

## SEMANTICS FOR NONDECLARATIVES

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### *Introduction*

The major sentential moods of English<sup>1</sup> are the declarative ('Time is short'), imperative ('Leave the room'), and interrogative ('Where are we going?').<sup>2</sup> The minor moods include the exclamative ('Congratulations!', 'What gall he has!'), and the optative ('May the world know peace', 'Would that we were free').<sup>3</sup> Molecular sentences whose component sentences are in the same mood we classify under the heading of the component sentences. Thus, 'Eat your peas and keep your mouth shut' and 'Eat your peas or keep your mouth shut' are imperative, 'Do you want steak or would you rather not eat anything?' is interrogative, and 'Time is short and I am tired' is declarative. Molecular sentences which embed sentences of different moods, such as 'If you are ready, let's go' and 'Leave me alone or would you like a knuckle sandwich?', we call mixed mood sentences.<sup>4</sup>

The tradition in philosophy of language has focused mainly on declaratives, which are true or false on an occasion of utterance. Attempts to understand sentence meaning have focused on how words with their meanings combine to determine the truth conditions of the sentences they form. A complete account of this for a language for declarative sentences would provide a compositional semantics for that portion of the language, that is, an account of how we understand complex expressions, and ultimately sentences, on the basis of understanding their significant parts and modes of combination.

Nondeclarative sentences, including mixed mood sentences, pose a problem for standard truth conditional approaches to providing a compositional semantics for natural languages, for utterances of them are *prima facie* not truth evaluable. Thus, the truth conditional approach to sentence meaning appears at the least incomplete.

Broadly speaking there are two approaches to the semantics of nondeclaratives. One is to assimilate nondeclaratives to declaratives and to insist that, despite appearances, their semantics can be represented adequately in terms of truth conditions. The other is to accept that nondeclaratives do not have truth conditions, but rather fulfillment conditions, a generalization of the notion of truth conditions, and to show how fulfillment conditions can be understood in terms of the same semantic machinery that enables us to understand how the truth conditions of declarative sentences are determined.

We begin by distinguishing force and mood. Then we lay out desiderata on a successful account. We sketch as background the program of truth-theoretic semantics. Next, we survey assimilation approaches and argue that they are inadequate. Then we show how the fulfillment conditional approach can be applied to imperatives, interrogatives, molecular sentences containing them, and quantification into mood markers. Next, we consider briefly the recent set of propositions approach to the semantics of interrogatives and exclamatives. Finally, we show how to integrate exclamatives and optatives into a framework similar to the fulfillment approach.

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<sup>1</sup> English is our object language, but the morals of the discussion will be general.

<sup>2</sup> Our interest here is in sentential rather than verbal mood (Jespersen 1924). The subjunctive, conditional, indicative, etc., are verbal moods, determined by the morphology of their main verbs. Differences in verbal mood, as between indicative and subjunctive, do not track differences in type of satisfaction condition, and so don't differ along the dimension that declaratives, imperatives, and interrogatives do. Sometimes the interrogative and imperative moods are ascribed to subordinate clauses in sentences of indirect discourse or attitude reports when these are about questions or commands, or the like. They are, in line with traditional grammar, called indirect questions and commands. Thus, in 'Bill told him to leave', the complement is said to be in the imperative mood (Pendlebury 1986). While it is natural that the complements of indirect discourse reports should differ depending on the type of speech act reported ('Bill told him I was tired' vs. 'Bill told him to leave'), this is not adequate reason to postulate the same semantic device. The complement in 'Bill told him to leave' clearly does not have the same role as imperative, and we see no reason to think the same semantic device is in use. See (Harnish 1994, p. 427-9).

<sup>3</sup> The other minor moods can be understood in terms of those we will discuss. See (Harnish 1994).

<sup>4</sup> We assume an adequate syntactic analysis of the sentential moods to concentrate on their semantics.

## *Mood and Force*

The contribution of sentential mood to sentence meaning must be distinguished from the illocutionary force with which sentences can be uttered.

Illocutionary force is a feature of a token utterance, a speech act. A speech act has illocutionary force when the speaker has some specific linguistic purpose in performing it. The force of an utterance will vary along a number of different dimensions, such as point (an assertion vs. a question), strength (a request vs. an order) and style (announcing vs. confiding). The most important dimension along which speech acts vary is the point of the utterance, henceforth, ‘illocutionary point’ (Austin 1962; Bach & Harnish 1982; Searle 1969; J. R. Searle 1979; Searle & Vanderveken 1985). Each sort of speech act has a particular illocutionary point; for example, to inquire, prohibit, report, advise, warn, suggest, thank, congratulate, admit, announce, etc. Utterances which have an illocutionary point are “illocutionary acts.”<sup>5</sup> While there are many distinct kinds of illocutionary acts, they can be grouped into a smaller number of more general categories. We will generally follow Searle’s taxonomy (1979), which uses illocutionary point as the primary means of differentiating speech acts.<sup>6</sup> Searle argues for five basic kinds of illocutionary act. Assertives (e.g., the statement, report, or suggestion that the moon is full) describe the world, and are correct or incorrect. Directives (e.g., a request or order to buy some milk) direct one’s audience to bring it about that something is so, and are complied with or not. Expressives (e.g., a congratulations or thanks) express emotions or attitudes, and are sincere or insincere. Commissives (e.g., a promise or blood oath) commit the speaker to doing something, and are carried out or not. Finally, declaratives (e.g., a christening or a firing) make something the case, and they take or fail to take hold. (We underline ‘declarative’ when referring to an illocutionary act kind.) Declaratives are typically used for assertives; imperatives for generalized directives, interrogatives for requests for information; and exclamatives and optatives for expressive speech acts. Declaratives in the present tense active, such as ‘You are fired’ and ‘You’re out’, are used typically in issuing declaratives. Performative sentences like ‘I (hereby) promise to pay up’ are often used to issue commissives. A performative sentence is a declarative sentence in the first person present tense active, or second person present tense passive, whose main verb expresses a speech act type which is or can be modified with an adverb such as ‘hereby’ or ‘by so saying’.<sup>7</sup> These features are summarized in table 1.<sup>8</sup>

<i>Illocutionary Act</i>	<i>Illocutionary Point</i>	<i>Typically performed with</i>
Assertives	To describe the world	Declaratives
Directives	To direct one’s hearer to perform a certain kind of act	Imperatives and Interrogatives
Expressives	To express the speaker’s emotion or attitude	Exclamatives and Optatives
Commissives	To commit the speaker to doing something	Declaratives in the first person present tense whose main verb expresses the type of commissive, e.g., ‘I promise I’ll call’
<u>Declaratives</u>	To make it the case that p	Declaratives expressing that p

**Table 1**

Assertives, directives, commissives, and declaratives have satisfaction conditions, which come in two varieties: those with word-to-world direction of fit, and those with world-to-word direction of fit.<sup>9</sup> Assertives

<sup>5</sup> Illocutionary acts (He told me not to do it) should be distinguished from locutionary acts, i.e., acts performed by saying something (‘He said, ‘Don’t do it’), and perlocutionary acts, acts characterized in terms of consequences of saying something (He stopped me). See (Hornsby 2005), in this volume, for more on these distinctions.

<sup>6</sup> For other taxonomies, see (Alston 2000; Austin 1962; Bach & Harnish 1982).

<sup>7</sup> See {Austin, 1961 #382}{Austin, 1962 #320}.

<sup>8</sup> See (J. R. Searle 1979).

<sup>9</sup> (Anscombe 1963).

have word-to-world direction of fit, since their point is to make the words match the world; directives and commissives have world-to-word direction of fit, since their point is to make the world match the words. Declaratives have at least world-to-word direction of fit since their point is to bring the world to match their contents (the point of firing someone is to make it the case), and arguably, in some cases, word-to-world direction of fit as well (the umpire calling a strike both settles the matter and reports the facts). Each has its sincerity condition: belief in what is described for assertives, desire for what is directed for directives, intention to do what one commits oneself to doing for commissives, and intention to bring about what is declared (or at least a desire for it) for declaratives, and perhaps also belief in hybrid cases like that of the umpire.<sup>10</sup> In contrast, expressives have no direction of fit. Their purpose is to express psychological states, but not to state that one has them. They are sincere or insincere.

Directives and expressives are of special interest to us. A directive is complied with provided that the audience does what is directed with the intention of carrying it out. If someone takes out the trash by accident, or without regard to an order, he has not thereby obeyed an order to take it out. Lacking direction of fit, expressives admit of no evaluation parallel to that for other speech act types. We can at best speak of their sincerity or lack of it, as when someone congratulates you on your recent promotion, though his heart is sore. Speech acts can have false presuppositions. They are then p-*infelicitous*, we'll say. Thanking someone by mistake for his wonderful wedding gift misfires because of a false presupposition. But this is not a parallel for satisfaction conditions. Not all expressives have presuppositions like this (an utterance of "Hurrah!" or "Ouch!"), so p-*felicity* will not cover all cases. Furthermore, in other cases p-*felicity* is not a form of satisfaction. Directives and interrogatives can also have presuppositions. The question whether someone has got over his boot fetish presupposes he has one. Clearly the falsity of the presupposition would prevent the question from being correctly answerable. But its truth does not suffice for its being answered.

The five moods we distinguished above are features of sentences. We will call the syntactic features by which the moods are distinguished their mood markers.

Clearly there is a close connection between the mood of an unembedded sentence and the typical force of a use of it. Declaratives are specially suited for use in performing assertives, likewise imperatives for use in issuing directives, interrogatives for use in asking questions, and exclamatives and optatives for use in performing expressives. However, it is important to distinguish between mood and force. Mood is a syntactic property of a sentence; force is a property of an utterance act. It makes no sense to talk of the semantics of force. An account of the semantics of a language focuses on its expression types. The force of an utterance is not an expression type, nor a property of an expression type. An utterance may have an illocutionary point, and, hence, a force, though it is not the production of any expression token in any language. Likewise, it makes no sense to speak of the illocutionary force of declaratives, interrogatives, imperatives, exclamatives or optatives, since these are sentences and not speech acts. This distinction is shown in the fact that a sentence in any mood may be used to perform any type of speech act. 'My coffee cup is empty' may be used to direct someone to fill the cup. 'Do you realize what trouble you're in?' may be used to assert that someone is in trouble. 'Tell me what time it is, please' may be used to ask a question. 'I will be there without fail', may be used to make a promise. 'In my opinion he is safe' may be used, by an umpire, to declare a runner safe. 'What a fool he is!' may be used to make an assertion and 'Isn't he the cutest thing?' may be used to perform an expressive.

