

## *Edgington on Compounds of Conditionals*

MAX KÖLBEL

Dorothy Edgington (1986) has long defended the view that conditionals do not have truth conditions. This view, like other views on conditionals, owes an explanation of the behaviour of conditionals when they are embedded in larger sentences, and in her excellent article “On Conditionals” in *Mind* (1995), Edgington addresses this issue. I want to complain not so much that anything of what she says in this respect is false, but rather that she ignores many interesting contexts in which conditionals can be embedded. For example, she fails to consider (a) conditionals embedded as conjuncts, (b) the general case of conditionals embedded as disjuncts, and (c) conditionals within the scope of quantification. I shall first make some remarks about the embedding problem in general and about Edgington’s way of tackling it. Then I shall discuss the above-mentioned ways of embedding conditionals, of which especially quantification turns out to be a problem. In the final section, I elaborate on the nature of this problem and consider two unsuccessful proposals for a solution.

### *I*

Any theorist who claims that sentences of some sort do not have truth conditions, and who nevertheless wants to maintain a standard truth conditional semantics for sentences which are not of this sort, faces the embedding problem. This problem is well-known in the case of expressivism about moral sentences: the moral expressivist claims that moral sentences do not have truth conditions and provides a special speech-act analysis of moral sentences, when they occur separately. But stating what speech-act one performs in uttering a sentence separately is not yet to say anything about the function of that sentence when it occurs not separately, but as the constituent of a larger sentence. As the moral expressivist denies that the sentences in question

have truth conditions, he cannot make use of the truth conditional semanticist's apparatus in explaining these embedded occurrences.<sup>1</sup>

Dorothy Edgington's theory of conditionals faces the same general embedding problem as does moral expressivism, since her theory is, in an extended sense of the term, an *expressivist* theory of conditionals: she denies that conditionals have truth conditions and provides a speech-act account of conditionals when they occur separately—sincerely to utter a conditional is to make a conditional assertion and thereby to express a conditional belief. The special speech-act performed in uttering a conditional is the speech-act of conditionally asserting the consequent given the antecedent. The embedding problem faced by expressivism about conditional sentences is that of explaining the meaning of conditionals when they occur embedded in larger sentences. While the conditional sentence "If he is in Italy, he is in Rome" may be used to assert conditionally that he is in Rome, given the supposition that he is in Italy, it might be argued that the same sentence cannot be used to make this conditional assertion when it occurs embedded in

- (1) Either he is in Rome, if he is in Italy, or he is in Bordeaux, if he is in France.

Edgington cannot use the standard truth functional account of "or", as the two disjuncts are conditionals, and therefore do not—according to her—have truth conditions. Some other account is needed.

Even if the general embedding problem is the same for Edgington's expressivism about conditionals as for moral expressivism, the initial prospects for responding to the difficulty are much better in Edgington's case—in at least two respects. First, while it would seem hopeless to claim that moral sentences cannot be embedded in the way in which other declarative sentences can be embedded, this is not hopeless in the case of conditionals. Conditionals might well form a separate syntactic category that does not admit of embedding operations of which other sentences admit. By contrast, moral sentences do not seem to constitute a syntactic category: "Gambling is bad" can obviously be embedded in the same ways as "Gambling is popular". Secondly, the rivals of Edgington's theory also face difficulties in accounting for embedded conditionals. The moral expressivist's rivals don't face analogous difficulties.

<sup>1</sup> Even if the expressivist manages to construct a special semantic theory to explain the function of sentential connectives when they are used to compound moral sentences (e.g. Blackburn 1984), he still faces the problem that this special theory would be incompatible with the standard truth conditional account of these connectives, given that the same connectives can be used to compound moral sentences, non-moral sentences and combinations of both (see Hale 1986). For a detailed discussion of the embedding problem in cases other than conditionals, see Kölbel (1997).

Edgington (1995) exploits both these points. On the one hand, she points out that rival accounts are at least in no better position to deal with compounds of conditionals. Both the truth functional view of conditionals, and the view that conditionals have non-truth-functional truth conditions, have unacceptable consequences (1995, pp. 281–2; 1997, pp. 120–1). On the other hand, she attempts to explain away purported compounds with conditional constituents. It is this latter part of her strategy with which I am here concerned.

