

Assertion

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An assertion is a speech act in which something is claimed to hold, e.g. *that there are infinitely many prime numbers*, or, with respect to some time t , *that there is a traffic congestion on Brooklyn Bridge at t* , or, of some person x with respect to some time t , *that x has a tooth ache at t* . The concept of assertion has often occupied a central place in the philosophy of language, since it is often thought that making assertions is the use of language most crucial to linguistic meaning, and since assertions are the natural expressions of cognitive attitudes, and hence of importance for theories of knowledge and belief.

The nature of assertion and its relation to other categories and phenomena have been subject to much controversy. Some of the ideas of assertion will be presented below. The article is divided into the following sections:

1. Speech acts
2. Pragmatics
3. Convention
4. Content
5. Truth
6. Belief and knowledge
7. Social character
8. Logic

The article is also organized into a main part for the basic material and supplementary parts for more specialized or advanced material. The main part constitutes a self-contained presentation and is sufficient for readers with a general interest in assertion. There are links to supplementary material at the end of sections, or subsections.

The various accounts of assertion that have been offered are presented in the respective sections, each according to its particular features. For instance, the *knowledge account* is presented in section 6. There is no section dedicated to assertion accounts. Below is a list of the accounts presented, with information about where to find it.

Stalnaker's rules of assertion: subsection 2.1 (supplement)

Principle directly relating truth and assertion: subsection 5.2

Norms of truth, accounts centering on the aim of truth: subsection 5.4

Principle of correctness: subsection 5.5

Norms of belief or sincerity: subsection 6
Norms of knowledge: subsection 6.2
Gricean or Neo-Gricean accounts: section 7
Searle's account: section 7
Assertibility of conditionals: subsection 8.2

1 Speech acts

As indicated with the initial examples, in an assertion it is asserted *that* so-and-so. Grammatically, the verb 'assert' takes that-clause complements, i.e. expressions of the form *that s*, where *s* is replaced by a declarative sentence. Something that can be asserted can also be believed, known, doubted, hoped, and *vice versa*. I can doubt that Mars will be colonized, and I can also *assert* that Mars will be colonized. In other words, *what* we assert are *propositions*.¹ The so-called propositional attitudes, like believing, knowing and hoping, are said to relate a thinker to a proposition, or at least to be instantiated by mental states that have propositional content. Similarly, assertion is a propositional act in that it relates the speaker to a proposition, or is an act with propositional content.

On the other hand, an assertion is made *by means* of an utterance. I utter the sentence

(1) The cat is on the mat

and by means of the utterance of that sentence, I have (for some time, cat and mat) asserted *that* the cat is on the mat.² Typically, we make an assertion by means of uttering a declarative sentence, but not any utterance of a declarative sentence is an assertion. For instance, I can well utter 'The curfew tolls the knell of parting day' merely for the sake of its poetic quality.

Something is added to an utterance that makes it into a means for asserting something. Gottlob Frege (1918, 22) characterized the assertoric quality of an utterance as an assertoric *force* ('Behauptende Kraft') of the utterance. That is, the speaker makes an utterance in an assertoric (or assertive) mode or with an assertoric force, and that is the difference between just uttering and also asserting. This idea was later taken over by J L Austin (1975, 99-100), the founding father of the general theory of speech acts. Austin distinguished between several levels of speech act, including these: the locutionary act, the illocutionary act and the perlocutionary act. The locutionary act is the act of "saying something" in the full normal sense" (1975, 94), which is the utterance of certain words with certain meanings in a certain grammatical construction, such as uttering 'I like ice' as a sentence of English.

¹If you are an anti-realist about propositions, you can replace talk about propositions with talk about that-clause complements.

² It is controversial just how explicit, or how linguistic, an utterance must be in order that an assertion can be made by it. We shall return to these issues in section 3.

The notion of an illocutionary act was introduced by Austin by means of examples (1975, 98-102), and that is the normal procedure. Illocutionary acts are such acts as asserting, asking a question, warning, threatening, announcing a verdict or intention, making an appointment, giving an order, expressing a wish, making a request. An utterance of a sentence, i.e. a locutionary act, by means of which a question is asked is thus an utterance with *interrogative force*, and when an assertion is made the utterance has *assertoric force*. Each type of illocutionary act is a type of act with the corresponding illocutionary force.

The perlocutionary act is made by means of an illocutionary act, and depends entirely on the hearer's reaction. For instance, by means of arguing the speaker may convince the hearer, and by means of warning the speaker may frighten the hearer. In these examples, convincing and frightening are perlocutionary acts.

The illocutionary act does not depend on the hearer's reaction to what has been said. Still, according to Austin (1975, 116-17), it does depend on the hearer's being aware of the utterance and understanding it in a certain way. For instance, I haven't warned someone unless he heard and understood what I said. In this sense the performance of an illocutionary act depends on the 'securing of uptake' (1975, 117). However, although Austin's view is intuitively plausible for speech acts verbs with speaker-hearer argument structure (like *x congratulates y*) or speaker-hearer-content argument structure (*x requests of y that p*), it is not obviously as plausible when the structure is speaker-content (*x declares that p*). 'Assert' is of the latter kind, as opposed to e.g. 'tell'. It may be said that I failed to tell him that the station was closed, since he had already left the room when I said so, but that I still *asserted that* it was closed, since I believed he was still there. As we shall see, several theories of assertion focus on hearer-directed beliefs and intentions of the speaker, without requiring that those beliefs are true or the intentions fulfilled.

Part of the tasks of general theory of speech acts is to provide a systematic taxonomy of speech acts. Austin had earlier (Austin 1956) initiated the development of speech act taxonomy by means of the distinction between *constative* and *performative* utterances. The purpose then was more polemical than systematic, since Austin thought that the philosophy of language at the time had neglected to note other uses of language than the assertoric. Roughly, whereas in a constative utterance you report an already obtaining state of affairs—you *say* something—in a performative utterance you create something new: you *do* something (Austin 1956, 235). Paradigm examples of performatives were utterances by means of which actions such as baptizing, congratulating and greeting are performed. Assertion, by contrast, is the paradigm of a constative utterance.

However, when developing his general theory of speech acts, Austin abandoned the constative/performative distinction, the reason being that it is not so clear in what sense something is *done* e.g. by means of an optative utterance, expressing a wish, whereas nothing is done by means of an assertoric one. Austin noted e.g. that assertions are subject to infelicities, just like performatives (Austin 1975, 13-66). For instance, an assertion is *insincere* in case of lying as a promise is insincere when the appropriate intention is lacking (Austin 1975,

40). This is an infelicity of the *abuse* kind. Also, an assertion is, according to Austin, *void* in case of referential presupposition, such as in Russell's

(2) The present King of France is bald

(Austin 1975, 20). This is then an infelicity of the same kind—*flaw-type misexecutions*—as the use of the wrong formula in a legal procedure (Austin 1975, 36), or of the same kind—*misinvocations*—as when the requirements of a naming procedure aren't met (Austin 1975, 51), or when I try to sell you something that isn't mine (Austin 1975, 137).

Further, Austin noted that when it comes to appraisals, there is not a sharp difference between acts that are simply true and false, and acts that are assessed in other respects (Austin 1975, 140-47). On the one hand, a warning can be objectively proper or improper, depending on the facts. On the other hand, assertions (statements) can be assessed as suitable in some contexts and not in others, and are not simply true or false. An example is

(3) France is hexagonal³

As an alternative to the performative–constative dichotomy, Austin suggested five classes of illocutionary types (or illocutionary verbs): verdictives, exercitives, commissives, behabitives and expositives (Austin 1975, 151-64). You exemplify a verdictive e.g. when as a judge you pronounce a verdict; an exercitive by appointing, voting or advising; a commissive by promising, undertaking or declaring that you will do something; a behabitive by apologizing, criticizing, cursing or congratulating; an expositive by acts appropriately prefixed by phrases like 'I reply', 'I argue', 'I concede' etc., of a general expository nature.

In this classification, assertion would best be placed under expositives, since the prefix 'I assert' is or may be of an expository nature. However, an assertion need not in itself be expository. As a classification of illocutionary types Austin's taxonomy is thus not completely adequate.

Other taxonomies have been proposed, e.g. by Stephen Schiffer (1972), John Searle (1975b), Kent Bach and Robert M. Harnich (1979), and François Recanati (1987). One leading idea, for instance in Searle's taxonomy, is to distinguish between speech acts according to *direction of fit*. An assertion has word-world direction of fit, since an assertion is correct if what is said agrees with what the world is like. By contrast, a command has a world-word direction of fit, since a command is satisfied if the addressee of the command subsequently performs what is ordered.

Bach and Harnich's scheme is similar to Searle's. In general, Bach and Harnich distinguish between illocutionary types according to the type of expressed attitude (cf. sub-section 6.1). There are four top categories: constatives, directives (including questions and prohibitives), commissives (promises, offers) and acknowledgments (apologize, condole, congratulate) (1979, 41). The category of constatives includes the subtypes, in Bach and Harnich's terms, of assertives,

³These days it is not uncommon to treat *standards of precision* as a context factor for determining truth or falsity, rather than as separate dimension of evaluation.

predictives, retrodictives, descriptives, ascriptives, informatives, confirmatives, concessives, retractives, assentives, dissentives, disputatives, responsiveness, suggestives and suppositives (1979, 41).

In this list predictives are distinguished by concerning the future and retrodictives by concerning the past, dissentives by the fact that the speaker is disagreeing with what was earlier said by the hearer, and so on. Assertives, according to this taxonomy, is not distinguished from other constatives by any such feature. As Bach and Harnich point out (1979, 41) most of the specialized types of constatives satisfy their definition of assertives (see section 7). This type then stands out as a higher category, including most but not all of the constatives; not for instance suggestives (suggesting, conjecturing) and suppositives (assuming, stipulating).

One major question that has come up in connection with semantic theories concerns the status of assertion among the speech act categories. Truth theoretic or other systematic semantic theories most often specify the meaning of declarative sentences, as opposed to imperative and interrogative. There is a corresponding focus on assertion as more central to linguistic meaning than any other illocutionary type.

