A neglected reply to Prior's dilemma*

Jc Beall
entailments.net
University of Connecticut & University of Otago

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Consider the long-debated principle concerning *is* and *ought*:

IOP. There is no valid deduction of an *ought* (or 'ethical') statement from an *is* (or 'factual') statement.

One very broad motivation for IOP comes from the thought (however vague) that *ought* statements are 'funny' in a way that *is* statements aren't. But whatever the motivation, IOP has long faced a short and sharp challenge from Arthur Prior [6]. Letting $\mathbb{O}$ be our unary *ought* operator, Prior's now-well-known dilemma runs thus:

- Let A be any *factual* statement, and $\mathbb{O}B$ any *ought* statement.[1]
- Dilemma: either the disjunction of A and $\mathbb{O}B$ is factual or ethical.
- Case 1: $A \vee \mathbb{O}B$ is ethical. We may validly derive an *ought* from an *is*.
  1. A
  2. $\therefore\ A \vee \mathbb{O}B$
- Case 2: $A \vee \mathbb{O}B$ is factual. We may validly derive an *ought* from an *is*.
  3. $A \vee \mathbb{O}B$.
  4. $\neg A$.
  5. $\therefore\ \mathbb{O}B$.
- Either way, IOP fails.

*I am delighted to contribute to this volume in honor of Colin Cheyne. What I've always enjoyed about Colin is his willingness to explore ideas, but also his no-nonsense approach to finding his own views on the matter at hand. My hope is that this paper will give Colin the opportunity to voice his own response to Prior's dilemma. The debate will undoubtedly be better for Colin's input.

[1] Throughout, I will assume that these categories are exhaustive and exclusive, just to simplify discussion.

On the flat-footed account of *ought* statements – namely, as statements that contain (use) the *ought* operator [3, 6] – the dilemma has appeared to be particularly challenging: one is stuck with the first horn (viz., Case 1), which relies only on the rule of Addition, namely,

$$A \vdash A \vee B$$

that is, that A implies $A \vee B$ for all A and B. And Addition, if any rule, is surely not subject to rejection – or so the standard thought goes.

My aim, in this paper, is to highlight a neglected response to Prior's dilemma (specifically, the first horn). The response arises naturally from two thoughts (however vague). The first thought is the above flat-footed method of individuating *ought* statements (advocated by Jackson and, indeed, Prior): an *ought* statement is any statement that *uses* the *ought* operator. A slogan for this individuation criterion is this: any dose of 'oughtiness' in a statement makes the entire statement '*oughty*'. (More soberly: any use of 'ought' in A renders A an *ought* statement.) But, now, combine this thought with the (however vague) thought that *ought* statements are 'funny' in important ways that 'factual' statements are not – for example, though details aside, that they, unlike (let us suppose) factual statements, needn't always be true or false. Combining these two – not uncommon – thoughts (viz., flat-footed individuation and 'funniness' of 'oughtiness') motivates a neglected but natural reply to Prior's dilemma (viz., the first horn): it is precisely the rejection of Addition which jumps out in this context. If, for example, *ought* statements are decidedly 'funny' vis-à-vis *is* statements, why think that 'adding' an *ought* to an *is* should be a *logically valid* step? Our standard boolean operators are built for standard (say, 'factual') discourse; and using them (the standard operators) to combine *funny* or *odd* sentences with the standard ones does nothing but produce compound funniness – or so a natural thought goes.

This line of thinking, I suggest, naturally motivates a so-called *Weak Kleene* framework [1, 4]: combining factual sentences with 'funniness' (in this case, ethical statements) results in funniness.[2] But while Prior's dilemma has prompted many interesting and sophisticated replies that defend one version or another of IOP, none has replied along these lines.[3] In what follows, I briefly sketch a framework for this sort of reply to Prior's dilemma – to the first horn, which is the only relevant horn given the assumed flat-footed approach to individuating *ought* statements.

1 Weak Kleene

The Weak Kleene (or WK) approach to the boolean operators runs as follows. Let $V = \{1, .5., 0\}$ be our set of semantic values. Our stock $\mathcal{A}$ of atomic sentences

[2]Weak Kleene logic is typically associated with Bochvar's interpretation of it [2] – where *meaningless* discourse is involved. It will be plain from my proposal for the *ought* operator (see §2) that, whatever 'funny' may ultimately mean with respect to 'ought' (a matter for theories to debate), it does not mean *meaningless*.

[3]Pigden's recent [5] is the now-classic source for Prior's dilemma and latest replies.

p_i are interpreted by valuations $v : \mathcal{A} \longrightarrow V$ which are (total) functions from the atomics into V. In turn, we extend the valuations $v : \mathcal{S} \longrightarrow V$ to cover all (boolean-made) sentences via the following conditions:

$\neg$	
1	0
.5	.5
0	1

$\vee$	1	.5	0
1	1	.5	1
.5	.5	.5	.5
0	1	.5	0

$\wedge$	1	.5	0
1	1	.5	0
.5	.5	.5	.5
0	0	.5	0

Observe that the boolean connectives behave perfectly classically if *and only if* all subsentences are treated classically: the entire compound takes the 'non-standard' or 'funny-business' status (in the formal picture, value 0.5) if any part of the sentence has that status; otherwise, the compound takes a classical value.