Edgington discusses four kinds of alleged compounds of conditionals, namely sentences of the following apparent forms (1995, 282–4):

- (i) (if  $A$ ,  $B$ ) or (if  $C$ ,  $D$ )
- (ii) not (if  $A$ ,  $B$ )
- (iii) if  $A$ , (if  $B$ ,  $C$ )
- (iv) if (if  $A$ ,  $B$ ),  $C$ .

She claims that form (i) is virtually uninstantiated. There are two kinds of apparent instances: one kind aren't genuine disjunctions, because both purported disjuncts are endorsed. The other kind are an "exceedingly bad way to convey the information", and if one were to convey the information properly, one would not use a disjunction of conditionals (1995, p. 283).

Negations of conditionals (case (ii)) are normally conditionals with negated consequents. In cases where this analysis doesn't fit, the negation is presumably to be understood as some kind of illocutionary negation.<sup>2</sup>

Apparent conditionals with conditional consequents (case (iii)) can be easily understood, but only "as equivalent to sentences without embedded conditionals", namely as equivalent to "if ( $A$  and  $B$ ),  $C$ " (1995, p. 284).

Conditionals with conditional antecedents (case (iv)), however, are very hard to understand. Example: "If Kripke was there if Strawson was, then Anscombe was there". Edgington suggests that in so far as we are able to interpret such conditionals, we do so using ad hoc strategies. For example, we might be able to identify a basis  $D$  for asserting "If  $A$ ,  $B$ ", and then interpret "If ( $B$  if  $A$ ), then  $C$ " as "If  $D$  then  $C$ ". Again, in so far as we are able to interpret this conditional with a conditional antecedent, it is equivalent to a sentence without embedded conditionals.

The discussion of these four cases concludes Edgington's treatment of the embedding problem. Her modest conclusion is that "the facts square at least as well with the hypothesis that conditionals do not have truth values as with the hypothesis that they do" (1995, p. 284).

<sup>2</sup>Cf. Edgington (1995, p. 283). The well-known doctrine of performative verbs involves a similar treatment of negation: cf. Searle 1969.

## II

Even this modest conclusion is too rash.<sup>3</sup> For Edgington fails to consider, for example, (a) disjunctions with only one conditional disjunct, (b) conditionals embedded as conjuncts and (c) conditionals embedded within the scope of quantification. I shall discuss each case in turn. It will turn out that Edgington's explaining away strategy can be maintained for (a) and (b), but not for conditionals within the scope of quantification.

(a) As I said earlier, Edgington explains away disjunctions made up of conditional disjuncts only. But what about disjunctions compounded from one conditional disjunct, and one disjunct that is not conditional? For example:

(2) Either I get health insurance or I have to pay if I see a doctor.

We can easily imagine circumstances in which (2) serves a straightforward communicative purpose. Can Edgington find an equivalent form of words which is free of embedded conditionals (as was her general strategy)? I think there is a good candidate:

(2\*) If I don't get health insurance, then I have to pay if I see a doctor.

(2\*) is a conditional with a conditional consequent, which on Edgington's view (see §I above) gets treated as equivalent to:

(E2) If I don't get health insurance and see a doctor, I have to pay.

In this way, Edgington might again paraphrase away an apparent conditional disjunct.

(b) Edgington never explicitly considers conjunctions of conditionals. This may not be surprising, because at first sight conditional conjuncts would seem unproblematic. Instead of treating "If *A*, *B* and if *C*, *D*" as a conjunction of conditionals, we could just treat it as two separate conditionals. Consider this conjunction:

(3) If I try to help her, she will call me patronizing and if I don't try to help her, she will call me inconsiderate.

To assert (3) is equivalent to making two separate conditional assertions: "If I try to help her, she will call me patronizing" and then "If I don't try to help her, she will call me inconsiderate".

However, there is a real difference between a conjunction and the corresponding series of separately asserted conjuncts. The difference doesn't

<sup>3</sup>One might already be dissatisfied with Edgington's policy of explaining away apparent cases of embedded conditionals by paraphrasing them. But however unattractive and ad hoc her treatment of embedded conditionals may seem, she shows rival (truth conditional) accounts to be much worse (pp. 280–2).

show up with simple conjunctions. But it does show up in quantified contexts. To assert “John smokes and John drinks” may be equivalent to first asserting “John smokes” and then asserting “John drinks”. The conjunction is dispensable. But when a conjunction occurs within the scope of a quantifier, it may no longer be dispensable. Consider “Someone smokes and drinks”, or its simplified formalization “For some  $x$ ,  $x$  smokes and  $x$  drinks”. No two separate, conjunction-free assertions can replace this.<sup>4</sup> Similarly, open sentential phrases with a structure like (3) can occur within the scope of a quantifier, in which case the conjunction is no longer dispensable. For example:

- (4) There is a girl who, if I try to help her, will call me patronizing and if I don’t try to help her, will call me inconsiderate.