This has led to a discussion about whether there could have been a linguistic practice with only assertions, or a linguistic practice without assertions (cf Dummett 1981, 601). A positive answer to the first question and negative to the second was thought to justify the central meaning theoretical importance of assertion. Such a discussion is, however, of questionable value. It is part of normal human social existence to need and want to share information as well as to seek information (by questions) and to give directions of various kinds. Only in quite degenerate forms of existence could the need of either kind be absent, and there is no saying what sort of language, if any, humans would have or retain under such conditions.

The focus on declaratives in semantics may be a matter of convenience, due to the fact they will have to be taken account of anyway. For instance, a conditional question, of the shorthand form ‘[if p , then q]?’ would take the natural English form either of a conditional with interrogative antecedent and declarative consequent, as in

(4) Can ships fall over the edge, if the Earth is flat?

or with a propositional interrogative prefix, followed by a declarative conditional, as in

(5) Is it the case that, if the Earth is flat, then ships can fall over the edge?

Similarly with imperatives. By contrast, the declarative fragment of natural English is self-contained, and not limited in propositional expressive power. Hence it is convenient to focus on declaratives.

2 Pragmatics

Assertion is generally thought of being open, explicit and direct, as opposed e.g. to conveying something indirectly, without explicitly saying it. In this respect assertion is contrasted with *presupposition* and *implicature*. The contrast is, however, not altogether sharp, partly because of the idea of *indirect speech acts*, including indirect assertions.

2.1 Presupposition

A sentence such as

- (6) Kepler died in misery

is not true unless the singular term ‘Kepler’ has reference. Still, Frege argued that a speaker asserting that Kepler died in misery, by means of (6) does not also assert that ‘Kepler’ has reference (1892, 574). That ‘Kepler’ has reference is not part of the sense of the sentence. Frege’s reason was that if it had been, the sense of its negation,

- (7) Kepler did not die in misery

would have been *that Kepler did not die in misery or ‘Kepler’ does not have reference*, which is absurd. According to Frege, that ‘Kepler’ has reference is rather *presupposed*, both in an assertion of (6) and in an assertion of its negation.

The modern treatment of presupposition has followed Frege in treating survival under negation as the most important test for presupposition. That is, if it is implied that p , both in an assertion of a sentence s and in an assertion of the negation of s , then it is presupposed that p in those assertions. Other typical examples of presupposition (cf Levinson 1983, 178-81) include

- (8) John managed [didn’t manage] to stop in time

implying that John tried to stop in time, and

- (9) Martha regrets [doesn’t regret] drinking John’s home brew

implying that Martha drank John’s home brew.

In the case of (6), the presupposition is clearly of a semantic nature, since the sentence ‘Someone is identical with Kepler’, which is true just if ‘Kepler’ has reference, is a logical consequence both of (6) and of (7). By contrast, in the negated forms of (8) and (9) the presupposition can be canceled by context, e.g. as in

- (10) John didn’t manage to stop in time. He didn’t even try.

This indicates that in this case the presupposition is a pragmatic phenomenon. It is the speaker or speech act rather than the sentence or the proposition expressed that presupposes something. The presupposing should still be kept

distinct from asserting. One further reason is that the presupposition occurs in other illocutionary types as well. For instance, in asking

(11) Did John [didn't John] manage to stop in time?

the speaker normally assumes that John tried and is only asking about the success.

There is a connection between assertion and presupposition that was noted and stressed by Robert Stalnaker (1974; 1978). On Stalnaker's pragmatic account of presupposition, propositions are presupposed in a conversation if they are on record as belonging to the common ground between the speakers. When an assertion is made and accepted in the conversation, its content is added to the common ground, and the truth of the proposition in question will be presupposed in later stages. Stalnaker uses a possible worlds framework, and characterizes the common ground as a set of possible worlds (the worlds where all that is presupposed is true), the *context set*. What is presupposed at a given stage has an effect on the interpretation of new utterances made in the conversation.

In this framework Stalnaker (1978, 88-89) proposes three rules or principles of assertion:

- (RS) 1) A proposition is always true in some but not in all of the possible worlds in the context set.
2) Any assertive utterance should express a proposition, relative to each possible world in the context set, and that proposition should have truth value in each possible world in the context set.
3) The same proposition is expressed relative to each possible world in the context set.

Stalnaker comments on the first rule: 'To assert something incompatible with what is presupposed is self-defeating [...] And to assert something which already presupposed is to attempt to do something that is already done.'

On such an approach, the satisfaction of a presupposition is an *admittance condition* of an assertion that makes it (cf. Karttunen 1974, Heim 1983). This idea connects with Austin's more general pragmatic idea of felicity conditions of speech acts.

As was stressed by Lewis (1979), however, an assertion that intuitively presupposes the truth of another proposition need not fail, but can instead have the effect of adjusting the common ground. In so-called *accommodation*, the hearer adds background assumptions that would be required for interpretation. For instance, upon hearing Lewis utter

(12) The cat has gone upstairs

the hearer who didn't know may accommodate by adding the assumption that there is a unique contextually salient cat.

2.2 Implicature

Frege noted (1879, 20) that there is no difference in truth evaluable content, between sentences such as

- (13) a. John works with real estate and likes fishing
b. John works with real estate but likes fishing.

‘And’ and ‘but’ contribute the same way to truth and falsity. However, when using (13b), but not when using (13a), the speaker indicates that there is a contrast of some kind between working with real estate and liking fishing. The speaker is not *asserting* that there is a contrast. For instance, forming a conditional with (13b) in the antecedent preserves the contrast rather than make it hypothetical:

- (14) If John works with real estate but likes fishing, I think we can bring him along

In an utterance of a conditional like (14) the content of the antecedent is not asserted. The speaker may sincerely assert the conditional while denying or being agnostic about the antecedent. Since the contrast indicated by ‘but’ survives in the antecedent context, it is natural to say that the contrast is not part of the asserted content in (13b) either, and therefore not part of what ceases to be asserted.

It is usually said that the speaker in cases like (13b) and (14), *implies* that there is a contrast. These are then examples of implicature. H Paul Grice (1975, 1989) developed a general theory of implicature. Grice called implicatures of the kind exemplified *conventional*, since it is a standing feature of the word ‘but’ to give rise to them. Most of Grice’s theory is concerned with the complementing kind, the *conversational* implicatures. These rely on general conversational maxims, not on features of expressions. These maxims are thought to be in force in ordinary conversation. For instance, the maxim *Be orderly!* requires of the speaker to recount events in the order they took place. This is meant to account for the intuitive difference in content between

- (15) a. John took off his shoes and sat down
b. John sat down and took off his shoes

According to Grice’s account, the speaker doesn’t assert, only implicates that the events took place in the order recounted. What is asserted is just that both events did take place.

Real or apparent violations of the maxims generate implicatures, on the assumption that the participants obey the over-arching Co-operative Principle. For instance, in the following conversation

- (16) A: Where does John spend the summer?
B: Somewhere in Canada.

B implies that he doesn't know where in Canada John spends the summer. The reasoning is as follows. B violates the Quantity principle to be as informative as required. Since B is assumed to be co-operative, one can infer that he cannot satisfy the Quantity principle without violating the Quality principle not to say anything for which one lacks sufficient evidence. Hence, one can infer that he doesn't know. Again, B has not asserted that he doesn't know, but still managed to convey it in an indirect manner.

2.3 Indirect speech acts

This clear distinction between assertion and implicature is to some extent undermined by acknowledging indirect assertion as a kind of assertion proper. A standard example of an indirect speech act is given by

(17) Can you pass the salt?

By means of uttering an interrogative sentence the speaker requests the addressee to pass the salt. The request is indirect. The question, concerning the addressee's ability, is direct. As defined by Searle (1975a, 59-60), and also Bach and Harnich (1979, 70), an indirect illocutionary act is subordinate to another, more primary act and depends on the success of the first. An alternative definition given by Sadock (1974, 73) is that an act is indirect just if it has a different illocutionary force from the one standardly correlated with the sentence-type used.

Examples of indirect assertions by means of questions and commands or requests are given by

(18) May I tell you that, obviously, the square root of a quarter is a half?

(19) Let me tell you that, obviously, the square root of a quarter is a half.

(Levinson 1983, 266). Rhetorical questions also have the force of assertions:

(20) Is not Switzerland a peace-loving nation?

Another candidate type is irony:

(21) Switzerland is known for its aggressive foreign policy.

assuming the speaker does mean the negation of what is literally said. However, although in a sense the act is indirect, since the speaker asserts something different from what she would do on a normal direct use of the sentence, and relies on the hearer to realize this, it is not an indirect assertion by either definition. It isn't on the first, since the primary act (the literal assertion) isn't even made, and it isn't on the second, since there is no discrepancy between force and sentence type.

Irony does, however, qualify as indirect assertion on the definition given by Recanati (1987, 125). According to Recanati, an indirect speech act is a special kind of conversational implicature, where the speaker not only implicates some

proposition p , but also that she *intends* to convey that p . In the case of (21), there is an apparent flagrant violation of the Quality principle to say only what is true. On the assumption that the speaker is co-operative, together with background knowledge of her political awareness, the hearer can infer that she does not mean what she literally says, but rather the opposite, i.e. that what she *wants* to communicate is the negation of what she says. For Recanati, the communicative intention is what brings this act under the category of assertion proper (see section 7).

Although Searle's definition of indirect speech acts is different, Searle too thinks that they work by means of an inferential mechanism, including that of conventional implicature. The hearer is supposed to understand that the speaker cannot merely be performing the primary act, since that would violate conversational principles, and then again conclude by conversational reasoning what other act has been performed.

So, if indirect assertions are assertions proper as well as conversational implicatures, the idea that assertions in general are explicit and direct has to be given up. An alternative is to simply deny that indirect assertions are assertion proper, and to distinguish between implicatures according to whether they are assertoric, imperative, or interrogative, or perhaps quasi-assertoric, quasi-imperative etc.

The very idea of indirect speech acts is, however, controversial. It is not universally agreed that an ordinary utterance of (17) is indirect, since it has been denied e.g. by Levinson (1983, 273-76) that a question has really been asked, over and above the request. Similarly, Levinson have questioned the idea of a standard correlation between force and sentence type, by which a request would count as indirect on Sadock's criterion. This brings us to the topic of conventionality.

