

## PART III.

### CHAPTERS I-III.

#### 1. What kind of influence have we here?

The author of the Iliad was unacquainted with writing.  
Homer was the author of the Iliad.  
∴ Homer was unacquainted with writing.

#### 2. Give the logical opposites of the following propositions--

- (1) Knowledge is never useless.
- (2) All Europeans are civilised.
- (3) Some monks are not illiterate.
- (4) Happy is the man that findeth wisdom.
- (5) No material substances are devoid of weight.
- (6) Every mistake is not culpable.
- (7) Some Irishmen are phlegmatic.

#### 3. Granting the truth of the following propositions, what other propositions can be inferred by opposition to be true or false?

- (1) Men of science are often mistaken.
- (2) He can't be wrong, whose life is in the right.
- (3) Sir Walter Scott was the author of Waverley.
- (4) The soul that sinneth it shall die.
- (5) All women are not vain.

#### 4. Granting the falsity of the following propositions, what other propositions can be inferred by opposition to be true or false?--

- (1) Some men are not mortal.

- (2) Air has no weight.
- (3) All actors are improper characters.
- (4) None but dead languages are worth studying.
- (5) Some elements are compound.

#### CHAPTER IV.

1. Give, as far as possible, the logical converse of each of the following propositions--

- (1) Energy commands success.
- (2) Mortals cannot be happy.
- (3) There are mistakes which are criminal.
- (4) All's well that ends well.
- (5) Envious men are disliked.
- (6) A term is a kind of word or collection of words.
- (7) Some Frenchmen are not vivacious.
- (8) All things in heaven and earth were hateful to him.
- (9) The square of three is nine.
- (10) All cannot receive this saying.
- (11) P struck Q.
- (12) Amas.

2. 'More things may be contained in my philosophy than exist in heaven or earth: but the converse proposition is by no means true.' Is the term converse here used in its logical meaning?

#### CHAPTER V.

Permute the following propositions--

- (1) All just acts are expedient.
- (2) No display of passion is politic.
- (3) Some clever people are not prudent.
- (4) Some philosophers have been slaves.

The same exercise may be performed upon any of the propositions in the preceding lists.

## CHAPTER VI.

### 1. Give the converse by negation of--

- (1) All women are lovely.
- (2) Some statesmen are not practical.
- (3) All lawyers are honest.
- (4) All doctors are skilful.
- (5) Some men are not rational.

### 2. Give the contrapositive of--

- (1) All solid substances are material.
- (2) All the men who do not row play cricket.
- (3) All impeccable beings are other than human,
- (4) Some prejudiced persons are not dishonest.

### 3. Prove indirectly the truth of the contrapositive of 'All A is B.'

### 4. Criticise the following as immediate inferences--

- (1) All wise men are modest.  
∴ No immodest men are wise.
- (2) Some German students are not industrious.  
∴ Some industrious students are not Germans.

(3) Absolute difference excludes all likeness.  
∴ Any likeness is a proof of sameness.

(4) None but the brave deserve the fair.  
∴ All brave men deserve the fair.

(5) All discontented men are unhappy.  
∴ No contented men are unhappy.

(6) Books being a source of instruction, our knowledge must come from our libraries.

(7) All Jews are Semitic.  
∴ Some non-Semitic people are not Jews.

5. Show by what kind of inference each of the subjoined propositions follows from

All discontented men are unhappy.

(1) All happy men are contented.

(2) Some discontented men are unhappy.

(3) Some contented men are happy.

(4) Some unhappy men are not contented.

(5) No discontented men are happy.

(6) Some happy men are contented.

(7) Some contented men are not unhappy.

(8) Some unhappy men are discontented.

(9) No happy men are discontented.

(10) Some discontented men are not happy.

(11) Some happy men are not discontented.

(12) None but unhappy men are discontented.

From how many of these propositions can the original one be derived?

And why not from all?

## CHAPTER VII.

What kind of inference have we here?--

- (1) None but the ignorant despise knowledge.  
∴ No wise man despises knowledge.
- (2) A is superior to B.  
∴ B is inferior to A.

