

John Buridan

John Buridan (c. 1295– c. 1359) was born in Picardy (France). He was educated in Paris and taught there. He wrote a number of works focusing on exposition and discussion of issues in Aristotle (in the form of *expositiones* and *quaestiones*). His magnum opus was the *Summulae de Dialectica*, a comprehensive discussion of logic. Below are two short extracts from the ninth book of that work. I follow Gyula Klima's annotated translation of the *Summulae de Dialectica* (Yale University Press, 2001).

Summulae de Dialectica IX Sophismata

Chapter 2 (On the Causes of Truth and Falsehood of Propositions) Sixth Sophism: I say [something] false

Having posited the case that I utter the proposition 'I say [something] false', and nothing other, the sophism is proved [as follows]: by so saying I either say [something] false or I say [something] true. If I say [something] true, then it is true that I say [something] false; therefore, the sophism is true. If I say [something] false, then so it is as I say; therefore, I say [something] true; and thus the sophism is true again.

Again, if the sophism is true, then the subject and the predicate, namely, 'I' and '[someone] saying [something] false', supposit for the same, for 'I' supposit for me and '[someone] saying [something] false' likewise; and such a proposition, since it is affirmative, is true; therefore, the sophism is true.

The opposite is clear: for if the sophism is true, then it also follows that it is false, and thus it is both true and false, which is impossible.

Proof of the consequence: if it is true, then it is true that I say [something] false; and it is something false that I say; but it was posited that I say nothing else but that sophism; therefore, it is false.

And we should note that this sophism is called one of the *insolubles*, and it cannot be solved except by considering on what basis a proposition is said to be true or false. Therefore, it seems to me that the treatise on insolubles should follow rather closely on the present chapter. This is why I intend to deal with them immediately after I have discussed supposition and appellation in the next chapter, as well as the measure according to which a proposition is to be called true or false.

For the present, therefore, for the solution of the aforementioned sophisms and similar ones, I put forth some conclusions relevant to the basis on which propositions are said to be true or false. And in order to speak intelligibly, I assume, in accordance with what was said earlier, that utterances have two significations: one is in the mind, for they immediately signify the concepts corresponding to them, in accordance with which, or with concepts similar to them, they were imposed to signify; they have another

signification because, by the mediation of the said concepts, they signify the things that are conceived by those concepts, and because often the things conceived are outside the mind, as in the cases of a stone or a donkey. Therefore, I will call by convention [*ad placitum*] the first of these [signification] ‘in the mind’ [*apud mentem*], and the second I will call signification ‘outside [the mind]’ [*ad extra*].

Chapter 4 (On Appellation) Second Sophism: Today You Ate Raw Meat

[The case] is posited that yesterday you bought a piece of raw meat, and today you ate it well-cooked.

Then we argue thus: whatever you bought yesterday is what you ate today; but yesterday you bought raw [meat]; therefore, today you ate raw [meat].

Contra: whatever you ate today is what you ate well-cooked, according to the case; therefore, you did not eat raw [meat].

Response: My response to the second sophism is that it is false. And when it is said that whatever you bought yesterday you ate today, this, perhaps, can be denied: for you not only bought the substance of the [meat] but also the accidents inhering in it. And thus I bought rawness that I do not eat, and it is certain that something from the substance of the [meat] has evaporated and disappeared; therefore, in the above-described case I do not eat whatever I bought.

But if the major is accepted, then also the minor is to be conceded, namely, that I bought raw [meat]. But it does not follow that ‘therefore, I eat raw [meat]’, nor does it follow that ‘therefore, [it is] raw [meat] I eat’. And the reason for this is that you proceed from a more ample supposition or appellation to a less ample one without distribution, and we have said elsewhere that this is not a valid move.

Therefore, that this is so I now clarify in the following way: in the minor proposition ‘Raw [meat] you bought’, the term ‘raw [meat]’ appellates rawness indifferently under disjunction for the present or past time, and in the conclusion, when I say: ‘I eat raw [meat]’, then ‘raw [meat]’ appellates rawness only for the present; therefore, it does not supposit for that to which rawness pertained, unless it still pertains to it at the present time.