3 Convention

Austin held that illocutionary acts as opposed to perlocutionary acts are *conventional*, in the sense that they can be made explicit by the so-called performative formula (Austin 1975, 103). According to Austin one can say 'I argue that' or 'I warn you that' but not 'I convince you that' or 'I alarm you that'. Presumably, the idea was that a speech act type is conventional just if there exists a convention by which an utterance of a sentence of a certain kind ensures (if uptake is secured) that a speech act of that type is performed. Austin probably thought that in virtue of the performative formulas this condition is met by illocutionary but not by perlocutionary act types.

The more general claim that illocutionary force is correlated by convention with sentence type has been advocated by Michael Dummett (1981, 302, 311). On this view, it is a convention that declarative sentences are used for assertion, interrogative for questions and imperative for commands and requests. Similar views have been put forward by Searle (1969) and Petr Kotatko (1998). According to Searle (1969, 38, 40), illocutionary acts are conventional, and the con-

ventions in question govern the use of so-called force-indicating devices (Searle 1969, 64) specific to each language. Searle does not claim that the standard sentence types are force indicating devices (but speculates that a representation of illocutionary type would be part of the syntactic deep structure).

However, the view that illocutionary acts types are conventional in this sense has met with much opposition. Peter Strawson (1964, 153-54) objected early on that ordinary illocutionary acts can be performed without relying on any convention to identify the force, e.g. when using a declarative sentence like ‘The ice over there is very thin’ for a warning. This kind of criticism, now directed against Dummett, has later been reinforced by Robert J Stainton (1997), stressing that in appropriate contexts sub-sentential phrases like ‘John’s father’ (pointing at a man) or ‘very fast’ (looking at a car) can be used to make assertions, and gives linguistic arguments why not all such uses can be treated as cases of ellipsis, i.e. as cases of leaving out parts of a well-formed sentence that speaker and hearer tacitly aware of. If Strawson and Stainton are right, convention isn’t necessary for making assertions.

Moreover, Donald Davidson (Davidson 1979, Davidson 1984b) stressed that no conventional sign could work as a force indicator in this sense, since any conventional sign could be used (and would be used) in insincere utterances, where the corresponding force was missing, including cases of deception, jokes, impersonation and other theatrical performances. Basically the same point is made by Bach and Harnich (1979:122-27). If Davidson, and Bach and Harnich are right, then conventions are also not sufficient.

Conventionalism has, however, been defended by Kotatko (1998). Kotatko claims that convention and social circumstances together determine what kind of act has been made. Speaker intention plays a role, but what determines the act is what intention the speaker *counts* as having done in the context, not what intention she actually had. Kotatko argues, with Dummett and against communication-intention theorists, that the *public nature* of language use would be lost if the force of an utterance were determined by the mental states of the speaker.

On the other hand, one problem with such a position is that it is not so easy to say when a particular convention is in force for a speaker without making reference to mental states. If mental states are not public, and whether or not a convention is in force depends on what mental states some relevant agents are in, then it is hard to see how the force of a convention can be public anyway. Moreover, indications of non-sincerity can be subtle (it is fairly common to be unsure whether someone is joking or not), and trying to determine whether the convention applies in a particular case does not seem to be any easier than gauging the sincerity of the speaker in the absence of any convention.

It is fairly clear that some illocutionary act types are conventional, like pronouncements in court proceedings or in wedding ceremonies, by which institutional facts, such as two persons being married, are created. In the taxonomy of Bach and Harnich 1979, these are the verdictives and effectives, and according to Bach and Harnich these types are conventional but not essentially communicative (1979, 113-19). Austin focused on such types in his early examples of

performatives and he was criticized by G J Warnock (1973) for not distinguishing the conventionality of those types from the non-conventionality of the other performatives (such as ‘I advise you to go west’) generated by the performative prefix.

Nevertheless, Recanati (1987, 81-86) has given a partial defence of Austin’s view, with the claim that there are conventional force indicators, like the interrogative and imperative sentence types. These are according to Recanati associated with the ‘illocutionary force potential’ (1987, 81) of sentences of those types, consisting in the range of illocutionary forces with which they can be directly and normally used. But that is how far the defence of Austin goes. For specific illocutionary types like warning, advising and requesting to be conventional, there would have to be conventional indicators of those specific types, and according to Recanati (1987, 86-93) there aren’t. The closest we come are the performative prefixes like ‘I advise you’, ‘I warn you’, ‘I request you to’, but these aren’t force-indicating devices: they are part of the descriptive content of sentences. When saying ‘I advise you to go west’, the speaker directly asserts that he advises the addressee to go west, and thereby indirectly advises the addressee to go west. The advising arises as an intended implicature from the descriptive content of the assertion. For assertion in particular, the situation is even worse, on Recanati’s view (1987, 163-69). This is because the declarative sentence type is not associated with any uniform illocutionary force potential: declaratives can be used directly for assertoric (constative) as well as for directive and commissive utterances. According to Recanati (1987, 165), giving an order by means of the declarative sentence

(22) When you have finished peeling the potatoes, you’ll scrub the latrine

is giving an order directly, not indirectly. The reason is that the speaker does not seem to be reporting anything. However, that (22) cannot be seen as a report depends on the fact that it is in the future tense. There does not, by contrast, seem to be any obstacle to regarding the act as directly a prediction, i.e. a predictive assertion, and indirectly an order (the mechanism would be that the speaker would lack appropriate evidence for the prediction unless he intended the addressee to understand the utterance as an order and had good reasons to expect the addressee both to understand and to comply).

Recanati does, however, also back up his claim that declaratives are force-neutral by remarking (1987, 166) that the view that promises and other commissives, when fully explicit, can only be made indirectly, is suspect. If explicitly made, a promise is expressed by means of a declarative, since there is no commissive sentence type, and if such an utterance is directly an assertion, the promise must be indirect. Maybe that view is in fact suspect, and maybe only a careful study of a large statistical material can give the answer.

The conventionality claim does not only depend on statistics, however. If the existence of illocutionary force conventions is more than the existence of regularities of dispositions to speak and interpret in a population, e.g. along the lines suggested by David Lewis (1969; 1975), or along any other line, then

there may well be a statistical form-force correlation without any convention to the effect. There does not seem to be any good prior reason why the existence of a correlation must be explained by the existence of a convention.

4 Content

We said above that what is asserted is a proposition. Although this sounds fairly uncontroversial (unless you object to use of the term ‘proposition’), it has in fact been challenged in several respects. To see the issue, we must look at the relation between the *linguistic meaning* of the sentence or other linguistic expression uttered and the content of the assertion.

The most immediate idea is that the meaning of the sentence used is identical with the content of the assertion. This seems natural when considering sentences like

(23) Goldbach’s conjecture is true

which, if true, is necessarily true, and true at all times. But when considering a typically indexical sentence like

(24) It is raining

it seems clear that when normally uttered, the speaker is saying something about the weather at a certain time and at a certain (limited) location. Clearly, the meaning of (24) does not contain reference to any particular time or location.

So we must distinguish between sentence meaning and assertion content. It is often assumed that the assertoric content nevertheless systematically depends on the meaning of the sentence. Typically, the meaning of the sentence is described so as to provide a proposition as determined by the context of utterance of the sentence. Within his truth-theoretic program in semantics (cf. Davidson 1984a, Larson and Segal 1995), Davidson proposed the following so-called T-sentence for characterizing the meaning of (24)

(25) ‘It is raining’ is true as uttered by a speaker S at a time t if, and only if, it is raining near S at t .

(1973, 135). By Davidson’s T-sentence, the speaker asserts *that* it is raining near her at the time (provided the following holds: if her utterance is true iff p , then what she asserts is that p). In his different framework David Kaplan (1989) calls the meaning of a context dependent sentence like (24) its *character*. The character is a *function* from contexts of utterance to *content*, and the content of an assertoric utterance in a context is a proposition. The effect is that what a speaker asserts with a sentence s in a context c is the value of the character of s for the argument c .

It seems plausible, then, to revise the original equation of assertoric content with sentence meaning, and instead equate assertoric content with the kaplanian content of the sentence in the context, or again with the davidsonian truth

conditions of the utterance in that context. That such an equation holds has been affirmed by e.g. by John McDowell (1980, 120) and by Jason Stanley (2000, 395).

But even this revised equation is problematic. In the pragmatics literature of recent decades it has been pointed out that the content of what is asserted usually (at least) goes beyond the proposition expressed by the sentence in the context. One of the standard examples is due to Geoffrey Nunberg (1979). The sentence

(26) The ham sandwich left without paying

can be used, e.g. when uttered by one waiter to another at a restaurant, to assert that

(27) *The guest that had ordered* the ham sandwich left *the restaurant* without paying.

This does not seem to be an indirect speech act or implicature. It is the primary act, but has a content different from anything that would be specified by a meaning theory, truth theoretic or other.

How does one draw the line between linguistic meaning in context and content that is added because of further factors of various sorts? This is currently a topic of much dispute. One view in particular has consequences for the general theory of speech acts. Cappelen and Lepore (2005) have argued that the boundary of semantics must be drawn very narrowly: if we freely follow intuitions about what is said by means of some sentence in different scenarios, we are on a slippery slope and cannot in the end draw any line at all. However, Cappelen and Lepore (CL) still claim that the semantic content *is* asserted, since this is what connects speech act content with sentence meaning. This holds even in cases where the speaker intuitively wants to communicate something different. In the case of (24), the correct semantic description according to CL (2005, 61-63) is not (25) but rather

(28) 'It is raining' express the proposition *that it is raining* and is true iff it's raining

(when disregarding the time indexicality). Here, no location is mentioned. The speaker of (24) therefore asserts that it is raining (simpliciter) at *t*, for some contextually salient time *t*. However, over and above this, the speaker typically *also* asserts that it is raining at *l* at *t*, for some contextually salient location *l* and some contextually salient time *t*. That the speaker performs both assertions by means of the same utterance is part of CL's doctrine of Speech Act Pluralism (2005, 4). According to this doctrine, by means of a single utterance a speaker performs indefinitely many assertions, in fact every assertion that can reasonably be attributed to her on the basis of the utterance.

This doctrine is very controversial. A similar but less radical thesis is advanced by Scott Soames (2002). Soames also wants to combine an austere semantic theory (in this case the thesis that proper names are rigid designators)

with intuitions that the contents of assertions are richer than can be accounted for by the semantics.

