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Is 'no' a force-indicator? Sometimes, possibly

LUCA INCURVATI AND PETER SMITH

Bilateralists hold that our inferential practices can be explained in terms of conditions on *assertion* and *rejection*. Here, rejection is to be understood as an activity 'on all fours' with, and as basic as, assertion. So rejecting p is not to be explained in terms of asserting *it is not the case that p*. On the contrary, according to the bilateralist, an explanation of the role of propositional negation will appeal to a more fundamental notion of rejection.

A claimed virtue of bilateralism is that it provides the resources to, e.g. solve Carnap's (1943) categoricity problem (Smiley 1996) and resist Dummett's (1991) proof-theoretic argument for intuitionistic logic (Rumfitt 2000). One might therefore attack the pretensions of bilateralism by arguing that, even if it is correct, it fails to deliver the promised goods. In Incurvati and Smith 2010, we have shown that, at least as far as categoricity is concerned, bilateralism is immune to this line of attack.

If bilateralism *is* correct, however, we should naturally expect that, from time to time, speakers do explicitly go in for rejecting. Thus, one might also try to attack bilateralism by insisting that no aspect of our inferential practice can be regarded as involving instances of that primitive speech-act as the bilateralist conceives it. To pre-empt this line of attack, bilateralists such as Smiley and Rumfitt have suggested that at least some of our negative answers to yes-or-no questions are indeed cases of rejection.

Against this, Textor (2011) has recently argued that bilateralists should be wary of making such a suggestion, on pain of falling prey to a version of the Frege–Geach problem. This note reviews Textor's objection, and shows why it fails. We conclude with some brief remarks concerning where we think that future attacks on bilateralism should be directed.

1. Getting the target right

But before turning to assess Textor's key argument, it is worth emphasizing that the bilateralist is *not* committed to the idea that there should be some

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expression in English (or whatever language reasoners like us are using) that is *always* used to perform an act of rejection. The bilateralist is in the business of regimentation: she aims to make (and then perspicuously represent) logical distinctions that she can acknowledge are blurred over in ordinary speech.

Compare: ordinary 'and' can be used in two logically different ways, to form a single conjunctive proposition from two simpler propositions, and as a bit of punctuation between assertions (e.g. as in giving a list of premisses). It is entirely explicable why the same vernacular word can get used in both ways. But the logician will still find it important to mark the difference, and in her formal regimentation she will represent one use by '$\wedge$' while representing the other by a comma.

The bilateralist can cheerfully allow that it is similar with 'No!'. This can be used, she might insist with Smiley and Rumfitt, to perform an act of rejection. But that doesn't rule out other uses, e.g. as a prosentence whose assertion is tantamount to the assertion of the negation of a proposition that has just been asserted. And, as we will see, it is entirely predictable that the same word might get to do double duty in ordinary discourse. But the bilateralist logician will again want to insist on the difference.

Textor ends his paper by claiming 'The English word "no" is a complex prosentence, not a force indicator'. The bilateralist, however, is not at all committed to supposing that 'no' is always the one or always the other.[1] So it is not enough for Textor to offer *some* cases where the prosentential construal might look compelling. He has to argue that the force-indicator construal for even the bilateralist's supposedly canonical illustrative cases is ruled out. So what is his objection?

2. *Textor's objection*

The bilateralist contends that our activity of answering affirmatively or negatively to yes-or-no questions is, at least in a canonical class of cases, best explained in terms of assertion and rejection of propositions. Consider, for instance, serious utterances of

(1) Is it raining? Yes.
(2) Is it warm? No.

In (1), the utterance of 'yes' can be taken as asserting the proposition expressed by 'It is raining', while in (2) 'no' can be taken as rejecting the proposition expressed by 'It is warm'. Moreover, the bilateralist continues,

1 Rumfitt (2000: 817–20) explicitly suggests that whilst no answers to yes-or-no questions about the past are best taken to be rejections, this need not be the case for negative answers to questions about pure mathematics.

both assertions *and* rejections can give rise to arguments that we understand and whose validity we can evaluate, such as

JOHN

Is John tall? No.

Is John bald? No.

