On Interpretation
Aristotle

Translated by E. M. Edghill

On Interpretation

1

First we must define the terms 'noun' and 'verb', then the terms 'denial' and 'affirmation', then 'proposition' and 'sentence.'

Spoken words are the symbols of mental experience and written words are the symbols of spoken words. Just as all men have not the same writing, so all men have not the same speech sounds, but the mental experiences, which these directly symbolize, are the same for all, as also are those things of which our experiences are the images. This matter has, however, been discussed in my treatise about the soul, for it belongs to an investigation distinct from that which lies before us.

As there are in the mind thoughts which do not involve truth or falsity, and also those which must be either true or false, so it is in speech. For truth and falsity imply combination and separation. Nouns and verbs, provided nothing is added, are like thoughts without combination or separation; 'man' and 'white', as isolated terms, are not yet either true or false. In proof of this, consider the word 'goat-stag.' It has significance, but there is no truth or falsity about it, unless 'is' or 'is not' is added, either in the present or in some other tense.

2

By a noun we mean a sound significant by convention, which has no reference to time, and of which no part is significant apart from the rest. In the noun 'Fairsteed,' the part 'steed' has no significance in and by itself, as in the phrase 'fair steed.' Yet there is a difference between simple and composite nouns; for in the former the part is in no way significant, in the latter it contributes to the meaning of the whole, although it has not an independent meaning. Thus in the word 'pirate-boat' the word 'boat' has no meaning except as part of the whole word.

The limitation 'by convention' was introduced because nothing is by nature a noun or name-it is only so when it becomes a symbol; inarticulate sounds, such as those which brutes produce, are significant, yet none of these constitutes a noun.

The expression 'not-man' is not a noun. There is indeed no recognized term

by which we may denote such an expression, for it is not a sentence or a denial. Let it then be called an indefinite noun.

The expressions 'of Philo', 'to Philo', and so on, constitute not nouns, but cases of a noun. The definition of these cases of a noun is in other respects the same as that of the noun proper, but, when coupled with 'is', 'was', or will be', they do not, as they are, form a proposition either true or false, and this the noun proper always does, under these conditions. Take the words 'of Philo is' or 'of or 'of Philo is not'; these words do not, as they stand, form either a true or a false proposition.

3

A verb is that which, in addition to its proper meaning, carries with it the notion of time. No part of it has any independent meaning, and it is a sign of something said of something else.

I will explain what I mean by saying that it carries with it the notion of time. 'Health' is a noun, but 'is healthy' is a verb; for besides its proper meaning it indicates the present existence of the state in question.

Moreover, a verb is always a sign of something said of something else, i.e. of something either predicable of or present in some other thing.

Such expressions as 'is not-healthy', 'is not, ill', I do not describe as verbs; for though they carry the additional note of time, and always form a predicate, there is no specified name for this variety; but let them be called indefinite verbs, since they apply equally well to that which exists and to that which does not.

Similarly 'he was healthy', 'he will be healthy', are not verbs, but tenses of a verb; the difference lies in the fact that the verb indicates present time, while the tenses of the verb indicate those times which lie outside the present.

Verbs in and by themselves are substantival and have significance, for he who uses such expressions arrests the hearer's mind, and fixes his attention; but they do not, as they stand, express any judgement, either positive or negative. For neither are 'to be' and 'not to be' the participle 'being' significant of any fact, unless something is added; for they do not themselves indicate anything, but imply a copulation, of which we cannot form a conception apart from the things coupled.

4

A sentence is a significant portion of speech, some parts of which have an independent meaning, that is to say, as an utterance, though not as the expression of any positive judgement. Let me explain. The word 'human' has meaning, but does not constitute a proposition, either positive or negative. It is only when other words are added that the whole will form an affirmation or denial. But if we separate one syllable of the word 'human' from the other, it has no meaning; similarly in the word 'mouse', the part 'ouse' has no meaning in itself, but is merely a sound. In composite words, indeed, the parts contribute to the meaning of the whole; yet, as has been pointed out, they have not an independent meaning.

Every sentence has meaning, not as being the natural means by which a physical faculty is realized, but, as we have said, by convention. Yet every sentence is not a proposition; only such are propositions as have in them either truth or falsity. Thus a prayer is a sentence, but is neither true nor false.

Let us therefore dismiss all other types of sentence but the proposition, for this last concerns our present inquiry, whereas the investigation of the others belongs rather to the study of rhetoric or of poetry.

5

The first class of simple propositions is the simple affirmation, the next, the simple denial; all others are only one by conjunction.

Every proposition must contain a verb or the tense of a verb. The phrase which defines the species 'man', if no verb in present, past, or future time be added, is not a proposition. It may be asked how the expression 'a footed animal with two feet' can be called single; for it is not the circumstance that the words follow in unbroken succession that effects the unity. This inquiry, however, finds its place in an investigation foreign to that before us.

We call those propositions single which indicate a single fact, or the conjunction of the parts of which results in unity: those propositions, on the other hand, are separate and many in number, which indicate many facts, or whose parts have no conjunction.

Let us, moreover, consent to call a noun or a verb an expression only, and not

a proposition, since it is not possible for a man to speak in this way when he is expressing something, in such a way as to make a statement, whether his utterance is an answer to a question or an act of his own initiation.

