

Option negation and dialetheias

1. Introduction

A dialetheia is a statement which is both true and false. If negation turns truth into falsehood and falsehood into truth, the negation of a dialetheia is both false and true. So the conjunction of a dialetheia with its negation is both true and false; in particular, it is true. Hence if there are dialetheias, and the assumptions about negation and conjunction are correct, there are true contradictions.¹ It may well be that the assumptions about negation and conjunction should remain unchallenged. However, in this paper I suggest that there is a kind of negation which, within a dialethic framework, will not sustain the argument just given. The kind of negation at issue behaves classically in classical frameworks, and so enables the classicist to accept the assumptions the argument involves; but it behaves unexpectedly once we allow truth value gluts, that is, once we allow dialetheias. This means that it is not obvious that belief in dialetheias requires belief in true contradictions.

The form of this claim is unsurprising: no doubt it would be easy to cook up a negation-like operator which would have the effect described. The claim is of interest only if the operator has an independent claim on our interest. I am not entirely confident that it does: but I am fairly confident that whether or not the operator is of interest is an interesting question, so I thought I should give it an airing.

¹ The converse holds also: normal assumptions about negation and conjunction ensure that there are true contradictions only if there are dialetheias.

The actual historical role of negation in human thought and cognition might throw some light on how best to describe the negation we actually currently employ. A common view is that we can understand negation best through the speech act of denial. Although there are interesting links between negation and denial, an explanation of negation in terms of denial seems to presuppose that it is possible for there to exist a negation-free system of thought or language. This would need to pre-exist acts of denial, in order to provide candidate sayings or thoughts to be denied. The view that there could be a negation-free system of language or thought is challenging; I shall assume that it is worth considering an origin for negation which does without it.

One possibility of this kind relates to the prevention of actions. An expression with the force of our 'No!' might have arisen to indicate that what the speaker takes the hearer to be about to do is ill-advised or prohibited; the typical actual and intended response to the utterance could be that the hearer desists. Unlike an account which puts denial at centre stage, this does not presuppose negation-free language or thought: 'No!' could, as far as this account goes, be the first word to have arisen in the history of language development, and as it is directed not at a thought but an action, it might be available to creatures with at most a modest conceptual repertoire. An account of this kind would do justice to the fact (if fact it still is) that 'No' is one of the first words to which human infants learn to make an appropriate response.

The account to be offered here shares with the one just considered the independence of language, but starts at what is arguably a more basic point: agency. A creature which genuinely acts must have some conception of alternatives or options, and select among

them. The proposed kind of negation is used to mark unchosen options. The conception of options does indeed require some kind of thought or representation, but it might be of an unsophisticated, perhaps non-conceptual, variety. We are happy to attribute genuine action to creatures about whose conceptual capacities we have doubts. When we say a bird chose a mate, we mean this quite literally, and not in the metaphorical way we would have to understand a claim like ‘the river chose a wandering path across the mesa’. We think the bird had a choice of mates, and was in some sense aware of this. Or, if we do not, we must be taking a more Cartesian view of birds, seeing them as creatures lacking agency.

Suppose we are deliberating between two options, A and B. We take them to be exhaustive and exclusive, and this exclusiveness is the proposed basis for negation. (If the options are not exclusive, or are not exhaustive, then there are further options: both, or neither. These will be considered in their own right in §2 below.) To select A is to deselect B. Using ‘NOT’ for option negation, A is equivalent to NOT-B, and B to NOT-A. If we think of the options as marking the truth or falsity of some statement, and make minimal departures from classical thinking, option negation will be in some respects similar to classical negation: deselecting truth amounts to selecting falsehood, that is, NOT-true amounts to false; and NOT-false amounts to true. If instead of thinking of options as statements we think of one option as that a predicate applies truly to something, one alternative option will be that it applies falsely to that thing. This is in some ways similar to classical predicate negation.