Other people respond otherwise, namely, that the distributive [sign] ‘whatever’ is distributive of substance, under which one should not subsume ‘raw [meat]’, since it is in the category of quality.

But this is not a sufficient solution, for ‘whatever’ distributes for every being; therefore it is possible to subsume under this distribution any term that supposits for something. Therefore, the following is a valid syllogism: ‘Whatever is something, that is a being; but raw [meat] is something; therefore, raw [meat] is a being’. The consequence, therefore, was invalid for the reason mentioned above.

But the argument will be reinforced by assuming that I bought a round loaf of bread, and that then I changed its shape, adding or removing nothing. For this is possible, assuming that a shape [*figura*] does not differ from [the thing] so shaped [*figuratum*], so that I ate the whole bread. Then I syllogize as follows: whatever I bought I ate—this is true by the case assumed, and the objection raised concerning raw [meat] does not apply [here]—then let us take the minor that I bought round [bread] and conclude that ‘therefore, I ate

round [bread]', which is false by the case assumed, for I ate a differently shaped [loaf of bread], and also this present-tense proposition was never true: 'I eat round [bread]'.

It is therefore a legitimate question whether in this case this should be conceded: 'I ate round [bread]'. And it seems so, for this is true: '[It was] round [bread] I ate', for what was round I ate; therefore, in this case this is likewise true: 'I ate round [bread]'.

Proof of the consequence: the appellation pertained [to the suppositum] for the time of the verb, since in the past [the suppositum] was round; therefore the appellative term can be placed in the predicate position as well as in the subject position.

I believe, nevertheless, that this proposition should not be conceded, because although the appellation did pertain [to the suppositum] in the past, it did not at the time when I ate it. For all the appellations of the predicate have to pertain [to the suppositum] together at the same time: thus when I say 'I was eating a raw apple in Paris', it is necessary that at that time I should have been eating, I should have been eating an apple, and that it should have been raw, and in Paris. I say, therefore, that this argument was not valid: 'Whatever I bought I ate, and I bought round [bread]; therefore, I ate round [bread]', although one might conclude 'therefore, [it was] round [bread] I ate', or even 'therefore, I ate that which was round'.

Chapter 8 (On Self-Referential Propositions) First Sophism: Every proposition is affirmative; therefore, no proposition is negative

This is proved first by the locus from contraries. For just as 'Every man is ill; therefore, no man is healthy' is valid because it is impossible for the same [person] to be both ill and healthy, so is the above, because it is impossible for the same proposition to be both affirmative and negative.

Again, an enthymeme is valid if by the addition of a necessary proposition it can be completed into a formally valid syllogism—for it is by such additions that we usually prove our enthymemes. For example, we say that this is a valid consequence: 'A donkey flies; therefore, a donkey has wings', for this is necessary: 'Everything flying has wings', and if we add this as the major, then we get a valid syllogism in the third mode of the first figure. So also in connection with the sophism, this is true: 'No affirmative is a negative', and if this is made the major in this enthymeme, then we shall get a valid syllogism, in the second mode of the first figure.

Again, the opposite of the consequent entails the opposite of the antecedent; therefore, the consequence is valid. For this rule is common to every valid consequence.

But the antecedent [suggested above] is obvious: for 'Some proposition is negative; therefore, not every proposition is affirmative' is obviously valid.

The opposite is argued: for something possible does not entail something impossible, whereas the first [proposition of the sophism] is possible and the second is impossible. For the first is possible, namely, 'Every proposition is affirmative', since God could annihilate all negatives while sparing the affirmatives, and then every proposition would be affirmative. But the other is impossible, namely, 'No proposition is negative', for in no case can it be true. For whenever it is not, then it is neither true nor false, and whenever it is, then some proposition is negative, namely, itself; therefore, it is false to say that no proposition is negative.

Again, a consequence is not valid if the antecedent can be true without the truth of the consequent. But this is the case here, for since the antecedent can be true and the consequent cannot be true, it is clear that the antecedent can be true without the truth of the consequent.