To return: of propositions one kind is simple, i.e. that which asserts or denies something of something, the other composite, i.e. that which is compounded of simple propositions. A simple proposition is a statement, with meaning, as to the presence of something in a subject or its absence, in the present, past, or future, according to the divisions of time.

6

An affirmation is a positive assertion of something about something, a denial a negative assertion.

Now it is possible both to affirm and to deny the presence of something which is present or of something which is not, and since these same affirmations and denials are possible with reference to those times which lie outside the present, it would be possible to contradict any affirmation or denial. Thus it is plain that every affirmation has an opposite denial, and similarly every denial an opposite affirmation.

We will call such a pair of propositions a pair of contradictories. Those positive and negative propositions are said to be contradictory which have the same subject and predicate. The identity of subject and of predicate must not be 'equivocal'. Indeed there are definitive qualifications besides this, which we make to meet the casuistries of sophists.

7

Some things are universal, others individual. By the term 'universal' I mean that which is of such a nature as to be predicated of many subjects, by 'individual' that which is not thus predicated. Thus 'man' is a universal, 'Callias' an individual.

Our propositions necessarily sometimes concern a universal subject, sometimes an individual.

If, then, a man states a positive and a negative proposition of universal character with regard to a universal, these two propositions are 'contrary'. By the expression 'a proposition of universal character with regard to a universal', such

propositions as 'every man is white', 'no man is white' are meant. When, on the other hand, the positive and negative propositions, though they have regard to a universal, are yet not of universal character, they will not be contrary, albeit the meaning intended is sometimes contrary. As instances of propositions made with regard to a universal, but not of universal character, we may take the 'propositions 'man is white', 'man is not white'. 'Man' is a universal, but the proposition is not made as of universal character; for the word 'every' does not make the subject a universal, but rather gives the proposition a universal character. If, however, both predicate and subject are distributed, the proposition thus constituted is contrary to truth; no affirmation will, under such circumstances, be true. The proposition 'every man is every animal' is an example of this type.

An affirmation is opposed to a denial in the sense which I denote by the term 'contradictory', when, while the subject remains the same, the affirmation is of universal character and the denial is not. The affirmation 'every man is white' is the contradictory of the denial 'not every man is white', or again, the proposition 'no man is white' is the contradictory of the proposition 'some men are white'. But propositions are opposed as contraries when both the affirmation and the denial are universal, as in the sentences 'every man is white', 'no man is white', 'every man is just', 'no man is just'.

We see that in a pair of this sort both propositions cannot be true, but the contradictories of a pair of contraries can sometimes both be true with reference to the same subject; for instance 'not every man is white' and some men are white' are both true. Of such corresponding positive and negative propositions as refer to universals and have a universal character, one must be true and the other false. This is the case also when the reference is to individuals, as in the propositions 'Socrates is white', 'Socrates is not white'.

When, on the other hand, the reference is to universals, but the propositions are not universal, it is not always the case that one is true and the other false, for it is possible to state truly that man is white and that man is not white and that man is beautiful and that man is not beautiful; for if a man is deformed he is the reverse of beautiful, also if he is progressing towards beauty he is not yet beautiful.

This statement might seem at first sight to carry with it a contradiction, owing to the fact that the proposition 'man is not white' appears to be equivalent to the proposition 'no man is white'. This, however, is not the case, nor are they

necessarily at the same time true or false.

It is evident also that the denial corresponding to a single affirmation is itself single; for the denial must deny just that which the affirmation affirms concerning the same subject, and must correspond with the affirmation both in the universal or particular character of the subject and in the distributed or undistributed sense in which it is understood.

For instance, the affirmation 'Socrates is white' has its proper denial in the proposition 'Socrates is not white'. If anything else be negatively predicated of the subject or if anything else be the subject though the predicate remain the same, the denial will not be the denial proper to that affirmation, but on that is distinct.

The denial proper to the affirmation 'every man is white' is 'not every man is white'; that proper to the affirmation 'some men are white' is 'no man is white', while that proper to the affirmation 'man is white' is 'man is not white'.

We have shown further that a single denial is contradictorily opposite to a single affirmation and we have explained which these are; we have also stated that contrary are distinct from contradictory propositions and which the contrary are; also that with regard to a pair of opposite propositions it is not always the case that one is true and the other false. We have pointed out, moreover, what the reason of this is and under what circumstances the truth of the one involves the falsity of the other.

8

An affirmation or denial is single, if it indicates some one fact about some one subject; it matters not whether the subject is universal and whether the statement has a universal character, or whether this is not so. Such single propositions are: 'every man is white', 'not every man is white';'man is white','man is not white'; 'no man is white', 'some men are white'; provided the word 'white' has one meaning. If, on the other hand, one word has two meanings which do not combine to form one, the affirmation is not single. For instance, if a man should establish the symbol 'garment' as significant both of a horse and of a man, the proposition 'garment is white' would not be a single affirmation, nor its opposite a single denial. For it is equivalent to the proposition 'horse and man are white', which, again, is equivalent to the two propositions 'horse is white', 'man is white'. If, then,

these two propositions have more than a single significance, and do not form a single proposition, it is plain that the first proposition either has more than one significance or else has none; for a particular man is not a horse.

