# *The full price of truth*

Neil Tennant

Some ideas gain currency as soon as there is a linguistic medium of exchange. Truth is one such. Its role in our intellectual economy is much like that of money in the real one. Canonical warrants to make assertions are like gold bars. Truth-claims are like paper money: promises to produce gold bars on demand.

Jim Edwards's helpful analysis of the root of my disagreement with Crispin Wright (see Wright 1992, ch.1; Tennant 1994; and Edwards 1997) prompts me to warn against proliferating derivatives in the anti-realist exchange. To be sure, we must not sell truth short; but we should not short-change the truth-teller either. In §1 of this note Edwards's criticisms are countered; then in §2 an argument advanced for the view that Wright's notion of superassertability (once it is properly explicated) has no role to play in the anti-realist's account of empirical discourse.

*1.* Edwards brings the following notions into play at different points in his paper:

(1) P (i.e. the straightforward assertion that P)
(2) 'P' is WA (the claim that P is warrantedly assertable)
(3) 'P' is WA in I (the claim that P is warrantedly assertable in the [current] state I of information)
(4) 'P' is true (the *analysandum*)
(5) there is a warrant for the assertion of P (with no explicit reference to any state of information on which the warrant is based)
(6) $\exists i$ ('P' is WA in $i$)
(7) $\exists i$ ('P' is WA in $i$ & $\forall k(k \geq i \rightarrow$ 'P' is WA in $k$)) (Edwards's analysis of the claim that P is superassertable)
(8) $\exists i$ ($i \geq$ I & 'P' is WA in $i$)

All eight notions are deployed in Edwards's exploration of readings that will either bear out, or neutralize, my disagreement with Wright. That disagreement was as follows. I claim that the following inference pattern (N) is valid:

(N) $\dfrac{\text{not-('P' is WA)}}{\text{'not-P' is WA}}$

Analysis 58.3, July 1998, pp. 221–28. 

whereas Wright claims that it is invalid. I maintain also that

- (1) – (5) are all equivalent;
- (6) and (7) have no role to play at all in the analysis of truth (= warranted assertability); and
- (8) is the right analysans for (4), pending further analysis of 'is WA in *i*'.

From an anti-realist point of view, the two halves of the Tarskian schema for truth can be rendered indifferently thus:

First half (semantic ascent):

$$\frac{P}{\text{'P' is true}} \qquad \frac{P}{\text{'P' is WA}} \qquad \frac{P}{\text{there is a warrant for the assertion of P}}$$

Second half (disquotation):

$$\frac{\text{'P' is true}}{P} \qquad \frac{\text{'P' is WA}}{P} \qquad \frac{\text{there is a warrant for the assertion of P}}{P}$$

Each of these inference rules preserves truth (i.e., warranted assertability) from its premiss to its conclusion. That is, one can turn any given warrant for the assertion of its premiss into a warrant for the assertion of its conclusion. For the first half (semantic ascent) one does this by existential introduction on the given warrant. For the second half (disquotation) one simply applies the method for finding the warrant which is implicit in the existential quantification in the premiss.

One needs only the first half of Tarski's schema, in the form

$$\frac{P}{\text{'P' is WA}}$$

in order to derive the disputed inference (N):

$$\dfrac{\dfrac{\dfrac{}{P}\,(1)}{\text{'P' is WA}} \qquad \text{not-('P' is WA)}}{\dfrac{\dfrac{\bot}{\text{not-P}}\,(1)}{\text{'not-P' is WA}}}$$

Against this, Edwards claims (p.154) that a charitable reading of Wright calls for the stand-alone occurrence of

'P' is WA

in this proof to be replaced by (8), that is,

$\exists i\ (i \geq \mathrm{I}\ \&$ 'P' is WA in $i)$;

but for its next occurrence, within the scope of the neighbouring negation, to be replaced by

not-('P' is WA in I).

