CHAPTER III.

Of Opposition.

Section 449. Opposition is an immediate inference grounded on the relation between propositions which have the same terms, but differ in quantity or in quality or in both.

Section 450. In order that there should be any formal opposition between two propositions, it is necessary that their terms should be the same. There can be no opposition between two such propositions as these--

(1) All angels have wings.

(2) No cows are carnivorous.

Section 451. If we are given a pair of terms, say A for subject and B for predicate, and allowed to affix such quantity and quality as we please, we can of course make up the four kinds of proposition recognised by logic, namely,

A. All A is B.

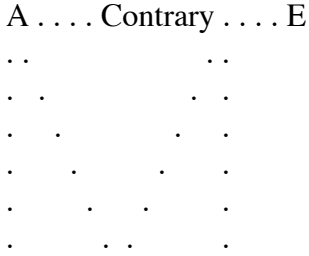
E. No A is B.

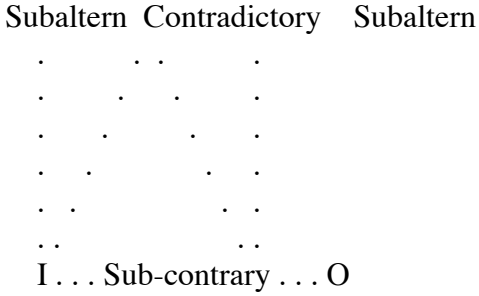
I. Some A is B.

O. Some A is not B.

Section 452. Now the problem of opposition is this: Given the truth or falsity of any one of the four propositions A, E, I, O, what can be ascertained with regard to the truth or falsity of the rest, the matter of them being supposed to be the same?

Section 453. The relations to one another of these four propositions are usually exhibited in the following scheme--





Section 454. Contrary Opposition is between two universals which differ in quality.

Section 455. Sub-contrary Opposition is between two particulars which differ in quality.

Section 456. Subaltern Opposition is between two propositions which differ only in quantity.

Section 457. Contradictory Opposition is between two propositions which differ both in quantity and in quality.

Section 458. Subaltern Opposition is also known as Subalternation, and of the two propositions involved the universal is called the Subalternant and the particular the Subalternate. Both together are called Subalterns, and similarly in the other forms of opposition the two propositions involved are known respectively as Contraries, Sub-contraries and Contradictories.

Section 459. For the sake of convenience some relations are classed under the head of opposition in which there is, strictly speaking, no opposition at all between the two propositions involved.

Section 460. Between sub-contraries there is an apparent, but not a real opposition, since what is affirmed of one part of a term may often with truth be denied of another. Thus there is no incompatibility between the two statements.

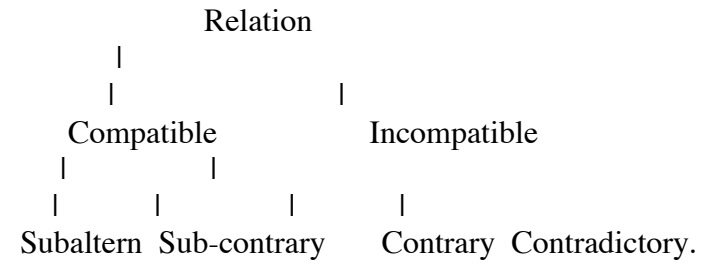
(1) Some islands are inhabited.

(2) Some islands are not inhabited.

Section 461. In the case of subaltern opposition the truth of the universal not only may, but must, be compatible with that of the particular.

Section 462. Immediate Inference by Relation would be a more appropriate name than Opposition; and Relation might then be subdivided into

Compatible and Incompatible Relation. By 'compatible' is here meant that there is no conflict between the truth of the two propositions. Subaltern and sub-contrary opposition would thus fall under the head of compatible relation; contrary and contradictory relation under that of incompatible relation.



Section 463. It should be noticed that the inference in the case of opposition is from the truth or falsity of one of the opposed propositions to the truth or falsity of the other.

Section 464. We will now lay down the accepted laws of inference with regard to the various kinds of opposition.

Section 465. Contrary propositions may both be false, but cannot both be true. Hence if one be true, the other is false, but not vice versâ.

Section 466. Sub-contrary propositions may both be true, but cannot both be false. Hence if one be false, the other is true, but not vice versâ.

Section 467. In the case of subaltern propositions, if the universal be true, the particular is true; and if the particular be false, the universal is false; but from the truth of the particular or the falsity of the universal no conclusion can be drawn.

Section 468. Contradictory propositions cannot be either true or false together. Hence if one be true, the other is false, and vice versâ.

Section 469. By applying these laws of inference we obtain the following results--

If A be true, E is false, O false, I true.

If A be false, E is unknown, O true, I unknown.

If E be true, O is true, I false, A false.

If E be false, O is unknown, I true, A unknown.

