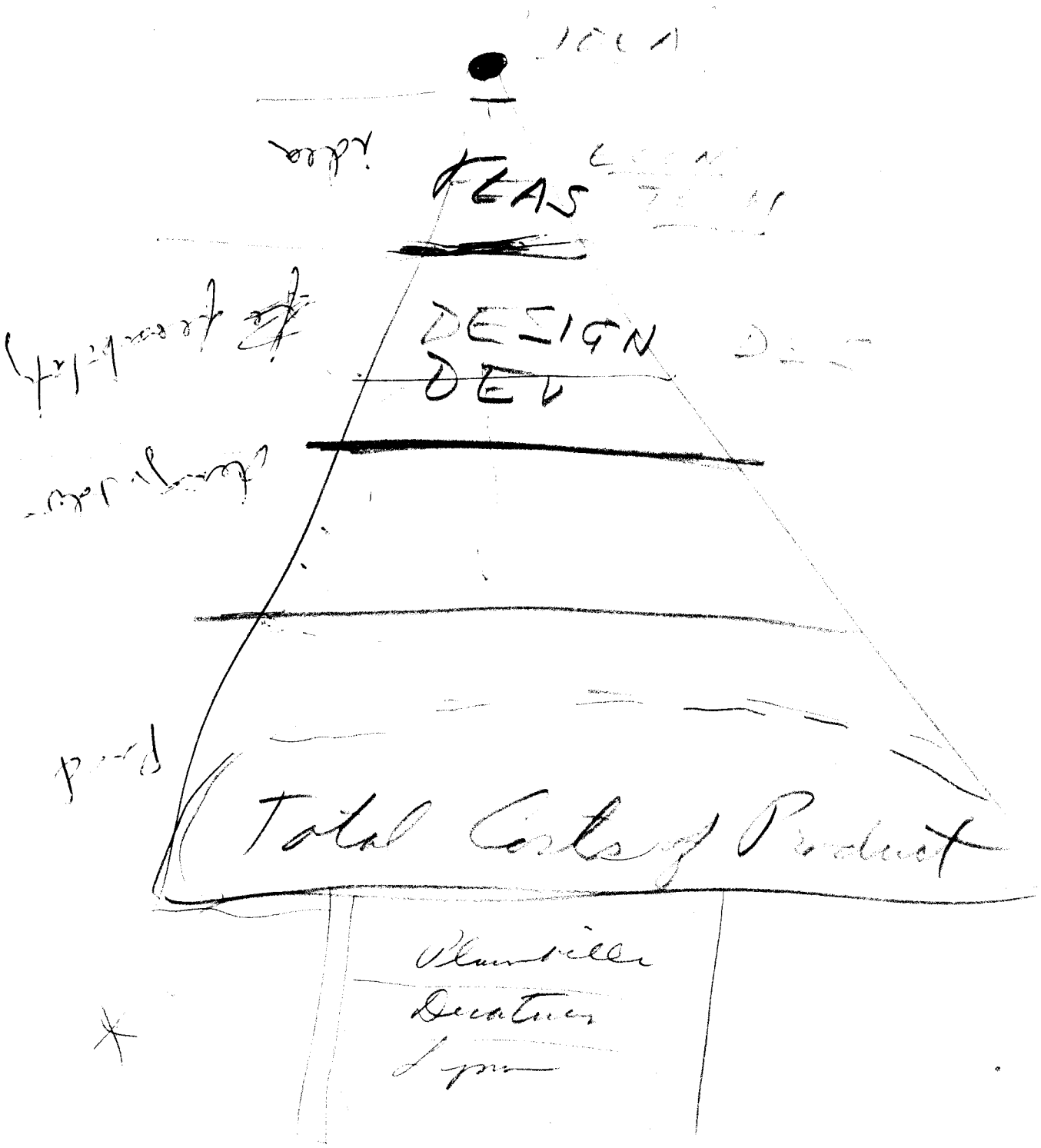
Mr. McCune seemed to feel that in Engineering Services and elsewhere we had been unreceptive to value analysis techniques.

He gave the impression that he suspected that he and others have been impeding the cross-functional work.

The four main points he wanted to leave with the audience were...

1. Get the business system costs.
2. Make cross-functional reviews for cost before release of drawings.
3. Plan and schedule inter-functional re-design activity.
4. Have these teams indicated in item 3 above use value analysis methods and training and mental attitude to attack costs.