This, then, is another instance of those propositions of which both the positive and the negative forms may be true or false simultaneously.

9

In the case of that which is or which has taken place, propositions, whether positive or negative, must be true or false. Again, in the case of a pair of contradictories, either when the subject is universal and the propositions are of a universal character, or when it is individual, as has been said,' one of the two must be true and the other false; whereas when the subject is universal, but the propositions are not of a universal character, there is no such necessity. We have discussed this type also in a previous chapter.

When the subject, however, is individual, and that which is predicated of it relates to the future, the case is altered. For if all propositions whether positive or negative are either true or false, then any given predicate must either belong to the subject or not, so that if one man affirms that an event of a given character will take place and another denies it, it is plain that the statement of the one will correspond with reality and that of the other will not. For the predicate cannot both belong and not belong to the subject at one and the same time with regard to the future.

Thus, if it is true to say that a thing is white, it must necessarily be white; if the reverse proposition is true, it will of necessity not be white. Again, if it is white, the proposition stating that it is white was true; if it is not white, the proposition to the opposite effect was true. And if it is not white, the man who states that it is making a false statement; and if the man who states that it is white is making a false statement, it follows that it is not white. It may therefore be argued that it is necessary that affirmations or denials must be either true or false.

Now if this be so, nothing is or takes place fortuitously, either in the present or in the future, and there are no real alternatives; everything takes place of necessity and is fixed. For either he that affirms that it will take place or he that denies this is in correspondence with fact, whereas if things did not take place of

necessity, an event might just as easily not happen as happen; for the meaning of the word 'fortuitous' with regard to present or future events is that reality is so constituted that it may issue in either of two opposite directions. Again, if a thing is white now, it was true before to say that it would be white, so that of anything that has taken place it was always true to say 'it is' or 'it will be'. But if it was always true to say that a thing is or will be, it is not possible that it should not be or not be about to be, and when a thing cannot not come to be, it is impossible that it should not come to be, and when it is impossible that it should not come to be, it must come to be. All, then, that is about to be must of necessity take place. It results from this that nothing is uncertain or fortuitous, for if it were fortuitous it would not be necessary.

Again, to say that neither the affirmation nor the denial is true, maintaining, let us say, that an event neither will take place nor will not take place, is to take up a position impossible to defend. In the first place, though facts should prove the one proposition false, the opposite would still be untrue. Secondly, if it was true to say that a thing was both white and large, both these qualities must necessarily belong to it; and if they will belong to it the next day, they must necessarily belong to it the next day. But if an event is neither to take place nor not to take place the next day, the element of chance will be eliminated. For example, it would be necessary that a sea-fight should neither take place nor fail to take place on the next day.

These awkward results and others of the same kind follow, if it is an irrefragable law that of every pair of contradictory propositions, whether they have regard to universals and are stated as universally applicable, or whether they have regard to individuals, one must be true and the other false, and that there are no real alternatives, but that all that is or takes place is the outcome of necessity. There would be no need to deliberate or to take trouble, on the supposition that if we should adopt a certain course, a certain result would follow, while, if we did not, the result would not follow. For a man may predict an event ten thousand years beforehand, and another may predict the reverse; that which was truly predicted at the moment in the past will of necessity take place in the fullness of time.

Further, it makes no difference whether people have or have not actually made the contradictory statements. For it is manifest that the circumstances are

not influenced by the fact of an affirmation or denial on the part of anyone. For events will not take place or fail to take place because it was stated that they would or would not take place, nor is this any more the case if the prediction dates back ten thousand years or any other space of time. Wherefore, if through all time the nature of things was so constituted that a prediction about an event was true, then through all time it was necessary that that should find fulfillment; and with regard to all events, circumstances have always been such that their occurrence is a matter of necessity. For that of which someone has said truly that it will be, cannot fail to take place; and of that which takes place, it was always true to say that it would be.

Yet this view leads to an impossible conclusion; for we see that both deliberation and action are causative with regard to the future, and that, to speak more generally, in those things which are not continuously actual there is potentiality in either direction. Such things may either be or not be; events also therefore may either take place or not take place. There are many obvious instances of this. It is possible that this coat may be cut in half, and yet it may not be cut in half, but wear out first. In the same way, it is possible that it should not be cut in half; unless this were so, it would not be possible that it should wear out first. So it is therefore with all other events which possess this kind of potentiality. It is therefore plain that it is not of necessity that everything is or takes place; but in some instances there are real alternatives, in which case the affirmation is no more true and no more false than the denial; while some exhibit a predisposition and general tendency in one direction or the other, and yet can issue in the opposite direction by exception.

Now that which is must needs be when it is, and that which is not must needs not be when it is not. Yet it cannot be said without qualification that all existence and non-existence is the outcome of necessity. For there is a difference between saying that that which is, when it is, must needs be, and simply saying that all that is must needs be, and similarly in the case of that which is not. In the case, also, of two contradictory propositions this holds good. Everything must either be or not be, whether in the present or in the future, but it is not always possible to distinguish and state determinately which of these alternatives must necessarily come about.