By varying the options, option negation gives a ready explanation of phenomena that are not classical, or which can be brought into the classical picture only by much pragmatic

straining. These include cases like (1)–(2) below, which are *prima facie* inconsistent from the classical perspective, but which in practice raise not a shiver among interpreters:

- 1) It's not a car, it's a Volkswagen.
- 2) No, I have not *pak edd zee soo eet cass ez*. I have packed the suitcases.²

Presumably the advertising agency thought there would be something striking about (1), but they certainly did not suppose the audience would infer that a Volkswagen is not a car, which would be a classical consequence. One could imagine (2) uttered with some irritation as a response to 'Af yu pak edd zee soo eet cass ez?' by one who has tried hard to help the native French questioner with her pronunciation. It is classically inconsistent, but it is impossible to hear it thus.

Classical logicians can appeal to various pragmatic mechanisms to explain why it is difficult or impossible to interpret such utterances as inconsistent. One popular line starts with a literal inconsistent interpretation, which feeds into the supposition that the speaker is observing conversational maxims and thereby generates a new and consistent interpretation. Such an account raises many problems. One immediate one is that the supposed inconsistent literal reading is generally unavailable to the consciousness of interpreters. This does not prove that it does not exist, but its apparent unavailability calls for explanation. A further problem is to explain why we find no introspective traces of the supposed reasoning, which would have to be quite long and complex.

² Examples of this kind abound in Horn (1989) who uses them to ground a distinct notion of negation which he calls 'metalinguistic negation'.

Within the option negation framework, all is straightforward. In (1) the options are to call it a car or to call it a Volkswagen, and the former is deselected. In the (2) the options are to say ‘I af pak edd zee soo eet cass ez’ or to say ‘I have packed the suitcases’ and the former is deselected. All interpretation involves bringing to bear something more than what is usually counted as semantic knowledge: for example a hearer must at a minimum know what language the speaker is speaking. The present application of option negation also involves attributing extra-semantic knowledge to interpreters, for an interpreter must appreciate which are the relevant options, and an account must be given of how this is possible. The problem seems tractable, much more so than the problem of providing a plausible pragmatic story within the classical framework. A basic notion in dialogue is what the right thing to say is, where truth is not sufficient for being right, and may not even be necessary. Applying this notion to both (1) and (2) gives an appropriate result: the right thing to say is that it’s a Volkswagen, not that it’s a car, and the right thing to say is ‘I have packed the suitcases’, not ‘I af pak edd zee soo eet cass ez’. This seems much more straightforward and promising than an account which begins by attributing to the hearer an unconscious realization of the literal inconsistency of (1) and (2).

2. Option negation and classical negation

One difference between option negation and classical negation is that the former can apply to things other than statements (for example, to types of action like choices of what to say). Another difference is that NOT may, as applied to the kinds of examples considered in the previous section, be somewhat independent of truth. Where option negation is applied to a statement, and the options are whether it is true or false, can it differ from classical

negation? Let us for the moment keep to the case of two options, A and B. A entails NOT-B, whereas there is no parallel inference from inclusive A or B, together with A, to the classical negation of B. Perhaps the difference lies merely in the fact that options are presupposed to be exclusive. If we try to use a classical rendition, we should obviously take the options to be represented by the exclusive A OR B, true iff exactly one disjunct is true, so that A in the presence of this disjunction does entail the classical negation of B. So it is on the cards that the only substantial difference between option and classical negation is that the former can apply to a wider range of entities. Perhaps option negation and classical negation coincide (once exclusiveness is properly represented) in their common area of appropriate application.

In response, let me start by indicating a difficulty for this reconciling project when we consider three options. As mentioned earlier, we may find that our supposedly exclusive alternatives A and B are not really exclusive: we discover that we can do both. We now have three options: A, B or both. BOTH-(A,B) entails NOT-A and also NOT-B: that is, doing both means we do not do just one. The same structure of exclusiveness holds throughout the options: A entails NOT-BOTH-(A,B), and so does B. Can these facts be classicized? If we represent the options as A OR B OR BOTH-(A,B), with the OR exclusive as before, then indeed BOTH-(A,B) entails the classical negation of each of A and B. But if we also think of BOTH-(A,B) as the classical conjunction of A and B, our disjunction can never hold in virtue of the holding of this disjunct, for if it held and operates like conjunction, this would suffice for the holding of the other two disjuncts, making the disjunction false. By contrast, one can easily choose both of A and B, thereby deselecting

each of the solo choices of A alone and B alone. BOTH-(A,B) is a consistent selection, and one which, as we have seen, entails NOT-A and NOT-B.