M/


FEAS
DESIGN
DEV
Total Cost of Product

ELECTRIC UTILITY SALES MEETING

sources of Knowledge

GIBSON

Salesman needs certain kinds of Knowledge

	Cust	Prod Dept
Customer Knowledge	←	
← Business Knowledge		←
← Product		←
Sells		
• General - SAI - SSM Tech	←	
← Overcoming Product Obstacles		←
← Overcoming price Obstacles	←	←

"The side that loses the war may be the side that doesn't even know that it was in the war" - mao - Gibson"

"Use a good future as an excuse for a poor present" Gibson -
(one of poorest excuses)

"weight - not quality -
~~Swiss~~ watch vs Timex"
Chev - Fords - etc no longer tell weight

SISK -

use both budget and target
Will not "wheel & deal"
Will increase our percent of available by -

Improved selling

Go far beyond "Product" to now get business - ← DMM

"To provide Product offerings of greater value than our competitors - SISK"

PLACE the $ on them 4pm

Sell by all factors
losses & Price yes - but
"also other factors to which which # cannot be placed"

"Emphasise the value of our total offering" - SISK

FRAM

"THE SECRET OF SUCCESS ON THE NEXT PROPOSITION IS KNOWING WHAT HAPPENED ON THE LAST ONE"

GRISWOLD
"Use of VA in Gen Elec was set back because far too many only heard the first half of the sentence."
-Leys GRISWOLD.

Sisk "we are at new high level in customer orientation and are going higher"
SISK

Gibson - "we must have a philosophy
may have 10 different policies under it"

"I'm not insisted on any policy - I do insist that we have a policy"

SCHENECTADY, March 19, 1957

Mr. D. Lawton
Med. Transf. Plant
ROME, GEORGIA

Dear Dave:

The purpose of Doug Francisco's work in Rome is more correctly one of observing and teaching rather than auditing.

Experience has shown us that to get the large profit benefits potential to the Value Analysis program, people throughout middle management need to genuinely understand so that their decisions will promote teamwork and the extra benefits.

Experience also shows that, due to the newness of the Value Analysis philosophy and program, all of the important basic concepts are not as yet known and understood.

On the attached sheet are listed a few of the wrong concepts which normally develop. When these concepts are believed by any of the section managers, any of the sub-section managers, or by men in important positions of design, of design drafting, of manufacturing, of manufacturing methods, or purchasing, etc., wrong individual decisions result from wrong honest beliefs and limit the addition of profit before taxes which this program can provide.

We found we helped most by learning where these and similar wrong concepts are believed and showing the specific individual the correct situations and correct concepts. This will be Doug Francisco's method.

L. D. Miles
Manager - Value Analysis

LDM&AEM
Att.

CORRECT BELIEFS WHICH SHOULD BE HELD BY GENERAL ELECTRIC MANAGEMENT AT ALL LEVELS

- - - - - - - -

"Value Analysis encourages the use of specialty products and processes both inside and outside the Company to attain increased profits."

"Value Analysis is the scientific study of value designed to produce the same or greater quality through the elimination of non-functional cost."

"Value Analysis means the same or greater quality through elimination of non-functional cost."

"Value Analysis is a keystone organization. A crutch supports the lame. A keystone is a force on which associated things depend."

"The Value Analysis system is "search out the problem, then implement the solution'."

"Value Analysis is effective in areas where profit-making decisions must be made."

"Value Analysis was conceived through techniques designed to produce immediate savings--(blast - then refine, eliminate roadblocks, etc.)"

"Value Analysis is an organized system for producing equivalent or greater value through the elimination of non-functional cost."

"Value Analysis is really needed! Value Analysis is needed to assure that products are not neglected. Value Analysis is needed to assure 'profit products'."

"The purpose of Value Analysis is to stimulate each man to become more valuable to himself and to the company."

CDF/M

WRONG BELIEFS ABOUT THE VALUE ANALYSIS PROGRAM

. . . . . .

"Value Analysis promotes buying everything outside."

"Value Analysis is just another name for cost reduction activity."

"Value Analysis work means lower quality."

"Value Analysis is a crutch organization."

"The Value Analysis system is 'to do it wrong first, then change it'."

"Value Analysis is effective only in fringe areas and dark corners."

"Value Analysis is too long-range, we need savings this year."

"Value Analysis is an organized system for finding fault with existing functional work."

"Value Analysis is really needed only when products have been neglected."

"The purpose of Value Analysis is to 'needle' each man and keep him cost conscious."

LD Miles/M

SIX REASONS WHY LARGE AMOUNTS OF UNNECESSARY COSTS ARE IN PRODUCTS

1 - Lack of essential information at the time decisions were made, usually lack of knowledge that the information exists.

2 - Lack of the specific idea that would make possible production of the item for much lower cost.

3 - Decisions based upon the honest wrong beliefs which each responsible decision making person progressively accumulates.

4 - Decisions originally forced by temporary circumstances continue non-functioning unnecessary costs--years after the temporary circumstances have ended.

5 - Decisions based upon habits of the people involved, of the area involved, built into the drafting and methods systems, built into the machines and tooling, into supplier relationships, and others.

6 - Normal attitudes which support the continuation of existing habits and the acceptance of "roadblocks" continue a pre-disposition to always react to a set of circumstances in a pre-determined manner.

WRONG BELIEFS ABOUT THE VALUE ANALYSIS PROGRAM

"Value Analysis promotes buying everything outside."

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"Value Analysis work means lower quality."

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"The purpose of Value Analysis is to 'needle' each man and keep him cost conscious

LD Miles/M

GENERAL ELECTRIC

DEPT.—LOCATION—DATE

Value Service - Schenectady
November 7, 1960

COPIES:

SUBJECT

CIRCULATE:

Hurrah for our side. It was interesting for me to note in the publicity sheet of a conference a statement, which I have underlined, "No Papers Will Be Read."

