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On Straight Thinking

LIFE is full of irritations. Some of them are little things, like a bad-tasting cigarette or a crowd blocking a doorway. Others, like misunderstanding one another and not being able to explain ourselves clearly, are more serious and take greater toll of our good nature. Our tension mounts, our humour subsides, and first thing we know we are smothered under a pile of incidents which, perhaps unimportant in themselves, have the power to destroy our enjoyment of life.

Thinking about our personality and social problems will not by itself rid us of our worries and fears, but thinking *straight* about problems, hopes and plans will make us surer of ourselves, increase our confidence, and thereby reduce both worry and fear.

Straight thinking doesn't depend entirely upon logic or anything like that, but it does demand that we take time to think. We don't want too much stopping to think, of course. That would denude us of ideas, vitality, and individuality. We need the golden mean between too much concentration on thought and too little thinking about things.

There are fallacies in thinking of which we must beware. It is not always the truth of basic ideas that counts toward accuracy; we must also take into account the way they are put together. If we say "The moon is made of green cheese" we are dealing with two realities — the moon and green cheese — but we put them together falsely, and our judgment is wrong.

Logic is the science given over to describing forms of thought which we need to use if we are to reason validly. It is not a difficult subject, but the words and names it employs are likely to frighten people away.

The principles of thinking

There are two ways of making a decision. We may make observations, weigh the possibilities, and decide what to do or say. That is the rational way. Or we may decide without conscious thinking, as we so often do about the little things in life.

We should be in a continual turmoil if we had to think consciously and by rule about every little thing we did during the day. It would be harrowing, we

should lose a great deal of our spontaneity, it would become harder and harder to accomplish anything, and we should be continually getting lost in by-ways. The person who is indecisive about little things is like puss chasing her tail, the centre of a complex drama but not getting anywhere.

Thinking is not easy. Some of us imagine that we are thinking when we are only sitting at ease watching a memory movie. Reverie can be deceptive. We may sit down to ponder a problem, and with a corner of one eye on a corner of the truth we may spend an hour wandering without profit amid things that interest us but are not important to the question at hand.

Logic

Logic is a study that extends over a lifetime. Indeed, what we have today of logical reasoning is the outcome of many lifetimes devoted to study, but all that we ordinary people — business people, teachers, club workers, members of societies, and everyone who is in daily contact with others — all we need is to know and apply a few elementary rules.

Here are four principles for testing our thinking:

(1) The principle of *Identity*. Everything is what it is (therefore, you say to yourself or to your argumentative friend, it is no good raising a quibble on this score).

(2) The principle of *Contradiction*. Contradictory judgments cannot both be true (so you do not entertain the thought or try to put across the idea that something can both be and not be).

(3) The principle of *Excluded Middle*. Everything must either be or not be: it is impossible to mention anything together with a quality or circumstance without allowing that the quality or circumstance either belongs to the thing or does not. Your answer must be "Yes" or "No". (This is a rule that will keep us from trying to ride two horses in different directions at the same time.)

(4) The principle of *Sufficient Reason*. There is sufficient reason for everything. (So you tell yourself

when something perversely refuses to turn out the way you want it to: nothing happens without a reason why it should be so rather than otherwise.) Some logicians think this principle has no place in logical doctrine, but it is a very useful tool to the business person, and, indeed, to all of us who find ourselves wishing to think straight.

Using logic will not give us the truth in answer to our questions, but it will help us to reach the truth. To learn that truth can be reached only by straight thinking, and that sometimes the truth we find may challenge our cherished beliefs, is the beginning of a philosophy that can make us great.

About common sense

The processes of thinking may appear cold and intellectual, whereas we know that life calls for decisions and actions in which emotions and imagination play a part. Well, many of these decisions and actions are based, we are accustomed to boasting, on "common sense", and logical thinking is merely the science of common sense. The man of eminent common sense, the woman of good judgment, are persons whose minds think clearly and are not influenced by prejudice, narrow views, pigheadedness and false values.

This is a virtue we may call "seeing things whole." To think straight, a person's observation must include the unwelcome as well as the welcome facts; he must be able to separate the important from the unimportant; he must take note of uninteresting facts that have a bearing on the question, and not only of the facts which have intrinsic interest for him. The person who wishes to think effectively cannot afford to wear blinkers.

Nor can the straight-thinking person fixate on beliefs, however well-established they seem, and refuse to consider new or different facts that might affect them.

Some practical helps

It may seem silly to talk about "system" in connection with thinking. Many of us have been accustomed to thinking about thinking as some vagrant faculty that sometimes surprises us by being right. The point of this *Monthly Letter* is that while a method does not supply thought and inspiration, it does guide them, and can make our thinking come out right more often.

One elementary rule for successful thinking may be adapted from the Boy Scout trick for finding a lost object. You decide approximately where the object may be, then start at that point and walk in ever-widening circles. The object may not be found precisely in the centre — if it were always there it would not be lost — but the system is better in its results than casting far and wide in erratic criss-crossing lines.

Almost, as it were, growing out of this is another

guide: don't try to perceive the whole of a complex situation at once. Pay careful attention to details. Chase away the moths of distraction, which can so quickly and stealthily riddle our thinking with holes.

