

Prior Analytics

By Aristotle

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Book I

Part 1

We must first state the subject of our inquiry and the faculty to which it belongs: its subject is demonstration and the faculty that carries it out demonstrative science. We must next define a premiss, a term, and a syllogism, and the nature of a perfect and of an imperfect syllogism; and after that, the inclusion or noninclusion of one term in another as in a whole, and what we mean by predicating one term of all, or none, of another.

A premiss then is a sentence affirming or denying one thing of another. This is either universal or particular or indefinite. By universal I mean the statement that something belongs to all or none of something else; by particular that it belongs to some or not to some or not to all; by indefinite that it does or does not belong, without any mark to show whether it is universal or particular, e.g. 'contraries are subjects of the same science', or 'pleasure is not good'. The demonstrative premiss differs from the dialectical, because the demonstrative premiss is the assertion of one of two contradictory statements (the demonstrator does not ask for his premiss, but lays it down), whereas the dialectical premiss depends on the adversary's choice between two contradictories. But this will make no difference to the production of a syllogism in either case; for both the demonstrator and the dialectician argue syllogistically after stating that something does or does not belong to something else. Therefore a syllogistic premiss without qualification will be an affirmation or denial of something concerning something else in the way we have described; it will be demonstrative, if it is true and obtained through the first principles of its science; while a dialectical premiss is the giving of a choice between two contradictories, when a man is proceeding by question, but when he is syllogizing it is the assertion of that which is apparent and generally admitted, as has been said in the Topics. The nature then of a premiss and the difference between syllogistic, demonstrative, and dialectical premisses, may be taken as sufficiently defined by us in relation to our present need, but will be stated accurately in the sequel.

I call that a term into which the premiss is resolved, i.e. both the predicate and that of which it is predicated, 'being' being added and 'not being' removed, or vice versa.

A syllogism is discourse in which, certain things being stated, something other than what is stated follows of necessity from their being so. I mean by the last phrase that they produce the consequence, and by this, that no further term is required from without in order to make the consequence necessary.

I call that a perfect syllogism which needs nothing other than what has been stated to make plain what necessarily follows; a syllogism is imperfect, if it needs either one or more propositions, which are

indeed the necessary consequences of the terms set down, but have not been expressly stated as premisses.

That one term should be included in another as in a whole is the same as for the other to be predicated of all of the first. And we say that one term is predicated of all of another, whenever no instance of the subject can be found of which the other term cannot be asserted: 'to be predicated of none' must be understood in the same way.

Part 2

Every premiss states that something either is or must be or may be the attribute of something else; of premisses of these three kinds some are affirmative, others negative, in respect of each of the three modes of attribution; again some affirmative and negative premisses are universal, others particular, others indefinite. It is necessary then that in universal attribution the terms of the negative premiss should be convertible, e.g. if no pleasure is good, then no good will be pleasure; the terms of the affirmative must be convertible, not however, universally, but in part, e.g. if every pleasure is good, some good must be pleasure; the particular affirmative must convert in part (for if some pleasure is good, then some good will be pleasure); but the particular negative need not convert, for if some animal is not man, it does not follow that some man is not animal.

First then take a universal negative with the terms A and B. If no B is A, neither can any A be B. For if some A (say C) were B, it would not be true that no B is A; for C is a B. But if every B is A then some A is B. For if no A were B, then no B could be A. But we assumed that every B is A. Similarly too, if the premiss is particular. For if some B is A, then some of the As must be B. For if none were, then no B would be A. But if some B is not A, there is no necessity that some of the As should not be B; e.g. let B stand for animal and A for man. Not every animal is a man; but every man is an animal.

Part 3

The same manner of conversion will hold good also in respect of necessary premisses. The universal negative converts universally; each of the affirmatives converts into a particular. If it is necessary that no B is A, it is necessary also that no A is B. For if it is possible that some A is B, it would be possible also that some B is A. If all or some B is A of necessity, it is necessary also that some A is B: for if there were no necessity, neither would some of the Bs be A necessarily. But the particular negative does not convert, for the same reason which we have already stated.

In respect of possible premisses, since possibility is used in several senses (for we say that what is necessary and what is not necessary and what is potential is possible), affirmative statements will all convert in a manner similar to those described. For if it is possible that all or some B is A, it will be possible that some A is B. For if that were not possible, then no B could possibly be A. This has been already proved. But in negative statements the case is different. Whatever is said to be possible, either because B necessarily is A, or because B is not necessarily A, admits of conversion like other negative statements, e.g. if one should say, it is possible that man is not horse, or that no garment is white. For in the former case the one term necessarily does not belong to the other; in the latter there is no necessity that it should: and the premiss converts like other negative statements. For if it is possible for no man to be a horse, it is also admissible for no horse to be a man; and if it is admissible for no garment to be

white, it is also admissible for nothing white to be a garment. For if any white thing must be a garment, then some garment will necessarily be white. This has been already proved. The particular negative also must be treated like those dealt with above. But if anything is said to be possible because it is the general rule and natural (and it is in this way we define the possible), the negative premisses can no longer be converted like the simple negatives; the universal negative premiss does not convert, and the particular does. This will be plain when we speak about the possible. At present we may take this much as clear in addition to what has been said: the statement that it is possible that no B is A or some B is not A is affirmative in form: for the expression 'is possible' ranks along with 'is', and 'is' makes an affirmation always and in every case, whatever the terms to which it is added, in predication, e.g. 'it is not-good' or 'it is not-white' or in a word 'it is not-this'. But this also will be proved in the sequel. In conversion these premisses will behave like the other affirmative propositions.