

Three Twentieth-century Commonplaces about 'If'

V. H. DUDMAN

28 Haig Street, Chatswood, NSW 2067, Australia

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The commonplaces, all grammatically confused, are that 'conditionals' are ternary in structure, have 'antecedents' and conform to the traditional taxonomy. It is maintained en route that 'The bough will not break' is consistent with 'If the bough breaks ... ', that there is no logical difference between "future indicatives" and "subjunctives", and that there is a difference between the logic of propositions (e.g. 'The bough broke') and that of judgments ('The bough will/might/could/should/must/needn't break').

1. Introduction

- (A) to (E) instance what we casually call 'if'-sentences:
- (A) If the bough breaks, the cradle will fall
- (B) If the bough broke (were to break), the cradle would fall
- (C) If the bough had broken, the cradle would have fallen
- (D) If the bough broke, the cradle will have fallen
- (E) If the bough broke, the cradle fell

Each can encode a message featuring a cradle's falling and a bough's breaking, two single events. Call these messages m_1 to m_5 respectively. I shall also be referring, as respectively m_6 and m_7 , to the single-future-event interpretation of (F) and the single-past-event interpretation of (G):

(F) The bough will break (G) The bough broke

Interest in messages like m_1 to m_5 increased exponentially among philosophers during the twentieth century, and many and diverse were the theories they proposed for them. But perhaps a few tenets were so widely espoused or at any rate acquiesced in as to be accounted among the century's commonplaces of English-speaking philosophy. I think to have collected three, which I shall introduce in turn below (Sections 4, 12, 14). Each of the three is, or arises from, a fundamental grammatical mistake.

For authentication, I draw here and there upon late twentieth-century essays of Jonathan Bennett and Dorothy Edgington, and on the work of a larger figure, Frank Jackson.

2. Sentences and messages

(A) is discovered ambiguous between our single-events interpretation m_1 and a logically different interpretation formulating a present habit ('... the cradle will often/usually fall'). The mere fact of sentence-ambiguity establishes a distinction between sentences and the messages they encode. And the logician's interest is in the messages, patently.

3. Times-about

In my semantics the homely notion of the time(s) that a message is propounded *about* plays an important role. A message encoded in an 'if'-sentence naturally has two times about. In each of m_1 to m_5 , a is the time of the cradle's falling and a' the time of the bough's breaking.¹

4. First commonplace

The aim of the empiricist in semantics must be to expound messages as *articulated* in the sentences found to convey them, saying how each target message is built up as its encoding sentence is generated, and out of what informational fragments. Posed about interpretations of 'if'-sentences, those two questions elicit my first two commonplaces.

Jackson, appreciating their primacy, answers both questions in his opening sentence: 'if, then' is a 'dyadic sentential connective' (1987: 1). 'Dyadic' means that 'if'-sentences encode structures along the lines of A > C, and 'sentential' means that A and C are interpretations of sentences, i.e. messages. And those understandings provide respectively my first and second commonplaces.

The same ternary structure espoused by Jackson is employed by Bennett, but I miss in his essay any clear avouchment of it. Rather, it is attributed to use and custom: urging two types of "conditionals", he continues (p.331):

The former are often expressed by a straight arrow $(A \rightarrow C)$, and the latter with a corner symbol (A > C).

Edgington is if anything more oblique, acquiescing uncritically in the ternary convictions of others, but as far as I see saying nothing of her own to choose between the ternary structure and, say, some If-A+C one.

Not every twentieth-century authority proclaims the ternary structure, then. But many who do not seem still to think and work in terms of it, like Bennett and Edgington. Now let me explain why it cannot be right.

5. Ternary structure untenable

Examples like the following demonstrate that an 'if'-sentence has a *string beginning with* 'if' for a constituent:

... the moment for such frivolities, if it had ever existed, was now past. (Anthony Powell 1960: 160)

The knowledge that there was a leak, if it became public, could be more damaging than the leak itself. (Graham Green 1978: 37)

In them we descry that string interrupting a *prior sentence* ('The moment for such frivolities was now past', 'The knowledge that there was a leak could be more damaging than the leak itself') which it could synonymously have preceded or followed: there is no doubting its integrity. And then the point is simply that the commonplace ternary structure would sunder this undoubted constituent.

