

JAMES C. KLAGGE

CONVENTION T REGAINED

(Received 17 November, 1976)

I

In two recent articles ([1], [2]) Professor Hintikka has suggested some subtle and ingenious counterexamples to Tarski's Convention T as it is applied to natural language by Davidson.

Hintikka formulates the Convention as:

- (1) π is true if and only if p ,

where p holds the place of a sentence and π is a quotation or structural description of that sentence. Since (1) is a material biconditional, we have as a consequence:

- (2) If p then π is true.

The Hintikka counterexamples are certain sentences beginning with 'any' such that when one of them is substituted for p and its quotation is substituted for π , (2) is false; and so, then, is (1). Among the poisoned sentences are:

- (3) Any corporal can become a general.
(4) Any man is mortal.

and I add:

- (5) Any wff written on the blackboard is a theorem.

By substituting (3) for p in (2) we get:

- (2/3) If any corporal can become a general, then 'Any corporal can become a general' is true.

The difficulty with (2/3) is not as clear as it might be, but Hintikka points out that the first occurrence of 'any' in (2/3) has the force of an existential

Philosophical Studies 32 (1977) 377–381. All Rights Reserved
Copyright © 1977 by D. Reidel Publishing Company, Dordrecht-Holland

quantifier, while the second is the usual universal quantifier. The point is perhaps more clear in:

- (2/5) If any wff written on the blackboard is a theorem, then 'Any wff written on the blackboard is a theorem' is true.

Hintikka explains that the changing force of the two occurrences of 'any' is due to the 'interplay of 'any' and its grammatical environment'. (p. 209, [1]). He postulates two relevant principles: (i) 'any' is always a universal quantifier, and (ii) 'any' has (*ceteris paribus*) a wider scope than 'if'. (p. 209, [1]). He then provides what he understands to be the 'logical form' of (2/3):

- (6) $(\forall x)[(x \text{ is a corporal} \ \& \ x \text{ can become a general}) \supset \text{'Any corporal can become a general' is true.}]$

which is equivalent to:

- (7) $(\exists x)(x \text{ is a corporal} \ \& \ x \text{ can become a general}) \supset \text{'Any corporal can become a general' is true.}$

But on any normal reading of (3) its 'logical form' is:

- (8) $(\forall x)(x \text{ is a corporal} \supset x \text{ can become a general}).$

So it appears that the sufficient-condition part of the T-sentence for (3) ought to be:

- (9) $(\forall x)(x \text{ is a corporal} \supset x \text{ can become a general}) \supset \text{'Any corporal can become a general' is true.}$

Hintikka derives (7) as the sufficient-condition part of the T-sentence for (3), and (9) and (7) clearly are not equivalent.

Does (3) constitute a counterexample to (1) – Convention T? Yes and no. (3) is a counterexample to (2), and, *a fortiori*, to (1), but not to Convention T. Convention T, as Tarski and Davidson intend it, is:

- (T) $\pi \text{ is true} \equiv p.$

(using the same interpretation for the placeholders as in (1).) Though we usually read ' \equiv ' as 'if and only if', it may be defined in the following ways:

- (T1) $(\pi \text{ is true} \supset p) \ \& \ (p \supset \pi \text{ is true}),$
 (T2) $(\pi \text{ is true} \ \& \ p) \vee (\sim(\pi \text{ is true}) \ \& \ \sim p).$

And, in fact, we may define (T1) as:

$$(T3) \quad (\sim(\pi \text{ is true}) \vee p) \ \& \ (\sim p \vee \pi \text{ is true}).$$

Now in (T1) and (T3) we can isolate an immediate subformula that is analogous to (2). For (T1) it is:

$$(10) \quad p \supset \pi \text{ is true,}$$

and for (T3) it is:

$$(11) \quad \sim p \vee \pi \text{ is true.}$$

(11) can be informally rendered as:

$$(12) \quad \text{It is not the case that } p, \text{ or } \pi \text{ is true.}$$

Now, as before, substituting (3) into (12):

$$(12/3) \quad \text{It is not the case that any corporal can become a general, or 'Any corporal can become a general' is true.}$$

And the first occurrence of 'any' in (12/3) does have the force of a universal quantifier. (If you don't see this, try inserting 'just' in front of 'any'.) So, apparently, 'any' does not interact with 'it is not the case that'.¹

(10) can be informally rendered as (2), but it may also be rendered as:

- (2a) p implies π is true.
- (2b) p horseshoe π is true.
- (2c) p hooks π is true.
- (2d) p arrows π is true.
- (2e) p only if π is true.