Therefore: is John tall or bald? No.

Logicians should thus be led to systematize this aspect of our inferential practice by giving inference rules for asserted and rejected sentences.

For instance, letting '$+P$' indicate an assertion of the proposition expressed by P and '$-P$' indicate a rejection of it, we can take JOHN to be an instance of the inference pattern displayed by the disjunction introduction rule for negatively signed sentences:

$$(-\vee I)\frac{-\varphi \quad -\psi}{-(\varphi \vee \psi)}$$

So far, perhaps, so good. But Textor aims to show that trouble arises when we start considering more complex cases. He begins by noticing that 'no' can figure in the antecedent of conditionals, as when we say:

SUNNY

Is it Sunny?

If yes, you need a hat.

If no, you need a jumper.

Short of denying that the conditional sentences in SUNNY are grammatical, the bilateralist had better insist that it is only when they are not so embedded that 'yes' and 'no' are (or better: can be) force indicators.

But now, says Textor, the bilateralist faces a problem. For if it is only when they are not so embedded that 'yes' and 'no' can indicate force, then an embedded 'no' cannot have the same meaning as a 'no' of rejection. But then, take the following argument:

DECIDUOUS TREE

P1. Is this tree deciduous? If no, you need to go to #4.

P2. No.

C. Therefore: You need to go to #4.[2]

2 Textor's actual example has 'go to #4' instead of 'you need to go to #4'. We have modified the example to avoid complications about arguments involving imperatives.

DECIDUOUS TREE, Textor claims, is prima facie valid. And yet,

> [i]f 'no' had different meanings in (P1) and (P2), we would commit a fallacy of equivocation. 'No' must have the same meaning in (P1) and (P2). (Textor 2011: 452)

So 'No' in (P2), Textor concludes, cannot be serving as a force indicator, marking an act of rejection. 'No' serves as a prosentence in (P1); so it must be playing the same role in (P2).

The general shape of this kind of Frege–Geach argument will be very familiar. And in fact there's nothing novel about bringing it up in the context of discussions about bilateralism: it is discussed in Smiley 1996. Evidently, however, the bilateralist's response needs to be rehearsed again.

3. *The bilateralist's response*

So, is it really the case that if 'no' has different meanings in (P1) and (P2) we would commit a fallacy of equivocation? Only if the validity of DECIDUOUS TREE is explained in terms of its instantiating an inference pattern that it can instantiate only if 'no' has the same meaning in (P1) and (P2). Which is, of course, precisely what the bilateralist denies.

One possible explanation of the validity of DECIDUOUS TREE – the one Textor seems to be appealing to – is that it is an inference we can regiment as follows:

$+ (\sim P \to Q)$

$+(\sim P)$

Therefore: $+Q$

This inference, the explanation goes, is valid in virtue of the standard modus ponens rule for assertions:

$$(+ \to I)\frac{+\varphi \qquad + (\varphi \to \psi)}{+\psi}$$

Now it is true that *this* explanation cannot be used if 'no' in fact has different meanings in (P1) and (P2). But there is another possible explanation of the validity of DECIDUOUS TREE – one that does not require 'no' to have the same meaning in (P1) and (P2). For here is another regimentation:

P1′. $+ (\sim P \to Q)$

P2′. $-P$

C′. Therefore: $+Q$

And this is an inference that the bilateralist recognizes as valid.

In fact, the bilateralist can explain its validity in more basic terms. For, first, bilateral systems include the following rule:

$$(+\sim I) \qquad \frac{-\varphi}{+(\sim\varphi)}$$

And in passing, let's remark that bilateral systems will also include the converse rule. Given these rules of passage that allow us to move between $-P$ and $+(\sim P)$, it is entirely predictable that the vernacular may fail to systematically mark the difference (just as it fails to always mark the difference between the joint assertion of P, Q and the assertion of $P \wedge Q$, which we can likewise pass freely between).

So, using (P2′) and $(+\sim I)$, we can infer $+(\sim P)$; and from this and (P1′), by our given modus ponens rule, we can infer $+Q$.