And this is also clear, because 'Every proposition is affirmative' would be true if God annihilated all negatives, and then the consequent would not be true, for it would not be. Therefore, it is clear that the antecedent can be true without the consequent; therefore, the consequence is not valid.

But it is replied that a consequence is not said to be valid because the antecedent cannot be true without the truth of the consequent, but because it cannot be true without the truth of the consequent when they are formed together—but this is the case here.

Contra: if a consequence were said to be valid for this reason, then it would follow that this consequence is valid: 'No proposition is affirmative; therefore, a stick stands in the corner', for it is impossible, if these are formed together, for the antecedent to be true; and if it cannot be true, then it follows that it cannot be true without the consequent.

Again, it is not a valid consequence in which the consequent, if it were added to the true antecedent, would falsify it, for such a consequent appears to be incompatible rather than compatible with this antecedent. But this is the case here: for positing that 'Every proposition is affirmative' is true, if we add 'No proposition is negative', it will be false; therefore, the consequence is not valid.

I respond that the consequence is valid, as has been correctly proved. But then there is the difficulty as to the basis on which a consequence is to be said to be true or false. And concerning this I briefly propound some conclusions.

Chapter 8 (On Self-Referential Propositions) Ninth sophism: Socrates says something true

The ninth sophism is akin to the previous one and runs: 'Socrates says something true'. Here let it be the case that Socrates says only the proposition 'Plato says something false', and Plato, on the contrary, says only the proposition 'Socrates says something true'. It is asked, then, whether Plato's proposition is true or false. And the same could be asked about Socrates' proposition.

It is argued that Plato says something true: for either he says something true or he says something false. If he says something true, then I have the proposition to be proved; and if he says something false, then, it still follows that he says something true; therefore, in every case it follows that he says something true.

Then I prove the assumption, namely, that if he says something false it follows that he says something true: for if he says something false, then Socrates does not say something true, and if Socrates does not say something true, then Plato says something true, and I have the proposition to be proved. Therefore, the sophism is proved, namely, that Socrates says something true.

Next, it is disproved in a similar manner: for Plato either says something true or says something false. If he says something false, then I have the proposition to be proved, and if he says something true, then it still follows that he says something false, and I again have the proposition to be proved.

Therefore, I prove the assumption, namely, that it follows that if Plato says something true, then Plato says something false: for if he says something true, then it follows that Socrates says something true, and if Socrates says something true, then it follows that Plato says something false; therefore, etc. We should briefly declare, just as we did earlier, that both propositions are false, for I assume that things are as posited in the case, since this is possible, and thus the proposition expressing the case is true. Therefore, every proposition is false that together with the assumption of this case entails something false, since something false does not follow from truths but from falsities; but both propositions together with the case entail something false; therefore, etc.

I prove that both propositions, together with the case, entail something false: for it follows that the same proposition is true and false, without equivocation, and this is false. But I prove next that Plato's proposition with the case entails that the same proposition, namely, Plato's, is true and false: for the case posits that it exists, but it has been said that every proposition together with another that says that it exists entails that it is true. And then it follows further that, if it is true, then it is false; therefore, it follows that it is true and false, and the same argument applies to the other.

But then it is asked whether they are impossible.

And it seems that they are: for something possible does not entail something impossible, namely, that the same proposition is true and false.

Contra: every proposition is possible that, although it is false, can be true on account of a change in the things signified; but Plato's proposition, namely, that Socrates says something true, can be true if we assume that Socrates says this: 'God exists'; therefore, it is possible and not impossible. And thus it is clear that Socrates' proposition is also possible, for it would be true if Plato said that a man is a donkey.

Then I respond to the argument thus: neither [proposition] entails something impossible, but both of them and the case together do entail something impossible. Therefore, I concede that their conjunction with the assumption of the case yields an impossibility. And this often happens, namely, that a conjunction is impossible whose two categorical [members] are possible, as when I say: 'Everything running is a horse, and a man is running'. This entails something impossible, namely, that a man is a horse. Likewise, this is also impossible: 'Socrates runs and Socrates does not run', even though both [of its] members are possible.

Then we should respond to the argument that claimed that Plato's proposition was true. When it was said that it was true or false, [in reply to this] I concede that it is false.