The alternative strategy is to try to account for what is intuitively asserted, by means of a combination of semantic and pragmatic means. For example, in the case of the step from (26) to (27), on several current theories, two pragmatic phenomena are involved, both of which add content to what is literally expressed. First there is the adding of ‘the restaurant’, i.e. adding an argument to the verb ‘leave’, without which the sentence isn’t truth evaluable. This is called *saturation* by Recanati (2001, 299); 2004, 7-10), *completion implicature* by Bach (1994) and *explicature* in Relevance Theory (Sperber and Wilson 1992, 182). Secondly, there is the addition of ‘the guest that had ordered’, which isn’t necessary in that way. This is called *free enrichment* by Recanati (2001, 300; 2004, 10), *expansion implicature* by Bach, and again *explicature* in Relevance Theory.

Although there are different views of the mechanisms involved in successful communication of this kind, with pragmatically added content, it is hard to deny that the phenomenon is real (but see Stanley 2000). According to skeptical views, no systematic meaning theory can specify the content of any assertion, because the content will always be different from the meaning of the sentence used according to such a theory. There is accordingly pessimism about a systematic understanding the pragmatics involved (Cappelen and Lepore 2005), and pessimism about a systematic semantic theory because that (Travis 1985, Recanati 2004). There is also some optimism about combining semantics theory with general pragmatic principles (e.g. Recanati).

The considerations above concerned the relation between utterance content and non-linguistic context. There is also, however, a complex of issues concerning linguistic context and utterance content. To take a classical example, in the discourse

(29) A man walks in the park. He whistles.

the second sentence, ‘he whistles’, does not have a self-contained truth conditional content, not even relative to context. There is no assignment of a referent to the pronoun ‘he’ that gives the truth conditions of ‘he whistles’ in this discourse. Rather, the addition of this second sentence has the function of adding information. More precisely, it has the function of adding information in such a way that what information is added depends on what information we start out with. The first sentence gives the information (relative to contextual parameters of time and place) that there is a man that walks in the park, and after the addition we have the more complete information that there is a man that walks in the park and whistles. If truth conditions is a set of possible worlds, then because of the addition the truth conditions of the whole discourse is a proper subset of the truth conditions of the first sentence; the range of possibilities has been narrowed down.

The meaning of the second sentence should then be characterized as a function that maps truth conditions on truth conditions, rather than simply as truth

conditions. This can be generalized to all sentences, since simple truth conditions correspond to additions that *don't depend* on what information one starts out with (the function involved is then just the intersection of the initial set of worlds with the added set, and if you don't have any prior information, the initial set is the entire universe of worlds, in which case the intersection is identical with the second set). If the utterance that adds the second sentence is an assertion in its own right, then these considerations give a reason for denying that in general assertoric content is truth conditions. Theories of discourse semantics, concerned with phenomena of this kind, include *Discourse Representation Theory* (Kamp and Reyle) and *Dynamic Predicate Logic* (Groenendijk and Stokhof 1991). Stalnaker's account (Stalnaker 1970, 1974, 1978) of the interplay between context and assertion offers a more general perspective of the phenomenon.

5 Truth

It has often been noted that there is a close relation between the concepts of assertion and truth. Connections between assertion and truth have sometimes been appealed to for defining the concept of assertion, and sometimes for defining the concept of truth. Four different connections with assertion have been especially emphasized: with the use of the truth predicate, with truth as the aim or norm of assertion, with the role of truth in meaning theory, and with truth as related to correctness of assertions.

5.1 The truth predicate

As often noted in discussion of the truth predicate, there is a close connection between using a sentence like

(30) Kafka wrote many letters to Milena

for making an assertion, and saying of it that it is true, e.g. by means of

(31) 'Kafka wrote many letters to Milena' is true

or by means of

(32) That's true

with reference to (30), or to an utterance of (30). Strawson (1949; 1950, 205) claimed that using (32) is not to make a *new* assertion, but to endorse a previous one. Similarly, W.V. Quine (1970, 12) said that to call the sentence 'snow is white' true is to call snow white. In Strawson's case in particular, the idea was that this use of 'true' for signaling agreement is basic, and the key to understanding the truth predicate. This has been called the *reassertion* theory of truth (Price 1987, 207).

In Quine's case it is less clear that the endorsement signaling function is basic. Rather, Quine emphasized that the truth predicate is a disquotational

device (Quine 1970, 12). That is, applying the truth predicate to the quotation of a sentence, as in (31), has the same effect as removing the quotes. That is, in general an expression occurring within quotes is mentioned, not used, but when the truth predicate is applied to a quoted sentence, what is within quotes is effectively brought from mention to use.

That the context is effectively changed from mentioned to used can be seen by considering substitution conditions. In general, a context like

(33) '...' F

where 'F' is some arbitrary predicate, is heavily non-extensional: substituting 'the author of The Castle' for 'Kafka' in the true sentence

(34) 'Kafka' has five letters

produces the false sentence

(35) 'the author of The Castle' has five letters

despite the fact that 'Kafka' and 'the author of The Castle' are co-referring, or at least can be interchanged in all extensional contexts without change of truth value. But substituting 'the author of The Castle' for 'Kafka' in (31) produces

(36) 'the author of The Castle wrote many letters to Milena' is true

which has the same truth value as

(31) 'Kafka wrote many letters to Milena' is true

In general, the context

(37) '...' is true

is extensional, and therefore what occurs in this context can be regarded, from a semantic point of view, as used.

Given that Quine characterizes (30) and (31) as being equivalent in this sense, it follows that an assertion by means of (31) in a corresponding sense also is equivalent with an assertion by means of (30). So Quine need not, and probably did not, see the endorsement function as basic.

This comes out even clearer in subordinate clauses. For Quine, it is also an immediate consequence that

(38) 'Kafka wrote many letters to Milena' is true, then Milena probably wrote many letters to Kafka

is equivalent with

(39) If Kafka wrote many letters to Milena, then Milena probably wrote many letters to Kafka.

But since ‘true’ is not here used to signal endorsement, the equivalence is not an immediate consequence of Strawson’s view. Rather, the reassertion account of truth needs to be supplemented with further principles to deliver the result.

Both the reassertion view and the disquotational view of truth belong to the family of deflationary theories of truth. The members of this family all explain truth by appeal to some relation between sentences like (30) and (31)/(32). It is, however, difficult to spell out such a relation if one is not allowed make use of the concept of truth itself, or something very close. An appeal to assertion does remain an option.

5.2 Assertion as truth-claim

The simple connection between truth and assertion that Strawson and Quine pointed to for characterizing truth, can also be used for characterizing assertion. According to Crispin Wright (1992, 23-24), the principle

(TA) Asserting a proposition is claiming that it is true.

is a platitude and its correctness is ‘partly constitutive’ of the concepts of assertion and truth. So, according to Wright, (TA) serves both to partly characterize truth in terms of assertion, and assertion in terms of truth.

It is natural to understand ‘claim that’ as pretty much synonymous with ‘assert that’. So understood, (TA) seems to say that to assert *that p* is the same as to assert *that p is true*. However, if they are the same, then it seems that what is asserted must be the same: that is, the proposition that *that p* and the proposition that *that p is true* are one and the same. Such a view belongs in the family of deflationary views about truth, and it was Frege’s view (Frege 1892, 203). If it is correct, however, (TA) does not say anything more about *assertion* than that asserting *that p* is the same as asserting *that p*, and that does not really characterize assertion.

It is better, then, to understand ‘claim that’ in some other way. Wright uses one formulation (Wright 1992, 34) that is fairly common:

(PT) To assert is to present as true.

This natural-sounding phrase presumably suggests the idea be that in uttering a sentence one presents a proposition, and in uttering it with assertoric force one present it as having some particular property, that of being true. Analogously, when a speaker utters a sentence with imperative force, she presents a proposition as having the property that the addressee is to make it true. But already when it comes to the interrogative force, it is not clear what property I present the proposition as having. It cannot really be the property that its truth value is desired by the speaker to be known, for that would fail to make a distinction between (40a) and (40b) or (40c):

- (40) a. Is Elsa at home?
b. I would like to know whether Elsa is at home.

c. Inform me whether Elsa is at home!

So it is not so easy to see in general that the illocutionary force corresponds to some property ascribed to the proposition expressed. This makes it less clear what the locution ‘present as’ amounts to. (PT) is then not as illuminating as it might at first seem.

Frege had a more specific idea about *judgment*: to judge is to advance from *sense* (Sinn) to *reference* (Bedeutung) (Frege 1892). According to Frege, judging cannot be the same as ascribing to a proposition (a Thought, in Frege’s sense) the *property* of being true, since moving the proposition *that p* to the proposition *that p is true* is just moving from a proposition to a proposition: adding judgmental force must be something else (Frege 1892, 203; this can be construed as a regress argument). In Frege’s view, the truth value of a (sentence expressing a) proposition is its referent. In a judgment the thinker acknowledges the truth of the proposition considered, and thereby advances from the proposition to the acknowledgment that the referent is the truth value The True. So Frege’s idea is that in judging the thinker in a distinct way relates a proposition to a particular object, The True. On this point Frege has not been followed by many.

Since judging *that p* or asserting *that p* clearly is different from just thinking the thought *that p is true*, we must characterize the relation between assertion, or judgment, and truth in other terms than ascribing truth as a property, just as Frege observed. But it is difficult to do this in a clear and convincing way. One might therefore suspect that the relation between truth and assertion simply derives from the equivalence schema

(ES) It is true that *p* iff *p*

(according to Wright, this is entailed by (TA)): asserting *that p* is by (ES) equivalent to asserting *that p is true*. But that equivalence derives from the equivalence of the contents, and need not say much about assertion as such.

A more complex version of this connection between truth and assertion is suggested by Michael Dummett (1959, 8). According to this suggestion, the truth of an assertion is like the winning of a game: this is not just a classification of an outcome, but something the speaker or the player *aims at*. In this sense, an assertion (a statement) is *false* if one of the states of affairs that the speaker meant to *exclude* with the assertion obtains. If no such state of affairs obtains, the statement is true. This introduces the theme of truth as an aim, here as means of characterizing truth in terms of assertion.