Each of these alternative translations avoids the 'interplay' between 'any' and 'if'. As an example, consider:

$$(2a/3) \quad \text{Any corporal can become a general implies 'Any corporal can become a general' is true.}$$

which seems, at least to me, to be perfectly correct. (T2) is also a correct form of (T), and, though it has no immediate subformula corresponding to (2), (T2/3), if we cared to write it out, would show none of the difficulties evidenced by (2/3).

So, while Hintikka does present counterexamples to (1) and (T1) by way

of (2), he does not have counterexamples to (1) or (T1) by way of (2a)–(2e), nor to (T) or (T2) or (T3). Hintikka has not, therefore, found a counterexample to Convention T.

II

Some further remarks are in order:

Hintikka does, in one brief passage, anticipate what we might do in response to his counterexamples (p. 64, [2]):

In order to solve this difficulty we obviously must do two things:

(i) Identify that part of one's metalanguage which is not subject to this kind of context-dependence.

(ii) In each application of Convention T to a new object language, use only the context-independent part of our metalanguage in translating the several sentences *S* of this object language for the purposes of the schema (*t*).

He goes on to argue that we cannot carry out these tasks. But, in fact, this is just what we have done in part I, with respect to 'any'. We identified (T), (T1), (T2), (T3), (11), (12), and (2a)–(2e) as such context-independent (with respect to 'any') parts of our metalanguage which are sufficient to make up for our deletion of (1) and (2) from the metalanguage.² Part I does not show we can carry out tasks (i) and (ii) to guarantee context-independence for any sentence, but it does show the difficulties need not arise for the known cases.

In Introductory Logic the professor generally is careful to suggest that the meaning of '⊃' is only approximated (and sometimes distorted) by such phrases as 'if ... then', 'only if' and 'implies', and that it would be better to use such meaningless (or meaning-neutral) phrases as 'hooks', 'horseshoe' or 'arrow'. Hintikka's counterexamples are good examples of why this suggestion is made.

By placing (3), (4), and (5), and others like them, in contexts superficially similar to the truth schema, we can form a collection of sentences – call them Hintikka sentences – that have non-standard occurrences of 'any'. For instance:

- If any government official is honest, I will be surprised.
- If any wff written on the board is not a theorem, then Professor Bohl made a mistake.
- If any man is immortal, then certainly Socrates is.

The Hintikka sentences are different from the Hintikka counterexamples in

that they contain legitimate occurrences of 'if' which are in the object language. The counterexamples like (2/3) and (2/5) contain metalinguistic 'if' 's which, by tasks (i) and (ii), we may stipulate are illegitimate, and which, in any event, can be replaced (we know) without change of extensional meaning.

The Hintikka sentences provide one more non-trivial difficulty for anyone who seeks to provide an automatic translation procedure from natural language sentences to their Davidsonian logical form. That is, given any sentence, show how its meaning is (unambiguously) dependent upon the meaning of its parts. Such a translation procedure is essential if Davidson's program is to be carried out completely. As Hintikka suggests (p. 210, [1]), there are good reasons for thinking this may not be possible. I happen to disagree, but as Davidson has said, the proof of the pudding will be in proving the right theorems. Certainly more work needs to be done in this direction.

But, be that as it may, the real problem lies in formulating the automatic translation procedure, and *not* in Convention T.

*University of California,
Los Angeles*

NOTES

¹ Hintikka writes (pp. 210–211, [1]): "no definite truth-value can be assigned to a subordinate any-clause independently of its (verbal) context. For it is part and parcel of the meaning of 'any' that it interacts with its context." But, as I explain in Part II, while this may be true in general, the point I am making here is that the context-dependence does not arise with respect to Convention T.

² If we want (as Hintikka seems to want) the metalanguage to be English itself, then the proper rendering of Convention T which avoids the counterexamples will be:

(Te) It is not the case that π is true, or p ; and it is not the case that p , or π is true.

or

(Tf) π is true, and p ; or it is not the case that π is true, and it is not the case that p .

BIBLIOGRAPHY

- [1] Jaakko Hintikka, 'A Counterexample to Tarski-Type Truth Definitions as Applied to Natural Languages', *Philosophia* 5 (1975), 207–212.
- [2] Jaakko Hintikka, 'The Prospects for Convention T', *Dialectica* 30 (1976), 61–66.