## CHAPTER VIII.

Fill up the following enthymemes, mentioning to which order they belong, and state which of them are expressed in problematic form--

- (1) I am fond of music: for I always like a comic song.
- (2) All men are born to suffering, and therefore you must expect your share.
- (3) Job must have committed some secret sins: for he fell into dreadful misfortunes.
- (4) Latin was the language of the Vestals, and therefore no lady need be ashamed of speaking it.
- (5) None but physicians came to the meeting. There were therefore no nurses there.
- (6) The human soul extends through the whole body, for it is found in every member.
- (7) No traitor can be trusted, and you are a traitor.
- (8) Whatever has no parts does not perish by the dissolution of its parts. Therefore the soul of man is imperishable.

Is the suppressed premiss in any case disputable on material grounds?

## CHAPTERS IX-XVIII.

Refer the following arguments to their proper mood and figure, or show what rules of syllogism they violate.

- (1) No miser is a true friend, for he does not assist his friend with his purse.
- (2) Governments are good which promote prosperity.  
The government of Burmah does not promote prosperity.  
∴ It is not a good government.
- (3) Land is not property.  
Land produces barley.  
∴ Beer is intoxicating.
- (4) Nothing is property but that which is the product of man's hand.  
The horse is not the product of man's hand.  
∴ The horse is not property.
- (5) Some Europeans at least are not Aryans, because the Finns are not.
- (6) Saturn is visible from the earth, and the moon is visible from the earth. Therefore the moon is visible from Saturn.
- (7) Some men of self-command are poor, and therefore some noble characters are poor.
- (8) Sparing the rod spoils the child: so John will turn out very good, for his mother beats him every day.
- (9) Some effects of labour are not painful, since every virtue is an effect of labour.
- (10) The courageous are confident and the experienced are confident. Therefore the experienced are courageous.
- (11) No tale-bearer is to be trusted, and therefore no great talker is to be trusted, for all tale-bearers are great talkers.
- (12) Socrates was wise, and wise men alone are happy: therefore Socrates was happy.

## II.

1. From the major 'No matter thinks' draw, by supplying the minor, the

following conclusions--

- (1) Some part of man does not think.
- (2) The soul of man is not matter.
- (3) Some part of man is not matter.
- (4) Some substance does not think.

Name the figured mood into which each syllogism falls.

2. Construct syllogisms in the following moods and figures, stating whether they are valid or invalid, and giving your reasons in each case--

AEE in the first figure; EAO in the second; IAI in the third; AII in the fourth.

3. Prove that 'Brass is not a metal,' using as your middle term 'compound body.'

4. Construct syllogisms to prove or disprove--

- (1) Some taxes are necessary.
- (2) No men are free.
- (3) Laws are salutary.

5. Prove by a syllogism in Bokardo that 'Some Socialists are not unselfish,' and reduce your syllogism directly and indirectly.

6. Prove the following propositions in the second figure, and reduce the syllogisms you use to the first--

- (1) All negroes are not averse to education.
- (2) Only murderers should be hanged.

7. Prove in Baroko and also in Ferio that 'Some Irishmen are not Celts.'

8. Construct in words the same syllogism in all the four figures.

9. Invent instances to show that false premisses may give true

conclusions.

### III.

1. What moods are peculiar to the first, second, and third figures respectively?
2. What moods are common to all the figures?
3. Why can there be no subaltern moods in the third figure?
4. What is the only kind of conclusion that can be drawn in all the figures?
5. Show that IEO violates the special rules of all the figures.
6. In what figures is AEE valid?
7. Show that AEO is superfluous in any figure.
8. Prove that O cannot be a premiss in the first figure, nor a minor premiss anywhere but in the second.
9. Show that in the first figure the conclusion must have the quality of the major premiss and the quantity of the minor.
10. Why do the premisses EA yield a universal conclusion in the first two figures and only a particular one in the last two?
11. Show that AAI is the only mood in the fourth figure in which it is possible for the major term to be distributed in the premiss and undistributed in the conclusion.
12. Why are the premisses of Fesapo and Fresison not transposed in reduction like those of the other moods of the fourth figure?

### IV.

1. Why is it sufficient to distribute the middle term once only?
2. Prove that from two affirmative premisses you cannot get a negative conclusion.
3. Prove that there must be at least one more term distributed in the



premisses than in the conclusion.