And when it is said that it follows that if it is false, then it is true, I deny the consequence. And when you prove 'for if Plato says something false, then it follows that Socrates does not say something true, but something false', this I concede. And when you go on to say: 'and if Socrates says something false, then it follows that Plato says something true', I deny the consequence, for Socrates' proposition is not false because the case is other than it signifies according to its formal signification (for in this way it signifies that Plato says something false, and this is the case). It is false because the consequent implied by it and the case, which is true, is false (for that consequent is that A is true, positing that Socrates' proposition is named by the proper name A, and this is not the case, for it [namely, A] is not true). And if it is said that Socrates' proposition saying that Plato says something false is true—for its terms supposit for the same, and the case is just as it signifies, and its equivalent that Robert utters is true, and its contradictory that John utters is false—we should reply to all these points as we did in connection with the previous sophism.

Chapter 8 (On Self-Referential Propositions) Thirteenth Sophism: Socrates knows the proposition written on the wall to be doubtful to him

The case is posited that this proposition ('Socrates knows the proposition written on the wall to be doubtful to him') is the only one written on the wall and that Socrates looks at it and examines it and doubts whether it is true or false, and that he knows well that he doubts it, and then it is asked whether it is true or false.

And it is argued that it is true: for the case is posited to the effect that Socrates truly knows that proposition to be doubtful to him; and this is what this proposition signifies; therefore it is true.

Again, if we have similar propositions, then if the one is true, then so is the other; but whoever would utter a similar proposition would say something true; therefore it is true.

But the opposite is argued: for every proposition is false that entails something impossible; but here there follows something impossible, namely, that Socrates both knows and doubts the same proposition. For according to the case he doubts this proposition, but nevertheless he knows it: for he knows the case to be as it signifies, since he knows that it is doubtful to him. Indeed, it is also possible that he knows himself to know that it is doubtful to him, and that proposition signifies nothing more; but to know that things are as the proposition signifies is to know the proposition—for you know the proposition 'A man is an animal' because you know that it is so [that a man is an animal].

Indeed, this is confirmed by the fact that if Socrates pays attention, he knows that proposition to be true, for if you say a similar one, he will know that you say something true; therefore, by the same token, he knows this to be true.

Similarly, if you were to say its contradictory, he will know that you say something false. But whoever knows one contradictory to be false knows the other to be true, if he pays attention to it and knows that they are contradictories; therefore, etc.

Some people respond to this sophism by saying that according to the case there are two propositions written on the wall [expressed in one], namely, one whole [proposition] to the effect that Socrates knows that the proposition written on the wall is doubtful to him, and another that is a part of the former, namely, that the proposition written on the wall is doubtful to him. Now Socrates does indeed know this partial proposition, namely, that the proposition written on the wall is doubtful to him, but he does not know the total one; rather, it is doubtful to him, and this is not impossible; therefore, the proposition is conceded to be true.

But this solution does not seem to eliminate the problem, because it is not true that according to the case there are two propositions written on the wall, since it has been said elsewhere that no part of a proposition is a proposition, as long as it is a part of a proposition.

Again, the case did not posit a proposition to be written on the wall such as the one that the response concerns, but rather the proposition 'Socrates knows the proposition written on the wall to be doubtful to him'; however, the infinitive expression 'the proposition written on the wall to be doubtful to him' is not a proposition. And if it supposits for a proposition, then it supposits for nothing but the total one, for there is no other proposition written on the wall; therefore, if he knows some proposition written on the wall, then he knows that total one.

Again, it was posited not only that he knows that it is doubtful to him but that he knows himself to know this. Let us then posit this, for it is possible, and thus Socrates not only knows that the proposition is doubtful to him, but he also knows that he knows this. And thus it seems to follow that he knows the total proposition and not only the partial one.

Therefore, I respond otherwise by conceding that the proposition written on the wall is doubtful to him and that he knows for certain that it is doubtful to him; indeed, he knows himself to know this, and then the question is whether he himself knows that proposition.