5.3 Truth as aim: fact-stating

It is a commonly held idea, mainly used for characterizing assertion in terms of truth, that assertion *aims at* truth. This is stated e.g. both by Bernard Williams (1966) and by Michael Dummett (1981). It can be understood in two rather different ways, the one intended by Williams and the other by Dummett

(for some ways of understanding what it could be for *belief* to aim at truth, see Engel 2004).

On Williams's view, the property of aiming at truth is what characterizes *fact-stating* discourse, as opposed to e.g. evaluative or directive discourse. It is natural to think of

(41) The moon is about 384.000 km from the Earth

as stating a fact, and of

(42) Bardot is good

as expressing an evaluation, not corresponding to any fact of the matter. On Williams's view, to regard a sincere utterance of

(43) It is wrong to steal

as a moral *assertion*, is to take a *realistic* attitude to moral discourse: there are moral facts, making moral statements objectively true or false. This view again comes in two versions. On the first alternative, the existence of moral facts renders the discourse fact-stating, whether the speaker thinks so or not, and the non-existence renders it evaluative, again whether the speaker thinks so or not. On the second alternative, (43) is an assertion if the speaker has a realistic attitude towards moral discourse and otherwise not.

On these views, it is assumed that truth is a substantial property (Williams 1966, 202), not a concept that can be characterized in some deflationary way. As a consequence, the sentence

(44) 'Bardot is good' is true

is to be regarded as false, since (42) is objectively neither true nor false; there is no fact of the matter.

This idea goes against Davidson's view, according to which the material biconditional

(45) 'Bardot is good' is true if and only if Bardot is good

is true, regardless of the status of (42). According to Davidson (Davidson 1967, 31) (who was not a deflationist about truth), any peculiarity of (42), e.g. that of being evaluative as opposed to fact-stating, is shared by (44), and so the equivalence holds anyway.

Conditionals or biconditionals like (45) do present a problem for views like Williams's. As was stressed by Peter Geach (1960; 1965) we can put evaluating or 'ascriptive' sentences in the antecedent of conditionals, like

(46) If Bardot is good, then I want to see all her films.

Since (42) isn't advanced categorically in either (45) or (46), no evaluation is expressed by means of it, but since these compound sentences are perfectly meaningful, (42) must be meaningful as well when occurring as a subsentence

in them. In this case, which is Geach's point (which was also applied to the reassertion theory of truth in the previous subsection), the meaning of (42) cannot consist only in being usable for expressing evaluations.

One way out of this dilemma is to give up the idea that truth is substantial and adopt a deflationary view, or something close to that. In that case there need not be any conflict between the view that (42) is used to express an evaluation, and accepting (44). And if one accepts (44), one can also accept the use of (42) in the antecedent of conditionals. On this alternative, saying that assertion aims at truth reduces almost to the claim that assertions are made (directly) with declarative sentences, those that can be true. It doesn't fully reduce to this claim, since a speech act of *denial* (rejection) would also be made with declarative sentences, but would be opposite to assertion. We could not, however, distinguish between them by appeal to the use of 'true', for a denial of (42) would again be equivalent with a denial of (44).

A second way out would be to accept a full-blown realism, i.e. to accept the existence of facts of the matter corresponding to evaluative judgments of any kind. But this is a high metaphysical price to pay.

A third way would be to dissociate assertion from truth. On this alternative, a sincere utterance of (42) does express an evaluation but is an assertion nevertheless, and the meaning of (42) does not consist only in being usable for the former. We would then give up the principle of bivalence, that every sentence is either true or false, and accept more alternatives, e.g. that (42) is neither true nor false. This will or will not save Davidson's biconditional (45), depending the choice of three-valued semantics. (45) is saved if a biconditional counts as true when both left hand side and right hand side lack a truth value.

It does not seem that intuitions concerning the everyday use of 'to assert' are sufficiently uniform and stable for deciding the matter.

5.4 Truth as aim: norms of speakers' intentions

The other idea of truth as an aim for assertion is that this is what the speaker aims at in making an assertion. The speaker tries to say something true. Statistically, it is no doubt the case that speakers usually believe what they assert to be true, and usually this belief is no doubt part of the reason for making the assertion. However, we cannot go from there to take a speaker's having this aim as necessary for her utterance to be assertoric, for lies are assertions as much as honest utterances. The relation between assertion and the aim of truth has then to be indirect.

There are basically two ways of effecting such an indirect connection. One is to complicate speaker intentions. For instance, instead of aiming to say something true, we could say that

- (A1) The speaker of an assertion aims at making the hearer believe that she aims at saying something true.

We might then want to say that if the speaker does not have this primary, hearer

oriented intention, she is not really making an assertion, and if she does have it, it is an assertion whether she is honest or not.

The other way is to appeal to the notions of rule, norm or convention. For instance, we might try

- (A2) It is a norm for making an assertion that the speaker aims at saying something true.

On this alternative, an utterance is assertoric just in case it is governed by this norm, whatever the speaker in fact aims at in the particular case.

These two ideas have complementary problems. The problem with (A1) is that utterances are made, even if infrequently, that are intuitively assertoric, but where the speaker does not have the required intention. The speaker may be fully aware that she will be taken as a liar, whether she aims at the truth or not, and whether or not she tries to make the addressee believe she does aim at the truth. Being convinced that this hearer oriented aim is unreachable, she will not even have it, but is nonetheless making an assertion (for a testimony of conversations of this kind, see Levi 1958, chapter 8). One may try to overcome this by complicating the speaker intentions even further, but it hard to see that any necessary condition of this kind could be immune to counterexamples.

The problem with (A2) is that it needs a supplementary criterion for when the assertion norm is *in force*. If we don't know how to tell whether the norm applies to an utterance, we cannot tell whether it was an assertion or not.

Dummett has combined the two strategies. He has suggested the following definition (Dummett 1981, 300):

- (MD) A man makes an assertion if he says something in such a manner as deliberately to convey the impression of saying it with the overriding intention of saying something true.

Dummett's proposal is presumably intended to give necessary as well as sufficient conditions. There are problems of sufficiency with this proposal of the kind that will be discussed in section 7. There are also problems of necessity of exactly the same kind as afflicts (A1) above. However, Dummett can overcome these necessity problems by his appeal to convention. That is, it can be a convention that when uttering a declarative sentence, unless there are explicit indications to the contrary (such as a theater setting), the speaker *counts* as conveying that he has the overriding intention of speaking truly. Then it is no longer required that the speaker *tries* to convey it, as long as the circumstances make her count as doing so.

This proposal has the problems that afflict convention theories in general (see section 3). But there is a further point. Once the burden of determining assertionhood is shifted to a convention about means and ways of expressing oneself (setting aside the problems with this idea), we need to check whether assertion is adequately characterized in the convention. In Dummett's case, it is not, because of a problem with the very idea of appealing to the aim of truth.

For it is not only in assertions that we normally aim at saying something

true. We have that aim also in guesses, presumptions, conjectures and the like, all normally aimed at saying something true, but all somehow falling short of being assertions. Similarly, if I believe in the truth of, say, Goldbach's conjecture, I will deliberately convey the impression of pronouncing it with the intention of saying something true, but because of my low degree of certitude, I don't want to outright assert it. Assertoric force can be said to differ in *kind* from interrogative and imperative force, but only in *degree* or *intensity* from e.g. conjectural force. Conventions of the aiming kind don't discriminate between assertion and weaker forms of propounding.

We would therefore need a more demanding norm:

(T) Say only what is true!

The idea is again that an utterance is an assertion just if it is governed by this norm. Guesses aren't, for guesses are, in some sense (in need of clarification), *allowed* to be wrong. A speaker trying to comply with (T) will not only avoid asserting what she believes to be false, but she will also try to *make sure* that what she says isn't false unbeknownst to her. Because of this she will assert only that for which she has adequate *evidence*. She can even be blamed for asserting something which was in fact true, if she didn't have good enough reasons for believing it was. This is in accordance with Grice's supermaxim of Quality: *Try to make your contribution one that is true* (Grice 1989, 27).

From this standpoint of the norm of (T), assertion is characterized by the way assertions are *evaluated*. There are several ideas of how to assess assertions as *correct* or *incorrect*. This theme will be pursued in the present section and the next.

5.5 Truth and correctness

There is a family of questions about the conditions for an assertion to be *correct*. As has often been noted, an assertion can be correct in different respects. E.e. a speaker can say something true but be impolite in saying it, thereby making an assertion that is incorrect with respect to etiquette. Also, even if we disregard such social aspects on a speech act, an assertion may have e.g. an *implicature* that is incorrect, even though the primary act is correct.

Let's for now concentrate on the semantic/epistemic correctness of the primary act. For that respect, the principle

(EC) An assertion that p is correct if, and only if, the speaker has good evidence that it is true that p

is almost universally accepted (for problems concerning conditionals, see section 8). In the case of mathematics, for instance, an assertion is thought of as correct if the speaker knows a proof of what is asserted (see Prawitz 1998a, 45, and many other places). There is room for doubt that there is anything like reasonably sharp and stable standards of assertoric correctness in ordinary linguistic practice, and in fact speakers pretty rarely engage in evaluating ut-

terances in these terms, beyond assessing them for truth or falsity, or blaming the speaker for breach of confidence and the like. There is therefore not much evidence from actual practice that the intended notions of correctness play any important role. They can nevertheless belong in the linguistic or philosophical enterprises of reflecting over that practice.

A second preliminary issue concerns the status of the notion of correctness involved. Is it an inherently *normative* notion, or is it just descriptive? According to e.g. (an earlier view of) Paul Boghossian (1989, 513) the mere fact that we can evaluate assertions as correct or incorrect show that words are governed by norms of use. According to Kathrin Glüer (2001, 60-65; cf. Wikforss 2001, and Boghossian 2003), on the other hand, there is no reason to see in the notions of correctness and incorrectness anything more than a descriptive classification, which may then be coupled with certain a preference for correct assertions over incorrect ones, both in making and in taking. Those preferences may then be explained e.g. by appeal to social psychology, or the desire for knowledge.

Setting these questions aside, we can note that the (EC) biconditional has been used in two different ways: as a way of characterizing assertoric correctness in terms of truth and evidence, or as a way of characterizing truth in terms of correctness and evidence. It is the second alternative that has been most important. We shall return to the first alternative in the next section.