Although his focus, like ours, is bilateralism about English, Textor also offers an example in German, involving belief contexts:

TOM

P1-2. Ist die Eiche ein laubabwerfender Baum? Tom glaubt nein.

P2-2. Nein.

K-2. Also: Tom glaubt wahrheitsgemäß nein.[3]

TOM is prima facie valid. But, Textor (2011: 452) claims, it goes through only if both occurrences of 'nein' have the same meaning.

Again, however, it is not hard to come up with a bilateralist-friendly treatment of the validity of TOM – one that does not require both the embedded and unembedded 'nein' to have the same meaning. In particular, the argument can be regimented as follows:

P1-2′. $+ (B\sim P)$

P2-2′. $-P$

K-2′. Therefore: $+ (B\sim P \wedge \sim P)$,

where 'B' stands for *Tom believes that*.... And this too is an inference recognized as valid by the bilateralist: by (P2-2′) and $(+\sim I)$, we can infer $+(\sim P)$; and by this and (P1-2′), by

$$(+\wedge I) \qquad \frac{+\varphi \qquad +\psi}{+(\varphi \wedge \psi)}$$

we can infer $+(B\sim P \wedge \sim P)$.

The bilateralist has a very simple story, then, about both of Textor's supposedly problematic cases. How could Textor respond? He could try to use a

3 Translation: Is the oak a deciduous tree? Tom believes it is not so. No. Hence: Tom believes truly it is not so.

version of Hale's (1993) criticism of Blackburn's (1984) first attempts to solve the Frege–Geach problem for his version of expressivism. Blackburn famously suggested that the problem could be solved by developing a logic of attitudes: on such a logic, a thinker who declines to accept the conclusion of a valid inference involving moral premisses is at fault because she is involved in a clash of attitudes. Hale's criticism is then that this does not do justice to the data of the problem, since the thinker is making a *logical* mistake, not a moral one. Similarly, Textor might suggest, someone who refuses to infer (C) from (P1) and (P2) is committing a logical mistake, not one concerning assertion and rejection.

But whatever the merits of the objection against Blackburn's proposal, it fails in the case at hand, since it amounts to not taking the bilateralist project seriously. For according to the bilateralist, logical consequence is a relation among *judgements* – asserted or rejected propositions.[4] Hence, logic being the study of what follows from what, a mistake about assertion and rejection *is*, in the bilateralist's view, a logical mistake.

Alternatively, Textor could reply that we should make do with fewer primitives if we can. In particular, if we can explain the validity of inferences such as DECIDUOUS TREE with two primitives (assertion and negation) rather than three (assertion, negation and rejection), then we should.

This would turn Textor's objection into the objection that Frege (1984a) raised against admitting a speech–act of rejection alongside that of assertion. And *that* objection does not work for the simple reason that economy in primitives is desirable, if at all, only if the additional primitives do not deliver any additional goods (see Smiley 1996: 3–4). And the bilateralist's claim – not challenged by Textor – is that having rejection in our repertoire of primitives does enable us, for a start, to hold on to precious goods such as categoricity and classical logic, which should not lightly be given up.

4. *Conclusion*

The bilateralist's claim that 'no' is sometimes used to indicate force is left untouched by Textor's arguments. However, this does not mean that there are no delicate issues in the vicinity. In particular, as we have seen, the bilateralist takes the unit of inference to be judgements. From this point of view, she is closer to Frege than to modern logicians. As a result, however, she has to deal with the difficulties Frege famously faced in explaining suppositional reasoning: if judgements are the units of inference, what do we do when we assume something for *reductio*? And, in the case of the bilateralist, what about the case when the assumption involves a negatively signed sentence?

4 Or at least, it is according to bilateralists such as Smiley and Rumfitt. Other bilateralists, such as Restall 2005, take a different view on the matter.

In at least one place, Frege's answer is that, when we reason under assumptions, we only make as if to draw inferences, but are not actually doing so (Frege 1984b: 335). This might well be the best way for the bilateralist to go, but we must leave discussion of these matters to another occasion.

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The T-schema is not a logical truth

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1. The question

In the light of the Liar paradox, much work has been carried out attempting to formulate a semantics that allows for the truth of all instances of

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