These substitutions would of course render the second step of the resulting 'proof' fallacious. But naturally I have no interest in the invalidity and/or formal incorrectness of any 'proof' of (N) that does not result from mine by *uniform* substitution. A proof is a proof is a proof … and Edwards is not entitled do with it whatever he will, even in the interests of helping Wright. If one gives a proof of an argument, one's opponent cannot show the argument to be invalid by producing a *non-uniform* substitution instance of one's proof and then showing that this non-uniform substitution instance is formally incorrect.

Edwards surmises (p.157) that I would

> recommend to a deflationist of an anti-realist bent the following identification:
>
> $\Phi$ is true
>
> with the predicate
>
> $\exists i(\Phi$ is WA in $i)$.

Here I demur. I am *not* 'recommending to an anti-realist [this] analysis of truth in terms of warranted assertability', unless corrected to what I suspect Edwards intended, namely

$\exists i(i \geq \text{I} \ \& \ \Phi$ is WA in $i)$.

More to the point, I recommend

$\exists \Pi(\Pi$ is a warrant for the assertion of $\Phi)$.

The existential quantification immediately implicit in the notion of truth is over *warrants*, not over *states of information*.

Note that in (6) to (8), despite the existential quantifications over states of information, the phrase 'is WA' remains embedded. We must not lose sight of the fact that 'is WA' has a modal suffix when spelled out in full:

'is warrantedly assert*able*'.

This could be re-phrased as

'can be asserted on the basis of some warrant'.

If we wish further to stress relativity to a state of information, 'is WA in *i*' becomes

'can be asserted, in *i*, on the basis of some warrant'

or, more compactly,

'has some *i*-warrant for assertion'.

Let '$\mathrm{W}(\Pi, \Phi, i)$' abbreviate

'$\Pi$ is an $i$-warrant for the assertion of $\Phi$'.

Then, instead of (6), (7) and (8), we would have, respectively,

(6*) $\exists i \exists \Pi \, \mathrm{W}(\Pi, \mathrm{P}, i)$
(7*) $\exists \mathrm{i}(\exists \Pi \, \mathrm{W}(\Pi, \mathrm{P}, i) \;\&\; \forall k(k \geq i \rightarrow \exists \Sigma \, \mathrm{W}(\Sigma, \mathrm{P}, k)))$
(8*) $\exists i(i \geq \mathrm{I} \;\&\; \exists \Pi \, \mathrm{W}(\Pi, \mathrm{P}, i))$

Now regardless of whether Edwards insists on spelling out in this way all the usually suppressed quantifications within the anti-realist's truth- (= warranted assertability-) predicate, I would not opt for either of (6) or (7) (or their starred versions with the extra detail given) as properly expressive of truth-attribution. These are Edwards's bills of exchange, not mine. They are generically counterfeit.

(6) and (6*) make no reference to I, the current state of information. For all we know, their existential quantification over $i$ is made true by some state of information incompatible with every extension of I. Thus at best they succeed in saying only that P is consistent, or satisfiable. This is clearly not enough for truth; *this* is to sell truth short.

Likewise with (7) and (7*); at most they say that P is 'stably consistent'. That is, *some* state of information makes P true, as do all its extensions. But this state of information need not be compatible with any extension of the current state I.

2. When Wright explained the superassertability of P by saying P 'is, or can be, warranted, and some warrant for it would survive' arbitrary 'forms of improvement of our information' (Wright 1992: 48) he was clearly expressing something *not* captured by Edwards's analysis (7). In order to regiment Wright's idea as literally as possible we need something like

($\sigma$) $\exists i(i \geq \mathrm{I} \;\&\; \exists \Pi \, \forall k(k \geq i \rightarrow \mathrm{W}(\Pi, \mathrm{P}, k)))$

Note that to say, as Wright did, that 'P is, or can be, warranted' is otiose, in the light of the second conjunct he offers, namely

> some warrant for [P] would survive … [arbitrary] … forms of improvement of [$i$].

It is clear that by 'our information' he means either 'the current state of information I' or 'whatever state of information $i$ we are in when we have the warrant in question, and which extends the current state of information I'. It is clear also that such a warrant for P would have to be an $i$-warrant for some $i \geq \mathrm{I}$, on pain of incurring the sort of 'mere (stable) consistency' objection levelled against Edwards's mistaken explication (7) of superassertability.