When using (EC) to account for truth it is crucial how ‘good evidence’ is understood. Typically, it is the best possible evidence, i.e. the best evidence that *can* be had or *could be* had (as opposed to something that only *could have been* had but cannot anymore), that is relevant. There is also a question of how to understand ‘has’, as we shall see.

John Dewey (1938) seems to have been the first to characterize truth in terms of assertoric correctness, with his notion of *warranted assertibility*, even though this idea had a clear affinity with the verifiability principle of Moritz Schlick (1936). Dewey was later followed by, notably, Michael Dummett (1976) and Hilary Putnam (1981). Common to them is the position that there cannot be anything more to truth than being supported by the best available evidence. Dewey, following C S Peirce, regarded truth as the ideal limit of scientific inquiry (Dewey 1938, 345), and a proposition warrantably asserted when known in virtue of such an inquiry. Warranted assertibility is the property of a proposition for which such knowledge *potentially* exists (1938, 9).

Putnam (1981, 54-56) operated with an idea of assertibility under ideal epistemic conditions. Under normal conditions, a speaker can be justified in making an assertion even though what she asserts is false. The evidence is enough for truth under normal circumstances, but because of abnormal interference the evidence falls short. For instance, improbable changes, say because of a fire, may have taken place after the speaker’s observation. However, in ideal epistemic conditions evidence that is sufficient for justifying an assertion also is conclusive. Spelling out what the ideal epistemic conditions are, in a non-circular fashion, has of course been a main problem for this view.

Dummett’s views are more complex, but in general focus on actual evidence rather than idealized conditions. Early on (1981, 349-51, 420-23; 1976, 48-52)

Dummett was concerned with explaining how a concept of truth as distinct from a basic concept of correct assertion could emerge at all. He suggested some contexts where we find we have to make such a distinction, in particular future tense conditionals. Asserting

(47) It will rain tomorrow

is correct under the same conditions as asserting

(48) It is correctly assertible that it will rain tomorrow.

In this sense (47) and (48) are assertorically equivalent. In Dummett's terms, they have the same *assertoric content* (1991, 48). But asserting

(49) If it will rain tomorrow, the match will be cancelled

is not equivalent with asserting

(50) If it is correctly assertible that it will rain tomorrow, the match will be cancelled

because we think that the best possible evidence available *today* may well be inconclusive about the weather tomorrow. The antecedent of future tense conditionals is in this sense a type of *truth inducing context*. This context reveals that (47) and (48) do not have the same *ingredient sense* (Dummett 1991, 48). A further investigation of such contexts was made by Robert Brandom (1976).

Future tense sentences are special because better evidence for them than any we can have now will (normally) be available later. By contrast, a full-fledged realistic attitude dissociates truth from evidence completely. Realism about a certain area is, according to Dummett (1976, 1991), manifested by the acceptance of *the principle of bivalence* for sentences about that area. For instance, you are in this sense a realist about the past if you take all sentences about the past, including

(51) At noon, 12 June 1586, there was an even number of cats in London

to be either true or false, i.e. regardless of whether there is any evidence to decide the matter. Thus, the concept of truth was seen as naturally belonging in positions where one did *not* equate it with correct assertibility. Dummett has argued against the legitimacy of such realist notions of truth (e.g. in Dummett 1991, 345-51).

Dummett has, however, also suggested an anti-realist conception of truth for logic and mathematics (e.g. in Dummett 1998). Logic and mathematics is different from empirical areas, since normally, what is asserted is what is proved. The possession of proof is conclusive evidence, and without a proof a mathematical assertion isn't correct. So availability of proof and correct assertibility coincides. But it cannot be correct assertibility in the subjective sense, since there may exist a proof of which the speaker isn't aware. The question is, then, what to count as objective correctness, that is, in what sense a proof shall be

available. According to Dag Prawitz (1998b) it is enough that there exists a proof in an abstract, timeless sense, even if we don't know that there is a proof. Our discovery that there is one, by means of constructing a proof representation, gives us knowledge that the statement was true all along, and does not make it true. For Dummett, this is too realistic. According to Dummett, a statement counts as true just if we have a proof of it, or possess a method that is guaranteed to generate a proof or a disproof. To the latter category belongs e.g. sentence of the form

(52) n is a prime number

for some large n . We may not know whether or not n is prime, but we have a method for deciding the question, and the method will either deliver a proof that n is prime or a disproof, i.e. a proof that n is not prime. If the method would give a proof, then (52) is true even if we don't know that it is. Fermat's Theorem, on the other hand, for which no such method existed, was true on Prawitz's view before the proof by Andrew Wiles was completed, but not on Dummett's (there is, however, a complication in Dummett's case because of the semantics of past tense sentences).

A closely related question is whether the concept of truth is the most suitable central concept for a semantic theory. Dummett (1976) challenged this, and proposed instead the concept of correct assertibility, or alternatively, verifiability. Dummett's reasons were, first, that if linguistic communication is to work, speakers must be able to tell whether or not they understand each other, and, secondly, this must be possible on a sentence by sentence basis, rather than holistically, for many sentences together (as is the case in Davidson's (1973) of *radical interpretation*). If meaning is truth conditions, then, according to Dummett, this requirement is not met, for a speaker is not always in a position to determine whether or not a sentence is true, which would be the way of manifesting her understanding of it. By contrast, a speaker is always in a position to determine whether or not there is evidence enough for a correct assertion of the sentence.

This argument against truth conditional semantics has been much debated. A central issue is the rejection of holism, further discussed in Dummett 1991.

6 Belief and knowledge

Two common ideas about assertion are that the speaker says what she believes and that she says what she knows. Given that assertions often are made that don't fit these descriptions, the question is how those ideas can be worked out.

6.1 Belief

According to Frege (1918, 22), an assertion is an outward sign of a *judgment* (Urteil). The term 'judgment' has been used in several ways (cf. subsection 5.2). If it is used to mean either *belief*, or *act by which a belief is formed or reinforced*,

then Frege's view is pretty much equivalent with the view that assertion is the expression of *belief*.

How should one understand the idea of expressing here? It is natural to think of a belief state, i.e. a mental state of the speaker, as causally co-responsible for the making of the assertion. For instance, a speaker has a belief and wants to communicate it. This motivates an assertoric utterance. The having of the belief, i.e. the belief state, together with the desire to communicate, motivate the action, and jointly cause it (if reasons are causes; cf Davidson 1963). The assertion therefore gives *evidence* that the speaker has a belief suitably related to the meaning of the sentence uttered. On this conception, an assertion is the expression of belief like a running nose is the expression of a virus infection, or groaning is the expression of pain.

However, assertion is intentional and groaning can be. I can intentionally groan to make my pain known to others, and my belief that there are black swans can motivate my intention to assertorically utter

(53) There are black swans.

(cf. Owens 2006). On the other hand, I can also pretend to be in pain by groaning, and pretend to believe that there are black swans by means of an assertoric utterance of (53). In this case the utterance isn't caused or motivated by the corresponding belief, but since it is an assertion nonetheless, not all assertions are expressions of belief in the sense suggested.

The utterance may still be *evidence* for the existence the belief state. No doubt, a speaker will not try mislead the addressee about the facts, by means of an assertion, unless she assumes (tacitly, for the most part) that her assertion does count as evidence for the addressee that she does have the belief in question. This idea, of *intending* the addressee to take the utterance as evidence for belief of is a key idea in Bach's and Harnich's understanding of what expressing is. They say

(E) For S to *express* an attitude is for S to R -intend the hearer to take S 's utterance as reason to think S has that attitude.

(Bach and Harnich 1979, 15; italics in the original). 'R-intend' is short for 'reflexively intend', a notion we will return to in the next section. On this view, expressing is wholly a matter of hearer-directed intentions. Cf. section 7.

However, a speaker can clearly make an assertion even if the addressee has a prior conviction that the speaker is dishonest and will not treat the assertion as evidence for belief, and intuitively she can also make an assertion even if she is *convinced* that that is so. It can happen e.g. in interrogation situations, where the speaker officially insists on an account of what has happened, knowing full well she will be taken as a liar. She will not then intend the interrogators to take her utterance as evidence for belief. Insisting can be a conversational strategy, whether she is lying or not.

Intuitions are surely debatable here, but the possibility of such situations makes it problematic to treat the existence of such hearer-directed intentions as

a necessary condition for an utterance to be an assertion.

A more neutral way of trying to capture the relation between assertion and believing was suggested both by Max Black (1952) and by Davidson (1984b, 268): in asserting that p the speaker *represents* herself as believing that p . This suggestion appears to avoid the difficulties with the appeal to hearer-directed intentions, because representation belongs more to semantic than to personal psychology. However, it is not so clear what representing oneself amounts to. It must be a sense different from that in which one represents *the world* as having black swans by means of a normal assertoric utterance of (53). The speaker does claim that there are black swans but does not also claim that she believes that there are black swans. It must apparently be some weaker sense of ‘represent’, since it is *not* just a matter of being, as opposed to not being, fully explicit. By means of answering the question what I *believe* with an utterance of (53) I do represent myself as believing that there are black swans, equivalently with asserting it. What I assert then is wrong if I don’t have the belief, despite the existence of black swans.

On the other hand, it must also be stronger than the sense of ‘represent’ by which an actor can be said to represent himself as believing something on stage. The actor says

(54) I’m in the biology department

thereby representing himself as asserting that he is in the biology department, since he represents himself as being a man who honestly asserts that he is in the biology department. By means of that he in one sense represents himself as believing that he is in the biology department. But the hearer is no way invited to *believe* that the speaker, i.e. the actor, has that belief.

Apparently, the relevant sense of ‘represent’ is not easy to specify. An alternative is again to go normative, with the rule

(B) Assert only what you believe!

This accords with but is stronger than Grice’s first submaxim of Quality: *Do not say what you believe to be false* (Grice 1989, 27). An immediate objection to this is that (B) is a moral rule rather than a rule that accounts for assertion as such. Speakers may be subject to this rule, but as moral agents more than as speakers. But this objection can be met. It can be agreed that being honest, or sincere, indeed is something required by a moral rule. However, you can be insincere in many different ways. What (B) specifies is what *kind* of insincerity, and thereby sincerity, is specific to assertion. That is, you can regard the appeal to (B) as equivalent with a statement about what counts as being sincere:

(SB) An act of type X is sincere if, and only if, the speaker believes what she says

Then you can go on to claim that assertion is a value of X , or even the unique value of X , that makes (SB) come out true. This idea is part of Searle’s account, as we shall in the next section.