Let me illustrate. A sea-fight must either take place to-morrow or not, but it is

not necessary that it should take place to-morrow, neither is it necessary that it should not take place, yet it is necessary that it either should or should not take place to-morrow. Since propositions correspond with facts, it is evident that when in future events there is a real alternative, and a potentiality in contrary directions, the corresponding affirmation and denial have the same character.

This is the case with regard to that which is not always existent or not always nonexistent. One of the two propositions in such instances must be true and the other false, but we cannot say determinately that this or that is false, but must leave the alternative undecided. One may indeed be more likely to be true than the other, but it cannot be either actually true or actually false. It is therefore plain that it is not necessary that of an affirmation and a denial one should be true and the other false. For in the case of that which exists potentially, but not actually, the rule which applies to that which exists actually does not hold good. The case is rather as we have indicated.

10

An affirmation is the statement of a fact with regard to a subject, and this subject is either a noun or that which has no name; the subject and predicate in an affirmation must each denote a single thing. I have already explained' what is meant by a noun and by that which has no name; for I stated that the expression 'not-man' was not a noun, in the proper sense of the word, but an indefinite noun, denoting as it does in a certain sense a single thing. Similarly the expression 'does not enjoy health' is not a verb proper, but an indefinite verb. Every affirmation, then, and every denial, will consist of a noun and a verb, either definite or indefinite.

There can be no affirmation or denial without a verb; for the expressions 'is', 'will be', 'was', 'is coming to be', and the like are verbs according to our definition, since besides their specific meaning they convey the notion of time. Thus the primary affirmation and denial are 'as follows: 'man is', 'man is not'. Next to these, there are the propositions: 'not-man is', 'not-man is not'. Again we have the propositions: 'every man is, 'every man is not', 'all that is not-man is', 'all that is not-man is not'. The same classification holds good with regard to such periods of time as lie outside the present.

When the verb 'is' is used as a third element in the sentence, there can be

positive and negative propositions of two sorts. Thus in the sentence 'man is just' the verb 'is' is used as a third element, call it verb or noun, which you will. Four propositions, therefore, instead of two can be formed with these materials. Two of the four, as regards their affirmation and denial, correspond in their logical sequence with the propositions which deal with a condition of privation; the other two do not correspond with these.

I mean that the verb 'is' is added either to the term 'just' or to the term 'not-just', and two negative propositions are formed in the same way. Thus we have the four propositions. Reference to the subjoined table will make matters clear:

A. Affirmation. Man is just   B. Denial. Man is not just
                               \ /
                               / \
D. Denial. Man is not not-just   C. Affirmation. Man is not-just

Here 'is' and 'is not' are added either to 'just' or to 'not-just'. This then is the proper scheme for these propositions, as has been said in the Analytics. The same rule holds good, if the subject is distributed. Thus we have the table:

A'. Affirmation. Every man is just   B'. Denial. Not every man is just
                               \ /
                               / \
D'. Denial. Not every man is not-just   C'. Affirmation. Every man is not-just.

Yet here it is not possible, in the same way as in the former case, that the propositions joined in the table by a diagonal line should both be true; though under certain circumstances this is the case.

We have thus set out two pairs of opposite propositions; there are moreover two other pairs, if a term be conjoined with 'not-man', the latter forming a kind of subject. Thus:

A". Not-man is just.   B". Not-man is not just
                               \ /
                               / \
D". Not-man is not not-just.   C". Not-man is not-just.

This is an exhaustive enumeration of all the pairs of opposite propositions that can

possibly be framed. This last group should remain distinct from those which preceded it, since it employs as its subject the expression 'not-man'.

When the verb 'is' does not fit the structure of the sentence (for instance, when the verbs 'walks', 'enjoys health' are used), that scheme applies, which applied when the word 'is' was added.

Thus we have the propositions: 'every man enjoys health', 'every man does-not-enjoy-health', 'all that is not-man enjoys health', 'all that is not-man does-not-enjoy-health'. We must not in these propositions use the expression 'not every man'. The negative must be attached to the word 'man', for the word 'every' does not give to the subject a universal significance, but implies that, as a subject, it is distributed. This is plain from the following pairs: 'man enjoys health', 'man does not enjoy health'; 'not-man enjoys health', 'not man does not enjoy health'. These propositions differ from the former in being indefinite and not universal in character. Thus the adjectives 'every' and no additional significance except that the subject, whether in a positive or in a negative sentence, is distributed. The rest of the sentence, therefore, will in each case be the same.

Since the contrary of the proposition 'every animal is just' is 'no animal is just', it is plain that these two propositions will never both be true at the same time or with reference to the same subject. Sometimes, however, the contradictories of these contraries will both be true, as in the instance before us: the propositions 'not every animal is just' and 'some animals are just' are both true.

Further, the proposition 'no man is just' follows from the proposition 'every man is not just' and the proposition 'not every man is not just', which is the opposite of 'every man is not-just', follows from the proposition 'some men are just'; for if this be true, there must be some just men.