A central question in the semantics of nondeclaratives is how to explain the close relation between mood and force: What is the semantic contribution of the mood markers, and how is this connected with their aptness for performing certain types of illocutionary acts?

### *Desiderata on a Successful Account*

An adequate semantic account of the sentential moods must meet the following desiderata:

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<sup>10</sup> In this we depart from Searle who holds that declaratives have no sincerity condition.

- 1) It must explain the connection between sentential mood and suitability for the performance of certain sorts of speech acts.
- 2) It must treat the moods as making the same general type of semantic contribution. This is an imprecise requirement, because we want variations in the contributions to explain differences, while understanding them as the same type of device. A clear violation, though, would be to treat only some of the moods as semantically significant.
- 3) It must be compositional. It must exhibit our understanding of sentences in any mood as resting on understanding their significant components and mode of composition.
- 4) It must account for our intuition that uses of non-declarative sentences are not truth evaluable.
- 5) It must assign the right intuitive force to serious literal utterances of atomic and molecular sentences, and particularly mixed-mood sentences.
- 6) It must explain quantifying into mood markers, as in 'Invest every penny you earn'. A condition on meeting (6) is that an account meet (5), since 'Invest every penny you earn' is equivalent to 'For every  $x$ , if  $x$  is a penny you earn, invest  $x$ '.
- 7) It should explain the distribution patterns found for sentences in nondeclarative moods, for example, why imperatives are never used in the antecedents of conditionals.<sup>11</sup>

### *Truth conditional Semantics*

Truth-theoretic semantics provides a compositional semantics for a language by providing an interpretive truth theory for it.<sup>12</sup> An interpretive truth theory employs axioms that use metalanguage predicates that interpret the object language expressions for which they give satisfaction conditions or truth conditions. In giving an interpretive truth theory for French (the object language) in English (the metalanguage) we use 'red' to give the satisfaction conditions of 'rouge'. Similarly for productive terms, 'and', 'or', 'if ... then', etc., and quantifiers, 'all', 'some', etc. For a non-context sensitive language, an interpretive truth theory would enable us to prove biconditionals of the form (T), where 's' is replaced by a structural description of an object language sentence and 'p' by a metalanguage sentence translating it ('iff' =<sub>df</sub> 'if and only if').

(T)  $s$  is true iff  $p$ .

Given this, we can replace 'is true iff' with 'means that' preserving truth. Such a theory meets Tarski's Convention T, and the theorem is an interpretive T-sentence. The simplest proof of an interpretive T-sentence reveals how understanding the sentence rests on understanding its significant parts and their mode of combination.

For a context-sensitive language, axioms and theorems must quantify over contextual parameters relevant to understanding context sensitive expressions—tensed verbs, and words like 'I', 'here', 'now', etc. For present purposes, we relativize semantic predicates to utterances of expressions. Thus, 'satisfies( $u$ )' and 'true( $u$ )' are read as 'satisfied relative to  $u$ ' and 'true relative to  $u$ '. These do not mean 'satisfied as uttered in  $u$ ' or 'true as uttered in  $u$ ', for we will analyze what is uttered in terms of expressions themselves not uttered, but evaluated relative to the utterance. We introduce also 'means( $u$ )', read as 'means relative to  $u$ '. For convenience we suppress explicit relativization to the object language. We designate the speaker of  $u$  as  $S(u)$  and its time as  $t(u)$ , treated as directly referring terms. A speech act  $u$  performed using an expression  $\phi$  (perhaps as embedded in a longer expression) is  $u(\phi)$ . Metalanguage predicates have an explicit argument place for time, and so are context insensitive (see (Lepore & Ludwig 2003a)).

Consider a simple informal truth theory for a context sensitive fragment of English, with the names 'Caesar', 'Brutus', the predicates 'x is honorable', 'x stabbed y', the first person pronoun 'I', the connectives

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<sup>11</sup> See (Harnish 2001) for a discussion of the patterns that are not admissible.

<sup>12</sup> See (Lepore & Ludwig 2003b; 2005; Ludwig 2002).

'and', 'not', the universal quantifier 'For all  $x$ ', variables ' $x$ ', ' $x_1$ ', ..., ' $y$ ', ' $y_1$ ', ..., and parentheses for grouping. Sentences are formed in the obvious way. We use functions from variables to objects as satisfiers. We define ' $f$ ' is an ' $x$ -variant of  $f$ ' as ' $f$ ' differs from  $f$  at most in what it assigns to ' $x$ '.

- A1. For any  $u$ ('Caesar'),  $\text{ref}(\text{'Caesar'}, u) = \text{Caesar}$ .
- A2. For any  $u$ ('Brutus'),  $\text{ref}(\text{'Brutus'}, u) = \text{Brutus}$
- A3. For any  $u$ ('I'),  $\text{ref}(\text{'I'}, u) = S(u)$ .
- A4. For any referring term  $\alpha$ , for any  $u$  ( $\alpha$  is honorable), for any function  $f$ ,  $f$  satisfies( $u$ ) [ $\alpha$  is honorable] iff  $\text{ref}(\alpha, u)$  is ( $t(u)$ ) honorable.
- A5. For any referring terms  $\alpha, \beta$ , for any  $u$  ( $\alpha$  stabbed  $\beta$ ), for any function  $f$ ,  $f$  satisfies( $u$ ) [ $\alpha$  stabbed  $\beta$ ] iff for some time  $t'$  earlier than  $t(u)$ ,  $\text{ref}(\alpha, u)$  stabs( $t'$ )  $\text{ref}(\beta, u)$ .
- A6. For any  $u$ ('x is honorable'), for any function  $f$ ,  $f$  satisfies( $u$ ) 'x is honorable' iff  $f(x)$  is ( $t(u)$ ) honorable.
- A7. For any  $u$ ('x stabbed y'), for any function  $f$ ,  $f$  satisfies( $u$ ) 'x stabbed y' iff for some time  $t'$  earlier than  $t(u)$ ,  $f(x)$  stabs( $t'$ )  $f(y)$ .
- A8. For any sentences  $\phi, \psi$ , for any  $u$  ( $\phi$  and  $\psi$ ), for any function  $f$ ,  $f$  satisfies( $u$ ) [ $\phi$  and  $\psi$ ] iff  $f$  satisfies( $u$ )  $\phi$  and  $f$  satisfies( $u$ )  $\psi$ .
- A9. For any sentence  $\phi$ , for any  $u$  ( $\phi$ ), for any function  $f$ ,  $f$  satisfies( $u$ ) [ $\text{not } \phi$ ] iff it is not the case that  $f$  satisfies( $u$ )  $\phi$ .
- A10. For any formula  $\phi$ , for any  $u$  ( $\text{For all } x, \phi$ ), for any function  $f$ ,  $f$  satisfies( $u$ ) [ $\text{For all } x, \phi$ ] iff every ' $x$ '-variant  $f'$  of  $f$  is such that  $f'$  satisfies( $u$ )  $\phi$ .
- A11. For any  $\phi$ , for any  $u$  ( $\phi$ ),  $\phi$  is true( $u$ ) iff every function  $f$  satisfies( $u$ )  $\phi$ .

The axioms of this theory are interpretive. From this simple theory we can prove, e.g., the theorems:

For any  $u$  ('I am honorable'), 'I am honorable' is true( $u$ ) iff  $S(u)$  is ( $t(u)$ ) honorable.

For any  $u$  ('Brutus stabbed Caesar'), 'Brutus stabbed Caesar' is true( $u$ ) iff there is a time  $t'$  earlier than  $t(u)$  such that Brutus stabs( $t'$ ) Caesar.

In each of these we can replace 'is true( $u$ ) iff' with 'means( $u$ ) that' preserving truth.

### *Truth conditional Accounts*

#### (a) The force indicator approach

A traditional view is that mood is an illocutionary force indicating device.<sup>13</sup> On this view, sentential mood *conventionally* indicates which *direct* illocutionary act type is being performed, though illocutionary acts of any type may be performed *indirectly* via a sentence in any mood. An indirect illocutionary act is an illocutionary act that is performed on the basis of performing another, and a direct illocutionary act one that is not indirect.<sup>14</sup> On this view, then, the declarative mood is a conventional device that serves to indicate that the speaker is performing a direct assertive; the imperative mood is a conventional device that serves to indicate that the speaker is performing a direct directive; and so on. The sentence is analyzed into a sentence radical,<sup>15</sup> which has truth conditions, and a mood marker that indicates the force with which it is uttered, and is treated as an operator on the radical. Thus, [1]-[3] are analyzed as in [4]-[6], where the

<sup>13</sup> Frege's distinction between judgment and content in *Begriffsschrift* (Frege 1997 (1879)) is the source of this view. See also (Frege 1997 (1892), p. 161; 1997 (1918), p. 329). Expressions and developments of this idea can be found in (Austin 1961; Bach & Harnish 1982; Davies 1981, ch. 1; Dummett 1973, ch. 10; 1993; Hare 1952; 1970; Hornsby 1986; McDowell 1976; Searle 1969, p. 54; Stenius 1967). See (Harnish 2001) on Frege's views.

<sup>14</sup> For more on the distinction between direct and indirect illocutionary acts, see (J. Searle 1979) and Hornsby in this volume.

<sup>15</sup> See (Stenius 1967), who derives the notion from Wittgenstein. It is also introduced in (Hare 1952, p. 18) as the *phrastic*.

sentence radical is indicated by the declarative core and the force-indicator is represented in curly brackets. The declarative core is the sentence itself in the case of a declarative, and it is the declarative from which the interrogative or imperative is derived in the case of interrogatives and imperatives respectively. Different varieties of interrogatives would have mood markers with distinct functions.

- [1] We are ready.
- [2] Are you awake?
- [3] Take your time.
- [4] {Assertive}<we are ready>
- [5] {Question: yes-no}<you are awake>
- [6] {Directive}<you will take your time>

This is an attractive view, for it assigns a clear semantic function to the sentential moods, and treats all of them in the same way. At first glance, it appears to satisfy at least desiderata 1-4.

The mood markers on this view would be only *prima facie* force indicator devices. Not every utterance of an imperative or declarative in English is *ipso facto* a directive or assertive. The speaker must intend the utterance to have that force. Uttering 'John is indefatigable' in response to a question about how to pronounce it is not an assertion, just as utterances of imperatives, declaratives and interrogatives, etc., when reading, or acting in a play, are not directives, assertions or questions, for the requisite intention is missing.

As attractive as this view is, however, it fails to give the right results when we consider molecular sentences. Consider [7]–[11].