6. Prior messages

Now, a prior sentence—any sentence—can appear with its own full stop, 'stand on its own'. But a string beginning with 'if' never can: it occurs only to elaborate some prior sentence. The right way to expound interpretations of 'if'-sentences, then, is as informational elaborations of the *prior messages* their prior sentences encode.

Briefly, the prior messages of our examples are all *simple* messages ($=_{\rm df}$ messages encoded in subject-predicate sentences). Simple messages divide into propositions and judgments. *Propositions* are statements of fact about their tenses; they have *a* identical with the A-series time *t* registered formally as present or past in the predicates of their encoding sentences. The prior message of m_5 is a proposition. The prior messages of our other four examples are judgments. A *judgment* has a verdict ν , expressed by a modal, for an immediate informational factor. The English modals are WILL, CAN, MAY, MUST, SHOULD, OUGHT, NEED, DARE and SHALL. There are two grammatical categories of judgment. The prior message of m_4 is a prActical judgment, intuitively a judgment 'as to fact': its verdict is applied to the cradle's *actually* falling in the past. The prior messages of m_1 , m_2 and m_3 are projEctives, and it is the speciality of Es to *lack* the $\{+$ actual $\}$ understanding that characterises As.

7. The string beginning with 'if'

They are matters of observation that in (D) under m_4 and (E) under m_5 , 'the bough broke' means something it can mean when it occurs with its own full stop, whereas nothing comparable is true of (A), (B) or (C). I urge a grammatical explanation, that in (D) and (E) 'if' is externally prefixed to the sentence 'the bough broke', whereas in (A) under m_1 , (B) under m_2 and (C) under m_3 'if' is first word of what is called a 'conditional clause'. That is one point, that our strings beginning with 'if' are put together in two ways. My next is that 'if'-strings combine with prior sentences in different ways.

8. Structure

When 'if' is prefixed to a sentence, the resulting string is not embedded in the prior sentence but always an external accompaniment to it. In m_4 and m_5 I recognize two immediate informational factors then, one encoded in the 'if'-string and the other in the prior sentence.

How 'if'-string and prior sentence amalgamate under m_1 , m_2 and m_3 is a question I have often botched, and as recently as (Dudman 1998: 277, 282). According to the proposal I now prefer, smiling like a sheep, (A)'s prior sentence has will for an immediate constituent, while (A) itself has 'will if the bough breaks' in its place.

9. Conditionals

Thus, m_1 , m_2 and m_3 are encoded with a conditional clause 'modifying' the verdict of an **E** prior message. These are the defining characteristics of the messages I call *conditionals*. Neither m_4 nor m_5 has either of them.

10. Wodehouse

Note that there is nothing wrong with affirming m_1 while simultaneously maintaining that the bough will not break. For a reason about to emerge, I call this the Wodehouse proposition. Prima facie there should be nothing wrong logically: the two tenets are sustained by quite independent reasoning, the former's perhaps premissed on the observation that the cradle depends wholly from the bough, the latter's on the logically indifferent observation that the bough is a foot thick.

And anyway, the concatenation is found in received English:

If Mr Winship performs the miracle of winning this election, which he won't, he will be an ordinary, humble back-bencher ... (P.G. Wodehouse 1971: 79)

Examples can be multiplied.²

In contrast, we cannot say 'If the bough broke, which it didn't, the cradle fell [will have fallen]' (unless with the interpolation kept apart thematically from the rest, e.g. said as an aside). The speaker maintaining that the bough did not break *retreats* from that position by adding 'If it did, the cradle fell [will have fallen]', the resultant effect hardly to be distinguished from that of 'The bough didn't break, or if it did, the cradle fell [will have fallen]'.