It is evident, also, that when the subject is individual, if a question is asked and the negative answer is the true one, a certain positive proposition is also true. Thus, if the question were asked Socrates wise?' and the negative answer were the true one, the positive inference 'Then Socrates is unwise' is correct. But no such inference is correct in the case of universals, but rather a negative proposition. For instance, if to the question 'Is every man wise?' the answer is 'no', the inference 'Then every man is unwise' is false. But under these circumstances the inference 'Not every man is wise' is correct. This last is the contradictory, the former the

contrary. Negative expressions, which consist of an indefinite noun or predicate, such as 'not-man' or 'not-just', may seem to be denials containing neither noun nor verb in the proper sense of the words. But they are not. For a denial must always be either true or false, and he that uses the expression 'not man', if nothing more be added, is not nearer but rather further from making a true or a false statement than he who uses the expression 'man'.

The propositions 'everything that is not man is just', and the contradictory of this, are not equivalent to any of the other propositions; on the other hand, the proposition 'everything that is not man is not just' is equivalent to the proposition 'nothing that is not man is just'.

The conversion of the position of subject and predicate in a sentence involves no difference in its meaning. Thus we say 'man is white' and 'white is man'. If these were not equivalent, there would be more than one contradictory to the same proposition, whereas it has been demonstrated' that each proposition has one proper contradictory and one only. For of the proposition 'man is white' the appropriate contradictory is 'man is not white', and of the proposition 'white is man', if its meaning be different, the contradictory will either be 'white is not not-man' or 'white is not man'. Now the former of these is the contradictory of the proposition 'white is not-man', and the latter of these is the contradictory of the proposition 'man is white'; thus there will be two contradictories to one proposition.

It is evident, therefore, that the inversion of the relative position of subject and predicate does not affect the sense of affirmations and denials.

11

There is no unity about an affirmation or denial which, either positively or negatively, predicates one thing of many subjects, or many things of the same subject, unless that which is indicated by the many is really some one thing. do not apply this word 'one' to those things which, though they have a single recognized name, yet do not combine to form a unity. Thus, man may be an animal, and biped, and domesticated, but these three predicates combine to form a unity. On the other hand, the predicates 'white', 'man', and 'walking' do not thus combine. Neither, therefore, if these three form the subject of an affirmation, nor if they form its predicate, is there any unity about that affirmation. In both cases the

unity is linguistic, but not real.

If therefore the dialectical question is a request for an answer, i.e. either for the admission of a premiss or for the admission of one of two contradictories-and the premiss is itself always one of two contradictories-the answer to such a question as contains the above predicates cannot be a single proposition. For as I have explained in the Topics, question is not a single one, even if the answer asked for is true.

At the same time it is plain that a question of the form 'what is it?' is not a dialectical question, for a dialectical questioner must by the form of his question give his opponent the chance of announcing one of two alternatives, whichever he wishes. He must therefore put the question into a more definite form, and inquire, e.g.. whether man has such and such a characteristic or not.

Some combinations of predicates are such that the separate predicates unite to form a single predicate. Let us consider under what conditions this is and is not possible. We may either state in two separate propositions that man is an animal and that man is a biped, or we may combine the two, and state that man is an animal with two feet. Similarly we may use 'man' and 'white' as separate predicates, or unite them into one. Yet if a man is a shoemaker and is also good, we cannot construct a composite proposition and say that he is a good shoemaker. For if, whenever two separate predicates truly belong to a subject, it follows that the predicate resulting from their combination also truly belongs to the subject, many absurd results ensue. For instance, a man is man and white. Therefore, if predicates may always be combined, he is a white man. Again, if the predicate 'white' belongs to him, then the combination of that predicate with the former composite predicate will be permissible. Thus it will be right to say that he is a white man so on indefinitely. Or, again, we may combine the predicates 'musical', 'white', and 'walking', and these may be combined many times. Similarly we may say that Socrates is Socrates and a man, and that therefore he is the man Socrates, or that Socrates is a man and a biped, and that therefore he is a two-footed man. Thus it is manifest that if man states unconditionally that predicates can always be combined, many absurd consequences ensue.

We will now explain what ought to be laid down.

Those predicates, and terms forming the subject of predication, which are accidental either to the same subject or to one another, do not combine to form a

unity. Take the proposition 'man is white of complexion and musical'. Whiteness and being musical do not coalesce to form a unity, for they belong only accidentally to the same subject. Nor yet, if it were true to say that that which is white is musical, would the terms 'musical' and 'white' form a unity, for it is only incidentally that that which is musical is white; the combination of the two will, therefore, not form a unity.

Thus, again, whereas, if a man is both good and a shoemaker, we cannot combine the two propositions and say simply that he is a good shoemaker, we are, at the same time, able to combine the predicates 'animal' and 'biped' and say that a man is an animal with two feet, for these predicates are not accidental.

Those predicates, again, cannot form a unity, of which the one is implicit in the other: thus we cannot combine the predicate 'white' again and again with that which already contains the notion 'white', nor is it right to call a man an animal-man or a two-footed man; for the notions 'animal' and 'biped' are implicit in the word 'man'. On the other hand, it is possible to predicate a term simply of any one instance, and to say that some one particular man is a man or that some one white man is a white man.

Yet this is not always possible: indeed, when in the adjunct there is some opposite which involves a contradiction, the predication of the simple term is impossible. Thus it is not right to call a dead man a man. When, however, this is not the case, it is not impossible.