- [7] If the war goes badly, the President's approval rating will drop.
- [8] If you're going to the store, buy some milk.
- [9] If you'll be in later, would you like to have lunch?
- [10] Don't cheat or you'll get a failing grade for the course.
- [11] Is it a secret or can you tell me who it is?

In [7], uses of the antecedent and the consequent are not assertions, nor is there any conventional suggestion that, being in the declarative mood, they are to be interpreted as indicating that the speaker is making assertions with them. This undercuts the view that mood functions as a simple force indicating device. One might respond that only the mood of the conditional sentence as a whole is semantically significant, there being a convention according to which the mood of embedded sentences becomes semantically inert. However, this fails for the other examples. In [8] and [9], the antecedents are declaratives, while the consequents are an imperative and interrogative respectively. These are not used to make true or false statements. But [8] is not used to issue a simple directive, nor [9] to ask a simple question. [8] is used to issue a conditional directive, and [9] to ask a conditional question. Thus, for [8], if the addressee is not going to the store, he need not do anything. If he is going to the store, then the utterance is satisfied only if he buys some milk as an intentional result of it. Thus, [8] is not in the declarative or imperative mood, and [9] likewise is neither declarative nor interrogative. Similarly, [10] is neither a declarative nor an imperative, and is not used either to make a statement or to issue a simple directive. In [11], no simple question is asked. [11] does not mean the same as 'Is it the case that (it is a secret or you can tell me who it is)?', since the latter can be answered simply 'yes' or 'no', while the former is answered with either 'Yes, it is a secret' or 'No, it is not a secret', or 'Yes, I can tell you' or 'No, I cannot tell you'.

The moods of the component sentences make a semantic difference to how we interpret them. They are not semantically inert, or [8] would have the same conventional meaning as 'If you are going to the store, you will buy some milk', an utterance of which would be true or false. Similarly for the other examples. If the moods are semantically active in these embedded contexts, however, the force indicator

account cannot be correct. For on that account, [9], for example, would involve an assertion with the content of its antecedent, and a question with the content of its consequent.

Thus, the connection between the semantic contribution of mood and the force of an utterance must be more indirect than that suggested by the force indicator approach. Undoubtedly the mood of an unembedded sentence is apt for its use to perform a speech act of a certain sort. But the use of sentences of various moods in embedded contexts, where it would be inappropriate to use it with the associated force, and where that force cannot be attached to the whole sentence, but where the mood is semantically significant, shows that mood is not a simple force indication device. The force indicator approach thus fails when we come to desiderata 5 and 6.<sup>16</sup>

(b) The performative paraphrase account<sup>17</sup>

The performative paraphrase approach integrates the imperative and interrogative moods into the truth conditional approach by treating them as syntactic devices that are interpreted like corresponding explicit performatives. For example, [2] and [3], repeated here, are interpreted as [12] and [13].

[2] Are you awake?

[3] Take your time.

[12] I hereby ask you whether you are awake.

[13] I hereby direct you to take your time.

The semantic function of the moods is thus to encode a performative. Imperatives and interrogatives are treated semantically as declaratives that achieve their special effect by using verbs for the speech acts they are used to perform. Asking a question using an interrogative or giving an order using an imperative is a matter of asserting that one is asking or ordering a certain thing. The question or order is an indirect speech act, carried by the primary speech act of asserting that one is asking a question or giving an order.<sup>18</sup> *Prima facie*, the approach meets desiderata 1 and 3.

It fails to meet the rest of the desiderata, however. First, unlike literal utterances of [12] and [13], literal utterances of [2] and [3] are intuitively not true or false. Furthermore, an utterance of [12] entails that someone has asked someone whether he is awake, and an utterance of [13] entails that someone has directed someone to take his time, but utterances of [2] and [3] do not. In response to [12] it would be appropriate to assert [14] but not in response to [2]; in response to [13] it would be appropriate to assert [15], but not in response to [3].

[14] I wish you wouldn't.

[15] You are not in a position to do so,

Likewise, it doesn't make sense to respond to an utterance of [2] or [3] with 'That's a lie', though it does in response to [12] and [13]. Furthermore, [12] and [13] can be used simply to state something, but [2] and [3] cannot. For example, in teaching someone sign language, I may sign a question and remark at the same time, 'I hereby ask you whether you are awake', by way of explanation. The signing constitutes asking a

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<sup>16</sup> See (Belnap Jr 1990; Huntley 1984; Wilson & Sperber 1988) for similar criticisms.

<sup>17</sup> Most famously championed by (Lewis 1975, sec. 4), (Hamblin 1987, ch. 3) has traced the proposal back to Husserl (Husserl 2001 (1913), pp. 837, 847), but it appears also in Austin (Austin 1961; 1962, p. 32), though with the complication that explicit performatives are not treated as used to perform assertives. See also (Katz & Postal 1964, pp. 74-89). There are other, less plausible reductive accounts, e.g., that 'Go home' means 'I want you to go home'. See (Beardsley 1944; Hamblin 1958; Hare 1949) for critical discussion of various other reductive accounts.

<sup>18</sup> Here we follow (Bach 1975; Bach & Harnish 1982, ch. 10.1). See also (McGinn 1977, p. 305). In any case, this is the line that has to be taken if the current approach is to be amenable to a truth-theoretic approach.

question, but not the remark about it. Thus, the performative paraphrase approach fails to meet desideratum 4.<sup>19</sup>

It also fails to meet desideratum 5. It treats [8] as equivalent to [16], but utterances of these are clearly not equivalent.

[8] If you're going to the store, buy some milk.

[16] If you're going to the store, I hereby direct you to buy some milk.

[8] is used to issue a conditional directive. [16] cannot be so used. The consequent of [16] is either true or false when uttered. If true, then a simple directive is issued, though none is issued in uttering [8]. If the consequent is false, then no directive is issued, conditional or otherwise, by [16]. This cannot be remedied by interpreting [8] as [17].

[17] I direct that if you go to the store, you will buy some milk.

No simple directive is issued by [8]. However, the intended use of [17] issues a simple directive, which could be fulfilled if its intended audience fails to go the store as a result of being directed to make it the case that if he goes to the store, he buys some milk; and this is clearly not what is intended by [8]. Thus, the approach fails to meet desiderata 5 and therefore 6.

Finally, if this approach were correct, we would have to treat declaratives similarly, since, on this view, declaratives just as much as imperatives and interrogatives are typically used to perform a specific kind of speech act, and this is to be associated with the declarative mood setter. However, this requires a declarative sentence, such as [1], repeated here, to be interpreted as [18].

[1] We are ready

[18] I hereby assert that we are ready.

However, [18] can be true when [1] is not.<sup>20</sup> Also, this leads immediately to an infinite regress, since [18] is itself a declarative sentence. This can be blocked only at the cost of not treating all the moods similarly, violating desideratum 2. Thus, interrogatives and imperatives are not paraphrases of the corresponding performative sentences.

### (c) *The paratactic account*

Davidson's paratactic analysis of nondeclarative sentences (Davidson 2001 (1979)) is similar to the performative paraphrase approach, but Davidson argues that it avoids some of its difficulties while retaining its virtues. Davidson's suggestion derives from reflection on explicit performatives in light of his treatment of indirect discourse (Davidson 2001 (1968)). Consider the explicit performative [19]. Davidson's analysis of indirect discourse represents [19] as semantically equivalent to two separate sentences, as in [20].

[19] I assert that the moon is full.

[20] I assert that. The moon is full.

The second sentence is referred to by the first. Since the first says that the speaker asserts the second, the first is true iff the speaker, in uttering the second sentence, asserts it. This view explains the use of the performative as a device to indicate the speaker's intention to his audience. This account of explicit performatives suggests an analogous treatment for nondeclaratives. Declaratives, Davidson says, we can

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<sup>19</sup> See (McGinn 1977; Segal 1991) for similar criticisms.

<sup>20</sup> See (Harnish 1994, pp. 417-418).



leave alone, on the grounds that “we have found no intelligible use for an assertion sign” (Davidson 2001 (1979), p. 119). Imperatives and interrogatives we treat as declaratives plus an imperative or interrogative mood marker. The declarative sentence is the declarative core of the imperative or interrogative. Each is assigned truth conditions. Thus, the declarative core of [21] is ‘You will put on your hat’.

[21] Put on your hat,

The mood marker in [21] is the truncation of the declarative core, the result of leaving out the subject term and modal auxiliary. The declarative core has its usual truth conditions. The mood marker is true “if and only if the utterance of the indicative core is imperational in force” (p. 21). In short, the proposal is that an utterance of a sentence like [21] is understood to be two direct speech acts, one involving as content the declarative core of the sentence and the other involving a claim about the utterance of the declarative core. This account contains an element of parataxis in that the sentence uttered is semantically, though not syntactically, decomposable into two distinct utterance acts each possessing independent truth conditions. The account thus aims to meet desiderata 1, 3 and 4.

There is some unclarity attaching to how to integrate this account into a truth-theoretic semantics, but putting this aside, the proposal faces most of the difficulties of the performative paraphrase approach. First, Davidson's aim to explain the lack of truth value of utterances of nondeclaratives as the result of its being semantically two utterances which are not the utterance of a conjunction does not blunt the force of the objection that utterances of nondeclaratives are not truth evaluable. While the sequence of utterances of ‘I am tired’ and ‘I am thirsty’ is neither true nor false, each of the component utterances *are*. If the utterer of [22] is both tired and thirsty, he has uttered two truths.

[22] I am tired. I am thirsty.

Thus, Davidson is committed to saying that in literally uttering [21] one has said two things which are truth valued. If someone utters [21] thereby commanding you to put on your hat, and you do, Davidson's account entails that he has said two true things, and asserted at least one. However, intuitively, the speaker has not said anything which is true or false, and has not asserted anything. Thus, the account fails to meet desideratum 4 after all. And like the performative paraphrase account, it suggests that there are things that follow from utterances of nondeclaratives which intuitively do not.

The paratactic account likewise fails when applied to embedded imperatives and interrogatives. [8], repeated here, would be represented as in [23].

[8] If you're going to the store, buy some milk.

[23] If you go to the store, my next utterance is a command. You will buy some milk.

However, the status of my utterance of ‘You will buy some milk’ is determined by my intentions when I utter it. Thus, it is a command if I intend it to be so, regardless of whether you go to the store; in that case it is a simple directive. But no simple directive is issued with [8]. Thus if the consequent in the conditional in [23] were true as uttered, it would get the import of [8] wrong. But if the consequent is false, it fails to capture that [8] is complied with provided that the auditor does not go to the store or, if he does, he buys some milk as a result of the conditional directive received. As before, it is no help to represent [8] as [24], an utterance of which could be satisfied by deliberately not going to the store as a result of its being issued; an utterance of [8] issues no order which could be obeyed by staying at home.