My explanation is that, when 'if' is prefixed to a sentence, it introduces that sentence's then interpretation as a *hypothesis*, i.e._{df} as treated as *true* (if a proposition) or as *accepted* (if a judgment) *regardless of whether it really is*, and accordingly that 'If the bough broke, which it didn't, ...' attempts, inconsistently, to treat m_7 as true and simultaneously to affirm its negation.³ By contrast, Wodehousian dicta make sense because in the conditional *clause* of (A) under m_1 is encoded *no message*, hence nothing that might be inconsistent with 'The bough will not break' (They are however further matters of observation that, although [i] 'The bough broke, but it won't have broken' is unsayable, it nevertheless makes perfect sense to say [ii] 'If the bough broke, which it won't have, ...'. How are these to be explained? [i] combines *affirmation* of a fact and a contrary opinion as to that same matter of fact. [ii] combines the announcement that something is being treated as a fact regardless of whether it actually is with an opinion that it actually isn't. A speaker can follow through the consequences of a propositional hypothesis she openly opines to be false, but affirming something rules out opining its falsity).

11. Logical differences among m₁ to m₅

From casual examination of our five examples, it would be no surprise to find m_5 logically different from the first four, because (E) lacks a lexeme shared by (A) to (D). (A) to (D) use every lexeme used by (E) plus the modal will. And therefore the modality **will** (which = $_{df}$ the meaning of will) is an informational factor, unshared

- 2 'But call me earlier if there's anything to report, won't you?'
 - 'There won't be. But yeah, sure, if there is.' (Gabrielle Donnelly 1991: 20)
 - 'Well, let me know if you have any more trouble with him, but you won't.' (Pamela Hansford Johnson 1987: 14)
 - 'I will arrive on the 10 o'clock plane. If I don't arrive on that plane, I will arrive on the 2 o'clock plane. (Adams 1965: 171).
- 3 It is as well one cannot deny that the bough broke while hypothesizing that it did. Otherwise 'if A, C would follow, 'paradoxically', from 'not-A', familiar problem. For both steps in the argument 'not-A; therefore not-A or C; therefore if A, C' are widely relied upon, and logically impeccable.

by m_5 , of m_1 , m_2 , m_3 and m_4 . Moreover, from comparison of 'The cradle will fall', '... can't fall', '... may fall', '... must fall' and the like, it is evident that the role played by the modality in the prior messages of m_1 to m_4 is no minor one. So m_5 lacks what is a major factor in the prior messages of other four, good reason for expecting a semantic difference large enough to be logical.

On the other hand, there is no obvious reason to anticipate logical differences among m_1 to m_4 . Nor are any apparent. With the cradle expected to depend from the bough at a future time a', m_1 and m_2 are both affirmable about that a'. And also m_3 : after the bough has been reinforced, the cradle still dependent from it, m_3 can conjure the old unreinforced bough's perhaps-future breaking, while m_1 and m_2 have come to envisage the future breaking of the reinforced one. Once the cradle is severed from the bough, m_1 and m_2 become untenable unless on some other ground. However, with the cradle understood to have depended from the bough at some by-now past time a', m_3 and m_4 are each affirmable about that a'. Whatever justifies any of them—as it might be, dependence of cradle from bough at a'—justifies them all, it seems: m_1 , m_2 , m_3 and m_4 are logically indiscernible.

In their work on the logic of conditionals, English-speaking philosophers spent the twentieth century looking in exactly the wrong place, or at any rate many did. The choice between the forms of (A), (B) and (C) is the only feature that has absolutely no logical effect, but they homed in on it as a locus of fundamental logical difference.

12. Second commonplace

Received twentieth-century doctrine ascribes two component messages to each of our examples, and so in particular recognises a component message A in a conditional, its 'antecedent', encoded within the 'if'-string. This ascription of antecedents to conditionals is my second commonplace. No substring of the 'if'-string is found with an interpretation appropriate to be the conditional's A; but messages exist only as encoded in words; so some *non*substring of the 'if'-sentence has to be nominated faute de mieux as encoding it, radical methodological departure. Not all of its sponsors identify this non-substring with ready particularity, but among those that do, (F) is the common and seemingly inevitable choice for encoding the shared A of m_1 and m_2 , and (G) for encoding m_3 's (Jackson 1987: 5, 6, Bennett 1995: 343–344, 340; Edgington 1995: ?, 240). Which would have the Wodehousean dictum 'The bough will not break, but if it does, ...' just as unsayable as 'The bough will not break, but if it will, ...' is found to be. In the theorist who assigns "antecedent" messages to conditionals, resistance to Wodehouse seems inevitable.

