Philosophy 433 S. M. Cohen
Aristotle

Truth and Validity

Prior Analytics Book II

Chapter 2

53^b4. It is possible for the premises of the deduction to be true, or to be false, or to be the one true, the other false. The conclusion is either true or false necessarily. From true premises it is not possible to draw a false conclusion; but a true conclusion may be drawn from false premises—true however only in respect to the fact, not to the reason. The reason cannot be established from false premises: why this is so will be explained in the sequel.

53^b11. First then that it is not possible to draw a false conclusion from true premises, is made clear by this consideration. If it is necessary that *B* should be when *A* is, it is necessary that *A* should not be when *B* is not. If then *A* is true, *B* must be true: otherwise it will turn out that the same thing both is and is not at the same time. But this is impossible. (Let it not, because *A* is laid down as a single term, be supposed that it is possible, when a single fact is given, that something should necessarily result. For that is not possible. For what results necessarily is the conclusion, and the means by which this comes about are at the least three terms, and two relations or propositions. If then it is true that *A* belongs to all that to which *B* belongs, and that *B* belongs to all that to which *C* belongs, it is necessary that *A* should belong to all that to which *C* belongs, and this cannot be false; for then the same thing will belong and not belong at the same time. So *A* is posited as one thing, being two premises taken together.) The same holds good of negative deductions: it is not possible to prove a false conclusion from truths.

53^b26. But from what is false a true conclusion may be drawn, whether both the premises are false or only one (provided that this is not either of the premises indifferently, but the second, if it is taken as wholly false; but if it is not taken as wholly false, it does not matter which of the two is false). Let *A* belong to the whole of *C*, but to no *B*, neither let *B* belong to *C*. This is possible, e.g. animal belongs to no stone, nor stone to any man. If then *A* is taken to belong to every *B* and *B* to every *C*, *A* will belong to every *C*; consequently though both the premises are false the conclusion is true; for every man is an animal. Similarly with the negative. For it is possible that neither *A* nor *B* should belong to any *C*, although *A* belongs to every *B*, e.g. if the same terms are taken and man is put as middle; for neither animal nor man belongs to any stone, but animal belongs to every man. Consequently if one term is taken to belong to none of that to which it does belong, and the other term is taken to belong to all of that to which it does not belong, though both the premises are false the conclusion will be true. A similar proof may be given if each premise is partially false.

At 53^b30ff, Aristotle gives these two examples:

1. Let *A* = animal, *B* = stone, *C* = man. Then we have an instance of *Barbara* with false premises and a true conclusion. '***A*a*B***' and '***B*a*C***' are both false, but '***A*a*C***' is true.

2. Let *A* = animal, *B* = man, *C* = stone. Then we have an instance of *Celarent* with false premises and a true conclusion. '***A*e*B***' and '***B*a*C***' are both false, but '***A*e*C***' is true.