4. Prove that the number of distributed terms in the premisses cannot exceed those in the conclusion by more than two.

5. Prove that the number of undistributed terms in the premisses cannot exceed those in the conclusion by more than one.

6. Prove that wherever the minor premiss is negative, the major must be universal.

7. Prove that wherever the minor term is distributed, the major premiss must be universal.

8. If the middle term be twice distributed, what mood and figure are possible?

9. If the major term of a syllogism be the predicate of the major premiss, what do we know about the minor premiss?

10. When the middle term is distributed in both premisses, what must be the quantity of the conclusion?

11. Prove that if the conclusion be universal, the middle term can only be distributed once in the premisses.

12. Show how it is sometimes possible to draw three different conclusions from the same premisses.

## CHAPTER XIX.

1. Convert the following propositions--

(1) If a man is wise, he is humble.

(2) Where there is sincerity there is no affectation.

(3) When night-dogs run, all sorts of deer are chased.

(4) The nearer the Church, the further from God.

(5) If there were no void, all would be solid.

(6) Not to go on is sometimes to go back.

2. Express in a single proposition--

If he was divine, he was not covetous; and if he was covetous, he was not divine.

3. Exhibit the exact logical relation to one another of the following pairs of propositions--

(1) If the conclusion be false, the premisses are false. If the conclusion be true, the premisses are not necessarily true.

(2) If one premiss be negative, the conclusion must be negative.

If the conclusion be negative, one of the premisses must be negative.

(3) The truth of the universal involves the truth of the particular.

The falsity of the particular involves the falsity of the universal.

(4) From the truth of the particular no conclusion follows as to the universal.

From the falsity of the universal no conclusion follows as to the particular.

(5) If the conclusion in the fourth figure be negative, the major premiss must be universal.

If the major premiss in the fourth figure be particular, the conclusion must be affirmative.

(6) If both premisses be affirmative, the conclusion must be affirmative.

If the conclusion be negative, one of the premisses must be negative.

4. 'The Method of Agreement stands on the ground that whatever circumstance can be eliminated is not connected with the phenomenon by any law; the Method of Difference stands on the ground that whatever circumstance cannot be eliminated is connected with the phenomenon by a law.' Do these two principles imply one another?

CHAPTERS XX-XXVIII.

1. Fill up the following enthymemes, and state the exact nature of the resulting syllogism--

(1) If Livy is a faultless historian, we must believe all that he tells us; but that it is impossible to do.

(2) If they stay abroad, the wife will die; while the husband's lungs will not stand the English climate. It is to be feared therefore that one must fall a victim.

(3) He is either very good, very bad, or commonplace. But he is not very good.

(4) Either a slave is capable of virtue or he is not.  
∴ Either he ought not to be a slave or he is not a man.

(5) Does not his feebleness of character indicate either a bad training or a natural imbecility?

(6) Those who ask shan't have; those who don't ask don't want.

(7) If a man be mad, he deviates from the common standard of intellect.  
∴ If all men be alike mad, no one is mad.

(8) 'I cannot dig; to beg I am ashamed.'

2. 'The infinite divisibility of space implies that of time. If the latter therefore be impossible, the former must be equally so.'  
Formulate this argument as an immediate inference.

3. Examine the following arguments--

(1) If we have a dusty spring, there is always a good wheat harvest. We shall therefore have a poor harvest this year, for the spring has not been dusty.

(2) Virtues are either feelings, capacities, or states; and as they are neither feelings nor capacities, they must be states.

(3) Everything must be either just or unjust.  
Justice is a thing, and is not unjust.  
∴ Justice is just.

Similarly justice is holy.

But the virtues of knowledge, justice, courage, temperance, and holiness were declared to be different from one another.  
∴ Justice is unholy and holiness unjust.

## CHAPTER XXIX.

Formulate the following trains of reasoning, resolve them into their component parts, and point out any violations of the rules of syllogism which they may contain--

(1) No Church Institutions are useful; for they teach religious matters, not business matters, which latter are useful, being profitable.

(2) Mr. Darwin long ago taught us that the clover crop is dependent on the number of maiden ladies in the district. For the ladies keep cats, and the cats destroy the field-mice, which prey on the bees, which, in their turn, are all-important agents in the fertilisation of the clover flowers.

(3) Athletic games are duties; for whatever is necessary to health is a duty, and exercise is necessary to health, and these games are exercise.