13. "Antecedents" for conditionals?

I took it for granted in section 11 that it is the same conditional m_3 that is affirmed both before and after its a' by asserting (C). On this not unnatural view, it cannot be that conditionals have antecedents: try finding a message to serve as the invariant A of

4 Edgington (1995: 239n) maintains that:

... there is ... a temporal difference between what is needed to establish that Smith will if Jones doesn't, and what is needed to establish that Smith would if Jones were not to. The latter requires that, before the evidence arose, the judgment that Smith will if Jones doesn't would have been correct.

Perhaps I misunderstand. Edgington seems to be saying that for (B) to be assertible, (A) has to have been assertible while the cradle was not yet expected to be suspended from the bough. But this is obvious nonsense, and in fact there is no time at which m_1 is affirmable but m_2 not.

m₃ while that same conditional is propounded successively about future and past. I have rehearsed this case more carefully elsewhere (Dudman 1998: §7).⁵

Because the antecedents twentieth-century thinkers ascribe to them do not exist, these thinkers are found expounding conditionals in terms of 'component' messages logically unrelated to them. Here is Edgington explaining the difference between m_1 and (ostensibly) m_2 :

You think that such-and-such will happen. You can distinguish the questions: 'But what if it doesn't?' (i.e., what if you're wrong in thinking it will?); and 'But what if it were not going to?' (retaining your belief that it will) (1995: 238–239).

Whether such-and-such will happen has nothing to do with either what will happen if it doesn't or what would happen if it were not to. Small wonder, then, that both the parenthetical explications are confused. If the bough breaks' is not to be equated with If I'm wrong in thinking that the bough won't break': otherwise it would make no sense to say, with Wodehouse, If the bough breaks, which it won't ..., for that would amount to the unsayable II'm wrong in thinking that the bough won't break, which it won't And since you can 'retain your belief' that the bough won't break while asserting (B) under m_2 and while asserting (A) under m_1 , the second parenthesis marks a distinction without a difference.

14. Third commonplace: 'the traditional way'

My third commonplace recognizes future-a versions of propositions and their elaborations. This is the essential feature of what is known as the 'traditional' position on 'if'. The traditional position is characterized by two doctrines: that for example m_7 and m_6 are logically indiscernible, differing only in the A-series times a they are about, and its slight extension that for example m_5 and m_1 are logically indiscernible in just the same way. We have already seen why this cannot be right (§11): with m_6 and m_1 containing the modality will and m_7 and m_5 not, it is a simple impossibility that the pairs should differ only in their as.

In this fashion, nevertheless, m_7 and m_5 are traditionally furnished with future-a variants. A tidy picture is then completed by ignoring m_4 and future-a' occurrences

- Edgington (1995: 315) maintains that to affirm m_3 about the past is to 'endorse a hypothetical' which could be expressed before a by (A). Different conditionals, same 'hypothetical': a clumsy analysis, remembering that (C) can be asserted about the future no less than about the past. Now, in Edgington's design, when (C) is said before a, does it endorse that same 'hypothetical', or a different one? If the former, her story is to no point; if the latter, (C) endorses different 'hypotheticals' depending on the time of day. What a hypothetical is never emerges.
- 6 Or with what would happen if it were not going to. Having set herself the task of explaining the (subtle and elusive) difference between m_1 and m_2 , Edgington sets about explaining the (gross and palpable) difference between m_1 and the natural interpretation m_8 of 'If the bough had been going to break, the cradle would fall':

What if Jones had not been going to? ... If Jones had not been going to, then, most likely, the evidence I did come across would not have been there. I reject 'If Jones hadn't been going to escape, Smith would escape'. I reject HW (p.317).