Thus, Edgington needs an account of the role of conditionals as conjuncts, at least for cases where the conjunction occurs in the scope of a quantifier.

(c) Examples of conditionals embedded within the scope of quantification are not hard to find. Let us first consider universal quantification:

- (5a) If a dog barks, it doesn’t bite.  
 (5b) Any dog, if it barks, (it) doesn’t bite.  
 (5c) No dog, if it barks, bites.  
 (6a) If a woman loves a man, she shouldn’t let him know.  
 (6b) Any woman, if she loves a man, shouldn’t let him know.  
 (6c) No woman, if she loves a man, should let him know.

(5a)–(5c) are, I think equivalent, and so are (6a)–(6c). I have displayed the a-versions together with the b- and c-versions in order to make clear that these *are* quantified sentences, and that the indefinite article in “a dog” and “a woman” signals universal rather than existential generality within the context of (5a) and (6a) respectively.<sup>5</sup>

<sup>4</sup> One might argue that one could use two separate assertions to replace this: “Someone smokes”... “He drinks as well”. Response: either, in the suggested replacement “He” anaphorically refers back to the person introduced by “Someone”, in which case it might not be an appropriate replacement. Or, in the suggested replacement we ought to construe both utterances as being within the scope of the quantifier “Someone”, in which case the replacement would be appropriate, but wouldn’t solve the embedding problem in analogous cases involving conditionals. (Hans Kamp’s framework of discourse representation theory permits quantifiers that range over separate utterances within the same discourse. See Kamp and Reyle 1990.)

<sup>5</sup> Other universally quantifying occurrences of “a”, not involving conditionals, include “A bed is not a trampoline” and “An ersatzer is someone who replaces real concrete worlds by cheap set theoretic substitutes”.

If we wanted to represent the logical structure of these sentences using formulae of standard predicate logic, we would immediately get into a tangle, for the usual formalization practice of natural language quantifiers involves the postulation of deep structure material conditionals, as for example in “ $(x)(x \text{ is a man} \rightarrow x \text{ is mortal})$ ” as a formalization of “All men are mortal”. In what follows, I shall therefore use restricted quantifier notation.

How could Edgington deal with conditionals that are embedded as in (5a) and (6a)? Can she explain them away? She might argue that sentences (5a) and (6a) are equivalent to (E5) and (E6), which do not contain the word “if”:

(E5) A dog that barks doesn't bite.

(E6) A woman who loves a man shouldn't let him know.

Thus, the logical form of (11) would be

(F5\*) [**any**  $x$ :  $x$  is a dog &  $x$  barks] $(\neg x$  bites),

instead of

(F5) [**any**  $x$ :  $x$  is a dog] $(\text{if } x \text{ barks, } \neg x \text{ bites})$

And the logical form of (6) could be given as

(F6\*) [**any**  $x$ :  $x$  is a woman & [**a**  $y$ :  $y$  is a man] $(x$  loves  $y)$ ] $(x$  should not let  $y$  know)

instead of as

(F6) [**any**  $x$ :  $x$  is a woman] $(\text{if } [\mathbf{a} \ y: y \text{ is a man}](x \text{ loves } y), (x \text{ should not let } y \text{ know}))$ .<sup>6</sup>

Promising as this may look, however, there are other cases in which it doesn't seem to work, namely cases where the quantification is genuinely existential as in (7) and (8).

(7a) There is a student who, if I criticize him, will get angry.  
(There is a student who will get angry if I criticize him.)

(7b) Some student, if I criticize him, will get angry.  
(Some student will get angry if I criticize him.)

(8a) There is a sculpture I'll buy if I can.  
(There is a sculpture which, if I can, I'll buy.)

<sup>6</sup>For simplicity, I am ignoring the fact that (6) is elliptical for “If a woman loves a man, she shouldn't let him know that she loves him”.

(8b) \*Some sculpture, if I can, I'll buy it.<sup>7</sup>

I consider the a- and b-versions of (7) equivalent. (7)'s logical form is presumably captured by (F7):

(F7) [**Some**  $x$ :  $x$  is student](if I criticize  $x$ ,  $x$  will get angry).