We seem, then, to have in (σ) a faithful regimentation of Wright's gloss on superassertability. Compare (σ) now with

(8*) $\exists i(i \geq \mathrm{I} \;\&\; \exists \Pi\, \mathrm{W}(\Pi, \mathrm{P}, i))$

(8*) is the least complicated but fully explicit regimentation of 'P is WA', and one which I am concerned to defend as a perfectly adequate explication of 'P is true'. (σ) and (8*) would be equivalent if their second embedded conjuncts $\exists \Pi \forall k(k \geq i \rightarrow \mathrm{W}(\Pi, \mathrm{P}, k))$ and $\exists \Pi\, \mathrm{W}(\Pi, \mathrm{P}, i)$ turned out to be equivalent. A moment's reflection shows that this latter equivalence holds when we are dealing with the case where *i*-warrants cannot be undermined in any extension of *i*. Such is the case in mathematics; but not, so we are to imagine, in the case of empirical discourse. And it was precisely in order to cater for empirical discourse, with its defeasible assertions, that Wright ventured the move to the prima-facie stronger notion of superassertability as the anti-realist's (not yet fully classical) surrogate for truth.

But we are entitled to ask here: what *would*, or *could possibly*, count as a warrant for the assertion of any empirical claim P, if one cannot tell, by inspecting the warrant, that it cannot be overturned? I am inclined to say: nothing at all. To issue such warrants would be like printing bad money.

When one is warranted in asserting that P, one is warranted also in asserting that 'P' is true. But if truth is to be identified now with superassertability, it follows that when one is warranted in asserting that P one should ipso facto be warranted in asserting that P is superassertable. That is, any *ordinary* warrant for the assertion of P should be recognizably immune to 'undermining' by *any* further information that might come our way.

Perhaps the superassertability theorist would insist that this is not the way to conceive of validity of inference. Rather, he might say, validity of an inference from a premiss to a conclusion in general consists in this: when one has a *super*warrant for the assertion of the premiss, then one has, ipso facto, a *super*warrant for the assertion of the conclusion. Applying this conception to the case of the Tarskian inference

$$\frac{\mathrm{P}}{\text{'P' is true}}$$

we now get: when one has a *super*warrant for the assertion of P, then one has, ipso facto, a *super*warrant for the assertion *that P is superassertable*. Call this the 'super' reading of the Tarskian inference in question. This, too, he could maintain, is immediate by one step of metalinguistic existential introduction. For to have a superwarrant for the assertion of P would be to have some construction Π such that

(∞) $\exists i(i \geq \mathrm{I} \;\&\; \forall k(k \geq i \rightarrow \mathrm{W}(\Pi, \mathrm{P}, k)))$

(Here, presumably, the state of information $i$ satisfying the existential would have to be conceived of as arrived at from the current state I by the warranting of new truths about the actual world; it must not be thought of as a different possible world from the 'actual world' I, in which, say, many claims that are false in I might be true.) Now if one could tell by looking (or listening) that $\Pi$ was like *that* (i.e., satisfied condition $(\infty)$) then one could apply existential introduction to obtain

$$\exists \Pi \exists \mathrm{i}(i \geq \mathrm{I} \;\&\; \forall k(k \geq i \rightarrow \mathrm{W}(\Pi, \mathrm{P}, k))$$

whence one easily obtains

$$(\sigma) \quad \exists i(i \geq \mathrm{I} \;\&\; \exists \Pi \forall k(k \geq i \rightarrow \mathrm{W}(\Pi, \mathrm{P}, k))),$$

the claim that P is superassertable. Presumably the warrant we now have for *this* claim is itself super, that is, immune to being undermined by any future extension of our current state of information. Thus the Tarskian inference above is valid on the 'super' reading.

The insuperable problem, though, it seems to me, would be: how could one recognize (outside of mathematics and logic) that $(\infty)$ held for $\Pi$?