Yet the facts of the case might rather be stated thus: when some such opposite elements are present, resolution is never possible, but when they are not present, resolution is nevertheless not always possible. Take the proposition 'Homer is so-and-so', say 'a poet'; does it follow that Homer is, or does it not? The verb 'is' is here used of Homer only incidentally, the proposition being that Homer is a poet, not that he is, in the independent sense of the word.

Thus, in the case of those predications which have within them no contradiction when the nouns are expanded into definitions, and wherein the predicates belong to the subject in their own proper sense and not in any indirect way, the individual may be the subject of the simple propositions as well as of the composite. But in the case of that which is not, it is not true to say that because it is the object of opinion, it is; for the opinion held about it is that it is not, not that it is.

As these distinctions have been made, we must consider the mutual relation of those affirmations and denials which assert or deny possibility or contingency, impossibility or necessity: for the subject is not without difficulty.

We admit that of composite expressions those are contradictory each to each which have the verb 'to be' its positive and negative form respectively. Thus the contradictory of the proposition 'man is' is 'man is not', not 'not-man is', and the contradictory of 'man is white' is 'man is not white', not 'man is not-white'. For otherwise, since either the positive or the negative proposition is true of any subject, it will turn out true to say that a piece of wood is a man that is not white.

Now if this is the case, in those propositions which do not contain the verb 'to be' the verb which takes its place will exercise the same function. Thus the contradictory of 'man walks' is 'man does not walk', not 'not-man walks'; for to say 'man walks' merely equivalent to saying 'man is walking'.

If then this rule is universal, the contradictory of 'it may be' is may not be', not 'it cannot be'.

Now it appears that the same thing both may and may not be; for instance, everything that may be cut or may walk may also escape cutting and refrain from walking; and the reason is that those things that have potentiality in this sense are not always actual. In such cases, both the positive and the negative propositions will be true; for that which is capable of walking or of being seen has also a potentiality in the opposite direction.

But since it is impossible that contradictory propositions should both be true of the same subject, it follows that' it may not be' is not the contradictory of 'it may be'. For it is a logical consequence of what we have said, either that the same predicate can be both applicable and inapplicable to one and the same subject at the same time, or that it is not by the addition of the verbs 'be' and 'not be', respectively, that positive and negative propositions are formed. If the former of these alternatives must be rejected, we must choose the latter.

The contradictory, then, of 'it may be' is 'it cannot be'. The same rule applies to the proposition 'it is contingent that it should be'; the contradictory of this is 'it is not contingent that it should be'. The similar propositions, such as 'it is necessary' and 'it is impossible', may be dealt with in the same manner. For it

comes about that just as in the former instances the verbs 'is' and 'is not' were added to the subject-matter of the sentence 'white' and 'man', so here 'that it should be' and 'that it should not be' are the subject-matter and 'is possible', 'is contingent', are added. These indicate that a certain thing is or is not possible, just as in the former instances 'is' and 'is not' indicated that certain things were or were not the case.

The contradictory, then, of 'it may not be' is not 'it cannot be', but 'it cannot not be', and the contradictory of 'it may be' is not 'it may not be', but cannot be'. Thus the propositions 'it may be' and 'it may not be' appear each to imply the other: for, since these two propositions are not contradictory, the same thing both may and may not be. But the propositions 'it may be' and 'it cannot be' can never be true of the same subject at the same time, for they are contradictory. Nor can the propositions 'it may not be' and 'it cannot not be' be at once true of the same subject.

The propositions which have to do with necessity are governed by the same principle. The contradictory of 'it is necessary that it should be', is not 'it is necessary that it should not be,' but 'it is not necessary that it should be', and the contradictory of 'it is necessary that it should not be' is 'it is not necessary that it should not be'.

Again, the contradictory of 'it is impossible that it should be' is not 'it is impossible that it should not be' but 'it is not impossible that it should be', and the contradictory of 'it is impossible that it should not be' is 'it is not impossible that it should not be'.

To generalize, we must, as has been stated, define the clauses 'that it should be' and 'that it should not be' as the subject-matter of the propositions, and in making these terms into affirmations and denials we must combine them with 'that it should be' and 'that it should not be' respectively.

We must consider the following pairs as contradictory propositions:

It may be.	It cannot be.
It is contingent.	It is not contingent.
It is impossible.	It is not impossible.
It is necessary.	It is not necessary.
It is true.	It is not true.

Logical sequences follow in due course when we have arranged the propositions thus. From the proposition 'it may be' it follows that it is contingent, and the relation is reciprocal. It follows also that it is not impossible and not necessary.

From the proposition 'it may not be' or 'it is contingent that it should not be' it follows that it is not necessary that it should not be and that it is not impossible that it should not be. From the proposition 'it cannot be' or 'it is not contingent' it follows that it is necessary that it should not be and that it is impossible that it should be. From the proposition 'it cannot not be' or 'it is not contingent that it should not be' it follows that it is necessary that it should be and that it is impossible that it should not be.

Let us consider these statements by the help of a table:

A.	B.
It may be.	It cannot be.
It is contingent.	It is not contingent.
It is not impossible that it should be.	It is impossible that it should be.
It is not necessary that it should be.	It is necessary that it should not be.