A reconciling classicist may rejoin that he has no quarrel with us about negation, and can perfectly happily accept exclusive disjunction, but that the true source of disagreement lies with BOTH. This cannot stand for conjunction; the route to reconciliation lies in identifying it with some other classical function, perhaps with that which outputs a truth iff both components are false. This reflects the entailment from BOTH-(A,B) to each of NOT-A and NOT-B, but leads to further difficulties when we see that there is very often a fourth possibility: to do neither. NEITHER(A,B) also entails NOT-A and NOT-B, so the reconciling classicist would have to assign the output true for the case when both inputs are false. The remainder of the function presents problems. Retaining classical ways of thinking, it would be natural to suppose that one could not allow that the output was true if either input was, which would lead to a function identical with the function for BOTH, which is not only in itself unintuitive, but also fails to do justice to the standard entailments from BOTH to NOT-NEITHER and conversely. Other choices run aground on essentially similar problems. NEITHER-(A,B) needs to entail each of NOT-A and NOT-B which makes it hard for it to be classically consistent with the truth of either A or B.

Option negation takes us out of the classical universe, while being a highly natural way of describing some uses of negation. Even if there could be a reconciliation with classicism, one can be reasonably sure that a classicized rendering would not have the natural and straightforward character of option negation, at least as applied to choosing actions.

3. *Application to dialetheism*

An assignment of a truth value or truth values to a statement A can be seen as an answer to the question ‘What is the truth value of A?’. If there are gluts as well as truth and falsehood, there are three options: true, false, and both. If, in addition, there are gaps, there are four options: true, false, both, neither. We can connect these semantic ideas with the option negation framework by considering the options as ways of answering a question about the truth status of some statement A. In the simplest case, the options are just TRUE and FALSE. We can mirror gluts by adding the option BOTH, and gaps by adding the option NEITHER.

If D is a dialetheia, we should answer the question about its truth status as BOTH. In order to assess the argument from the existence of dialetheias to the existence of contradictions, we need to consider what truth status will be assigned to the negation of a dialetheia. If negation worked classically, the answer would also be BOTH, and given natural views about conjunction the argument would succeed. However, option negation is supposed to operate within the framework of options. If the options are *stay at home* or *eat out*, to option-negate the first is to deselect it, which we can represent as NOT-(stay at home). Applying this analogy to D, its negation is represented as NOT-D. The corresponding truth status, within the framework, must then be just one of TRUE, FALSE, or NEITHER. It cannot be BOTH, on the assumptions made, for BOTH represents D, which NOT-D deselects. From this it follows that the option-negation of a dialetheia may not be TRUE, for its truth status may be one of the other remaining possibilities, FALSE or NEITHER. If either of these is actual, then there is no truth in the option-negation of a dialetheia, and so there is no good basis for counting the conjunction of a dialetheia with its option-negation

as true. The existence of dialethias, in this framework, does not entail the existence of true contradictions.

An element of the framework which is responsible for this result corresponds to something that has often been used in attacks on dialetheism. The idea is that we intuitively feel that we ought to be able to assign a single truth status once and for all, a truth status that excludes any other status. If we could do this by using the word ‘true’, then dialetheias would be excluded: a statement’s truth would guarantee that it has no further truth status. If a semantic theorist cannot use such a notion of truth, there seems something incomplete about assignments of truth status: assigning any one status, among true, not-true, false, not-false, and so on, does not preclude adding a further status later. The feeling is that if one accepts a dialetheist framework, one can never sign off the semantic task: further additions cannot be precluded.

Something like this worry is described (though not endorsed) by Priest (1999: 115): critics claim that dialetheists ‘cannot express A in such a way as to rule out $\neg A$ ’. They affirm A, or call it true, or call it true *only*; but for any dialetheist this does not preclude it being also false, and for some dialetheists it does not preclude it being also not true.³ How is one to say what needs to be said about some simple truth like ‘Man is an animal’? Having said that it is true, or true *only*, one has not closed off the claim that it is also false. Dialetheism seems to diminish what we can say.