[24] My next utterance is a command. If you go to the store, you will buy some milk.

Thus, the paratactic account fails to meet desiderata 5 and so 6.

Finally, the paratactic account, like the performative paraphrase approach, treats the declarative and nondeclarative moods differently. However, as in the case of the performative account, this seems unmotivated and counterintuitive. Just as interrogatives are apt for asking questions, so declaratives are apt for making assertions. Thus, part of what was to be explained is left unexplained, violating desideratum 2.<sup>21</sup>

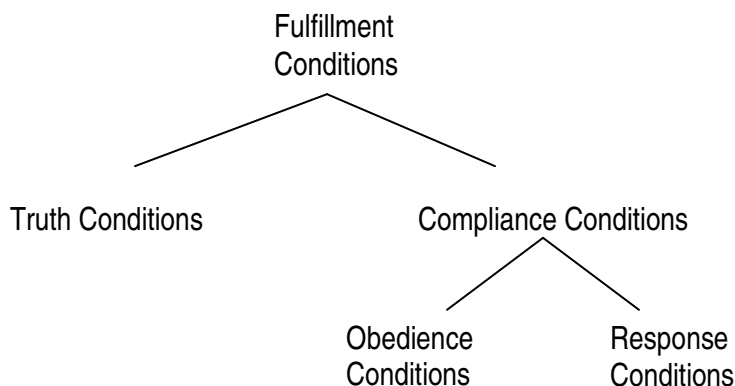
### *Fulfillment Conditional Accounts*

A fulfillment conditional account does not attempt to assign truth conditions to imperatives and interrogatives.<sup>22</sup> It rather treats them as receiving their own type of satisfaction conditions, distinct from, but analogous to, truth conditions. This section develops the basic approach. The next section sketches how to extend it to handle quantifying into mood setters. This discussion is based on (Ludwig 1997), though it contains some refinements of the work presented there.

#### (a) Basic approach

Imperatives and interrogatives are incorporated into a generalization of truth-theoretic semantics that gives the truth theory a central role to play, but still allows that imperatives and interrogatives in use are neither true nor false. Imperatives and interrogatives, like declaratives, are given bivalent evaluations, relativized to appropriate contexts. Rather than being true or false, imperatives are *obeyed* and interrogatives are *answered* relative to a speech act *u*. We introduce ‘obeyed(*u*)’ and ‘answered(*u*)’ respectively as technical terms parallel to ‘true(*u*)’. ‘obeyed’ and ‘answered’ are borrowed from the terminology for evaluating speech acts of the sort typically performed using imperatives and interrogatives. However, they are not predicates of speech acts, but of ordered pairs of sentences and speech acts. They bear to the terms that are applied to speech acts the same relation that ‘*x* is true(*u*)’ bears to ‘is true’ as used of speech acts.

Context relative “obedience conditions” are assigned to imperatives, and “response conditions” to interrogatives. Both are forms of compliance conditions. Compliance conditions and truth conditions, in turn, are treated as different forms of fulfillment conditions, as illustrated in Figure 1.



**Figure 1**

<sup>21</sup> See (Bierwisch 1980, 10-11; Dummett 1993; Ludwig 1997, §5; Segal 1991, 106) for further criticisms.

<sup>22</sup> The first developed fulfillment approach that we are aware of is (McGinn 1977). See also (Lappin 1982), though his account is given for speech acts rather than sentences, and (Segal 1991). See (Ludwig 1997) for a discussion of the limitations of these approaches. See also (Harnish 1994, pp. 431-37).

A fulfillment theory is introduced which aims to issue in theorems of the form  $[F]$  where ' $\phi$ ' is replaced by a structural description of an object language sentence, and ' $p$ ' is replaced by a formula of the metalanguage.

$[F]$  For any  $u(\phi)$ ,  $\phi$  is fulfilled( $u$ ) iff  $p$

For atomic  $\phi$ , the predicate 'is fulfilled( $u$ )' is defined in terms of the truth, obedience, and response predicates.

[25] For all atomic  $\phi$ , for any  $u(\phi)$ ,  $\phi$  is fulfilled( $u$ ) iff  
if  $\phi$  is a declarative, then  $\phi$  is true( $u$ );  
if  $\phi$  is an imperative, then  $\phi$  is obeyed( $u$ );  
if  $\phi$  is an interrogative, then  $\phi$  is answered( $u$ ).

Fulfillment conditions for molecular sentences are given using the usual recursive clauses, until reaching components to which [25] can be applied. The key to exhibiting the truth theory as central to the fulfillment theory lies in showing how to define 'obeyed( $u$ )' and 'answered( $u$ )' in terms of 'true( $u$ )'. Then given an interpretive truth theory, for a declarative sentence we can replace 'is fulfilled( $u$ ) iff' in canonical theorems with 'means( $u$ ) that', for imperatives with the parallel 'directs( $u$ ) that', and for interrogatives with 'asks( $u$ ) that', preserving truth.

The explanation for the connection between the declarative mood and aptness for performing assertives is that declarative sentences, relative to a context, like assertives, are evaluated as true or false. Identifying the force of an utterance depends upon identifying the speaker's linguistic intentions. Given knowledge that a sentence used in a context has certain truth conditions, the default assumption in a communicative context will be that the speaker intends to be performing a speech act of a type which has the same mode of evaluation and the same content, that is, an assertive. Similarly, we have a straightforward explanation of the connection between the imperative and interrogative sentences and their use to issue directives provided we assign them a semantic evaluation of the same type. Therefore, we model context relativized obedience and response conditions on the corresponding bivalent evaluations of the kinds of directive that imperatives and interrogatives are designed to help us perform.<sup>23</sup>

A directive is complied with iff its audience does what is directed as an intentional result of having been so directed. An imperative like [21] is obeyed relative to  $u$  iff the audience subsequently puts on his (or their respective) hat(s) as an intentional result of recognizing the obedience conditions of  $u$ .

[21] Put on your hat

To generalize, some notation will be useful. Let  $\text{Core}(\phi)$  be a function that takes an imperative or interrogative to its declarative core. Let  $A(u)$  be a function from a speech act  $u$  to its audience. Obedience conditions for imperatives are as follows.

[I] For any imperative  $\phi$ , for any  $u(\phi)$ ,  $\phi$  is obeyed( $u$ ) iff  $A(u)$  makes it the case that  $\text{Core}(\phi)$  is true( $u$ ) with the intention of fulfilling  $u$ .<sup>24</sup>

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<sup>23</sup> Cf. (Segal 1991, p. 117).

<sup>24</sup> Harnish's 1994 account (p. 431) likewise takes its cue from the satisfaction conditions of the related speech acts, though he does not assign fulfillment conditions recursively or extend the account to mixed-mood sentences or quantifying into mood setters, or to 'how' and 'why' questions. Criticisms of aspects of this can be found in (Wilson & Sperber 1988, pp. 80-3); see (Ludwig 1997, nts. 18, 24) for a response.

Core( $\phi$ ) yields a future tense sentence, so the forward looking character of imperatives is built into [I].  $A(u)$  accommodates audiences consisting of one or more individuals. Though in general substitution of coreferential or coextensive terms in the complement of ‘makes it the case’ is not valid, it will be valid for all the substitutions made on the basis of a correct truth theory for the language, since if ‘ $P$ ’ is made true in  $L$  by something, then if the truth of ‘ $P$ ’ in  $L$  requires the truth of ‘ $Q$ ’ in  $L$ , then ‘ $Q$ ’ is made true in  $L$  by the same thing. ‘makes it the case’ is a tenseless, timeless metalanguage predicate; ‘ $x$  makes it the case that  $p$ ’ is satisfied for a value of ‘ $x$ ’ if at some time, it brings it about that  $p$ ; the requirement that this be done with the intention of fulfilling the utterance of the relevant imperative guarantees it occurs afterwards.

Applying [I] to [21] with respect to utterance act  $U$ , where  $t(u) = T$ ,  $A(U) = \text{ref}(\text{‘you’}, U) = A$ , assuming a singular audience, yields [26] ( $>$  =<sub>df</sub> ‘is later than’).

[26] ‘Put on your hat’ is obeyed( $U$ ) iff  $A$  makes it the case that [the  $x$ :  $x$  is( $T$ ) a hat and  $x$  belongs( $T$ ) to  $A$ ][there is a  $t'$ :  $t' > T$ ][ $A$  puts( $t'$ ) on  $x$  with the intention of fulfilling  $U$ ].

If the audience is plural, [26] must be modified by replacing ‘ $A$  makes it the case that’ with ‘for each  $y$  such that  $y$  is one of  $A$ ,  $y$  makes it the case that’, and then subsequent appearances of ‘ $A$ ’ with ‘ $y$ ’. Note that an utterance  $u$  of [21] will be obeyed( $u$ ) or not regardless of whether it is an illocutionary act, just as an utterance of ‘The moon is full’ will be true or false regardless of whether it is an illocutionary act.

One might object that, since the right hand side of the biconditional contains a declarative sentence, or sentence form, specifying the truth conditions for some declarative sentence, we have after all represented this imperative as having truth conditions. This is a mistake, however. Different sorts of propositional attitudes likewise admit of different sorts of satisfaction conditions—for example, beliefs are true or false, but desires are satisfied or unsatisfied. We have no choice but to use declarative sentences to specify their satisfaction conditions. It does not follow that desires, like beliefs, are true or false. Thus, while any specification of a condition that determines which of two bivalent evaluations something receives will be a specification of a truth condition for some sentence, it need not be that whenever such a condition is specified it functions as a condition for something’s being true or false.

Interrogatives are in the same line of business as imperatives, but are more specialized. We use the same template to provide response conditions for interrogatives as for imperatives. Different varieties of interrogative, however, require different response conditions. The basic varieties are yes-no questions (‘Do you know where you are going to?’), how and why questions (‘How did he do it?’, ‘Why did he bother?’), and wh-questions, which are distinguished by being formed from open rather than closed sentences (‘Which of them is guilty’, ‘What time is it?’, ‘How many people were there?’).