C.	D.
It may not be.	It cannot not be.
It is contingent that it should not be.	It is not contingent that it should not be.
It is not impossible that it should not be.	It is impossible that it should not be.
It is not necessary that it should not be.	It is necessary that it should be.

Now the propositions 'it is impossible that it should be' and 'it is not impossible that it should be' are consequent upon the propositions 'it may be', 'it is contingent', and 'it cannot be', 'it is not contingent', the contradictories upon the contradictories. But there is inversion. The negative of the proposition 'it is impossible' is consequent upon the proposition 'it may be' and the corresponding positive in the first case upon the negative in the second. For 'it is impossible' is a positive proposition and 'it is not impossible' is negative.

We must investigate the relation subsisting between these propositions and those which predicate necessity. That there is a distinction is clear. In this case, contrary propositions follow respectively from contradictory propositions, and the contradictory propositions belong to separate sequences. For the proposition 'it is

not necessary that it should be' is not the negative of 'it is necessary that it should not be', for both these propositions may be true of the same subject; for when it is necessary that a thing should not be, it is not necessary that it should be. The reason why the propositions predicating necessity do not follow in the same kind of sequence as the rest, lies in the fact that the proposition 'it is impossible' is equivalent, when used with a contrary subject, to the proposition 'it is necessary'. For when it is impossible that a thing should be, it is necessary, not that it should be, but that it should not be, and when it is impossible that a thing should not be, it is necessary that it should be. Thus, if the propositions predicating impossibility or non-impossibility follow without change of subject from those predicating possibility or non-possibility, those predicating necessity must follow with the contrary subject; for the propositions 'it is impossible' and 'it is necessary' are not equivalent, but, as has been said, inversely connected.

Yet perhaps it is impossible that the contradictory propositions predicating necessity should be thus arranged. For when it is necessary that a thing should be, it is possible that it should be. (For if not, the opposite follows, since one or the other must follow; so, if it is not possible, it is impossible, and it is thus impossible that a thing should be, which must necessarily be; which is absurd.)

Yet from the proposition 'it may be' it follows that it is not impossible, and from that it follows that it is not necessary; it comes about therefore that the thing which must necessarily be need not be; which is absurd. But again, the proposition 'it is necessary that it should be' does not follow from the proposition 'it may be', nor does the proposition 'it is necessary that it should not be'. For the proposition 'it may be' implies a twofold possibility, while, if either of the two former propositions is true, the twofold possibility vanishes. For if a thing may be, it may also not be, but if it is necessary that it should be or that it should not be, one of the two alternatives will be excluded. It remains, therefore, that the proposition 'it is not necessary that it should not be' follows from the proposition 'it may be'. For this is true also of that which must necessarily be.

Moreover the proposition 'it is not necessary that it should not be' is the contradictory of that which follows from the proposition 'it cannot be'; for 'it cannot be' is followed by 'it is impossible that it should be' and by 'it is necessary that it should not be', and the contradictory of this is the proposition 'it is not necessary that it should not be'. Thus in this case also contradictory propositions

follow contradictory in the way indicated, and no logical impossibilities occur when they are thus arranged.

It may be questioned whether the proposition 'it may be' follows from the proposition 'it is necessary that it should be'. If not, the contradictory must follow, namely that it cannot be, or, if a man should maintain that this is not the contradictory, then the proposition 'it may not be'.

Now both of these are false of that which necessarily is. At the same time, it is thought that if a thing may be cut it may also not be cut, if a thing may be it may also not be, and thus it would follow that a thing which must necessarily be may possibly not be; which is false. It is evident, then, that it is not always the case that that which may be or may walk possesses also a potentiality in the other direction. There are exceptions. In the first place we must except those things which possess a potentiality not in accordance with a rational principle, as fire possesses the potentiality of giving out heat, that is, an irrational capacity. Those potentialities which involve a rational principle are potentialities of more than one result, that is, of contrary results; those that are irrational are not always thus constituted. As I have said, fire cannot both heat and not heat, neither has anything that is always actual any twofold potentiality. Yet some even of those potentialities which are irrational admit of opposite results. However, thus much has been said to emphasize the truth that it is not every potentiality which admits of opposite results, even where the word is used always in the same sense.

But in some cases the word is used equivocally. For the term 'possible' is ambiguous, being used in the one case with reference to facts, to that which is actualized, as when a man is said to find walking possible because he is actually walking, and generally when a capacity is predicated because it is actually realized; in the other case, with reference to a state in which realization is conditionally practicable, as when a man is said to find walking possible because under certain conditions he would walk. This last sort of potentiality belongs only to that which can be in motion, the former can exist also in the case of that which has not this power. Both of that which is walking and is actual, and of that which has the capacity though not necessarily realized, it is true to say that it is not impossible that it should walk (or, in the other case, that it should be), but while we cannot predicate this latter kind of potentiality of that which is necessary in the unqualified sense of the word, we can predicate the former.

Our conclusion, then, is this: that since the universal is consequent upon the particular, that which is necessary is also possible, though not in every sense in which the word may be used.

We may perhaps state that necessity and its absence are the initial principles of existence and non-existence, and that all else must be regarded as posterior to these.