The logical structure of (8) is presumably captured by (F8):

(F8) [**Some**  $x$ :  $x$  is sculpture](if I can buy  $x$ , I will buy  $x$ ).

Cases like (7) or (8) cannot be paraphrased away in the style of (E5) and (E6). (7) is not, for example, equivalent to "A student whom I criticise will get angry.": this entails that I do criticise some student, while (7) doesn't—(7) may be correct even though I never criticise any student.

I believe that there is no conditional-free equivalent of (7) or (8). If this is true, then any expressivist about conditionals needs to give a special account of quantification governing conditional matrices, one which is not in conflict with the expressivist's contention that conditionals do not have truth conditions.

### III

My intermediate conclusion is that the expressivist about conditionals must seriously address and explain the semantics of at least some compositional devices, when they are used to compound conditional components. How difficult a challenge is this?—In this last section I want to describe the difficulty, focussing my attention on the case of conditionals within the scope of existential quantification.

The problem for the expressivist about conditionals lies in one of the basic assumptions of the truth conditional approach. A truth conditional theory of meaning divides into two parts: a theory of content, which describes recursively how the content of each sentence is determined by its parts and their way of combination; and a theory of illocutionary force, which describes the communicative function (assertoric, interrogative, etc.) of each sentence.<sup>8</sup> The crucial assumption for our purposes is that illocutionary force is a feature of the meaning of a sentence, which gets assigned to the sentence only once its content has been determined. That

<sup>7</sup>A b-version of (9) analogous to (8b) is problematic, because "some sculpture" would have to be in object position, which either results in an awkward sentence, because word order rules are violated (e.g. "Some sculpture, if I can, I'll buy it"), or in a sentence where the scope of the quantifier is more naturally heard in the wrong place ("I'll buy some sculpture, if I can.").

<sup>8</sup>In this, I follow McDowell (1976, §1).

is, illocutionary force is not one of the building blocks of the meaning of a sentence that can be further compounded. Rather, a sentence gets its force once all the compounding is done. Thus, illocutionary force does not get embedded, and each complete sentence has exactly one illocutionary force.<sup>9</sup> This assumption makes a lot of sense, since it is the conception of content as given by a truth condition that allows the recursive assignment of contents to sentences. The force of a sentence, however, does not contribute to the truth conditions of a sentence.<sup>10</sup>

Since the expressivist about conditionals believes that “if”-clauses are complex force indicators, and since, as I have shown, conditionals are subject to composition by connectives and quantifiers, the expressivist must abandon the neat division of labour, according to which a truth conditional theory of content is alone responsible for the compositional features of language, while the theory of force is solely responsible for describing the communicative function that complete sentences with certain contents have. How could this work?

In a bipartite theory of meaning of the kind I am envisaging, the theory of content yields theorems that allow one to read off a sentence’s truth conditional content, while the theory of force then assigns a communicative function (illocutionary force). Thus for a complete sentence  $\hat{E}S^\circ$ , where “ $\hat{E}$ ” is the sentence’s assertoric force indicator, the theory of content generates a theorem which gives the truth condition of the sentential phrase (or “sentence radical”)  $S$ :

(T1)  $S$  is true if and only if  $p$ .

From this, the theory of force will then generate a theorem which assigns a communicative function to the complete sentence  $\hat{E}S^\circ$ :

(T2) Uttering  $\hat{E}S^\circ$  counts as asserting  $p$ .<sup>11</sup>

Edgington’s proposal about conditionals is to treat “if”-clauses as complex force indicators. Thus, suppose that our theory of content also yields the theorem

(T3)  $R$  is true if and only if  $q$ .

<sup>9</sup> Some authors (e.g. Davies 1981) regard force not as a feature of sentence-types, but rather of utterances. Thus, the sentence “The door is open” is not always uttered with assertoric force. I adhere to a different terminology, according to which illocutionary force is a feature of sentence-types, but according to which one can utter a sentence with deviant communicative intentions. Thus the sentence “The door is open” has assertoric force, even though it can sometimes be used to issue a command. My use of “illocutionary force” corresponds therefore to Davies’s use of “prima facie illocutionary force”.

<sup>10</sup> *Pace* Davidson 1979 and Lewis 1970, for example.

<sup>11</sup> I am simplifying by ignoring the possibility of indexical sentences, and by leaving the formulation of (T2) completely neutral as to what the correct account of assertion is.