L. D. Miles/M
Att,

~~Barlow~~
~~[illegible]~~
~~[illegible]~~
~~Evans~~
~~[illegible]~~
~~[illegible]~~
~~Prendergast~~
~~Young~~

the silence may be heard around the world

From the Laboratory

of

Thomas A. Edison

Orange, N. J., Nov. 27, 1926

Mr. W. L. R. Emmet
General Electric Company
1 RiverRoad
Schenectady, N. Y.

My dear Mr. Emmet:

I want to thank you for your letter of the 23rd, with its enclosure, and at the same time to extend my congratulations to you on the successful outcome of your ideas.

The worst is to come, for it takes about seven years to convert the average man to the acceptance of a solved problem.

With all good wishes to you, I remain

Yours very truly,

Thos. A. Edison

TAE:O

From the Laboratory

of

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TAE:O

Conventional Approach VS. Value Analysis Approach

First steps in usual systems which have as their purpose the securing of appropriate performance and appropriate costs are: To determine what functions are needed, then develpp alternative means for accomplishing them.

First steps in the Value Analysis System x for securing appropriate performance and appropriate costs are: To determine what functions are needed; divide them into "use" functions and "esteem" functions, then evaluate them in terms of dollars per year for each.

Next, the process of developing alternatives proceeds and any combination of ideas, materials and processes which does not meet the "evaluation" cost is promptly rejected. Thus, penetrating searches for best alternatives are always conducted exclusively in the areas of suitable cost, resulting in shorter design time, and the avoidance of products which perform appropriately but are too costly.

L. D. Miles
3-15-62

The Value Analysis Techniques System

The Value Analysis System for providing appropriate products at appropriate cost adds three key ingredients at the start of the process:

1. All considerations are function -- not part -- based.

2. All functions are subdivided into both "use" and "esteem".

3. Each of such functions is evaluated in dollars per year before any design or procurement work.

Thereafter, work in the development of alternatives proceeds only using such approaches as will meet the evaluation.

L. D. Miles
3-15-62

Value Analysis Technique System

The Value Analysis Technique System is a search, not a knowledge, oriented system. The user is taught how to search, why to search, what to search for, how to use it when he finds it and what benefits will accrue to him.

This is contrasted with the knowledge oriented system in which ideas, information and knowledge are brought, ream upon ream, into the individual's environment in the, unfortunately, fallacious belief that, surrounded by it, he will create good problem solutions from it.

L. D. Miles

3-15-62

SIX REASONS FOR LARGE AMOUNTS OF UNNECESSARY COSTS IN PRODUCTS

1 - Lack of essential information at the time decisions were made, usually lack of knowledge that the information exists.

2 - Lack of the specific idea that would make possible production of the item for much lower cost.

3 - Decisions based upon the honest wrong beliefs which each responsible decision-making person progressively accumulates.

4 - Decisions originally forced by temporary circumstances continue non-functioning unnecessary costs--years after the temporary circumstances have ended.

5 - Decisions based upon habits of the people involved, of the area involved, built into the drafting and methods systems, built into the machines and tooling, into supplier relationships, and others.

6 - Normal attitudes which support the continuation of existing habits and the acceptance of "roadblocks" continue a pre-disposition to always react to a set of circumstances in a pre-determined manner.

WHY THIS IS FOUND

From study of several hundred cases...

six reasons why large amounts of unnecessary costs are in products have been developed.

1 - lack of essential information at the time decisions were made, usually lack of knowledge that the information exists.
~~blanket stud~~ - Roll Acme thread

2 - lack of the specific idea that would make possible production of the item for much lower cost.
~~Refrigerator condensor~~ Coil mold -

3 - decisions based upon the honest wrong beliefs which each responsible decision-making person progressively accumulates
weld segment - ~~plastics brittle~~

4 - decisions originally forced by temporary circumstances continue non-functioning unnecessary costs--years after the temporary circumstances have ended.
filter circuit - disposal stud

5 - decisions based upon habits of the people involved, of the area involved, built into the drafting and methods systems, built into the machines and tooling, into supplier relationships, and others.
~~Motor ends~~ - cement

6 - normal attitudes which support the continuation of existing habits and the acceptance of "roadblocks" continue a pre-disposition to always react to a set of circumstances in a pre-determined manner.
~~brake bands~~ - Kirksite

WHY THIS IS FOUND

From study of several hundred cases...

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Who Worries Most About Value?

THE MAN from the advertising agency offered the same old dreary argument. He had 'phoned in for an explanation of value analysis for a client and then when he got it objected that it wasn't rightfully an activity of the purchasing department. It belonged, he said, more properly in design engineering.

This doubter was given, as many others have been, a careful explanation of the logic in having value analysis programs directed by purchasing. He was told that purchasing claimed no monopoly on value analysis; on the contrary, purchasing is the first to admit that any cost reduction program requires team effort by purchasing, engineering, production, sales and in most cases suppliers. It's purchasing's unique position and function in a company, our argument went, that makes it the logical choice to direct the program. And we explained the position. The ad man seemed satisfied.