By switching to a characterization of sincerity we can drop the appeal to rules. Does (SB), then, adequately characterize assertion? There are, in fact, problems both of sufficiency and necessity. Suppose it is reasonable to say that the speaker is insincere just if she intends to mislead the hearer about the facts by means of the assertion. In that case, an assertion can be insincere even though what is asserted is believed by the speaker. This can happen if the speaker deliberately tries to make the addressee *infer* something false. For instance, by reporting

(55) A blue Lincoln Continental was parked outside Mrs Jones's house last night

I may deliberately mislead the addressee to believe that her husband has been unfaithful. It need not even be a case of implicature. This kind of indirect insincerity cannot be eliminated by requiring that the addressee not arrive at her belief by inference, since it is anyway supposed to be arrived at by inference from the observation of the utterance in the first place. So believing what one says is apparently not sufficient for an assertion to be sincere.

Conversely, I may deliberately lead the addressee to infer something true by means of asserting what I take to be false. For instance, knowing that you take me to be notoriously exaggerating, I can inform you by means of

(56) Lisa danced with every guy at the party

that Lisa had danced with many of the guys at the party. I expect you to infer what is true from my assertion of a falsehood. Thus I am sincere in intending you to acquire a true belief, and it cannot be a necessary condition for an assertion to be sincere that the speaker believes what is said. Again the complexity of human psychology makes appeal to speaker intentions problematic.

Maybe, then, belief, just isn't essential to assertion. Maybe there simply is a statistical correlation between utterances being assertoric and the speakers believing what they say. This correlation may be more or less characteristic of assertion as an illocutionary type. However, one reason for thinking that it isn't merely a matter of statistics is suggested by Moore's paradox. Moore's paradox is exemplified by means of sentences such as

(57) It is raining and I don't believe it.

The paradoxical nature of an utterance of (57) is that it is distinctly odd and in some sense self-defeating, despite the fact that it may well be true. There have been broadly three kinds of strategy for dealing with the paradox, all three with the aim of deriving an underlying contradiction by means of some extra assumption (for an overview, see Sorensen 1988). The first, exemplified by G.E. Moore himself (1944), focuses on the nature of assertion, with the purpose of explaining the paradoxicality by appeal to some pragmatic property. In Moore's own case, the idea is that the speaker in some sense *implies* (but does not assert) that she believes what she asserts (Moore 1944, 175-76; cf Moore 1966, 63). So by asserting (57) the speaker induces a contradiction between what she asserts

and what she implies.

The first to offer a doxastic analysis of the paradox was Jaakko Hintikka (1962, 78-102). On Hintikka's account, believing what is expressed by (57) will involve the speaker in both believing that she believes that it is raining and believing that she does not believe that it is raining, thus having inconsistent beliefs. The problem with asserting (57) is that the speaker asserts what she cannot consistently believe. The argument, however, assumes the controversial BB principle, i.e. the principle that if a subject believes that p , she also believes that she believes that p .

According to a Wittgensteinian tradition, saying assertorically

(58) I believe that it is raining

is a way of asserting that it is raining, albeit in a more guarded way. On this alternative, the speaker asserts both that it is raining and that it isn't.

On all three types of account, belief and/or representation of belief plays a central role. But it is not obvious that it must. For the sentence

(59) It is raining but I have no evidence that it is raining

seems to be odd in pretty much the same way as (57), without mentioning belief, or any attitude at all. A possible explanation is that the truth of the second conjunct undercuts the *information value* of the first. An assertion that it is raining is potentially information that it is raining, i.e. provides evidence *for the hearer* about rain, but if the second premise is true, that potential is nullified, since the rain claim is asserted not to be based on evidence in the first place. Thus, if what is asserted is true, the first part is not informative. In fact, the standard Moorean paradox can be seen in this light, too: if the speaker doesn't *believe* that it is raining, the assertion isn't informative: it does not provide evidence for the hearer that it is raining, unless the speaker is an oracle, who reliably speaks the truth without the need of believing what she says.

Although belief is closely connected with assertion as an illocutionary type, it has proved difficult to nail down a relation that is instantiated in every assertoric act. If one accepts a negative conclusion here, two alternatives suggest themselves. The first is to interpret Frege's idea that assertion is a sign of judgment in a different way. We can think of what is communicated by an assertion as a propositional content *together* with a *judgmental force* or *mode*. This would be an abstract component rather than something mental. Judgment or belief is the mental attitude of the speaker that corresponds to judgmental force, but the correspondence need not be realized (i.e. the speaker need not believe). This suggestion has the advantage of avoiding the need to require particular mental states of the speaker, and the drawback of postulating new abstract entities.

The second alternative is to conclude that belief is simply the wrong state to relate to assertion. Maybe knowledge is more adequate.

6.2 Knowledge

The belief rule (B) relates the appropriateness of an assertion to the sincerity of the speaker. However, if we compare this idea with traditional notions of the correctness of assertion, it may seem that sincerity is not enough. According to the traditional ideas, an assertion is correct only the speaker has good evidence for what she asserts (cf subsection 5.5). This fits well with the intuition that the speaker who makes an assertion typically wants to come across not only as sincere, but also as being *right*, and as having some authority on the particular topic.

This suggests that the belief rule should be replaced by something stronger, a *knowledge* rule:

(K) Assert only what you know!

In a slightly different format (“one must: assert p only if one knows p ”) this rule has in fact been proposed by Timothy Williamson (2000, 243; cf. Martin-Löf 1998, DeRose 2002, Hawthorne 2004). The idea of a knowledge *rule* is one among several related ideas of connecting asserting with the speaker’s knowledge of what she asserts (for a version concerned with transfer of knowledge to the audience, see Garcia-Carpintero 2004). The general idea has come to be called “the knowledge account of assertion”. The idea that assertion is governed by the rule (K) can be strengthened into the claim that assertion is *uniquely* governed by such a rule. That is, we would have

(KU) Assertion is the unique value of X for which the schema “X only what you know!” gives a valid rule.

The general idea of the knowledge account was suggested, or at least anticipated by G. E. Moore himself (1912) with the claim that the speaker *implies* that she knows that p (Moore 1966, 63). Many years later, Peter Unger (1975, 253-70), and Michael Slote (1979, 185) made the stronger claim that in asserting that p the speaker *represents herself as knowing that p* .

One argument for this view comes from conversational patterns. As a response to an assertion you can ask ‘How do you know that?’, or criticize it by means of ‘You don’t know that’. Such responses, it is argued, would not be appropriate if the speaker did not automatically represent herself as knowing what she asserts. One problem with this argument is that it is not so clear that in such reactions to an assertion the speaker is really taken to have claimed to know, in some implicit way. For instance, the question ‘How do you know that?’ might simply be a way of inquiring about the grounds for the assertion.

With respect to the question of the correctness of assertions (subsection 5.5), the position of the knowledge account is that an assertion is incorrect if the speaker doesn’t know that the proposition asserted is true.

Williamson adds an argument to show that inconclusive evidence (not sufficient for knowledge) is too weak for assertion. He considers an assertion about a lottery ticket (2000, 246-49). The draw has been held, but the result is not

known to the speaker. Yet she asserts

(60) Your ticket did not win

on the basis of probabilistic evidence alone. Intuitively, as Williamson points out, the grounds for the assertion were inadequate, no matter how improbable it was that the ticket was in fact a winner. Williamson concludes that only knowledge is sufficient for an assertion to be warranted.

Very similar lottery ticket arguments have been given by Dudman (1992), DeRose (1996), and Hawthorne (2004, 21). DeRose, however, although he agrees that it is incorrect to make an assertion such as (60) in the lottery ticket case, has other examples to show that inconclusive evidence does not rule out assertibility. In DeRose's examples, there is an information source (a newspaper article) that has a small probability of being false but, according to DeRose's intuitions, still gives sufficient evidence for assertion.

Williamson does acknowledge (2000, 256-57) that most of our ordinary assertions are made on evidence that is not conclusive, e.g. the assertion

(61) It is snowing

made on the basis of observing falling white stuff that may have been put there by a film crew (Williamson 2000, 257). Such assertions are considered acceptable. He explains this by saying that it can be *reasonable* to assert that p on evidence that is inconclusive, because it can be reasonable for the speaker to believe that she knows that p even if she in fact doesn't.

However, it is not clear why the intuition of unacceptability in the case of (60) concerns warrant, or correctness in the strict sense, whereas the intuition of acceptability in the case of (61) concerns some other notion, such as reasonableness, rather than the other way around. On the alternative view, the unacceptability of (60) should be given another explanation than lack of proper warrant.

A third kind of argument comes from considering a knowledge variant of Moore's paradox:

(62) It is raining and I don't know that it is raining.

If asserting (62), the speaker cannot know what she asserts. For if she knows that $p \& q$, she knows that p and she knows that q . And if she knows that q , then q . Applied to (62) this gives the result that the speaker knows that it is raining and also doesn't know that it is raining, i.e. an open contradiction. (This is a special case of the reasoning involved in the so-called knowability paradox, or Fitch's paradox; cf. Sorensen 1988 and Williamson 2000 for overviews).

The idea of the argument is that the strangeness of an assertion of (62) depends on the fact that such an assertion cannot be correct (warranted). That it cannot be correct is explained by the appeal to the idea of the self-representation as knower: I cannot correctly represent myself as knowing what I cannot know. Hence, on this view, I cannot correctly assert (62).

7 Social character

The social character of a speech act can be of two kinds. On the one hand, there can be an *institutional* change of relation between speaker and addressee occurring because of a characteristic property of the act. For instance, by means of a sincere utterance of

(63) I promise to call the repair shop

the speaker has committed herself, in relation to the addressee, to do something. Both speaker and hearer will regard the speaker as having incurred an obligation to the addressee. The first to view assertion from this angle was probably C. S. Peirce, who said that “to assert a proposition is to make oneself responsible for its truth” (1934, 384).