Then, for a sentence  $\text{If } R, S^\circ$ , or rather  $\hat{E}_R S^\circ$ , the theory of force would generate

(T4) Uttering  $\hat{E}S^\circ$  counts as asserting  $p$  conditionally upon  $q$ .

Someone who makes such an assertion thereby commits him/herself to  $p$ , not categorically, but conditionally upon  $q$  (see Edgington 1995, pp. 287–91).

In order to discuss how an expressivist about conditionals could account for quantifiers as applied to conditional formulae, we first need to know what sort of theorems we want to generate. Let us consider a modification of example (7):

(9) There is a boy in my class who, if I criticize him, will get angry.  
(There is a boy in my class who will get angry if I criticize him.)

The speech act I perform by uttering (9) will not simply be the assertion of the truth conditional content that there is a boy in my class who will get angry if I criticize him. If that were so, we could have allowed unquantified conditionals to be truth-evaluable too, in which case we wouldn't have been expressivists about conditionals. This also precludes us from using the sort of Tarskian axiom that normally explains the semantic function of quantifiers.<sup>12</sup>

But what theorem do we want our theory of force to generate for (9)? What are the commitments one undertakes by uttering (9)?

The crucial difficulty seems to be that the utterance of unquantified conditionals, such as “Peter will get angry if I criticize him”, constitutes a conditional assertion, that is, a commitment that doesn't become actual until the antecedent gets fulfilled (or believed to be fulfilled). Existentially quantified conditionals, however, seem to constitute an unconditional commitment to the existence of someone who is characterized only conditionally. There clearly is such an unconditional existential commitment, for if it turned out that there were no boys in my class, I would have to admit error, having uttered (9). However, the additional conditional commitment that I undertake is clearly one concerning the entity to whose existence I am categorically committed. Thus we cannot just say that I am committed to the existence of a boy in my class, and conditionally committed to someone getting angry. The two commitments clearly converge on one entity—the conditional commitment is part of the specification of

<sup>12</sup>For example:

(A1) A sequence  $\langle s_i \rangle$  satisfies a sentence  $\forall x_i \phi$  iff there is a sequence  $\langle s'_i \rangle$  which differs from  $\langle s_i \rangle$  at most in its  $i$ -th place, and which satisfies  $\phi$ .

As truth is then defined as satisfaction by all (or some) sequences, we cannot use an axiom like (A1) to account for the quantifier in (9). For then we would have to define satisfaction for the open formula “ $x$  is a boy in my class and  $x$  will get angry if I criticize him”, which would mean that conditionals of that form are truth-evaluable.

what kind of thing it is that is said to exist. Since the existential commitment is categorical, it is hard to see how the specification of what it is that is said to exist could be conditional. In other words, the utterer of (9) is not making his assertion of the existence of a boy of a certain kind contingent upon him (the utterer) criticizing anyone. Clearly, whoever gets angry if criticized is said to exist whether or not he actually does get criticized.

This is the reason why a proposal made by Belnap (1970) cannot work. Belnap proposes a semantics for quantified conditionals when conditionals are construed as serving for conditional assertion, making reference to Quine's account of conditional assertion which bears some similarity to Edgington's account.<sup>13</sup> Slightly adapted, Belnap's proposal is this. Consider any sentence  $s$  of the form  $\exists x(\text{if } x \text{ is } \phi, \text{ then } x \text{ is } \psi)$ . Then there are two cases:

- I: there are no  $s$ :  $s$  is "nonassertive".
- II: there are  $s$ :  $s$  is used to assert the disjunctive proposition expressed by  $\phi$  is  $\vee \psi$  is  $\dots$  for all terms  $\phi$  such that  $\phi$  is  $\psi$  expresses a true proposition.

In other words, the utterance of an existentially quantified conditional is "nonassertive"—does not count as an assertion—if its antecedent is unfulfilled, and it counts as an assertion of a certain appropriate disjunction, if its antecedent is fulfilled.<sup>14</sup>

Belnap's proposal yields the wrong results: it entails that my utterance of (9) is "nonassertive" if there is no boy in my class whom I criticize. In fact, however, my utterance does count as an assertion of some sort or other whether or not there is a boy in my class whom I criticize. The problem is to say what speech act I perform in that case.