I want to develop this worry further, by providing a reductio of the superassertability theorist's claim that superassertability is distinct from mere assertability. Call this claim $(\Sigma)$.

Suppose now that ordinary warrants for assertion (whatever these might be in the empirical case) are impossible to undermine. Suppose, that is, that

$$\forall \Pi(\mathrm{W}(\Pi, \mathrm{P}, i)) \rightarrow \forall k(k \geq i \rightarrow \mathrm{W}(\Pi, \mathrm{P}, k))$$

Then we don't need superassertability after all, for there will be no distinction between a warrant for assertion and a warrant for superassertion. Put another way, we can say that there would be no proper sub-class of *super*-warrants among the warrants at large. This would contradict $(\Sigma)$. So, holding on to $(\Sigma)$, we conclude that it is *not* the case that all ordinary warrants for assertion are impossible to undermine:

$$\sim \forall \Pi(\mathrm{W}(\Pi, \mathrm{P}, i)) \rightarrow \forall k(k \geq i \rightarrow \mathrm{W}(\Pi, \mathrm{P}, k))$$

This in turn implies we would be deprived of the first half of Tarski's schema, on its usual 'non-super' reading – an intolerable result. (I repeat: if one is entitled to assert P, then one should be entitled to assert also that 'P' is true. It is precisely this transition of which the superassertability theorist would deprive us.)

Thus $(\Sigma)$ cannot hold.

The superassertability theorist may object to this line as follows. The validity of the Tarskian schema, like the validity of any other licit inference, consists in the guaranteed transmission of *superassertability*, not the guar-

anteed transmission of 'mere' assertability. That is, we should be asking for the Tarskian schema only on the 'super' reading discussed above.

But as we have seen, in order to sustain the 'super' reading we have to be able to tell when a warrant Π for P is indeed super, that is, when it satisfies condition (∞). The superassertability theorist, however, is unable to tell us how we might tell this *at the time of first possession of* Π. The superness of warrants for superassertion would simply elude us. If not, then we would be assiduously attuned to it, and we would refuse to recognize any ordinary 'warrants' that were *non*-super as warrants at all! It follows that whatever we have good reason to count as a warrant should be as good as one could possibly get in so far as any imagined superwarrants are concerned.

Thus superassertability cannot play the role of truth (in a way different from assertability) in an account of truth-conditions, grasp of which must be manifestable in the exercise of one's recognitional capacities. The anti-realist simply has to look elsewhere than superassertability for a central semantical notion X that can serve in an X-conditional theory of meaning (for *empirical* discourse) that is capable of meeting the manifestation challenge. I have argued elsewhere (Tennant 1997: ch.12) that the appropriate notion is that of constructive falsifiability. I give an account of empirical discourse in which the logical elimination rules play a primary role in a recursive definition of constructively valid reductio arguments (warrants for denial), and in which the introduction rules are justified with reference to the elimination rules. This mirrors the mathematical case, where it is the logical introduction rules that play the primary role in a recursive definition of constructively valid arguments (warrants for assertion), and where the elimination rules are justified with reference to the introduction rules.

It is time for anti-realists to accept that inference to the best available explanation in the empirical case yields beliefs on which it is rational to rely, without conceiving of oneself as having a warrant, super or otherwise, for the assertion of the inferred beliefs. Anti-realists should not only eschew the recognition-transcendent element of superness in superassertability; they should also abandon the vain search for an analogue, for empirical statements, of proof-based assertion in mathematics. There is an alternative semantical account of empirical discourse to be had, which pays proper regard to the tentative and conjectural status of our empirical beliefs; and it leaves the anti-realist's reformed logic intact. It still, however, allows (indeed: exploits the fact) that one is often in a position to say that if one accepts certain given observational evidence then one *cannot* accept such-and-such a scientific theory. The tribunal of experience can only condemn general beliefs, never commend them. It is we who are constantly

*commending* various general beliefs to each other and to it. The verificationist tries to talk up the price; the falsificationist, by contrast, looks at the fundamentals.

*The Ohio State University*
*Columbus, OH 43210*
*tennant.9@osu.edu*

## *References*

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