³ Priest himself shows some resistance to this species of dialetheism. For example, he declines to assert the Exclusion Principle: if A is false, A is not true (1999: 111). His reason is that to assert this principle would

Priest's main response to the similar doubt is to point to the speech act of denial. He thinks that there is no rational possibility of denying and affirming the same thing. Dialetheists, at least those of his persuasion, do accept and affirm, but do not reject or deny, dialetheias. Those who wish to exclude something can simply deny it. Even granting this, the expression of a denial on the page is just a sentence. The appearance of 'A' on the dialethic theorist's page, or of 'A is true only', does not tell the informed reader whether or not A will or will not be said to be a dialetheia. Yet, intuitively, to assign to A the truth status *truth only* ought to settle that it is not a dialetheia.

The option negation framework in effect builds in the desired exclusiveness⁴, and this shapes the nature of option negation. Where the options are TRUE, FALSE, NEITHER and BOTH, TRUE entails NOT-BOTH, as the kind of objector just envisaged would desire. I hope to have derived the exclusiveness not from any abstract logical principle, which would be question-begging in the present dialectic, but from highly natural and intuitive reflections upon how we organize our thought about choices. This gives the exclusiveness a certain (of course highly defeasible) authority.

add to the number of true contradictions: if 'A and not A' is true, the principle would ensure that so is 'A is true and A is not true'.

⁴ Perhaps it does so in part thanks to its connection with action, in which case it would share something with Priest's opinion that true exclusiveness arises only with the action of denying, and not with the mere abstract association of a sentence with a semantic value.

4. *Option negation and inconsistency*

Option negation has a claim on our attention only if there is some plausibility in the view that it is at work in our actual thinking. I have already mentioned some cases (like (1) and (2) above) which give some support to the hypothesis that it is. I close by mentioning a kind of case which, if my interpretation is accepted, provides a different kind of support, a kind directly related to dialetheism. The suggestion is that some cases of apparently deliberate inconsistency are in fact consistent, and the consistency is revealed in the option negation framework. In the two examples below, Locke and Plotinus, the authors might be interpreted as dialetheists; but they may also be interpreted as consistent exploiters of option negation.

Speaking of the abstract general idea of a triangle, Locke said that

it must be neither oblique nor rectangle, neither equilateral, equicrural, nor scalenon; but all and none of these at once. (Locke 1690: 4.7.9)

Berkeley quoted this sentences on more than one occasion, always with derision, and at one point saying that ‘the above-mentioned idea of a triangle ... is made up of manifest, staring contradictions’ (Berkeley 1709: 222). I suspect I am not alone in thinking that there is a natural and consistent interpretation of Locke’s words ‘all and none of these at once’. We cannot, of course, consistently apply both ‘equicrural’ and ‘scalenon’ to any one thing, but I wish to focus just on whether ‘all and none’ is automatically inconsistent; inconsistent, that is, as a matter of the logic of these expressions (as opposed to what either might subsume in a particular application). Within the option negation framework, it is not. Taking ‘all’ as an extension of ‘BOTH’, it actually entails NOT-O, for each other option O, and ‘none’ could be seen as summarizing these entailments. This corresponds to an interpretation of

Locke's words which sees them a summarizing a series of options concerning how to answer the question: what triangles are subsumed under the general abstract idea of a triangle? Just oblique ones? No. Just rectangle ones? No. All of these? Yes. No one (none) of these? Yes.

Plotinus wrote:

The One is all things and no one of them. (Enneads 5.2.1)

This might be interpreted as a commitment to dialetheism.⁵ Alternatively, it might be seen as a commitment to option negation. How should we answer the question: what things are there? To each thing, there corresponds the option of answering by mentioning it and it alone. There is also the generalized BOTH answer, represented by ALL. This is the right answer, and is used to define 'the One'. It entails that we deselect each of the solo options, O: so NOT-O for all these; in other words, no one of these is the One, even though the One is ALL.

I confess to finding the option negation framework intriguing. The present considerations are at best merely suggestive of the hypothesis that it plays a significant role in our thought; but I would hope that dialetheists would not be the only ones interested in exploring seemingly unfamiliar regions of logical space.⁶

⁵ And was so interpreted by Graham Priest at a conference on the history of logic at King's College London in November 2000.

⁶ Many thanks to two anonymous referees for comments on an earlier draft.

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