Since it seems that in uttering (9) I unconditionally assert the existence of a boy in my class who will get angry if criticized, one might try to recast the condition of being someone who will get angry if criticized in a way that is acceptable to the expressivist about conditionals. One suggestion would be that in uttering (9) I assert unconditionally that there is a boy in my class of whom I am committed to assert conditionally that he will get angry if criticized. More schematically speaking, our theory might gener-

<sup>13</sup> See Quine 1952, p. 19 and Edgington 1995, pp. 288–9. Note that Belnap's proposal is not intended to solve the current problem, but rather to examine whether restricted quantification can be better understood when the conditional normally read into sentences such as "All men are mortal." is interpreted in Quine's conditional assertion way.

<sup>14</sup> Because of the specific aim of his paper, Belnap considers only quantified conditionals where antecedent and consequent contain the same bound variable. But it is easy to imagine how his treatment could be generalized.

ate theorems of the following form (given previous theorems (T1) and (T3)):

- (T5) An utterance of  $\hat{E} x$  (if R, S)<sup>o</sup> counts as a (categorical) assertion that there is an  $x$  such that the speaker is conditionally committed to  $p$  given that  $q$ .

This, however, is no better than Belnap's proposal. First, there may not be any such person: I may be committed to there being someone who gets angry if criticized without having any conditional commitments concerning any particular person. Moreover, utterances of (9) are not, as (T5) entails, explicitly about the speaker's commitments. Finally, it is clear that no such proposal could be part of the sort of truth conditional semantics that is most attractive: one which is completely extensional and thereby guarantees smooth derivation of truth conditions.

I don't see any other obvious way in which the function of (9) could be described within Edgington's framework. I conclude that expressivists about conditionals have yet to succeed in the necessary task of giving an account of quantification into conditional contexts.<sup>15</sup>

Department of Philosophy  
University of Wales Swansea  
Swansea SA2 8PP  
UK  
m.kolbel@swan.ac.uk

MAX KÖLBEL

## REFERENCES

- Belnap, Nuel D. 1970: "Conditional Assertion and Restricted Quantification". *Nous* 4, pp. 1–13.
- Blackburn, Simon 1984: *Spreading the Word*, Oxford: Clarendon Press.
- Davidson, Donald 1979: "Moods and Performances", in his *Inquiries into Truth and Interpretation*, Oxford: Oxford University Press 1984, pp. 109–121. Originally published in 1979 in Margalit (ed.), *Meaning and Use*, Dordrecht: Reidel.
- Davies, Martin 1981: *Meaning, Quantification, Necessity*, London: Routledge and Kegan Paul.

<sup>15</sup>A version of this paper was presented as part of a lecture series on cognitive science in Hamburg. I'd like to thank the audience for their comments, in particular Carola Eschenbach, Christopher Habel, Barbara Kaup, Stefanie Kelter, Wolfgang Künne, Mark Textor and Nicholas White. Many thanks also to Stephen Barker for discussion, to Dorothy Edgington, who provided detailed comments on an earlier version, and to an anonymous referee for *Mind*. The research for this paper was supported by a fellowship by the Deutsche Forschungs-Gemeinschaft within the Doctoral Programme in Cognitive Science at the University of Hamburg.

- Edgington, Dorothy 1986: "Do Conditionals Have Truth Conditions?". *Crítica* 18, pp. 3–30.
- 1995: "On Conditionals". *Mind* 104, pp. 235–329.
- 1997: "Commentary", in Woods 1997.
- Hale, Bob 1986: "The Compleat Projectivist" (critical study of Blackburn 1984). *Philosophical Quarterly* 36, p. 65–84.
- Kamp, Hans and Reyle, Uwe 1993: *From Discourse to Logic*, Dordrecht: Kluwer.
- Kölbel, Max 1997: "Expressivism and the Syntactic Uniformity of Declarative Sentences". *Crítica* 29, pp. 3–51.
- Lewis, David 1970: "General Semantics". *Synthese* 22, pp. 18–67. Reprinted in David Lewis, *Philosophical Papers*, Volume I, Oxford: Oxford University Press 1983.
- McDowell, John 1976: "Truth Conditions, Bivalence and Verificationism", in Evans, G. and McDowell, J. (eds.), *Truth and Meaning*, Oxford: Oxford University Press.
- Quine, W.V.O. 1952: *Methods of Logic*, London: Routledge and Kegan Paul.
- Searle, John R. 1969: *Speech Acts*, Cambridge: Cambridge University Press.
- Woods, Michael 1997: *Conditionals*, Oxford: Clarendon Press.