Let your imagination have free play within the bounds you have set. This is one of the important requirements of an executive: to allow his imagination, centred upon a problem, to play with all the knowledge it has accumulated about this or closely related problems. It is by combination of the old and the new, fused by contemplation, that the creation of solutions is brought about.

Often, in these *Letters*, we have urged the value of writing things down, and nowhere else is this device so prolific of gratification as in thinking.

Ideas and conceptions which seem utterly chaotic when circling and colliding in the mind become clear and separated into orbits and systems and galaxies when written or sketched on paper. There is in the very act of taking a pencil in hand something imperative which the most wandering mind seldom resists.

Writing things down brings us face to face with facts, and gives us the chance to study them minutely. It shows us new relationships between facts. And it gives us the opportunity to go back and check the correctness of our thinking. By its clarity, it tends to eliminate wishful thinking.

Reasoning from facts

The choice of facts from which to proceed often presents a difficult problem. If we keep our purpose in mind, and select the facts which have the most vital bearing on it, we shall not go far wrong.

Facts are the material of thinking, and there are four principal sources: our direct observation; our memories; reports provided by other persons, and self-evident truths.

Having gathered and stored facts, and decided what facts are useful and true in the case under thought, we need to put them together in a form that will give a valid conclusion. One of the best ways is to throw statements containing the facts into a syllogism, which is merely an argument consisting of three propositions. The first two propositions stake known facts, the premises, and the third is the conclusion. The most common example in teaching logic is this:

All men are mortal
Jones is a man
Jones is mortal.

Here is an argument in which a general statement is made (All *Men* are mortal), then a particular statement (Jones is a *Man*) which brings Jones within the wide statement, and this leads to the conclusion (Jones is mortal).

It must be noted that the syllogism does not *make* truth, but demonstrates it. The premises must be correct. If the facts stated in the premises are correct, and if the syllogism conforms to the rules, then

accuracy of the conclusion is assured. (A little Pelican book, *Thinking to Some Purpose*, by L. Susan Stebbing, covers the principles and practices of logic in an understandable way, and provides us with all the usable knowledge of this subject we need for everyday affairs.)

Intuition and experience

There are many persons who pooh-pooh logic. They rely upon intuition, as did Lucetta in Shakespeare's *The Two Gentlemen of Verona*: "I have no other but a woman's reason; I think him so, because I think him so."

Intuition has its big and important place in life. There are certain truths which the human mind perceives without effort. Our sciences, our philosophy, and our business are built upon truths obtained through intuition. Science calls such truths "axioms", philosophy calls them "innate ideas", and business people call them "horse-sense".

Most persons of responsibility are more readily convinced by experience than by any other means. Life is a succession of lessons enforced by punishment for mistakes and rewarded by the good outcome of doing things right. To link these experiences in meaningful ways gives us satisfaction, because of these things we are *certain*.

But we need not confine ourselves to our own experiences. It would be a dreadful prospect if every child entering the world had to wait and learn by experience the burning quality of fire, how to catch and cook his dinner, and that he can't successfully tackle a lion unarmed.

The man who depends upon his own experiences has relatively few materials to work with. That is why technical books and trade papers are used — to make available to us knowledge of the techniques and practices used effectively by others.

Cause and effect

Taking the experiences we ourselves have had, and the experiences of others, we may analyse them to determine what made them turn out as they did. By that means we find new combinations, introduce new factors, and perhaps discover new applications.

In doing this we shall find that not every result is truly ascribed to the commonly-thought-of cause. Perhaps the most usual fault in our reasoning is the assignment of the wrong cause to an observed happening.

A few hints about the pitfalls may be of service. It is wise to look for a third factor in every cause-and-effect relationship. The apparent cause and the apparent effect may be moving together because some other event is bearing on both alike. This is a precaution particularly necessary in studying business statistics,

comparing the results in two departments during a year's operations, or relating, let us say, the rise and fall of the money supply in Canada to that in the United States.

We know very little about real causes. Under certain conditions, we have observed, certain events are always followed by certain others. We need to guard against thinking in a routine way that because this came after that, then this is because of that. The same result may have several antecedents. For example, it may be true that if there are too many cooks the broth will be spoiled, but it is also true that spoiled broth may result from the inefficiency of one cook.

Much confusion may be avoided by being definite about the things we are discussing. "Define your terms" is good logical doctrine — and it is fully as useful to the business executive as to the philosopher. But definition is difficult, it is a severe test of mental skill, and it is often looked upon as tiresome.

Definition must bring out a distinguishing attribute of the notion we are defining, and it must be clearer than the notion we are defining. Mr. Friar gave irritable confirmation of the difficulty when he said in Arnold Bennett's *Dream of Destiny*: "You've found me out. You've asked me for a definition. All you subtle people do that. I can't define. I never could. I can only state."

From definition to judgment

After gathering facts, observing happenings, recalling experiences of ourselves or of others, and defining both our objective and the terms we are using we proceed to reason things out.