The crusher came only a few hours later. Two more vociferous doubters were heard from. But this time they were neither ad men nor engineers. They were purchasing agents participating in an association forum meeting on value analysis and they said frankly they were at a loss for arguments to convince management (and themselves) that control of value analysis belonged in purchasing.

We thought up to now that the major concern was to resist the encroachments of those who would establish separate departments of "value engineering" and cut purchasing out of value analysis. (See the editorial, "The Claim Jumpers," p. 57, PURCHASING Magazine, Aug. 18, 1958.) It appears now that a primary need is for continuing education and indoctrination of our own people. If they are uncertain about their own responsibilities and doubtful about their own claims to the leading role in value analysis, who can blame the claim jumpers for moving in?

Their first lesson could well take the form of a simple question and answer period. These are the questions: Which is the most cost-reduction-oriented department in any company? Which department is in the most strategic position to analyze *all* the needs of *all* the company? Which department has the widest contacts with vendors and the greatest knowledge of what they have and what they can do to lower costs?

There's only one answer to all three. Anyone who knows it knows why value analysis belongs in purchasing.

Paul V. Farrell

COMMENTS OF MR. PAXTON IN BLDG. 32G FOLLOWING PRESENTATION OF "HOW VALUE STANDARDS ARE SET AND USED" AND "HOW THE VALUE CONTROL SYSTEM WORKS"

September 24, 1959

Comments of others have been generally omitted. To some of Mr. Paxton's comments have been added a few words to clearly speak their intended meaning.

"You haven't made it clear why you have no right to be critical of engineering."

"We have had Value Analysis techniques for several years. You have been telling about them and teaching about them. Consequently they have been available for use in eliminating the unnecessary cost going into new designs."

"The evaluation process you have shown us in this example could have been used by them before its design."

"My question is, 'Why didn't we have the lower cost alternates in the design the first time?'"

"Are you going to excuse engineering continuously for not using them?"

"Are you worried about your relationship with engineers?"

(Ross)
"Have we gotten away from our orderly review of new designs in the early stages in planning operation between engineering and manufacturing?"

(Paxton again)
"Let's accept the fact that we never had any orderly way of testing the designs to value. This is distinctly a contribution of these people."

"We have this advantage just as long as the rest of the world doesn't have Value Analysis techniques."

"What puzzles me, Larry, is the extent to which we are slowly threading this through into the organizations bit by bit."

L. D. Miles/M

COMMENTS OF MR. PAXTON IN BLDG. 32G FOLLOWING PRESENTATION OF "HOW VALUE STANDARDS ARE SET AND USED" AND "HOW THE VALUE CONTROL SYSTEM WORKS"

September 21, 1959

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"What puzzles me, Larry, is the extent to which we are slowly threading this through into the organizations bit by bit."

L. D. Miles M

"X" FILE

Managers are willing to send me, but want to use them as they see fit.

We are dealing with three factors...time, specification, and cost.

The leader is the master of change.

I am only motivated by "what I think is attainable."