(4) The iron-trade leads to the improvement of a new country; for furnaces require to be fed with fuel, which causes land to be cleared.

(5) 'Is stone a body?' 'Yes.' 'Well, is not an animal a body?' 'Yes,' 'And are you an animal?' 'It seems so.' 'Then you are a stone, being an animal.'

(6) If A is B, C is D.  
If E is F, G is H.  
But if A is B, E is F.  
∴ If C is D, G is sometimes H.

(7) The soul is not matter.  
My arm is not myself.

(8) Honesty deserves reward and a negro is a fellow-creature. Therefore an honest negro is a fellow-creature deserving of reward.

## CHAPTER XXX.

1. Point out any ambiguities which underlie the following propositions--

(1) Every one who has read the book in French will recommend those who have not to read it in English.

(2) I will not do this because he did it.

(3) These are all my books.

(4) By an old statute of the date of Edward III it was accorded 'that Parliament should be holden every year once or more often if need be.'

(5) They found Mary and Joseph and the babe lying in a manger.

(6) The king and his minister are feeble and unscrupulous.

(7) Heres meus uxori meae triginta pondo vasorum argenteorum dato, quae volet.

2. Examine the following arguments, formulating them when sound, and referring them, when unsound, to the proper head of fallacy--

(1) We know that thou art a teacher come from God; for no man can do these signs that thou doest, except God be with him. S. John iii. 2.

(2) 'Sir Walter Scott's novels have ceased to be popular.' 'Well, that's only because nobody reads them.'

(3) What we produce is property.  
The sheriff produces a prisoner.  
∴ A prisoner is property.

(4) As all metals are not necessarily solid, we may expect some metals to be liquid.

(5) Moses was the son of Pharaoh's daughter.  
∴ Moses was the daughter of Pharaoh's son.

(6) If Aeschines took part in the public rejoicings over the success of my policy, he is inconsistent in condemning it now; if he did not, he was a traitor then.

(7) It is wrong to stick knives into people.

∴ Surgeons ought to be punished.

(8) If a thing admits of being taught, there must be both teachers and learners of it.

∴ If there are neither teachers nor learners of a thing, that thing does not admit of being taught.

(9) It is unnecessary to lend books, if they are common, and wrong to lend them, if they are rare. Therefore books should not be lent from public libraries.

(10) Seeing is believing.

∴ What is not seen cannot be believed.

(11) St. Paul was not of Jewish blood, for he was a Roman citizen.

(12) To call you an animal is to speak the truth.

To call you an ass is to call you an animal.

∴ To call you an ass is to speak the truth.

(13) Pain chastens folly. A life of ease must therefore be one of folly incurable.

(14) We cannot be happy in this world; for we must either indulge our passions or combat them.

(15) It must be clear to the most unlettered mind that, as all things were originally created by the Deity, including the hair on our heads and the beards on our faces, there can be no such thing as property.

(16) The crime was committed by the criminal.

The criminal was committed by the magistrate.

∴ The crime was committed by the magistrate.

(17) General councils are as likely to err as the fallible men of whom they consist.

(18) Dead dogs are heavier than living ones, because vitality is buoyant.

(19) Deliberation is concerned with actions.

Actions are means.

∴ Deliberation is concerned with means.

(20) 'No beast so fierce but has a touch of pity; But I have none:  
therefore I am no beast.'

(21) Practical pursuits are better than theoretical.  
.∴ Mathematics are better than logic.

(22) Death must be a good. For either the soul, ceasing to be,  
ceases to suffer, or, continuing to be, lives in a better state.

(23) What is right should be enforced by law.  
.∴ Charity should be so enforced.

(24) All animals were in the Ark.  
.∴ No animals perished in the Flood.

(25) If he robs, he is not honourable.  
If he pays all his dues, he does not rob.  
.∴ If he pays all his dues, he is honourable.

(26) A dove can fly a mile in a minute.  
A swallow can fly faster than a dove.  
.∴ A swallow can fly more than a mile in a minute.

(27) 'I must soap myself, because it's Sunday.'  
'Then do you only soap yourself on Sunday.'

(28) If the charge is false, the author of it is either ignorant or  
malicious. But the charge is true. Therefore he is neither.