If O be true, I is unknown, A false, E unknown.

If O be false, I is true, A true, E false.

If I be true, A is unknown, E false, O unknown.

If I be false, A is false, E true, O true.

Section 470. It will be seen from the above that we derive more information from deriving a particular than from denying a universal. Should this seem surprising, the paradox will immediately disappear, if we reflect that to deny a universal is merely to assert the contradictory particular, whereas to deny a particular is to assert the contradictory universal. It is no wonder that we should obtain more information from asserting a universal than from asserting a particular.

Section 471. We have laid down above the received doctrine with regard to opposition: but it is necessary to point out a flaw in it.

When we say that of two sub-contrary propositions, if one be false, the other is true, we are not taking the propositions I and O in their now accepted logical meaning as indefinite (Section 254), but rather in their popular sense as 'strict particular' propositions. For if I and O were taken as indefinite propositions, meaning 'some, if not all,' the truth of I would not exclude the possibility of the truth of A, and, similarly, the truth of O would not exclude the possibility of the truth of E. Now A and E may both be false. Therefore I and O, being possibly equivalent to them, may both be false also. In that case the doctrine of contradiction breaks down as well. For I and O may, on this showing, be false, without their contradictories E and A being thereby rendered true. This illustrates the awkwardness, which we have previously had occasion to allude to, which ensures from dividing propositions primarily into universal and particular, instead of first dividing them into definite and indefinite, and particular (Section 256).

Section 472. To be suddenly thrown back upon the strictly particular view of I and O in the special case of opposition, after having been accustomed to regard them as indefinite propositions, is a manifest inconvenience. But the received doctrine of opposition does not even adhere consistently to this view. For if I and O be taken as strictly particular propositions, which exclude the possibility of the universal of the same quality being true along with them, we ought not merely to say that I and O may both be true, but that if one be true the other must also be true. For I being true, A is false, and

therefore O is true; and we may argue similarly from the truth of O to the truth of I, through the falsity of E. Or--to put the Same thing in a less abstract form--since the strictly particular proposition means 'some, but not all,' it follows that the truth of one sub-contrary necessarily carries with it the truth of the other, If we lay down that some islands only are inhabited, it evidently follows, or rather is stated simultaneously, that there are some islands also which are not inhabited. For the strictly particular form of proposition 'Some A only is B' is of the nature of an exclusive proposition, and is really equivalent to two propositions, one affirmative and one negative.

Section 473. It is evident from the above considerations that the doctrine of opposition requires to be amended in one or other of two ways. Either we must face the consequences which follow from regarding I and O as indefinite, and lay down that sub-contraries may both be false, accepting the awkward corollary of the collapse of the doctrine of contradiction; or we must be consistent with ourselves in regarding I and O, for the particular purposes of opposition, as being strictly particular, and lay down that it is always possible to argue from the truth of one sub-contrary to the truth of the other. The latter is undoubtedly the better course, as the admission of I and O as indefinite in this connection confuses the theory of opposition altogether.

Section 474. Of the several forms of opposition contradictory opposition is logically the strongest. For this three reasons may be given--

(1) Contradictory opposites differ both in quantity and in quality, whereas others differ only in one or the other.

(2) Contradictory opposites are incompatible both as to truth and falsity, whereas in other cases it is only the truth or falsity of the two that is incompatible.

(3) Contradictory opposition is the safest form to adopt in argument. For the contradictory opposite refutes the adversary's proposition as effectually as the contrary, and is not so hable to a counter-refutation.

Section 475. At first sight indeed contrary opposition appears stronger, because it gives a more sweeping denial to the adversary's assertion. If, for instance, some person with whom we were arguing were to lay down that 'All poets are bad logicians,' we might be tempted in the heat of controversy to maintain against him the contrary proposition 'No poets are bad logicians.' This would certainly be a more emphatic contradiction, but, logically considered,

it would not be as sound a one as the less obtrusive contradictory, 'Some poets are not bad logicians,' which it would be very difficult to refute.

Section 476. The phrase 'diametrically opposed to one another' seems to be one of the many expressions which have crept into common language from the technical usage of logic. The propositions A and O and E and I respectively are diametrically opposed to one another in the sense that the straight lines connecting them constitute the diagonals of the parallelogram in the scheme of opposition.

Section 477. It must be noticed that in the case of a singular proposition there is only one mode of contradiction possible. Since the quantity of such a proposition is at the minimum, the contrary and contradictory are necessarily merged into one. There is no way of denying the proposition 'This house is haunted,' save by maintaining the proposition which differs from it only in quality, namely, 'This house is not haunted.'

478. A kind of generality might indeed he imparted even to a singular proposition by expressing it in the form 'A is always B.' Thus we may say, 'This man is always idle'--a proposition which admits of being contradicted under the form 'This man is sometimes not idle.'