[YN] For any yes/no-interrogative  $\phi$ , for any  $u(\phi)$ ,  $\phi$  is answered( $u$ ) iff  $A(u)$  makes it the case that [you will say that Core( $\phi$ )] is true( $u$ ) with the intention of fulfilling  $u$  or  $A(u)$  makes it the case that [you will say that Neg(Core( $\phi$ ))] is true( $u$ ) with the intention of fulfilling  $u$ .<sup>25</sup>

[WHY] For any why-interrogative  $\phi$ , for any  $u(\phi)$ ,  $\phi$  is answered( $u$ ) iff  $A(u)$  makes it the case that [you will explain why Core( $\phi$ )] is true( $u$ ) with the intention of fulfilling  $u$ .

[HOW] For any how-interrogative  $\phi$ , for any  $u(\phi)$ ,  $\phi$  is answered( $u$ ) iff  $A(u)$  makes it the case that [you will explain how Core( $\phi$ )] is true( $u$ ) with the intention of fulfilling  $u$ .

<sup>25</sup> We assume that a question has been answered provided that someone provides a response of the appropriate form, whether or not it is correct. However, it is easy to modify the account to require a correct answer, by requiring that the speaker respond to  $Y/N(p)$  with ‘ $p$ ’ if ‘ $p$ ’ is true and ‘not- $p$ ’ if ‘ $p$ ’ is false. For how and why questions the issue comes down to whether we require correct explanation, and for wh-interrogatives to whether we require the auditor to respond with a completion of the core which is true. These changes would make a difference to extension of the generalized relation of logical consequence discussed in the last paragraph of this section. An intermediate position would be to require the speaker to provide what he believes to be the correct answer.

[WH] For any wh-interrogative  $\varphi$ , for any  $u(\varphi)$ ,  $\varphi$  is answered( $u$ ) iff  $A(u)$  makes it the case that [there is a  $\theta$ :  $\theta$  is a completion of  $\text{Core}(\varphi)$ ] ( $\ulcorner$ you will say  $\theta$  $\urcorner$  is true( $u$ )) with the intention of fulfilling  $u$ .

In the case of [WH], the quantification over completions cannot be discharged. Rather, to see whether someone has answered a wh-question, we must wait for a response and see whether it satisfies the existential condition.

This approach handles the problem of mixed-mood sentences (excepting for now those involving exclamatives or optatives). In applying the fulfillment theory to [27], we will first employ a standard recursion clause as in [28]. Then we employ the appropriate clauses of [25] for the antecedent and consequent to get [29].

[27] If you are tired, go to bed.

[28] For any  $\varphi, \psi$ , for any  $u(\ulcorner$  If  $\varphi, \psi \urcorner)$ ,  $\ulcorner$  If  $\varphi, \psi \urcorner$  is fulfilled( $u$ ) iff if  $\varphi$  is fulfilled( $u$ ),  $\psi$  is fulfilled( $u$ ).

[29] 'If you are tired, go to bed' is fulfilled( $u$ ) iff if 'you are tired' is true( $u$ ), then 'go to bed' is obeyed( $u$ ).

If a speaker addresses an audience  $A$  using [27] in  $U$ , and  $t(u) = T$ , we have [30].

[30] 'If you are tired, go to bed' is fulfilled( $U$ ) iff if  $A$  is( $T$ ) tired, then  $A$  makes it the case that [there is a  $t'$ :  $t' > T$ ] ( $A$  goes( $t'$ ) to bed with the intention of fulfilling  $U$ ).

This does not collapse into either the requirement to make the conditional true (or no requirement on the addressee at all) or simply the requirement that would be expressed by a stand alone use of the consequent. (For discussion see (Ludwig 1997)). Crucially, though declaratives, imperatives, and interrogatives receive a semantic evaluation that parallels the semantic evaluations of assertives and directives, they can have these conditions of evaluation without being uttered with any force.<sup>26</sup> This approach therefore satisfies desiderata 1-5. The next section shows how to extend it to satisfy 6.

As we have noted, not all semantically possible mixed mood combinations are found in natural languages. Desideratum 7 requires an account of nondeclaratives to explain this. There are good reasons to think that these restrictions have largely to do with such constructions being useless for any practical purpose, despite our being able to assign to them a coherent semantics.<sup>27</sup> For example, given the semantics above, a conditional with an imperative in the antecedent is pointless since it places no constraints on the person addressed. However, there will not be space here to explore how this account can meet this last desideratum.

#### (b) Extension to handle quantifying-in

To extend the theory to open sentences, we introduce two additional satisfaction predicates, 'satisfies' and 'satisfies<sup>Q</sup>' for imperatives and interrogatives respectively, which are recursively defined in terms of the satisfaction predicate for declarative sentence forms, which is the bare predicate 'satisfies' ('imperatives', 'interrogatives' and 'declaratives' are used to cover open sentences of these forms, as well as closed sentences). A general satisfaction predicate, 'satisfies<sup>F</sup>' is introduced, with the usual recursive clauses for connectives and quantifiers. The application of 'satisfies<sup>F</sup>' to atomic open sentences is defined in terms of those for the more specific varieties of satisfaction, as in [31].

[31] For all functions  $f$ , all atomic formulas  $\varphi$ , for all  $u(\varphi)$ ,  $f$  satisfies<sup>F</sup>( $u$ )  $\varphi$  iff

<sup>26</sup> We thus differ with Davidson on whether "the concept of force is part of the meaning of mood" (Davidson 2001 (1979), p. 121). If we are right, it is not, and a condition on handling embedded mood markers is that it is not. As we have said, the connection with force is less direct.

<sup>27</sup> See (Boisvert 1999) for a defense of this claim.

- if  $\varphi$  is declarative, then  $f$  satisfies( $u$ )  $\varphi$ ;
- if  $\varphi$  is imperative, then  $f$  satisfies<sup>I</sup>( $u$ )  $\varphi$ ;
- if  $\varphi$  is interrogative, then  $f$  satisfies<sup>Q</sup>( $u$ )  $\varphi$ .

The satisfaction conditions for imperative and interrogative formulas are modeled on the fulfillment conditions given in the previous section, as illustrated with respect to the clause for imperatives [I-sat].

[I-sat] If  $\varphi$  is imperative,  $f$  satisfies<sup>I</sup>( $u$ )  $\varphi$  iff  $A(u)$  makes it the case that  $f$  satisfies( $u$ ) Core( $\varphi$ ) with the intention of fulfilling  $u$ .

For interrogatives, ‘satisfaction<sup>Q</sup>’ is defined in terms of satisfaction conditions appropriate for each particular kind of interrogative, as in [32].

- [32] For all functions  $f$ , for any interrogatives  $\varphi$ , for any  $u(\varphi)$ ,  $f$  satisfies<sup>Q</sup>( $u$ ) iff
- if  $\varphi$  is a yes-no interrogative, then ...;
  - if  $\varphi$  is a why interrogative, then ...;
  - if  $\varphi$  is a how interrogative, then ...;
  - if  $\varphi$  is a wh-interrogative, then ....

The satisfaction conditions for each variety are patterned after the response conditions given in the previous section. For example, in the case of wh-interrogatives, we have [WH-sat].

[WH-sat] If  $\varphi$  is a wh-interrogative, then  $f$  satisfies<sup>Q</sup>( $u$ )  $\varphi$  iff  $A(u)$  makes it the case that [there is a  $\psi$ :  $\psi$  is a completion of Core( $\varphi$ )]( $f$  satisfies( $u$ ) ‘you will say  $\psi$ ’) with the intention of fulfilling  $u$ .

Then ‘is fulfilled( $u$ )’ is defined in terms of satisfaction<sup>F</sup> by all functions. Consider the application of [I-sat] to [33], a regimented version of ‘Invest every penny you earn’, which yields [34], and then [35], and [36]—ignoring tense.

[33] [Every  $x$ :  $x$  is a penny you earn](invest  $x$ ).

[34] For any function  $f$ ,  $f$  satisfies<sup>F</sup>( $u$ ) ‘[Every  $x$ :  $x$  is a penny you earn](invest  $x$ )’ iff every ‘ $x$ ’-variant  $f'$  of  $f$  such that  $f'$  satisfies ‘ $x$  is a penny you earn’ is such that  $f'$  satisfies<sup>I</sup> ‘invest  $x$ ’.

[35] For any function  $f$ ,  $f$  satisfies<sup>F</sup>( $u$ ) ‘[Every  $x$ :  $x$  is a penny you earn](invest  $x$ )’ iff every ‘ $x$ ’-variant  $f'$  of  $f$  such that  $f'$ (‘ $x$ ’) is a penny and ref(‘you’,  $u$ ) earns  $f'$ (‘ $x$ ’) is such that  $A(u)$  makes it the case that  $f'$  satisfies( $u$ ) Core(‘invest  $x$ ’) with the intention of fulfilling  $u$ .

[36] For any function  $f$ ,  $f$  satisfies<sup>F</sup>( $u$ ) ‘[Every  $x$ :  $x$  is a penny you earn](invest  $x$ )’ iff every ‘ $x$ ’-variant  $f'$  of  $f$  such that  $f'$ (‘ $x$ ’) is a penny, and ref( $u$ , ‘you’) earns  $f'$ (‘ $x$ ’) is such that  $A(u)$  makes it the case that Ref( $u$ , ‘you’) invests  $f'$ (‘ $x$ ’) with the intention of fulfilling  $u$ .

This completes the sketch of the extension of the approach to a language with quantifiers.<sup>28</sup>

The fulfillment approach provides a basis for extending the usual logical notions from declaratives to imperatives and interrogatives. A sentence, relative to a context, “holds logically” provided that it is fulfilled on all reinterpretations of its non-logical features, where we treat its sentential mood as a logical feature of it. A sentence  $s$  is a logical consequence of another  $s'$ , relative to a context, provided that every interpretation on which  $s'$  is fulfilled is one on which  $s$  is fulfilled. For example, this approach straightforwardly explains why uses of ‘Go’ and ‘Do not go’ at the same time and directed at the same auditor are logically inconsistent: they cannot be simultaneously obeyed relative to the context on any

<sup>28</sup> See (Ludwig 1997) for further details, complications and alternatives.

reinterpretation of their non-logical terms. It also makes perfectly good sense of the idea that an imperative can have as a consequence a declarative, for any time at which 'Go home' is directed at someone *S*, if that is fulfilled relative to the context, so will be '*S* will go home'. Importantly, this is not an inference from the *truth* of a premise to the *truth* of conclusion, but from the *fulfillment* of the one to the *fulfillment* of the other.<sup>29</sup>

### *The Set of Propositions Approach to Interrogatives and Exclamatives*

We take a brief look at the set of answers approach to the semantics of interrogatives and its extension to exclamatives. On this approach, the semantics of interrogatives is provided in terms of what they denote or express, namely, a set of propositions that constitute a (possibly complete) answer or a correct (possibly complete) answer to the interrogative. This set of answers is called the question the interrogative denotes or expresses. Thus, as 'question' and 'answer' are used in this approach, neither a question nor an answer is a speech act or a sentence. There are a variety of views about what answers should be ((Groenendijk & Stokhof 1997; Hamblin 1973; Higginbotham 1993; 1996; Higginbotham & May 1981; Karttunen 1977)). For our purposes, these differences are not important. The set of propositions approach is motivated by the desire to provide a unified account of direct and so-called indirect questions. [37] is taken to be a direct question and the complement of [38], 'whether she was tired' is taken to be an indirect question. The indirect question is said (for example) to denote what the direct question expresses, namely, its answer. This is taken to be parallel to the Fregean account of the relation of direct statements and indirect statements as in [39] and [40]. [39] expresses the proposition that the complement of [40] denotes.

