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CHAPTER - I

COMMON SENSE

In day-to-day reality, we tend to express opinions on others - we observe how one walks, how one sits, how one speaks, how one thinks - and form our opinions. These value-judgements of others are the basis of our relationships with them. We describe a man as honest or dishonest, responsible or irresponsible, generous or frugal, grateful or ungrateful, intelligent or unintelligent, loyal, dependable or undependable, worker or shirker, sincere or insincere - and thus we try to generally classify human beings in the good and the bad categories.

Much of what we say about others depends on what we think of them, which in turn mainly means what we think of their 'thinking'.

Men are generally classified in three main categories based on their thinking abilities :-

(A) Men who cannot think correctly, coherently or who think incorrectly and foolishly.

(B) Men who use their common sense - their practical intelligence and manage to survive in the day-to-day world.

(C) Men who think cogently and logically and manage to prevail over others.

In our world, ignorance and illiteracy are so wide-spread that most human beings fall under the (A) category. There is an erroneous impression that a majority falls under the (B) category of men possessing common sense, but in actuality people in (B) category are also in a minority, as it is most aptly said, "Common sense is so very uncommon". Further, people belonging to the (C) category constitute indeed a miniscule of a minority. In other words, in a group of 100, you will get hardly a handful who take the trouble of thinking logically.

We spend the best part of our waking lives thinking and therefore we must ensure that we think in the correct manner, coming to valid and dependable conclusions. Many think loosely, unreliably, coming to unwarranted conclusions. Thinking logically is a serious, painstaking exercise and therefore many like to avoid the strain of such an exercise. Most men tend to avoid labour, work, strain or striving in any form and this happens to be the reason why there is so much in-built distaste for logical reasoning. One way to spark off your thinking is to begin by challenging statements and stories which you have heard or read with the help of simple interrogations - How ? When ? Why ? Who ? Where ? What ? Pose these questions before you when you come across any situation which you consider vague, august or inscrutable and then try to answer these questions yourself and don't rest satisfied until you see the light at the end of the tunnel.

Three centuries ago, William Camden wrote, "To think is not expensive. It needs no apparatus, no personnel, no premises. The only equipment is one's head, the gears and pinions of the brain and the lever that sets them turning. Everyone can be a thinker .... Thoughts are free from toll ...."

Yes, we have to pay no excise for manufacturing thoughts and yet comparatively, a few like to think. Even in an office, when yo[redacted]dvise your collegues to think and act, they more often than not, act without thinking and make a mess of the office and of themselves. Be that as it may, if you are determined to improve your understanding, you must do much thinking.

Thinking processes which are untrustworthy and which lead to invalid conclusions are known as fallacies. Some of the common fallacies are indicated in what follows :

Much reasoning takes the form of "drawing an analogy". Neeta committed suicide after her husband filed a suit for divorce. A few years after we hear that Sheela's husband has filed a suit for divorce and some of us think that Sheela too must commit suicide. Beware of such reasoning in day-to-day life. Here is one more example, A man phones his doctor and tells him that his wife is suffering from tonsils and that they should be removed. The doctor is surprised. 'But I have removed your wife's tonsils only two years back', says he. 'Have you ever heard of a woman having two tonsils ?' he asks. "May be not", retorts the man, "but have you never heard of a man having a second wife ?".

Similar situations do not necessarily lead to similar results nor do all people react in similar ways or in the same way to every situation.

There is this fallacy of generalisation or anecdotology. We read a newspaper report that a boy who did not appear for the examination was declared successful by the SSC Board and for the rest of our life, we keep on repeating that the SSC Board passes those who do not take their tests. We all love to make sweeping statements which are based on limited experience. A man who spent a few hours during his stop-over in London with the English-speaking people comes back and announces that "Europeans are a quarrelsome lot", just because he happened to witness an altercation at the airport between two Europeans. We must remember the proverb that one swallow does not make a summer.

The above is arguing from the particular to the general. The reverse process may also lead to similar errors. What is true of great many things and is a general rule is not necessarily true of every case. The British love their monarch does not mean that no man in Britain hates the monarch or monarchy.