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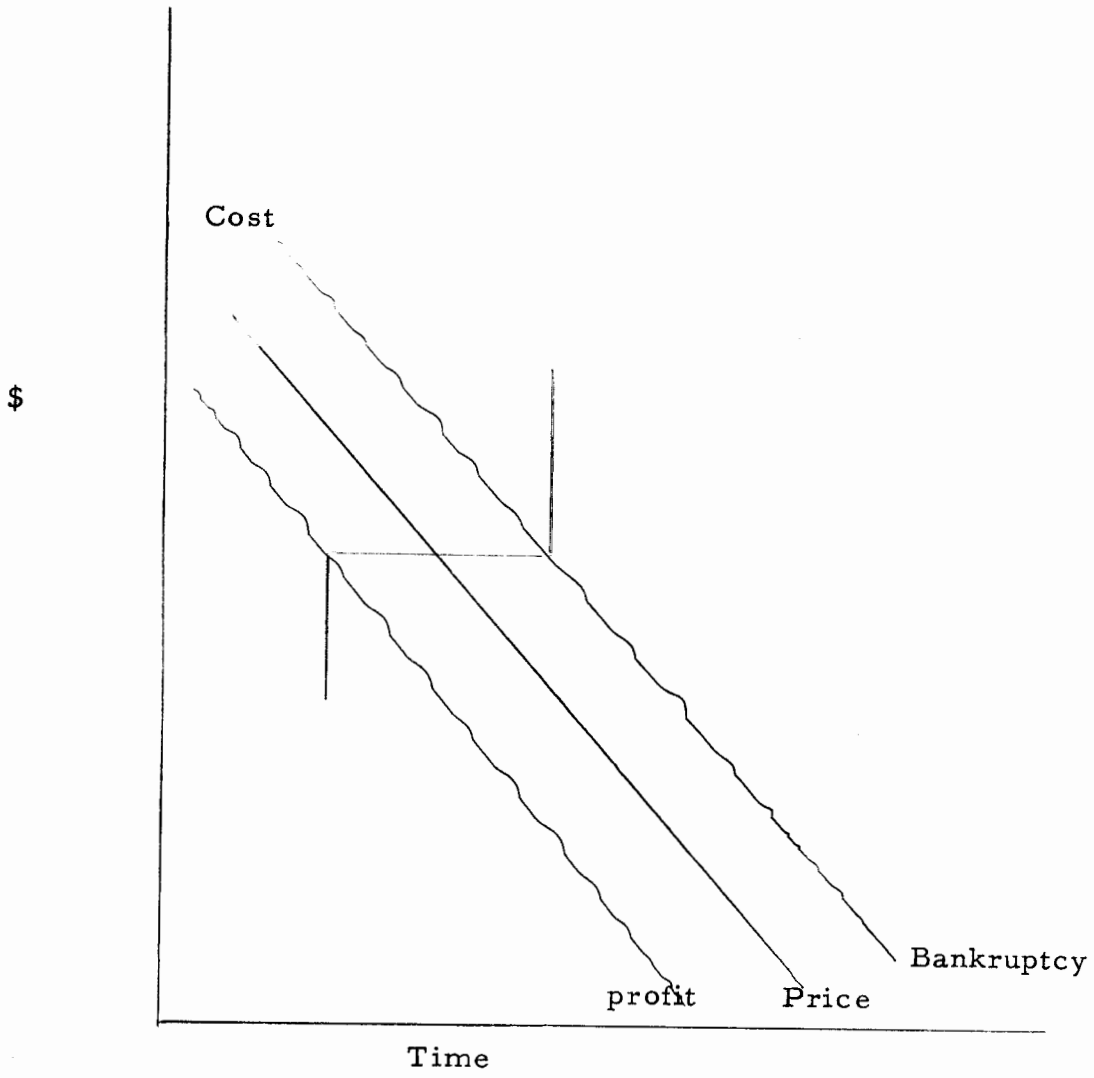

Used by McCune - 1962

FILE X

Profit is not added to price--it is taken from cost.

W. J. Campbell
Transformer
Empl. Rel. Mgr.

FILE "X"

Don't let overhead go "Scot-free" . Our convenient practice so prevalent in the company of listing labor and material, calling them prime cost and having them show on all lists together with the practice probably encouraged for reasons of "conservative" cost reduction reporting allows significant amounts of overhead to be absent from cost schedules which are used to provide emphasis. Therefore, we fall into the trap of allowing this overhead to avoid the hard emphasis it requires.

3/19/62

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3/19/62

x file

September 1, 1961
Vol. I, No. 21

Investment Letter

Including the "Sentinel Service" Stock Evaluation Rating

FLOCCINAUCINIHILIPILIFICATION

(Written from Fort Dix, New Jersey)

This word is believed to be the longest in the English language and the writer is sorely tempted not to define it in order to test the readers of this Letter to see if they are curious enough to find out what it means. Actually, it is relevant to the writer so far as his attitude towards the market is concerned, as its definition is "the habit of estimating as worthless". In fact, so frequent has this state of mind been set forth that he has been accused of crying wolf too often. Yet he was correct in 1957 and, again, when he said the Dow-Jones Industrial Average support level of 600 would be broken in 1960. Today he is in somewhat the same position, as he feels that a cautious approach should be taken toward the stock market. Timing is difficult, though not for a moment would the writer argue against the distinct possibility of higher stock prices. Nor would he deny the fact that money can be made by selecting the correct stocks. One has to go back to 1937 to find a market decline sufficiently severe that even the astute selector of equities would suffer. But today there are some rather appalling facts that investors have chosen to ignore that could result in a serious reversal in the stock market trend.

Investor confidence is currently at an all-time high -- even higher than 1929. Taking the Dow-Jones Industrial Averages as a yardstick, we can project 1961 earnings at probably not greater than $32 ($30 seems more reasonable to the writer) and we have the stock market selling at a price/earnings ratio of over 23 times. Even figuring $36 for 1962, highly improbable with the pressures against higher corporate profits by the Administration, we still have a 20-times price/earnings ratio. This seems like an expensive price to pay for the future.

What could reverse the trend of investor confidence? The writer has previously mentioned the Berlin crisis which is gradually building up to a series of periods of international tension. Too often such periods have meant government controls, higher taxes and uncertainties of the future, all of which have an unfavorable effect on stock prices. Sooner or later this cloud over Europe is likely to take a toll on investor confidence as it has done in the past -- in 1938,

a bi-weekly publication of
Hemphill, Noyes & Co.
MEMBERS NEW YORK STOCK EXCHANGE
8 HANOVER STREET · NEW YORK 4, N. Y.

"X" FILE

Dean Baker.....Boston University.....May 3, 1962

"Knowledge and technique do not come with neat boundaries."

"It is impossible to 'feed out knowledge' ".

"X" FILE

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"Knowledge and technique do not come with neat boundaries."

"It is impossible to 'feed out knowledge' ".