[37] Is she tired?

[38] He asked whether she was tired.

[39] She is tired.

[40] He said that she was tired.

There is evidently some relation between the complement of [38] and the interrogative [37]. But the motivation to say that they share sentential mood in the sense in which that is relevant to the distinction between semantic functions of the moods of 'You will go home', 'Will you go home?' and 'Go home', is not clear. One question that arises is whether 'whether' and 'that' should be treated as part of the verb rather than complement (Harnish 1994, pp. 426-9); 'asked that' and 'asked whether' evidently express different speech act types, though they share 'asked'. In that case, the mood of the complement in [38] and [40] are the same. But independently of this, this approach fails to connect the interrogative mood to its use in asking questions. As (Stainton 1999) points out, that an expression denotes or expresses a certain set of propositions would not make it especially apt for use in asking questions. For example, '{the proposition that you are awake, the proposition that you are not awake}' is not particularly apt for asking whether you are awake. Thus, the set of answers approach fails to answer adequately one of the central questions of the semantics of sentential mood, which is a precondition for meeting most of our desiderata.

The set of answers approach to interrogatives has been extended to certain kinds of exclamatives, motivated by the close syntactic similarities between certain exclamative clauses and interrogatives, such as that between [41] and [42].

[41] How cute he is!

[42] How cute is he?

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<sup>29</sup> (Hare 1989, p. 24) denies the inference is valid. See (Harnish Forthcoming) for related discussion. See (Williams 1963) for an argument against a logic of imperatives. Also: (Rescher 1966; Ross 1944; Sosa 1967).

Some accounts take the denotation of [41] to be identical to that the set of answers approach would assign to [42] (Gutierrez-Rexach 1996), while some would allow for slight differences between the respective denotations (Collins 2004; Michaelis & Lambrecht 1996; Portner & Zanuttini 2000; 2005; Zanuttini & Portner 2000; 2003). One difficulty for this approach is that many exclamatives lack propositional content, e.g., 'Wow!', 'Ouch!', 'Hooray!', 'Congratulations!', 'What a year!' Thus, it cannot serve as a general account of the semantics of the exclamative mood. But its Achilles heel is that it shares with the set of answers approach to interrogatives it is based on the failure to connect exclamatives to their aptness for use in performing expressives.<sup>30</sup> Indeed, in assigning the same set of propositions to [41] and [42], the difference in *mood* is left altogether out of account.

### *Exclamatives and Optatives*

The fulfillment condition approach cannot be used for exclamatives and optatives, since they are not used to perform speech acts with direction of fit, and many do not have propositional content. Nevertheless, we can apply the central insight of that approach to provide a semantic account of exclamatives and optatives. That was to look to the characteristic mode of evaluation of the sort of speech act which the declarative, imperative and interrogative moods are specially suited to perform.

#### (a) Sincerity conditions

Exclamatives and optatives are particularly suited for performing expressives, which are not satisfied or unsatisfied, but are rather sincere or insincere. We shall then take exclamatives and optatives to have sincerity conditions. The assignment of sincerity conditions as the primary mode of evaluation in turn explains why they are specially suited for use in performing expressives.

Standardly an expressive's sincerity condition is identified as the having of the psychological state that it expresses. Thus, a literal unembedded use of 'Yippee!' is an expressive that is sincere only if the speaker is excited at the time of utterance and insincere otherwise. That is, the expressive is sincere iff the speaker has the psychological state he represents himself, in virtue of his utterance, as having. It would be natural then to identify the sincerity condition of an exclamative or optative as having the psychological state that would be expressed by a standalone use of it.

This won't work, however, for exclamatives and optatives that can appear in the consequent of conditionals, as in [43] and [44].

[43] If you cleaned up the mess, thanks.

[44] If you won the lottery, congratulations.

We typically use such conditionals when we are unsure whether it is appropriate to thank or to congratulate our auditor, where the antecedent expresses a condition on that. If the antecedent is true, we are taken to have thanked, or congratulated, the person addressed, but otherwise not.<sup>31</sup>

These conditionals cannot be evaluated as sincere or as fulfilled, since they mix moods which cut across these sorts of evaluations. We will call them apt or not apt. If the antecedent of [43] is false, then the conditional is apt. But what if the antecedent is true?

Someone who uses [43] is unsure whether the person addressed meets a condition for it to be appropriate to feel grateful to him, thanks being an expression of gratitude. It might be thought that, if he is

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<sup>30</sup> Zanuttini and Portner's account is an exception. They attempt to account for the connection by holding that exclamative clauses have a semantic feature they call "widening." See (Zanuttini & Portner 2003).

<sup>31</sup> There are other sorts of mixed mood exclamatives and optatives, but we focus on just the conditional. The considerations here will generalize to other permissible combinations. The contexts in which exclamatives and optatives are comfortable are limited, but we do not pursue the question why here.



sincere, then at least he must be grateful to the person who cleaned up the mess, and just unsure about whether the addressee, under the present mode of presentation, is that person. But he may utter [43] with the thought that you may have cleaned it up since he discovered it, but without being sure that it has been cleaned up at all. If so, he cannot even be said to be grateful to the person who cleaned up the mess, for this implies he believes someone did. But he may use [43] appropriately. It follows that a use can be apt though the speaker is not grateful to the person addressed under any mode of presentation. Aptness conditions for the conditional should be assigned recursively in terms of the appropriate conditions for antecedent and consequent.<sup>32</sup> This rules out assigning aptness conditions on the basis of taking gratitude toward the person addressed as the sincerity condition for 'thanks'. For then the aptness of the conditional with a true antecedent will depend upon the speaker being grateful to the addressee. But this is not a requirement on the conditional being apt.

The sincerity condition for 'thanks' for both standalone and embedded uses can be identified by asking when an utterance of [43] with a true antecedent is not apt. To thank someone is to express (in the speech act sense) gratitude. Gratitude involves the thought that something which occurred is beneficial to one, the belief someone is responsible for it, and then a resulting feeling of goodwill toward the person responsible and a disposition to do something in return. Intuitively, someone who utters [43] without the commitment to come to feel goodwill toward the person addressed on the condition that he cleaned up the mess, and the disposition to return a benefit, utters it insincerely. We can then identify the sincerity condition with this commitment to feel goodwill toward the addressee and to be disposed to do something in return on the condition that he has benefited one.

This commitment is not a general disposition to feel gratitude toward people who benefit one. The commitment involved is of the same sort as that involved in conditional intending. If one plans to do something provided that some condition obtains, then one has settled on intending upon learning the condition obtains, without further deliberative reflection. This is the form of commitment which underlies conditional promises. It is the same sort of commitment which underlies conditional thanking or congratulating. One is settled on and rationally committed to having the appropriate attitude without further reflection, the appropriate conditions being met.

If commitment rather than the attitude one is committed to is the appropriate sincerity condition for standalone uses of 'thanks', then one might expect to find cases in which someone is sincere but lacks the relevant attitude in a standalone use. However, if the commitment is to have the state, appropriate conditions being met toward a particular object, it is not clear there is room for commitment in a standalone case without the attitude. For a standalone use would typically be motivated by the thought that someone is one's benefactor. The commitment then would straight off lead to the state.<sup>33</sup> Perhaps, though, one could say 'Thank you' to someone, being unsure that he is one's benefactor, but being committed to being grateful should it be confirmed. In this case, one would not be counted as insincere. This would be a standalone use in which being grateful and being sincere come apart in the right way.

We suggest then that the sincerity condition for those exclamatives which can appear in the then-clause in conditionals is commitment, in the sense discussed above, to have a certain psychological state, the one expressed by its literal use. This is to be distinguished from the commitment to having the state that arises from taking responsibility for having it in making a sincere literal use of an exclamation, for this commitment one has even if insincere.

For exclamatives which cannot appear in conditionals, there is no pull to treat the sincerity condition as commitment. And commitment modeled on the commitment involved in conditional intention seems to require that there be certain conditions independent of the state itself which have a bearing on the rational appropriateness of the state. Thus, for exclamatives such as 'ouch!', it is not clear that we can make sense of a sincerity condition that amounts to rational commitment to have a state on a certain condition for its

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<sup>32</sup> One could argue for a change in the function of such exclamatives in embedded contexts. But other things being equal a uniform account is to be preferred.

<sup>33</sup> Being committed to having it is not incompatible with having it, for having a disposition is not incompatible with its exercise.

appropriateness being met. Therefore, we do not extend the suggestion to all exclamatives. Exclamatives like 'ouch' are treated as sincere, then, iff the speaker has the state expressed.

Aptness conditions are not a subcategory of fulfillment conditions, and fulfillment conditions are not a subcategory of aptness conditions. We could then introduce a more general category of success conditions of which fulfillment and aptness conditions are kinds.

We assign sincerity conditions first to standalone exclamatives and optatives. Exclamatives can be structured or unstructured. Optatives invariably have structure. In assigning sincerity conditions we need to take into account both the type and the contribution of its structure to what is expressed. For illustration, consider [45]-[48].<sup>34</sup>

- [45] Terrific!
- [46] Terrific car!
- [47] What a car!
- [48] Oh, that I could be with you!

Literal, unembedded utterances of [45]-[47] express some highly positive affective attitude, excitement, say. While optatives are usually said to express a wish or hope that  $p$ , where ' $p$ ' gives the propositional content of the optative, this falls short of what is required. Just wishing or hoping to be rich would not license saying, 'Would that I were rich!' We will take them to express rather strong regret that not- $p$ . In the case of [48], a speaker would express regret that he or she was not with the person addressed. The regret expressed in literal utterances of optatives distinguishes them from exclamatives, which may be used to express a variety of attitudes, including regret.