Two ways of doing this are by induction and deduction. Induction is arguing that what is true of an individual must be true of the class to which it belongs; deduction is arguing that what is true of a class must be true of an individual in that class. Most of our knowledge is obtained by a combination of the two.

At the point to which we have reasoned by either induction or deduction we frame a hypothesis, which is merely an opinion we hold tentatively while we test it. We assume that such-and-such follows as a result of so-and-so, and that when similar conditions exist in future, the same thing will happen. If we find that our hypothesis is correct, so far as observations which we consider adequate go, and that such-and-such never happens except under the conditions that we have decided are necessary, we will conclude that we have reached the truth. Even if the hypothesis falls down, the act of framing and testing it has cleared the ground, and we have fewer possibilities to cover in our next attempt to find the truth.

The danger to be avoided in this kind of thinking is that of forming an unbreakable attachment for a pet hypothesis, so that divorce from it seems heart-breaking. Methods of thinking are not subject to

sentimental feeling: they are devices which we use as a means to acquiring truth and controlling facts.

When we frame propositions, which can be the first tests of hypotheses as well as stepping-stones to truths derived from hypotheses, we take a big practical step toward thinking clearly. There are four forms of proposition which we use in deductive reasoning, and it will be seen that when we have fitted our thought into asserting something in one or other of these forms we have eliminated a great deal of woolly thinking. The propositions are named "A E I O", with the following meanings:

- A . . . the universal affirmative (All A's are X's)
- E . . . the universal negative (No A is an X)
- I . . . the partial affirmative (Some A's are X's)
- O . . . the partial negative (Some A's are not X's)

The proposition lays before our own minds or the minds of others the result of an act of judgment, in which we have brought together two ideas. It is always a choice between two and only two alternatives at any given time.

Enemies of thinking

The first enemy of constructive thinking is purposeless reverie, or day-dreaming. This is a kind of intellectual vagrancy indulged in by surface thinkers, who are the only unprogressive people in the world.

Next is prejudice, which closes the door to truth and knowledge. One mark of an educated person is the degree of his open-mindedness. A common sort of prejudiced thinking is to hold an opinion more strongly than the evidence warrants. Some prejudices are caused by emotional bias, under the influence of which we select incidents favourable to them, fail to notice anything that tells against them, and then proceed to use our favourable cases as "proof".

Sometimes we jump to conclusions. We have a likeable idea in our minds, and we assume that it is true, then proceed to use it as a foundation upon which to base our reasoning toward that very conclusion.

Then there are faults due to a mistake in reasoning. One common mistake is to argue from an unqualified statement to a statement about a special case: "democratic institutions are the best, therefore they must work well in India."

We shall find, as we progress in thinking straight, the importance of words. They are the very instrument of thinking; without them we should be as ignorant as the beasts of the field. Words provide us with nets in which we catch thoughts and ideas; they are the material in which we encase our thinking to build ideals. Words are the only means we have of sharing our ideas.

We should try to understand clearly the words we use in our own thinking, and to convey to our hearers what precisely it is that we are using these words to say.

A few bonus virtues

Straight thinking is good for us because of the many dividends it pays. It helps to release our tensions, to heal our disappointments, to cure our indecision and to increase our courage.

Tensions are released when they find an outlet, and what better outlet could there be for the pent-up forces within us than thinking some problem through to its solution? Even to go back, at the day's end, to some decision made, and analyse it in the light of a few elementary rules of thought, may ease our minds by confirming our judgment, or, if calm thought dictates otherwise, we may proceed to correct the mistaken decision, with consequent peace of mind.

Disappointment, coming upon us like twinges of sudden pain, can be tackled by our thought. So long as we can think, there is no need to flutter like a wounded bird. Disappointment can be wholesome medicine if out of it we learn the possibilities for good that we have in our minds.

Meditative thinking

Most of us, while agreeing that we should be better able to think if we used some of the knowledge glanced at in this *Letter*, will say that we have not time. Pages could be written about the fallacy in this thought: about the *extra* time it takes to fix up mistakes made because of shallow or too-fast thinking: about the emotional disturbances brought on by trying to think of too many things in the course of a day's work; about the physical breakdowns caused by overloaded brains forcing a slow-down.

When we learn to think with some degree of order about the everyday affairs of our lives, we shall be in the happy position of having time to think about things that really gratify and relax us.

All through the day there is no solitude; always the door opens and someone comes in, but in our own minds there is a chance to be alone. We can have the same satisfying feeling as if, when on a hike, we walk a hundred steps away from the road, into a wood or a glen. By the mere being in an atmosphere of serenity our nature grows porous to gracious thoughts, and in silent conversation with ourselves we rebuild exhausted stores of thought and contemplation.

There are times when we may not wish to be alone with our thoughts. We may wish to tell our thoughts, and pick up for meditation the thoughts of others. The solitude that is necessary to good thinkers is not isolation, but separation from the stress and turmoil of the man-made world. It is a good and a health-giving thing to have a friend with whom to think and talk.

They are lucky persons in whom the sense of wonder and delight are kept forever fresh and who have friends with whom to share spiritual thoughts. They can never be poor in the things that matter most. They are people in whom the art of thinking is always making the world to be born again.