FILE "X"

Don't confuse enthusiasm with thinking.

Enthusiasm is essential for creativity.

"X" FILE

C. C. Leader

"Engineers always seem to have time to do it over when they have to."

"You can collect data to prove anything."

"Instead of telling functions to work together, provide programs where they must work together."

From "PAVILION OF WOMEN"

...

by Pearl Buck

Intelligence, more than poverty and riches, divides human beings and makes them friends or enemies. The stupid person fears and hates the intelligent person. Whatever the goodness of the intelligent man, he must also know that it will not win him love from one whose mind is less than his.

"X" FILE

In the period of 1840, Dr. James Esdaile, a surgeon, found that hypnotism was effective in eliminating pain, allowing surgical operations. He found amputations and other surgical work of the most serious type could be conducted without pain to the patients. He also found that recovery was much more rapid than when the patient was forced to endure the pain. He demonstrated this to some of his medical peers. He was ostracized, driven from the Association.

He went to India where he set up a hospital, taught a dozen native people to do the hypnotizing and, for a decade, performed surgery by this means while constantly inviting members of the medical profession, government bodies, and others to view it and examine it in every detail endeavoring to secure its acceptance by the medical group. In spite of all of this accumulated evidence, he continued to be the subject of suspicion and ridicule and the use of hypnosis, then called mesmerism, was not accepted. In 1850 he decided that the only way to force this humane improvement in medical practice was to take it to the public who, in turn, would force the medical profession to use it. Hence, the book titled, "Mesmerism in India" was written and copyrighted in 1850.

Of course, then came Freud about fifty years later who provided a reasonable explanation for what Esdaile had learned and practiced. Now, another fifty years later, the medical profession is starting to study in earnest the use of hypnotism. Thousands of doctors are now studying it.

In 1845 Horace Wells, a dentist in Boston, while attending an entertainment in which nitrous oxide was used to cause people to "act funny" noted that one of the persons received a serious and bloody blow on his shin, still said he couldn't feel it. He seized upon it as a means for alleviating great pain which then accompanied extractions, dental surgery, and the like. He found, to his great delight, that it was a boon to mankind and did greatly reduce the horrible distress and physical pain at extractions. In 1846 he engaged the amphitheater of the Massachusetts General Hospital and invited doctors who would be interested, to its capacity. He had a subject and was preparing for an extraction. The shout of "quack" issued from someone in the crowd and became a roar. He left the amphitheater a dejected figure feeling in disgrace and a few days later committed suicide because of his failure to convince physicians and dentists of the efficiency of nitrous oxide in minimizing pain.

X FILE

THE FALLACY OF ASSUMPTIONS

We assume that 2x2 photographic prints will cost substantially less than 4x6 or 8x10. Still, in a recent order of fifteen each...4x6 and 8x10 prints cost 60¢ each, while fifteen 2x2 prints from the same negative cost 75¢ EACH.

X FILE

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"X" FILE

Men from lower 20%
Get training - come back perform like top 20%

Have a little sample of what propose to do for a sample--believe will sell it.
X people on this would produce 10% of person on this did this
got to have bate and the bate a piece of what's selling"

Boucher

"X" FILE

A salesman can't design a sales system.

Perhaps we have scheduled our analytical and selective work

---more in areas of sensitive or critical performance
---now need to do same in areas of critical cost.

"Put low-grade talent into it--then you will not be embarrassed by or bothered by any need for making changes."

"X" FILE

Mind is an emergency resource used only when habit will not cope with the situation.

C. W. (Smoky) Doyle - Convair

"X" FILE

Managers are willing to send me, but want to use them as they see fit.

We are dealing with three factors...time, specification, and cost.

The leader is the master of change.

I am only motivated by "what I think is attainable."

"X" FILE

"Where the living am easy."

"...by skillful perversion, conversion, and interpretation of procedures...."

"...Set the level of mediocrity higher."

George Foucn

Jules

✓E POWERFUL MOTIVATORS THAT COST YOU NOTHING

FROM "Management Methods". . . January 1959

#1

Everyone Wants To Do The Right Thing

An employee will exert himself to do what he knows is right provided he feels the boss has faith in his motives.

#2

Everyone Wants To Find Better Ways of Doing Things

Any employee will respond to a request for help in solving a specific problem that concerns him.

#3

Everyone Wants To Do Things He Can Be Proud Of

#4

Everyone Wants To Belong To A Group That Achieves The Extraordinary

#5

Everyone Wants To Earn Respect and Recognition for What He Is And Does

FEELS

NEEDS
- MORE EARNINGS
- BETTER MEET COMPETITION
- TO USE THE NEW GOOD
- KEEP GOOD LABOR RELATIONS
- TO CONTINUE HIGH PRESTIGE OF SUCCESSFUL MEN.

COULD DO BY
- LOWER COSTS
- MORE SALES

TRUTHS - BELIEFS
- PRODUCTS NOW TIGHT DESIGNS
- MOST MANAGERS ARE INGENUS - CONSCIENTIOUS
- IT APPEARS THAT LOWER COSTS WOULD MEAN HIGH INVESTMENT

TAKE A RECENT GOOD DEVELOPMENT OF HIS MEN.