A use of [48] has a propositional object. Literal felicitous uses of [46] and [47] appear to have at least intentional objects. The speaker, if serious, expresses excitement about some car he has in mind. In [46] the noun phrase following 'terrific' tells us what object the speaker has in mind. A use of [45] seems to require that an object be selected in the context for felicitous use. While exclamatives may be used to just express excitement, the fact that it is appropriate to ask 'What is terrific?' in response to [45] suggests that a proper use requires an object.

Let  $O(u)$  be a function whose value for an utterance of an exclamative or optative is its object, that is, what the speaker has in mind. Let  $\text{pred}(x)$  take a noun or noun phrase and yield a corresponding predicate, for example,  $\text{pred}(\text{'a car'}) = \text{'x is a car'}$ . Let  $\text{form}(\phi)$  take sentences of the form 'What' $^{\circ}$ NP to 'That is' $^{\circ}$ NP. For example,  $\text{form}(\text{'What a car!'}) = \text{'That is a car'}$ . Let  $\text{neg}(\phi)$  take a sentence in the subjunctive and yield the negation of its present tense form. For example,  $\text{neg}(\text{'I could be there with you'}) = \text{'I cannot be there with you'}$ .

Now let us state a general condition [49] for 'terrific!' that handles examples [45] and [46], where we allow the null string as a value of 'NP' and stipulate that every  $x$  satisfies the null string.

- [49] For any noun phrase NP, for any  $u(\text{'terrific'}^{\circ}\text{NP}^{\circ}!)$ , for any  $x=O(u)$ , ' $\text{'terrific'}^{\circ}\text{NP}^{\circ}!$ ' is sincere( $u$ ) iff  $S(u)$  is committed to being excited about  $x$  and  $x$  satisfies  $\text{pred}(\text{NP})$ .

For [47] we have [50]. To handle [48] and similar constructions, we have [51].

- [50] For any noun phrase NP, for any  $u(\text{'What'}^{\circ}\text{NP}^{\circ}!)$ , for any  $O(u) x$ , ' $\text{'What'}^{\circ}\text{NP}^{\circ}!$ ' is sincere( $u$ ) iff  $S(u)$  is committed to being excited about  $x$  and  $x$  satisfies  $\text{pred}(\text{NP})$ .
- [51] For any subjunctive sentence  $\phi$ , for any  $u(\phi)$ , ' $\text{'Oh'/'Would'}^{\circ}\text{'that'}^{\circ}\phi$ ' is sincere( $u$ ) iff  $S(u)$  is committed to its being the case that  $S(u)$  satisfies( $u$ ) ' $x$  strongly regrets that' $^{\circ}\text{neg}(\phi)$

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<sup>34</sup> All of these seem to admit embedding: if you won the race, terrific! If you won the race in that car, terrific car too! If you are going to the stars, oh, that I could be with you!

Note that in [49] and [50] we have invoked a satisfaction relation between individual objects and one-place predicates, rather than between functions and predicates. A condition on [45]-[47] being sincere is that there be an object corresponding to what the speaker has in mind. A speaker of [46] might be thought sincere even when hallucinating a car. But the attitude he is to commit to having is a *de re* attitude. Without an object, he can neither have the attitude, nor a commitment to it, both requiring the object for their characterization.

## (b) Conditionals

The extension to conditionals is straightforward. We'll talk of aptness conditions for use of these sorts of conditionals, classify conditionals with exclamation marks in the consequent as exclamation marks, and those with optatives in the consequent as optatives, and say that atomic exclamation marks and optatives are apt relative to a speech act  $u$  iff they are  $\text{sincere}(u)$ . We'll say that a declarative is  $\text{apt}(u)$  iff it is  $\text{true}(u)$ . We assign aptness conditions to the conditionals recursively. Instantiating [52] to [43], and a speech act  $u$ , we get [53].

[52] For any  $\phi, \psi$ , for any  $u$  ( $\text{if } \phi, \psi$ ),  $\text{if } \phi, \psi$  is  $\text{apt}(u)$  iff  $\phi$  is  $\text{apt}(u)$  then  $\psi$  is  $\text{apt}(u)$

[53] 'If you cleaned up the mess, thanks!' is  $\text{apt}(u)$  iff 'you cleaned up the mess' is  $\text{true}(u)$ , then 'thanks!' is  $\text{sincere}(u)$ .

Suppose  $A$  is the speaker of  $U$ , and  $B$  is the person addressed. The clause for 'thanks' will be [54]. The result is [55] (ignoring tense).

[54] For any  $u$  ('thanks'), 'thanks' is  $\text{sincere}(u)$  iff  $S(u)$  is committed to being grateful to the addressee of  $u$ .

[55] 'If you cleaned up the mess, thanks' is  $\text{apt}(U)$  iff  $B$  cleaned up the mess, then  $A$  is committed to being grateful to  $B$ .

This yields the right result, for when  $B$  has cleaned up the mess, and  $A$  is prepared to be grateful to whoever cleaned up the mess, if anyone,  $A$  is thereby committed to being grateful to  $B$ . Thus, as is intuitively correct, the condition for the use of 'thanks' being apt is met. Furthermore, since for  $A$  to have thanked  $B$  is for  $A$  to have performed an utterance act, the success of which requires a commitment to being grateful to  $B$ , we also get the correct result that  $A$  has thanked  $B$ .<sup>35</sup>

## (c) Quantifying into exclamation marks and optatives

The extension to quantifying into exclamation marks requires characterizing when an exclamation mark with a free variable is *sincere relative to a function*, as well as a speech act  $u$ . We illustrate using [56], which makes explicit the structure of [55]. In [56], the relevant expression is 'congratulations to  $x$  on winning  $x$ 's age-group'.

[55] Congratulations to each of the age-group winners on winning his age-group!

[56] [For each  $x$ :  $x$  is an age-group winner](congratulations to  $x$  on winning  $x$ 's age-group!)

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<sup>35</sup> One might think that this is incorrect because if the antecedent is false, and the speaker is not grateful for the mess being cleaned up, then the utterance is not appropriate. But the sense of its being inappropriate in this case is due to there being no point in uttering the conditional when one knows that the antecedent is false. This is pragmatic inappropriateness rather than semantic infelicity.

When offering congratulations, one expresses pleasure at someone's accomplishment. Sometimes we indicate this explicitly as in 'Congratulations to you on winning the race'. We will take it that whenever someone uses 'congratulations', there is an argument place for the addressee and for a property of the addressee, and that what is expressed is happiness toward the addressee having the property. The property itself may be individuated with respect to an individual. For example, one could congratulate Jim on marrying Jill, or congratulate Jill on winning her age-group in the race.

We first formulate relativized sincerity conditions for a fully explicit example, 'congratulations to  $x$  on  $x$ 's winning  $x$ 's age group' in [57].

[57] For any function  $f$ , for any  $u$  ('congratulations to  $x$  on winning  $x$ 's age group'), 'congratulations to  $x$  on winning  $x$ 's age-group' is sincere( $u, f$ ) iff  $S(u)$  is committed to being pleased about  $f$  satisfying ' $x$  won  $x$ 's age group'.

Let us assume a function, from prepositional phrases of the sort which may appear after 'congratulations to  $x$ ' and a variable, to open sentences containing the variable,  $\text{pred}(\phi)$ , yielding, for example, ' $\text{pred}$ ('winning the race', ' $x$ )' = ' $x$  won the race'. The function takes the nominalization of a predicate employing an action verb, V-ing (NP), to an open sentence with ' $x$ ' in the subject position and V as the main verb in the past tense with NP as an optional complement of the verb V. Then we generalize as in [58] (restricting PP to prepositional phrases which can follow 'congratulations').

[58] For any function  $f$ , for any prepositional phrase PP, for any  $u$  ('congratulations to  $x$ ' PP), 'congratulations to  $x$ ' PP is sincere( $u, f$ ) iff  $S(u)$  is committed to being glad about  $f$  satisfying  $\text{pred}(\text{PP}, 'x')$ .

If the relevant property is not explicit, we introduce a function from the speech act to a property, namely, the property the speaker of  $u$  is glad the addressee  $x$  has, which we will allow is possibly a property that involves in its individuation  $x$  himself in [59]. We treat the function as having two argument places, one for the speech act and one for addressee to allow the property itself to vary with the value of ' $x$ ':  $\text{prop}(u, x)$ .<sup>36</sup>

[59] For any function  $f$ , for any  $u$  ('congratulations to  $x$ '), 'congratulations to  $x$ ' is sincere( $u, f$ ) iff  $S(u)$  is committed to being glad about  $f('x')$  having  $\text{prop}(u, x)$ .

In the case of a use of [55] or its proxy [56], a speaker would be most naturally interpreted as intending, for each  $x$ , to be glad that  $x$  has the property of *being the winner of  $x$ 's age group*. For someone then to sincerely utter [55], he would have to be committed to being glad of each winner of an age group that that winner had the property of being the winner of his age group. And that is the result which we intuitively want. This treatment can be extended to optatives.

### Summary and Conclusion

Nondeclaratives have presented a conundrum for traditional approaches to the theory of meaning, from Frege on. We have considered a number of different approaches to their semantics. The force indicator approach treats the moods as operators on sentence radicals that have truth conditions which indicate conventionally with what force they are to be taken. This line of approach traces back to Frege himself, and shows promise of meeting desiderata 1-4. It fails, however, in application to embedded sentences, where the mood clearly is semantically significant but does not serve to indicate the force with which the sentences are uttered. This approach thus fails to meet desiderata 5 and 6. This failure shows that the relation between mood, truth and force is more indirect than the force indicator approach assumes. We

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<sup>36</sup> The resort to properties can be circumvented, but at the cost of complexity which would not provide additional illumination.

considered also two approaches which in effect assimilate the moods to performatives, the explicit performative paraphrase approach, and Davidson's paratactic version of this. While these *prima facie* meet desiderata 1 and 3, they fail to satisfy 2 and 4-6. We argue that, in contrast to these approaches, the fulfillment conditional approach is able to meet all of the desiderata (with a promissory note entered for 7). It does this by making the relation between mood and force not that of a conventional indicator of the force of an utterance, but a conventional mark of the sort of satisfaction condition which it receives, which is modeled on the satisfaction conditions suitable for the sort of speech acts associated with their standalone uses. By assigning compliance conditions to imperatives and interrogatives which are determined recursively in terms of truth conditions, we were able to show that we can handle embedded occurrences in a straightforward way, and to extend the account to quantifying into mood markers. We have sketched how to extend the framework to the relatively neglected categories of exclamatives and optatives. Exclamatives and optatives are assigned sincerity conditions. For those that admit embedding we assign them sincerity conditions conceived of as rational commitments to have, given certain conditions, the attitudes expressed by serious literal standalone uses of them. This enabled us to assign a form of evaluation to unembedded uses that works also for embedded uses, and to extend the treatment to quantifying into exclamatives and optatives. In this way, we preserve the connection between mood and force without making it so intimate that it is difficult to see how to handle it in embedded contexts and in interaction with quantifiers.