And for the solution of this question we should note that [the term] 'concept' is broader than [the term] 'knowledge', for a concept can be without complexity and can be complex without an enunciation.

But in us there is knowledge only of some proposition or other [*alicuius enuntiationis*], and for there to be knowledge, it is required that a man assent to a true proposition with certitude and evidentness [*cum certitudine <et evidentia>*].

And we say that a proposition of this kind [*enuntiationem huius modi*], i.e., one to which we assent with such certitude and evidentness, is known, and [likewise] we are said to have knowledge of it and indeed of the things signified by its terms as well.

Therefore, we distinguish between two kinds of known things, namely, those that are known primarily and immediately, and such is an enunciation to which we assent in the manner described, and those that are known remotely, namely, the things signified by the terms of the enunciation known in the first way.

Now, it is impossible for a proposition to be both doubtful and known to you as something known primarily, for you do not assent with certainty and evidentness to a proposition that is doubtful to you; but you do assent to a proposition known primarily in this way; therefore, it is clear that the proposition written on the wall is not known to Socrates as something known primarily, since it is doubtful to him, and he does not know whether it is true or false. But I say that it is known by Socrates as something remotely known, for Socrates in his mind forms the mental proposition: 'The proposition written on the wall is doubtful to me', and to that mental proposition he assents with certainty and evidentness, for which reason that mental proposition is known to him as something known primarily. And since the subject of that mental proposition supposits for the proposition written on the wall, it follows that Socrates has knowledge about the proposition written on the wall in the sense that it is about something known remotely.

But again I say that if Plato says the proposition 'Socrates knows the proposition written on the wall to be doubtful to him', and if Socrates hears and correctly understands Plato, then Socrates will at once also know Plato's proposition as something known primarily, for he will assent to Plato's proposition with certainty and evidentness as to something true and not [something] doubtful to him. Indeed, if a proposition entirely similar to the one written on the wall were written on paper, Socrates seeing and reading it will know that it is true, nor will it be doubtful to him.

But then the question arises as to how it is possible for two propositions to be entirely alike and yet for a man to be certain about one and be in doubt about the other, even as he attends to them and knows that they are alike.

And I declare that this is very possible, for he does perceive that the one written on the wall has reference to itself; therefore, he doubts whether it is false because of this self-reference, as happened with the preceding sophisms.

But he also perceives that Plato's proposition, or the one written on paper, has no reference to itself; therefore, he has no doubt as to whether it is true.

But again, when it was argued that if Plato says the contradictory, namely, 'Socrates does not know the proposition written on the wall to be doubtful to him', Socrates will at once know that Plato's proposition is false, then this I concede.

And when you conclude 'therefore, he has to know that the proposition written on the wall is true, for it is the contradictory [of Plato's proposition]', I say that this does not follow, for he does not know that they are contradictories.

For he can be in a state of doubt whether the reference that the one written on the wall has to itself impedes the contradiction.

And so, finally there is a doubt as to whether the proposition written on the wall is true or false.

And I reply that it is true, for the reference it has to itself does not bring it about that it is false but only that it is doubtful, whence it does not follow that it is false.

And when it is argued that it entails something impossible, this I deny: for it does not follow that it is known but only that it is known as something remotely known.

But when you prove that he knows it—for Socrates knows things to be as it signifies—this I concede. But when you conclude 'therefore, he does not doubt whether it is true, if he pays attention', I say that this does not follow, for Socrates has seen in connection with the preceding sophisms that many propositions were false because of the reference they had to themselves, although things were as they signified. Therefore, because of his inexperience, he can believe that even this is false, for he sees that it has reference to itself, or at least he may be in doubt about this.

But, adding to the earlier posited case that Socrates is the wisest, one may ask further concerning this sophism whether in that case it is true or false. And I say that the case is impossible: for given that Socrates is the most educated in the field, and that he attends as much as he can to that proposition, it follows that, if it is true, then he knows that it is true, and if false, then he knows that it is false, and neither of these is compatible with its being doubtful to him.

But if this is removed from the case, namely, that it is doubtful to him, then it is asked whether it is true or false. And I say that it is false and that Socrates also knows that it is false, and not to be doubtful to him.