The cadential apposition suggests the eerie hypothesis that 'BE going' is *invisible* to Edgington, for her 'HW' is 'If Jones hadn't escaped, Smith would have' (pp.311–315, passim). But apparently not, for she also *equates* 'would [have]' and 'was going to' (pp.315, 317). Anyway, the crucial point is that her explanation relies on, *uses*, 'BE going'. This is an unfortunate development, touching the integrity of her very theme: her essay is 'on conditionals', but she offers a theory of messages which exclude m_2 and include m_8 . This is not the news we had been waiting for.

of m_3 , and taking m_2 as saying about the future what m_3 says about the past. In this way the fully fledged traditionalist holds that m_2 stands to m_1 as m_3 to m_5^7 (cf. Jackson 1987: 74–75, Bennett 1995: 343, Edgington 1995: 238.)

15. Wodehouse and the tradition

We have seen that 'If the bough broke, which it didn't, \dots ' is unsayable (§10). Given the traditional doctrines of section 14, that ought to make 'If the bough breaks, which it won't, \dots ' unsayable too. Traditionalists ought to deny the Wodehouse proposition. §

As indeed some do: the denial is found near the surface in each of our three representatives. Jackson's celebrated 'different from actuality' insight provides an easy instance:

Despite the fact that you regard rain as unlikely, and so think that the way things actually will be is that the match will be played, you do not say 'If it rains, things will be different from the way they actually will be' (Jackson 1987: 75).

Wodehouse does. Because she thinks Mr Winship will not win the election, his creature Mrs McCorkadale considers that if Mr Winship wins the election things will be different from how they actually will be.

An accordant Bennett has Jackson holding that 'it would always be absurd to say "If Booth doesn't kill Lincoln, things will work out differently from how they actually will" (1995: 341), whereas precisely that would be the well-reasoned position of a conspirator convinced that Booth will kill Lincoln. In Edgington's formulation, 'it is trivial to say "If it rains, things will be just as they actually will be" (1995: 320). Trivial to say, when only a speaker maintaining it will rain has any right to say it?

16. 'Traditional' logic

In the last three decades of the twentieth century, study of the logic of messages like m_1 to m_5 came to rely on prized examples devised by Ernest Adams (1970: 90). He used them to demonstrate logical difference between m_5 and m_3 ; in fact they provide the same demonstration of logical difference between m_5 and any of m_1 to m_4 . Our business here is with the pair assimilated by the tradition, m_5 and m_1 .

Let us refer to the natural interpretations of 'If Oswald didn't shoot Kennedy, someone else did', 'If Oswald doesn't shoot Kennedy, someone else will', 'Someone shot Kennedy' and 'Someone will shoot Kennedy' as respectively Didn't-did, Doesn't-will, \ni (did) and \ni (will). Plainly these four messages are grammatically congruent with m_5 , m_1 , m_7 and m_6 respectively.

Now, Didn't-did follows from ∋(did). Holding the doctrines of section 14, exponents of the tradition want to infer Doesn't-will from ∋(will) by the same reasoning, and Jackson, Edgington and Bennett each plead essentially the same

⁷ If m_2 and m_1 differed logically, (B) would be ambiguous between logically different conditionals, depending as it occurred in direct speech under m_2 or in a report of someone's prior assertion of (A) under m_1 ; but positively no such ambiguity presents itself to intuition.

⁸ S.J. Barker (1996) argues the converse connection. He proposes that 'U cannot assert permissibly' the sort of thing Wodehouse wrote and, using copremisses of his own, concludes: 'It appears therefore that the traditional taxonomy is right after all' (p.218).

example as authenticating this way of inferring Doesn't-will. I demurred (Dudman 1992: 210) when Jackson (1990: 146) first urged it, but evidently failed to convince Edgington, who (1995: 287n) cites my demurring essay⁹ but persists with exactly Jackson's submission:

... there are two prisoners, Smith and Jones. We have powerful evidence that one of them will try to escape tonight. Smith is a docile, unadventurous chap, Jones just the opposite, and very persistent. We are inclined to think that it is Jones that will try to escape. ... However, we could be wrong in thinking that it is Jones who will escape:

(3b) If Jones does not try to escape tonight, Smith will (p.239).

