CHAPTER IV.

Of the Distribution of Terms.

Section 274. The treatment of this subject falls under the second part of logic, since distribution is not an attribute of terms in themselves, but one which they acquire in predication.

Section 275. A term is said to be distributed when it is known to be used in its whole extent, that is, with reference to all the things of which it is a name. When it is not so used, or is not known to be so used, it is called undistributed.

Section 276. When we say 'All men are mortal,' the subject is distributed, since it is apparent from the form of the expression that it is used in its whole extent. But when we say 'Men are miserable' or 'Some men are black,' the subject is undistributed.

Section 277. There is the same ambiguity attaching to the term 'undistributed' which we found to underlie the use of the term 'particular.' 'Undistributed' is applied both to a term whose quantity is undefined, and to one whose quantity is definitely limited to a part of its possible extent.

Section 278. This awkwardness arises from not inquiring first whether the quantity of a term is determined or undetermined, and afterwards proceeding to inquire, whether it is determined as a whole or part of its possible extent. As it is, to say that a term is distributed, involves two distinct statements--

  (1) That its quantity is known;

  (2) That its quantity is the greatest possible.

The term 'undistributed' serves sometimes to contradict one of these statements and sometimes to contradict the other.

Section 279. With regard to the quantity of the subject of a proposition no difficulty can arise. The use of the words 'all' or 'some,' or of a variety of equivalent expressions, mark the subject as being distributed or undistributed respectively, while, if there be nothing to mark the quantity, the subject is for that reason reckoned undistributed.

Section 280. With regard to the predicate more difficulty may arise.

Section 281. It has been laid down already that, in the ordinary form of proposition, the subject is used in extension and the predicate in intension. Let us illustrate the meaning of this by an example. If someone were to say 'Cows are ruminants,' you would have a right to ask him whether he meant 'all cows' or only 'some.' You would not by so doing be asking for fresh information, but merely for a more distinct explanation of the statement already made. The subject being used in extension naturally assumes the form of the whole or part of a class. But, if you were to ask the same person 'Do you mean that cows are all the ruminants that there are, or only some of them?' he would have a right to complain of the question, and might fairly reply, 'I did not mean either one or the other; I was not thinking of ruminants as a class. I wished merely to assert an attribute of cows; in fact, I meant no more than that cows chew the cud.'

Section 282. Since therefore a predicate is not used in extension at all, it cannot possibly be known whether it is used in its whole extent or not.

Section 283. It would appear then that every predicate is necessarily undistributed; and this consequence does follow in the case of affirmative propositions.

Section 284. In a negative proposition, however, the predicate, though still used in intension, must be regarded as distributed. This arises from the nature of a negative proposition. For we must remember that in any proposition, although the predicate be not meant in extension, it always admits of being so read. Now we cannot exclude one class from another without at the same time wholly excluding that other from the former. To take an example, when we say 'No horses are ruminants,' the meaning we really wish to convey is that no member of the class, horse, has a particular attribute, namely, that of chewing the cud. But the proposition admits of being read in another form, namely, 'That no member of the class, horse, is a member of the class, ruminant.' For by excluding a class from the possession of a given attribute, we inevitably exclude at the same time any class of things which possess that attribute from the former class.

Section 285. The difference between the use of a predicate in an affirmative and in a negative proposition may be illustrated to the eye as follows. To say 'All A is B' may mean either that A is included in B or that A and B are exactly co-extensive.

[Illustration]

Section 286. As we cannot be sure which of these two relations of A to B is meant, the predicate B has to be reckoned undistributed, since a term is held to be distributed only when we know that it is used in its whole extent.

Section 287. To say 'No A is B,' however, is to say that A falls wholly outside of B, which involves the consequence that B falls wholly outside of A.

[Illustration]

Section 288. Let us now apply the same mode of illustration to the particular forms of proposition.

Section 289. If I be taken in the strictly particular sense, there are, from the point of view of extension, two things which may be meant when we say 'Some A is B'--

  (1) That A and B are two classes which overlap one another, that is to say, have some members in common, e.g. 'Some cats are black.'

  [Illustration]

  (2) That B is wholly contained in A, which is an inverted way of saying that all B is A, e.g. 'Some animals are men.'

  [Illustration]

Section 290. Since we cannot be sure which of these two is meant, the predicate is again reckoned undistributed.

Section 291. If on the other hand 1 be taken in an indefinite sense, so as to admit the possibility of the universal being true, then the two diagrams which have already been used for A must be extended to 1, in addition to its own, together with the remarks which we made in connection with them (SectionSection 285-6).

Section 292. Again, when we say 'Some A is not B,' we mean that some, if not the whole of A, is excluded from the possession of the attribute B. In either case the things which possess the attribute B are wholly excluded either from a particular part or from the whole of A. The predicate therefore is distributed.

[Illustration]

From the above considerations we elicit the following--

Section 293. Four Rules for the Distribution of Terms.

(1) All universal propositions distribute their subject.

(2) No particular propositions distribute their subject,

(3) All negative propositions distribute their predicate.

(4) No affirmative propositions distribute their predicate.

Section 294. The question of the distribution or non-distribution of the subject turns upon the quantity of the proposition, whether universal or particular; the question of the distribution or non-distribution of the predicate turns upon the quality of the proposition, whether affirmative or negative.