1.1 Validity

Towards validity, we define *truth in a model* (or truth on a valuation) in terms of value 1: sentence A *is true on* v iff $v(A) = 1$. In turn, we may say that a *set* X of sentences is true on v iff all of its members are true on v. Finally, we define the WK-validity relation $\vdash$ along standard lines:

- $X \vdash A$ iff every model on which X is true is one on which A is true.

For reasons given above, this logic is a proper sublogic of classical logic: anything WK-valid is classically valid, but there are classically valid arguments that are not WK-valid. An important example of a classically valid argument (form) that fails to be WK-valid is Addition: arbitrary A fails to imply $A \vee B$. A counterexample is any valuation v according to which $v(A) = 1$ but $v(B) = .5$.

2 Adding *Ought*

What we're interested in is our *ought* operator. A simple *broad* error theorist about ethical discourse – who maintains that all *ought* statements are one and all *untrue* – could easily treat $\mathbb{O}$ as a constant function such that $v(\mathbb{O}A) = .5$ iff $v(A) \in \{1, .5., 0\}$. (In other words: $\mathbb{O}A$ winds up with value 0.5 regardless of the value of A.) While this makes sense within a broadly error-theoretic approach to ethical discourse, I shall suggest a more neutral option – one that treats $\mathbb{O}$ in a supervaluational fashion.

In short, we move to a point-based – or, if you want, world-based or situation-based – framework, with a non-empty set W of points and a binary 'accessibility' relation R on W (i.e., subset of $W \times W$). We define our standard boolean connectives as per the tables in §1 but now relativized to points, so that if at point x there's no 'funniness' involved in any part of A, then $v_x(A) \in \{1, 0\}$, but otherwise $v_x(A) = .5$, and so on.

Turning to $\mathbb{O}$, we give the following (supervaluational) conditions:

$$v_x(\mathbb{O}A) = \begin{cases} 1 & \text{if } v_y(A) = 1 \text{ for all } y \text{ such that } Rxy; \\ 0 & \text{if } v_y(A) = 0 \text{ for all } y \text{ such that } Rxy; \\ \frac{1}{2} & \text{otherwise.} \end{cases}$$

Unlike in error-theoretic accounts, this approach allows *ought* statements – that is, sentences in which $\mathbb{O}$ occurs – to take any range of our semantic values: true, false, or 'funny' (as it were). Indeed, the proposal enjoys the freedom enjoyed by standard intensional treatments of *ought*, where details of $\mathbb{O}$'s logical behavior is subject to details of R, a matter I leave for debate among differing theorists.

2.1 Validity

Towards defining validity, it's convenient to add a designated point @ in our models. (This isn't required, but does streamline things.) Specifically, let models be structures $M = \langle W, R, @, v\rangle$ where $W \neq \emptyset$ and $v : W \times S \longrightarrow \{1, .5, 0\}$ and R are as above. In turn, define *truth in a model* thus: A is *true-in-M* iff $v_@(A) = 1$, and similarly for sets $X \subseteq S$ of sentences. Define validity thus:

- $X \vdash A$ iff every model on which X is true is one on which A is true.

As one expects of an *ought* operator, $\mathbb{O}$ fails to 'release', that is, $\mathbb{O}A \nvdash A$; the easiest sort of countermodel is one wherein $v_@(A) = 0$ but the only points that @ 'sees' with respect to ought-accessibility relation are ones whereat A is true.

As always in such accessibility-based intensional frameworks, fiddling with constraints on R results in different logical behavior for $\mathbb{O}$. But, again, this is a matter for different theories of *ought* to debate. My concern here is only with Prior's dilemma, to which I now return.

3 Prior's dilemma

The reply to Prior's dilemma, in short, is that it turns on a mistake: Addition is *invalid*. A simple countermodel: let $W = \{@, y\}$ and let @ access both points. In turn, let $v_@(A) = 1$ and $v_y(A) \in \{.5, 0\}$, in which case $v_@(\mathbb{O}A) = .5$. Hence, this is a model in which A is true but $A \vee \mathbb{O}A$ untrue.

Of course, the thought, assumed by Prior and others in the debate, that Addition *is* valid is not unreasonable: when we're doing science or other *ought*-less inquiry, Addition may well be free of counterexamples. But throw in 'funny' discourse – in particular, *ethical* discourse – and the standard logical operators cannot but produce a 'funny' compound.

4 Closing remarks

Prior gave a simple, flat-footed challenge to advocates of IOP. The challenge deserves a simple, flat-footed response. By my lights, the foregoing proposal fits the bill. *Ought* statements are ones that contain (use) the *ought* operator. Such statements are 'funny' in ways that standard *is* (i.e., factual) statements are not. But our basic boolean operators (viz., negation, disjunction, and conjunction) are largely built to handle standard discourse – factual, no-funniness discourse. One may indeed step from factual statements to ethical statements by way of boolean operators: disjunction, as Prior noted, is one such step. But what Prior overlooked is that the step is free of logical backing: the step can take one from truth to untruth.[4]

References

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[4] S. C. Kleene. *Introduction to Metamathematics*. North-Holland, 1952.

[5] Charles R. Pigden, editor. *Hume on Is and Ought*. Palgrave Macmillan, Great Britain, 2010.

[6] A. N. Prior. The autonomy of ethics. *Australasian Journal of Philosophy*, 38:199–206, 1960. Reprinted in [5].

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