## REFERENCES

- Alston, W. P. (2000). *Illocutionary Acts and Sentence Meaning*. Ithaca, N.Y.: Cornell University Press.
- Anscombe, G. E. M. (1963). *Intention* (2d ed.). Ithaca, N. Y.: Cornell University Press.
- Austin, J. L. (1961). Performative Utterances, *Philosophical Papers* (pp. 233-52). Oxford: Clarendon Press.
- . (1962). *How to Do Things with Words*. Cambridge: Harvard University Press.
- Bach, K. (1975). Performatives Are Statements Too. *Philosophical Studies*, 28: 229-36.
- Bach, K., and Harnish, R. M. (1982). *Linguistic Communication and Speech Acts*. Cambridge: MIT Press.
- Beardsley, E. L. (1944). Imperative Sentences in Relation to Indicatives. *Philosophical Review*, 53: 175-84.
- Belnap Jr, N. D. (1990). Declaratives Are Not Enough. *Philosophical Studies*, 59(1): 1-30.
- Bierwisch, M. (1980). Semantic Structure and Illocutionary Force. In J. R. Searle, F. Kiefer, and M. Bierwisch (eds.), *Speech Act Theory and Pragmatics*. Dordrecht: D. Reidel.
- Boisvert, D. (1999). *Pragmatics and Semantics of Mixed Sentential Mood Sentences*. Unpublished M. A. Thesis, University of Florida, Gainesville.
- Collins, P. (2004). Clause Types. In B. Aarts, and A. McMahon (eds.), *The Handbook of English Linguistics*. Oxford: Blackwell.
- Davidson, D. (2001 (1968)). On Saying That, *Inquiries into Truth and Interpretation* (pp. 93-108). Oxford: Clarendon Press.
- . (2001 (1979)). Moods and Performances, *Inquiries into Truth and Interpretation* (pp. 109-22). Oxford: Oxford University Press.
- Davies, M. (1981). *Meaning, Quantification, and Necessity*. London: Routledge and Kegan Paul.
- Dummett, M. (1973). *Frege: Philosophy of Language*. Cambridge, Mass.: Harvard University Press.
- . (1993). Mood, Force and Convention. In M. Dummett (ed.), *The Seas of Language* (pp. 202-23). Oxford: Oxford University Press.
- Frege, G. (1997 (1879)). *Begriffshrift* (Selections). In M. Beaney (ed.), *The Frege Reader* (pp. 47-78). Oxford: Blackwell.
- . (1997 (1892)). On *Sinn* and *Bedeutung*. In M. Beaney (ed.), *The Frege Reader* (pp. 151-71). Oxford: Blackwell.
- . (1997 (1918)). Thought. In M. Beaney (ed.), *The Frege Reader* (pp. 325-45). Oxford: Blackwell.
- Groenendijk, J. A. G., and Stokhof, M. (1997). Questions. In J. v. Bentham, and A. t. Meulen (eds.), *Handbook of Logic and Language* (pp. 1055-124). Cambridge: MIT Press.
- Gutierrez-Rexach, J. (1996). The Semantics of Exclamatives. In E. Garrett, and F. Lee (eds.), *Syntax at Sunset: Ucla Working Papers in Linguistics* (pp. 146-62). Los Angeles: UCLA.
- Hamblin, C. L. (1958). Questions. *Australasian Journal of Philosophy*, 36: 159-68.
- . (1973). Questions in Montague English. *Foundations of Language*, 10(1973): 41-53.
- . (1987). *Imperatives*. Oxford: Basil Blackwell.
- Hare, R. M. (1949). Imperative Sentences. *Mind*, 58: 21-39.
- . (1952). *The Language of Morals*. Oxford: Clarendon Press.
- . (1970). Meaning and Speech Acts. *Mind*, 79: 3-24.
- . (1989). Some Subatomic Particles of Logic. *Mind*, 98: 23-37.
- Harnish, R. (1994). Mood, Meaning and Speech Acts. In S. L. Tsohatzidis (ed.), *Foundations of Speech Act Theory*. London: Routledge.
- . (2001). Frege on Mood and Force. In I. Kenesei, and R. M. Harnish (eds.), *Perspectives on Semantics, Pragmatics, and Discourse* (pp. 203-28). Philadelphia: John Benjamins.
- . (Forthcoming). Mood and Inference, *Research in Language*. Stanford: CSLI.
- Higginbotham, J. (1993). Interrogatives. In K. Hale, and S. J. Keyser (eds.), *The View From Building 20* (pp. 195-227). Cambridge, Mass.: MIT Press.

- In press. *The Oxford Handbook of the Philosophy of Language*, eds. B. Smith and E. Lepore, Oxford: Oxford University Press, 2005.
- . (1996). The Semantics of Questions. In S. Lappin (ed.), *The Handbook of Contemporary Semantic Theory*. Cambridge: MIT Press.
- Higginbotham, J., and May, R. (1981). Questions, Quantifiers and Crossing. *The Linguistic Review*, 1(41-80).
- Hornsby, J. (1986). A Note on Non-Indicatives. *Mind*, 95: 92-9.
- . (2005). Speech Acts. In B. Smith, and E. Lepore (eds.), *The Oxford Handbook of the Philosophy of Language*. Oxford: Oxford University Press.
- Huntley, M. (1984). The Semantics of English Imperatives. *Linguistics and Philosophy*, 7: 103-34.
- Husserl, E. (2001 (1913)). *Logical Investigations*. London: Routledge.
- Jespersen, O. (1924). *The Philosophy of Grammar*. London: Allen and Unwin.
- Karttunen, L. (1977). The Syntax and Semantics of Questions. *Linguistics and Philosophy*, 1: 3-44.
- Katz, J. J., and Postal, P. (1964). *An Integrated Theory of Linguistic Description*. Cambridge, Mass.: MIT Press.
- Lappin, S. (1982). On the Pragmatics of Mood. *Linguistics and Philosophy*, 4: 559-78.
- Lepore, E., and Ludwig, K. (2003a). Outline for a Truth Conditional Semantics for Tense. In Q. Smith, and A. Jokic (eds.), *Tense, Time and Reference* (pp. 49-105). Cambridge: MIT Press.
- . (2003b). Truth and Meaning. In K. Ludwig (ed.), *Donald Davidson*. New York: Cambridge University Press.
- . (2005). *Donald Davidson: Truth, Meaning, Language and Reality*. New York: Oxford University Press.
- Lewis, D. (1975). General Semantics. In D. Davidson, and G. Harman (eds.), *Semantics of Natural Language* (pp. 169-218). Boston: D. Reidel.
- Ludwig, K. (1997). The Truth About Moods. *Protosociology*, 10: 19-66. Reprinted in *Concepts of Meaning: Framing an Integrated Theory of Linguistic Behavior*, Kluwer Academic Publishers, 2003.
- . (2002). What Is the Role of a Truth Theory in a Meaning Theory? In D. Shier, J. K. Campbell, and M. O'Rourke (eds.), *Meaning and Truth: Investigations in Philosophical Semantics* (pp. 142-63). New York: Seven Bridges Press.
- McDowell, J. (1976). Truth Conditions, Bivalence and Verificationism. In J. McDowell, and G. Evans (eds.), *Truth and Meaning* (pp. 41-66). Oxford: Clarendon Press.
- McGinn, C. (1977). Semantics for Nonindicative Sentences. *Philosophical Studies*, 32: 301-11.
- Michaelis, L., and Lambrecht, K. (1996). The Exclamative Sentence Type in English, *Conceptual Structure, Discourse, and Language* (pp. 375-89). Stanford: CSLI.
- Pendlebury, M. (1986). Against the Power of Force: Reflections on the Meaning of Mood. *Mind*, 95: 361-72.
- Portner, P., and Zanuttini, R. (2000). The Force of Negation in Wh Exclamatives and Interrogatives. In L. R. Horn, and Y. Kato (eds.), *Studies in Negation and Polarity: Syntactic and Semantic Perspectives* (pp. 201-39). New York: Oxford University Press.
- . (2005). Nominal Exclamatives in English. In R. J. Stainton, and R. Elugardo (eds.), *Ellipsis and Non-Sentential Speech* (pp. 57-67). Dordrecht: Kluwer.
- Rescher, N. (1966). *The Logic of Commands*. London: Routledge and Kegan Paul.
- Ross, A. (1944). Imperatives and Logic. *Philosophy of Science*, 11: 30-46.
- Searle, J. (1979). Indirect Speech Acts, *Expression and Meaning: Studies in the Theory of Speech Acts* (pp. 30-57). Cambridge: Cambridge University Press.
- Searle, J. R. (1969). *Speech Acts: An Essay in the Philosophy of Language*. Cambridge: Cambridge University Press.
- . (1979). A Taxonomy of Illocutionary Acts, *Expression and Meaning*. Cambridge: Cambridge University Press.
- Searle, J. R., and Vanderveken, D. (1985). *Foundations of Illocutionary Logic*. Cambridge: Cambridge University Press.
- Segal, G. (1991). In the Mood for a Semantic Theory. *Proceedings of the Aristotelian Society*, 91: 103-18.
- Sosa, E. (1967). The Semantics of Imperatives. *American Philosophical Quarterly*, 4: 57-64.
- Stainton, R. J. (1999). Interrogatives and Sets of Answers. *Critica*, 31(91): 75-90.

In press. *The Oxford Handbook of the Philosophy of Language*, eds. B. Smith and E. Lepore, Oxford: Oxford University Press, 2005.

Stenius, E. (1967). Mood and Language-Game. *Synthese*, 17: 254-74.

Williams, B. (1963). Imperative Inference. *Analysis Supplement*, 23: 30-6.

Wilson, D., and Sperber, D. (1988). Mood and Non-Declarative Sentences. In J. Dancy, J. M. E. Moravcsik, and C. C. W. Taylor (eds.), *Human Agency: Language, Duty and Value*. Stanford: Stanford University Press.

Zanuttini, R., and Portner, P. (2000). The Characterization of Exclamative Clauses in Paduan. *Language*, 76(1): 123-32.

---. (2003). Exclamative Clauses: At the Syntax-Semantics Interface. *Language*, 79: 39-81.