MOVE BACK 2 YRS. ?
HOW DID IT LOOK THEN
WHAT PRODUCED THE CHANGE
IDEA
TIME
COST

WHERE DID THE IDEAS COME FROM?

COULD THEY HAVE COME 2 YEARS SOONER?

WHAT OTHER LINES DO WE HAVE THAT NOW LOOK THE SAME AS THOSE DID THEN

HOW IMPORTANT WOULD IT BE IF ½-TIME &/OR COST CHANGING COULD BE CUT FROM THEM

WHAT IS IT?

SYSTEMATIC PROCESS THAT

1. REDUCES TIME AND COST OF PRODUCT IMPROVEMENTS
2. HELPS MEN NOW ON JOB TO USE MORE OF THEIR ABILITIES.
3. GROWS A WHOLE ORG. SO EA. CAN GROW.
4. IS IN THE NATURE OF A SYSTEM OF COACHING FOR A WINNING TEAM

[redacted]

BASIC FACTORS

TRUTH MEASURABLE
DIVIDE INTO SOLVABLE
PROBLEMS

CONCENTRATE THOUGHT,
KNOWLEDGE, SEARCH
AND CREATIVITY ~~AT~~
WHERE NEEDED TO
ELIMINATE SPECIFIC
"BLOCKING" SITUATIONS

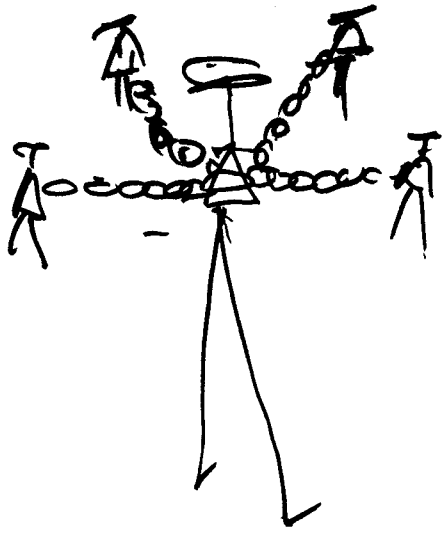
BASE ALL THINKING AND
WORK ON <u>FUNCTION</u>
WHAT "FUNCTION" DOES
THE COST OWNER WANT.
USE
ASTHETIC

HAS SPECIAL APPROACHES &
TECHNIQUES TO ACCOMPLISH
THE ABOVE.

[redacted]

OBJECTIVE

TO GIVE HIM SOME GUIDES
MORE INSIGHT
SOME MEASURES



HOW

[redacted]

How can we know when a mgr stops growing

Is it expected that he will continuously grow?

Should - early in career one learn and expect to change jobs when he stops growing -

Is ACC at the same rate of growth? what is right rate of growth of ACC?