Another fallacy consists in taking for granted the very thing to be proved. This is known as begging the question. The most common form of this fallacy emerges when we stop explaining something by giving it just another name. For example, when a child asks the father why hot water caused burns, the father very wisely explains that the water has been 'boiled' just now or when we want to understand what it is that helps us to see through a glass, someone explains that glass is 'transparent'.

To think that a statement or a philosophy is necessarily untrue because the people who preach it are dishonest and undependable is yet another form of illogical reasoning. This known as argumentum ad vulgam.

A favourable response from the crowd is no proof that the speaker is right for it is comparatively easy to play upon the emotions of a large audience. It is equally fallacious to quote as proof the experience of other people, countries or of other great and known men. The greatest enemy of clear thinking is emotion. When we are emotionally committed, we tend to be gullible and we undermine facts and exaggerate irrelevant things because facts are many times cruel and irreverent.

There are then the fallacies of composition and division. An argument becomes invalid when what is true of two or more things independently and individually is asserted to be true of all of them together or collectively. e.g.

Two and five are odd and even.

Two and five make seven.

Therefore, seven is odd and even.

The conclusion is obviously incorrect because what is true of parts is taken to be true of the whole. Similarly, in the fallacy of division, the erroneous thinking goes to assert what is true of the whole is also true of the parts. e.g.

Seven is an odd number.

Five and two make seven.

Therefore, five and two are odd numbers.

The above conclusion stands no scrutiny.

The fallacy of amphiboly and equivocation bring in more humorous situations and ludicrous conclusions e.g. An astrologer says that it is certain that in the war between Iraq and Iran, if anyone wins, a great nation will be destroyed. This astrologer has got to be proved right because either Iraq could be destroyed or Iran will be destroyed. The astrologer has very cleverly avoided to name the nation and his prediction suffered from amphiboly, that is, ambiguity leading to two meanings. In the fallacy of equivocation, a similar ridiculous situation emerges. See the following example :

Old men are wiser than young men.

The 13th century men are 'old men'.

Therefore, the 13th century men were wiser.

In the above example, the term 'old men' has been ambiguously used and it does not mean the same in its two uses in the quotation and hence the conclusion is fallacious.

Similar results follow in the fallacy of accent and the fallacy of accident. Take the example,

You need not respect strangers.

The Governor is a stranger.

Therefore, you need not respect the Governor.

Here is a fallacy of accent on the word 'stranger'. The fallacy of accident on the other hand occurs when a proposition is used in modified circumstances and conditions and it leads to strange conclusions. e.g.

(a) To kill a man is a heinous crime.

The murderer is a man.

Therefore to kill a murderer is a heinous crime.

(b) To call you a gentleman is speaking the truth. All

Europeans are gentlemen.

Therefore, to call you a European is to speak the truth.

There is the fallacy of arguing beside the point. When a judge asked why the man should not be punished for adultery, the lawyer replied that the rulers are also guilty of adultery and that they are not punished. This is known as ignoratio elaenchi. There is also the fallacy of non-causa, pro-causa, that is
, the fallacy of false cause, e.g. the cat crossed the car and the car met with an accident. Therefore, to say that the cat crossed the car was inauspicious is a case of false cause.

EGO FACTOR -

It does not necessarily require any rigorous training in logic to locate a fallacy in thinking. When a politician or a philosopher delivers a speech, the listeners are continuously reflecting on his statements. Similar is the case when two friends argue a point with all vehemence at their command. We are however surprised when on a number of times, the speaker tries to justify or rationalise his patently fallacious statement or argument. This happens because of human nature, which very often realises the error but refuses to admit it. Many people continue to stay in a particular set of thought or action which is known to them to be wrong just because their 'ego' does not permit them to admit the error, logical thinking thus gets sabotaged because of such personality factors.

CHAPTER - II

LOGICAL REASONING

Some logicians define logic as a study of valid arguments. Others define it as a study of a consistent set of beliefs. As Professor Wilfrid Hodges puts it "Logic is about consistency but not about all types of consistency. For example, if a man supports *Arsenal one day and Spurs the next, then he is fickle, but not necessarily illogical. If the legal system makes divorce easy for the rich but hard and humiliating for the poor, then it is unjust, not illogical. If a woman slaps her child for telling lies and then tells lies herself, she may be two-faced but not necessarily illogical."