It is plain from what has been said that that which is of necessity is actual. Thus, if that which is eternal is prior, actuality also is prior to potentiality. Some things are actualities without potentiality, namely, the primary substances; a second class consists of those things which are actual but also potential, whose actuality is in nature prior to their potentiality, though posterior in time; a third class comprises those things which are never actualized, but are pure potentialities.

14

The question arises whether an affirmation finds its contrary in a denial or in another affirmation; whether the proposition 'every man is just' finds its contrary in the proposition 'no man is just', or in the proposition 'every man is unjust'. Take the propositions 'Callias is just', 'Callias is not just', 'Callias is unjust'; we have to discover which of these form contraries.

Now if the spoken word corresponds with the judgement of the mind, and if, in thought, that judgement is the contrary of another, which pronounces a contrary fact, in the way, for instance, in which the judgement 'every man is just' pronounces a contrary to that pronounced by the judgement 'every man is unjust', the same must needs hold good with regard to spoken affirmations.

But if, in thought, it is not the judgement which pronounces a contrary fact that is the contrary of another, then one affirmation will not find its contrary in another, but rather in the corresponding denial. We must therefore consider which true judgement is the contrary of the false, that which forms the denial of the false judgement or that which affirms the contrary fact.

Let me illustrate. There is a true judgement concerning that which is good, that it is good; another, a false judgement, that it is not good; and a third, which is distinct, that it is bad. Which of these two is contrary to the true? And if they are

one and the same, which mode of expression forms the contrary?

It is an error to suppose that judgements are to be defined as contrary in virtue of the fact that they have contrary subjects; for the judgement concerning a good thing, that it is good, and that concerning a bad thing, that it is bad, may be one and the same, and whether they are so or not, they both represent the truth. Yet the subjects here are contrary. But judgements are not contrary because they have contrary subjects, but because they are to the contrary effect.

Now if we take the judgement that that which is good is good, and another that it is not good, and if there are at the same time other attributes, which do not and cannot belong to the good, we must nevertheless refuse to treat as the contraries of the true judgement those which opine that some other attribute subsists which does not subsist, as also those that opine that some other attribute does not subsist which does subsist, for both these classes of judgement are of unlimited content.

Those judgements must rather be termed contrary to the true judgements, in which error is present. Now these judgements are those which are concerned with the starting points of generation, and generation is the passing from one extreme to its opposite; therefore error is a like transition.

Now that which is good is both good and not bad. The first quality is part of its essence, the second accidental; for it is by accident that it is not bad. But if that true judgement is most really true, which concerns the subject's intrinsic nature, then that false judgement likewise is most really false, which concerns its intrinsic nature. Now the judgement that that is good is not good is a false judgement concerning its intrinsic nature, the judgement that it is bad is one concerning that which is accidental. Thus the judgement which denies the true judgement is more really false than that which positively asserts the presence of the contrary quality. But it is the man who forms that judgement which is contrary to the true who is most thoroughly deceived, for contraries are among the things which differ most widely within the same class. If then of the two judgements one is contrary to the true judgement, but that which is contradictory is the more truly contrary, then the latter, it seems, is the real contrary. The judgement that that which is good is bad is composite. For presumably the man who forms that judgement must at the same time understand that that which is good is not good.

Further, the contradictory is either always the contrary or never; therefore, if

it must necessarily be so in all other cases, our conclusion in the case just dealt with would seem to be correct. Now where terms have no contrary, that judgement is false, which forms the negative of the true; for instance, he who thinks a man is not a man forms a false judgement. If then in these cases the negative is the contrary, then the principle is universal in its application.

Again, the judgement that that which is not good is not good is parallel with the judgement that that which is good is good. Besides these there is the judgement that that which is good is not good, parallel with the judgement that that that is not good is good. Let us consider, therefore, what would form the contrary of the true judgement that that which is not good is not good. The judgement that it is bad would, of course, fail to meet the case, since two true judgements are never contrary and this judgement might be true at the same time as that with which it is connected. For since some things which are not good are bad, both judgements may be true. Nor is the judgement that it is not bad the contrary, for this too might be true, since both qualities might be predicated of the same subject. It remains, therefore, that of the judgement concerning that which is not good, that it is not good, the contrary judgement is that it is good; for this is false. In the same way, moreover, the judgement concerning that which is good, that it is not good, is the contrary of the judgement that it is good.

It is evident that it will make no difference if we universalize the positive judgement, for the universal negative judgement will form the contrary. For instance, the contrary of the judgement that everything that is good is good is that nothing that is good is good. For the judgement that that which is good is good, if the subject be understood in a universal sense, is equivalent to the judgement that whatever is good is good, and this is identical with the judgement that everything that is good is good. We may deal similarly with judgements concerning that which is not good.

If therefore this is the rule with judgements, and if spoken affirmations and denials are judgements expressed in words, it is plain that the universal denial is the contrary of the affirmation about the same subject. Thus the propositions 'everything good is good', 'every man is good', have for their contraries the propositions 'nothing good is good', 'no man is good'. The contradictory propositions, on the other hand, are 'not everything good is good', 'not every man is good'.

It is evident, also, that neither true judgements nor true propositions can be contrary the one to the other. For whereas, when two propositions are true, a man may state both at the same time without inconsistency, contrary propositions are those which state contrary conditions, and contrary conditions cannot subsist at one and the same time in the same subject.