JOB I CAME HERE FOR

NOT DONE
FINISHED

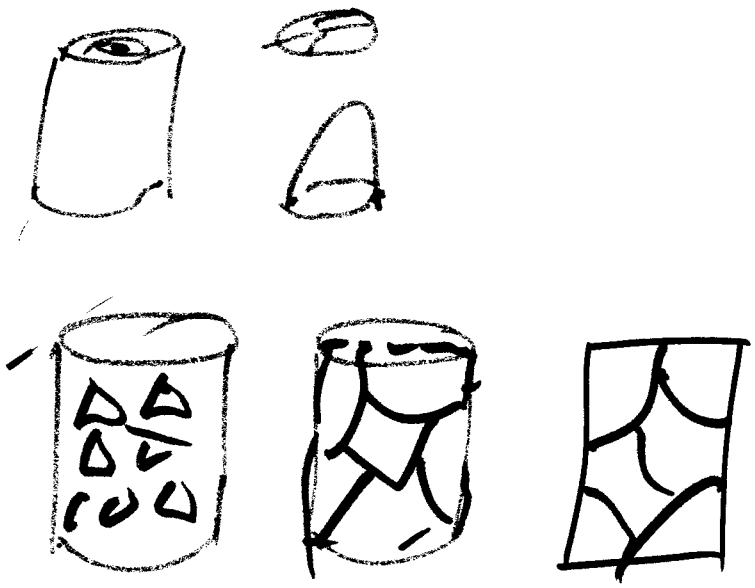
—

JOHN - AN ENORMOUS JOB
FOR 9 MO

—

GROWTH IS NORMAL
WHEN GROWTH STOPS
STAGNATION BEGINS

—

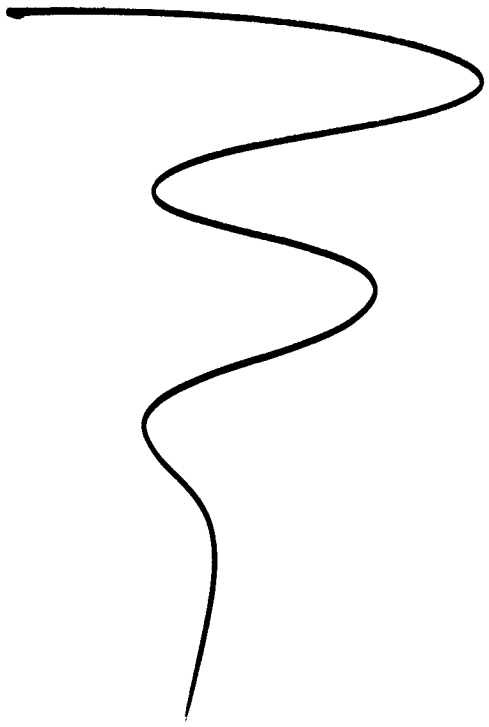


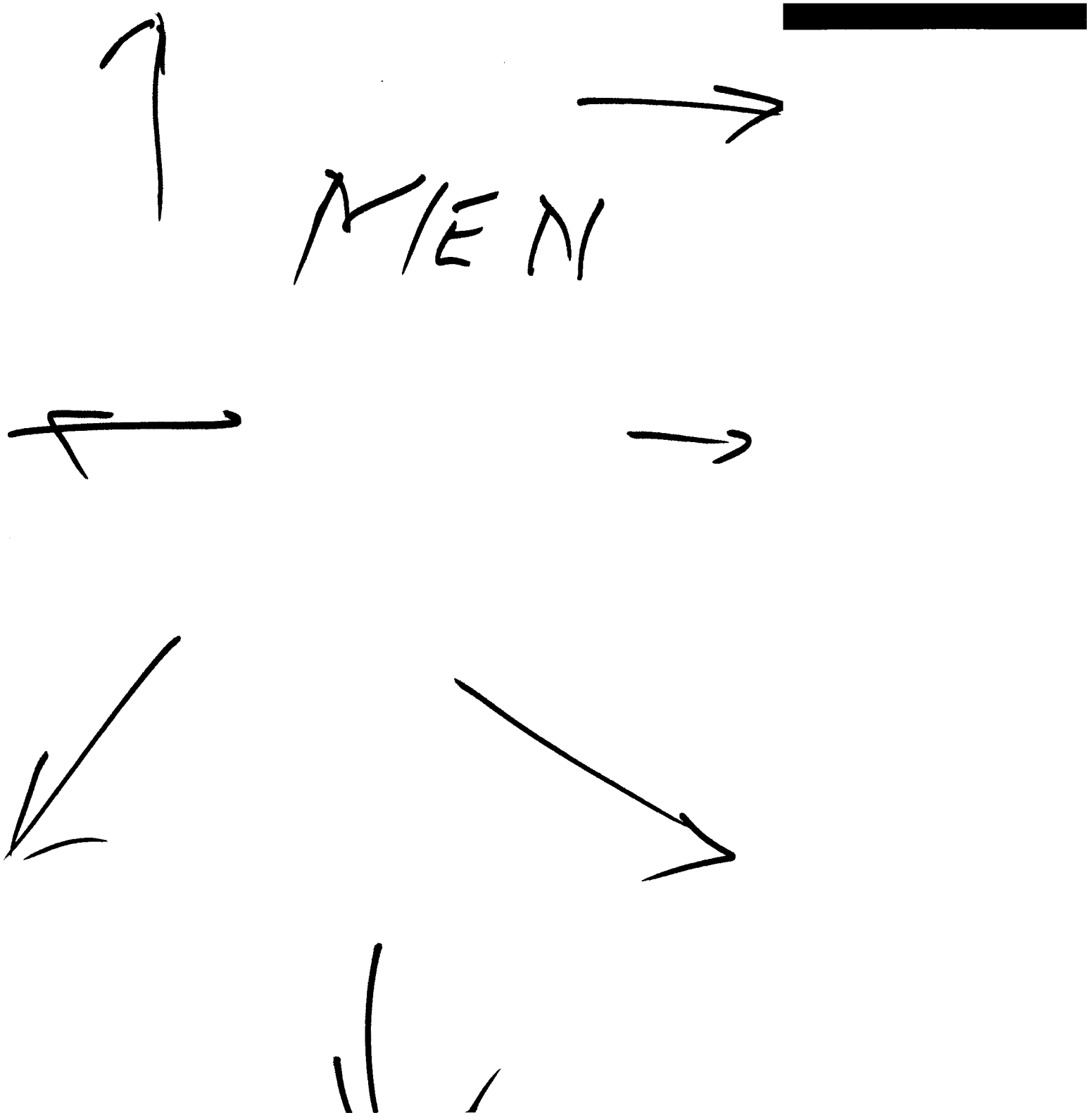
[redacted]

MANAGER & MGN -
LIKE 2 SIDES OF PAPER
ONE CANNOT GROW
FAR W/O OTHER.

[redacted]

MANAGER




MEN

JOB PARTLY DONE

JAN EST MEAS

TASK

SKILL IN FUNCTION
" " SOLVING
" " PEOPLE

Some Good men trained
not yet experienced
My OBJECTIVE MERGE -
To see ASEAN with