(29) All the angles of a triangle are equal to two right angles.  
The angle at the vertex is an angle of a triangle.  
.∴ It is equal to two right angles.

(30) Si gravis sit dolor, brevis est; si longus, levis. Ergo  
fortiter ferendus.

(31) You are not what I am.  
I am a man.  
.∴ You are not a man.

(32) The extension of the franchise is necessary, for it is  
imperative that the right of voting should be granted to classes who  
have hitherto not possessed this privilege.

(33) If Hannibal is really victorious, he does not need supplies;  
while, if he is deluding us, we ought certainly not to encourage him

by sending them. Livy, xxiii. 13. Section 5.

(34) Laws must punish, and punishment hurts.  
All laws therefore are hurtful.

(35) The sun is an insensible thing.  
The Persians worship the sun.  
∴ The Persians worship an insensible thing.

(36) Some ores are not metals; for they are not fluids,  
and some metals are not fluids.

(37) All the Grecian soldiers put the Persians to flight.  
∴ Every Grecian soldier could rout the Persians.

(38) The resurrection of Jesus Christ is either an isolated fact or else admits of parallel. But if it be an isolated fact, it cannot be rendered probable to one who denies the authority of Christianity; and, if it admit of parallel, it no longer proves what is required. Therefore it is either incapable of being substantiated or else makes nothing for the truth of Christianity.

(39) The resurrection of Christ in the flesh and his ascension into heaven were events either intrinsically incredible in their nature or not. If the former, the prevalent belief in them can only be accounted for by miracles; if the latter, they ought to be believed even without miracles. St. Aug. De Civ. Dei, xxii. 8.

(40) Only contented people are wise. Therefore the tramp contented in his rags is necessarily a wise man.

(41) Four-legged things are brutes.  
Tables are four-legged things.  
∴ Tables are brutes.

(42) The apparent volcanoes in the moon are not volcanoes; for eruptions are produced by gases only, and there are no gases in the moon.

(43) To read the Scriptures is our duty. Therefore the Captain was wrong in punishing the helmsman for reading the Bible at the time when the ship struck.

(44) The divine law orders that kings should be honoured.  
Louis Quatorze is a king.  
∴ The divine law orders that Louis Quatorze should be honoured.



(45) Those who desire the same object are unanimous.

Caesar and Pompey both desire the same object, namely, supreme power.

∴ They are unanimous.

(46) Either the ministers left at home will be ciphers or they will not be ciphers. If they are ciphers, cabinet government, which is equivalent to constitutional government, will receive a rude blow. If they are not ciphers, the cabinet will be considering matters of the utmost importance in the absence, and the gratuitous absence, of two of its most important members. 'The Standard,' Wed. June 5, 1878.

(47) One patent stove saves half the ordinary amount of fuel. Therefore two would save it all.

(48) One number must win in the lottery.

My ticket is one number.

∴ It must win.

(49) All good shepherds are prepared to lay down their lives for the sheep.

Few in this age are so prepared.

∴ Few in this age are good shepherds.

(50) You cannot define the sun; for a definition must be clearer than the thing defined, and nothing can be clearer than the source of all light.

(51) To give the monopoly of the home market to the produce of domestic industry ... must in almost all cases be either a useless or a hurtful regulation. If the produce of domestic can be brought there as cheap as that of foreign industry, the regulation is evidently useless; if it cannot, it is generally hurtful. Adam Smith, Wealth of Nations, Bk. iv. ch. 2.

(52) Verberare est actio.

Ergo et vapulare.

(53) The ages of all the members of this family are over 150.

The baby is a member of this family.

∴ Its age is over 150.

(54) Romulus must be an historical person; because it is not at all likely that the Romans, whose memory was only burdened with seven

kings, should have forgotten the most famous of them, namely, the first.

(55) All scientific treatises that are clear and true deserve attention.

Few scientific treatises are clear and true.

∴ Few scientific treatises deserve attention.

(56) The Conservative Government is an expensive one; for, on their going out of Office, there was a deficit.

(57) A man is forbidden to marry his brother's wife, or, in other words, a woman is forbidden to marry her husband's brother, that is, a woman is directly forbidden to marry two brothers. Therefore a man may not marry two sisters, so that a man may not marry his wife's sister.