The type of consistency which concerns logicians is not loyalty or justice or sincerity; it is compatibility of beliefs. A set of beliefs is consistent if the beliefs are compatible with each other. A set of beliefs is called consistent if these beliefs could all be true together in some possible situation. The set of beliefs is called inconsistent if there is no possible situation in which all the beliefs are true.

Logic is a science which deals with the canons and criteria of [redacted] of inferences and demonstrations. It is the science of normative formal principles of reasoning. According to John Stuart Mill, logic is not a science of beliefs but the science of proof. The word logic comes from the Greek root 'logus'. In Greek, 'logus' means a word which connotes expression of thought in language. Logic is then a science of thoughts expressed in language. Thinking continues on an on-going basis in our minds. With the help of our senses we receive impressions or information, we discern things, we acquire knowledge, we become aware of our environment; this is known as the process of Perception.

After we perceive and conceive, we try to judge and come to form some opinion. For this, we weigh, compare and decide. This is known as the process of Judgement.

Perception, Conception and Judgement are the three stages of general reasoning. Now in day-to-day situations, just because we go through these three stages of reasoning, it does not follow that our inferences or conclusions will be valid. Take for example, a boy and a girl are seen sitting together on a bench in a public park. We see the spectacle with our senses, we imagine and try to understand their relationship with the help of our mind and then we try to come to a judgement about their relationship.

And yet the conclusion that we arrive at may be differently drawn by different persons. One may conclude that these are two lovers sitting in the garden; the other may infer that a brother and sister are discussing a delicate quarrel between their parents; the third may be emphatic that it is an accidental meet of two college friends. And thus after passing through the stages of perception, conception and judgement, we may not arrive at any correct conclusion.

Logical Reasoning is the process that disciplines our mind to arrive at a sure destination, namely a valid conclusion. It is a journey from the known to the unknown. Common sense reasoning may help us but unless we follow the formal rules of logic, the conclusions may not be valid. Logical Reasoning is a search for valid inferences and conclusions according to rules of formal logic. Here we must understand the distinction between the [redacted]eaning of the word 'valid' and the word 'true'. What is valid need not be necessarily true and what is true need not be necessarily valid.

e.g. All men are mortal.

Ramesh is a man.

Conclusion: Ramesh is mortal.

The above conclusion 'Ramesh is mortal' is both valid and true. When we say a conclusion is true, it refers to its agreement with our reality, our world, our knowledge and our information.

Take another example,

All men are immortal.

Ramesh is a man.

Conclusion: Ramesh is immortal.

The above conclusion is valid because it is drawn according to rules of reasoning. But it is untrue in as much as in our world where we know none to be immortal, Ramesh cannot be immortal.

Take another example,

All men are immortal.

Ramesh is a man.

Conclusion: Ramesh is mortal.

In this case, the conclusion 'Ramesh is mortal' is true because everyone in our world is mortal, but in the logical set in which we were told 'All men are immortal', the conclusion 'Ramesh is mortal' is invalid, because it does not agree with the basic premise and thus the conclusion was not drawn according to the rules of logical reasoning.

Thus validity and truth of an inference or conclusion may coincide or conflict. What we must understand is that we are required to determine the validity and not the truth of the statement, which is drawn as inference or conclusion. Most candidates are not inclined to accept untrue conclusions as valid conclusions. They get overwhelmed and oppressed by their knowledge of our world, our reality. This temptation must be avoided at all costs. It must be remembered that logic is a science of form and not a science of fact. Take for example, the following sentences :

Some tables are chairs.

All fans are cupboards.

All nurses are men.

All doctors are engineers.

A few serpents are elephants.

Some glasses are elephants.

Some tubelights are streams.

All girls are trees.

Some boys are horses.

Some flowers are refrigerators.

All the above sentences are required to be assumed as true premises in a problem on Logical Reasoning. However, when you see sentences such as the above, the first reaction is that they are downright silly; they are not all true. Your reference is to our world in which none of the above situations are present or familiar. While working with logical exercises, therefore, you must be able to work in a vacuum of references and value-judgements. You must not allow your information and your sense of the good and the evil; the true and untrue; the moral and immoral to interfere with the process of reasoning. FORM ALONE MATTERS IN LOGIC.