Given 'powerful evidence' that some prisoner, *perhaps Jones*, will try to escape tonight, it is rash to infer that if Jones does not try to escape tonight some other prisoner will, for the latter patently does not follow just from the tenet that *Jones* will try to escape tonight. Edgington, in despite of thinking the powerful evidence *does* relate to Jones, reflects that she 'could be wrong' about that, and concludes that if he doesn't try to escape some other prisoner will!¹⁰

A third version of Jackson's argument is found in Bennett (1995: 334–335) when he thinks to infer Doesn't-will from a 'subjective connection'. To the case he puts I respond that however fervently an eavesdropper might believe that *someone* will kill Lincoln, he must not infer that if Booth doesn't someone *else* will when the *someone* might be Booth. To justify 'someone else' he would need more data, data about someone definitely not Booth.

It might be urged that 'Some prisoner will try to escape' still *implies* 'If Jones doesn't, some other prisoner will', because if Jones doesn't and no other prisoner will, that must confound the premiss that some prisoner will. The claim of implication is easily refuted: it is rational to maintain that Jones will while preserving an open mind whether anyone else is minded to, hence rational to reject the 'conclusion' while accepting the 'premiss'. But the terms 'premiss' and 'conclusion' betray a basic confusion.

17. The logic of judgments

For the logic of judgments is in my submission fundamentally different from the logic of propositions. A paradigm of the latter is the entailment of Didn't-did by the proposition that someone shot Kennedy: conjoin that proposition as premiss with the hypothesized proposition that Oswald didn't shoot Kennedy, and the proposition follows that someone other than Oswald shot Kennedy. Inference in the logic of propositions is from propositions to propositions.

- 9 The purpose of her citation is however to say that *I* say 'we don't assert "I won't win the lottery"... even if our chance of winning is one in fifty million'. In fact I mention figures nowhere in the article, whose thesis is simply that assertability has nothing to do with fancied odds. But I am more surprised to find my argument against Jackson ignored.
- 10 Edgington has another way of establishing Doesn't-will, and wonderfully easy (1995: 317): Return to my two prisoners, Smith and Jones, one of whom, I'm now sure, is planning to escape. I'm pretty sure it is Jones. But what if I'm wrong? Then it's Smith.

So far so good: if one of two prisoners is planning to escape and it isn't one it's the other, regardless of any suspicions you might entertain about which of them it is. 'That', she continues, 'can be expressed as DW: if Jones doesn't Smith will'.

But when a judgment is affirmed, the task of the underlying reasoning is to *justify* the verdict. And similarly, when a conditional is affirmed, the reasoning is to justify the 'conditional verdict': the reasoning underlying an affirmation of m_1 is for justifying the burden of 'will if the bough breaks'.

Each verdict and conditional verdict requires its own underlying reasoning, crucial point. The question is not of inferring judgment from judgment—of inferring the conditional Doesn't-will from the judgment \ni (will), say. The question is of inferring each of these separately.

And then it emerges that reasoning sustaining the projective interpretation of 'Someone will/may/must/ought to shoot Kennedy' does not sustain the conditional interpretation of 'If Oswald doesn't shoot Kennedy someone else will/may/must/ought to', because the former can be premissed solely upon evidence that Oswald, or someone who just possibly might be Oswald, will/may/must/ought to shoot Kennedy, whereas the latter requires to sustain it some such wholly independent datum as that the assassination conspiracy includes back-up marksmen. (Cf. Dudman 2000.)

Likewise, reasoning sufficient for the practical interpretation of 'Someone will/etc. have shot Kennedy by now' can rely wholly on intelligence about the preparations of someone who could be Oswald, and therefore not sustain the m_4 -like interpretation of 'If Oswald hasn't shot Kennedy yet someone else will/etc. have'.

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