On the other hand, there can be hearer-directed *intentions* which the speaker has in performing a speech act. The speaker may intend the hearer to come to believe something or other about the speaker, or about something else, or intend the hearer to come to desire or intend to do something. Such intentions can concern institutional changes, but need not. Intentions that are immediately concerned with communication itself, as opposed to ulterior goals, are called *communicative intentions*.

The distinction between these two kinds of social character does not coincide with the distinction between conventional and non-conventional. For instance, you can hold that there is a form-force convention in English without accepting any institutional theory about illocutionary types.

Most social accounts have tended to focus either on the conventional/institutional or on the intentional features (Searle, as we shall see, combines them). An example of the former is Brandom (1994). According to Brandom (1994, 173-75), the nature of assertion consists in the fact that in asserting the speaker achieves two different normative/institutional results at the same time: on the one hand she authorizes the hearer to claim anything that follows from what is asserted and on the other she undertakes the responsibility of justifying it. Brandom has recently been followed by John Mcfarlane (2003; 2005) in the context of semantic relativism. Other examples include Kotatko (1998, 236-39), who like Searle stresses the importance of social conventions about what counts as making a commitment or undertaking, and Gary Watson (2004). Also, Green (1999, 2000) has worked out the idea of assertoric commitment in the setting of conversational score.

The idea of communicative intentions derives from Grice’s 1957 article ‘Meaning’, where Grice defined what it is for a speaker to *non-naturally mean* something. Grice’s idea can be set out as follows:

- (NN) *S* non-naturally means something by an utterance *u* if, and only if, there is a hearer *H* such that
- i) *S* intends *u* to bring about a response *R* in *H*
 - ii) *S* intends *H* to recognize that i)

- iii) S intends H 's reason for R to be that i).

(here ‘that (i)’ is short for ‘that S intends u to bring about a response R in H ’). That is, the speaker intends the hearer to react in a certain way because of recognizing that the speaker wants him to react in that way. Often, and in Grice’s original examples, the intended reaction is one of coming to believe something, and that is a reaction that typically fits the speaker’s intention or at least desire when making an assertion. Although Grice did not explicitly attempt to define assertion, the idea can be straightforwardly applied to provide one:

- (PG) S asserts that p by the utterance u iff there is a hearer H such that
- i) S intends u to produce in H the belief that p
 - ii) S intends H to recognize that i)
 - iii) S intends H to believe that p for the reason that i)

In the early to mid 1960s Austin’s speech act theory and Grice’s account of communicative intentions began to merge. The connection is discussed in Strawson 1964. Strawson inquired whether illocutionary force could be made overt by means of communicative intentions. He concluded that when it comes to highly conventionalized utterances communicative intentions are largely irrelevant, but that on the other hand convention does not play much role for ordinary illocutionary types. Strawson also pointed out a difficulty with Grice’s analysis: it may be the case that all three conditions are fulfilled, but that the speaker intends the hearer to *believe* that they aren’t, e.g. by intending the hearer to believe that the speaker wants him to believe that p for an entirely different reason.

Such intentions to mislead came to be called *sneaky intentions* (Grice 1969), and they constituted a problem for speech act analyses based on communicative intentions. The idea was that genuine communication is essentially open: the speaker’s communicative intentions are meant to be fully accessible to the hearer. Sneaky intentions violate this requirement of openness, and therefore apparently they must be ruled out one way or another. Strawson’s own solution was to add a fourth clause about the speaker’s intention that the hearer recognize the third intention. However, that solution only invited a sneaky intention one level up (cf Schiffer 1972, 17-42).

Another solution was to make the intention *reflexive*. This was proposed by Searle (1969), in the first full-blown analysis of illocutionary types made by appeal to communicative intentions. Searle combined this with an appeal to institutional relations as created by rules. Such rules are the so-called *constitutive* rules, as opposed to *regulative* rules (the terminology is taken from Kant). Roughly, whereas regulative rules regulate a pre-existing activity, such as traffic regulations regulate traffic, constitutive rules in a sense create a new activity. Paradigm examples are rules of games as defining games, and thus making it possible to play them. The distinction was introduced by Rawls (1955), and also suggested by C.G.J. Midgley (1959) in the same terms and

format as later by Searle (1969, 33-42; cf. Glüer and Pagin 1999).

Searle suggests five rules for the use of force indicating devices. In the case of assertion, they are as follows. *S* is the speaker and *H* the hearer:

- (JS1)
- 1) The propositional content rule: what is to be expressed is any proposition *p*.
 - 2) First preparatory rule: *S* has evidence (reasons etc.) for the truth of *p*.
 - 3) Second preparatory rule: It is not obvious to both *S* and *H* that *H* knows (does not need to be reminded of, etc.) *p*.
 - 4) Sincerity rule: *S* believes *p*.
 - 5) Constitutive rule: Counts as an undertaking to the effect that *p* represents an actual state of affairs.

The fifth rule is constitutive. That is, according to Searle, without this rule the practice of assertion would not exist. The existence of the undertaking is an institutional fact created by the utterance. According to Searle (1969, 65), the speaker *expresses* the state required by the sincerity rule, i.e. in the case of assertion, expresses belief. Also, the speaker *implies* that the preparatory conditions are met.

The making of an assertion also involves the speaker's communicative intentions. Searle criticized Grice for requiring the speaker to intend perlocutionary effects, such as what the speaker shall come to do or believe, pointing out that such intentions aren't essential (1969, 46-47). Instead, according to Searle, the speaker intends to be *understood*, and also intends to achieve this by means of the hearer's recognition of this intention. Moreover, if the intention is recognized, it is also fulfilled: 'we achieve what we try to do by getting our audience to recognize what we try to do' (Searle 1969, 47).

This reflexive intention is formally spelled out as follows:

- (JS2) *S* utters sentence *T* and means it (i.e. means literally what he says) = *S* utters *T* and
- a) *S* intends (i-1) the utterance *U* of *T* to produce in *H* the knowledge (recognition, awareness) that the states of affairs specified by (certain of) the rules of *T* obtain. (Call this the illocutionary effect, IE)
 - b) *S* intends *U* to produce IE by means of the recognition of i-1
 - c) *S* intends that i-1 will be recognized in virtue of (by means of) *H*'s knowledge of (certain of) the rules governing (the elements of) *T* (Searle 1969:49-50).

The illocutionary effect IE is the effect of generating the state specified in the constitutive rule. That is, in the case of assertion, the speaker *intends* that her utterance counts as an undertaking that *p* represents an actual state of affairs.

The analysis is completed by first requiring that normal input and output conditions obtain, second that the conditions of Rules 1-4 are met, and finally that the semantical *rules* of the dialect spoken by *S* and *H* are such that *T* is

correctly and sincerely uttered if and only if the the aforementioned conditions are met.

Bach and Harnich follow Searle in appealing to reflexive communicative intentions. On their analysis (Bach and Harnich 1979:42), assuming a speaker S and a hearer H ,

- (BH) S asserts that p iff S expresses
- i) the belief that p , and
 - ii) the intention that H believe that p

As we saw in the preceding section, Bach and Harnich's understanding of what it is for a speaker S to express an attitude is S to R -intend (reflexively intend) the hearer to take S 's utterance as reason to think S has that attitude. They understand the reflexive nature of the intention pretty much like Searle. They say (1979, 15) that the intended effect of an act of communication is not just any effect produced by means of recognition of the intention to produce a certain effect, it is *the recognition of that effect*.

These appeals to reflexive intentions were later criticized, in particular by Sperber and Wilson (1992, 256-57). Their point is that if an intention I has as subintentions both the intention J and the intention that the hearer recognize I , this will yield an infinitely long sequence: the intention that: J and the hearer recognize the intention that: J and the hearer recognize the intention that: J and). If this is an intention content at all, it is not humanly graspable.

Another variant of the communicative intention analysis is Recanati's. Part of Recanati's solution to the sneaky intention problem, following Grice (1969), consists in simply demanding that sneaky intentions be absent. This is what it is for an intention to be *open*, or *default-reflexive* (Recanati 1987, 191-207). He also follows Sperber and Wilson's idea of making something manifest, i.e. perceptible or inferable (Recanati 1987, 120, 180, Sperber & Wilson 1992, 38). Putting the various ingredients together (including prototypicality conditions of assertion—Recanati 1987, 183), we get:

- (FR) To assert that p is to make an utterance u by which it is made manifest that the speaker has an open (default-reflexive) intention that
- a) u gives the audience reason to believe that the speaker knows that p and wishes to share that knowledge with the audience, and
 - b) the audience recognize (a), and recognize it as open.

This is another complex analysis. The complexity of these accounts is itself a problem, since it assumed that ordinary speakers are in the habit of making assertions, and thereby to have the required intentions for doing it. But since it requires detailed analytic work to come up with the accounts, and there even are competing accounts, it is unlikely that ordinary speakers have the intentions required. If they do, they are clearly not aware of having them agents usually are aware of their intentions. Postulating such intentions in ordinary speakers is clearly problematic.

The difficulty appears even worse, as argued by Glüer and Pagin (2003), because there are speakers with a demonstrated inability to understand belief and other cognitive attitudes. Some speakers with autism, with a verbal mental age of at least eleven years, who are clearly by everyday standard using language for making assertions, fail so-called false-belief tests. Thereby they reveal an inability to distinguish between a proposition being believed and being true, and hence (since they do distinguish between truth and falsity), reveal a lack of understanding of what it is to believe something. If you cannot understand what it is to believe something, you cannot intend someone to believe something either.

All in all, the complexity and sophistication required of asserters by these communication-intentions accounts, indicate that they do not provide necessary conditions for making assertions. There is a recurring feature of reasoning about communicative intentions that tends to generate such complexity. It is assumed that if an agent *A* intends to communicate, and communication essentially involves feature *X*, then *A* intends feature *X* to be instantiated. For instance, if communication takes place only if the hearer *H* recognizes *A*'s intention to communicate, then, by this reasoning, *A* must intend *H* to recognize *A*'s intention to communicate (cf. Recanati 1987, 203). But that inference is not obviously correct. For it seems a sufficient condition of being able to *intend* to communicate that the agent can distinguish between communicative events and other events (e.g. by perceptual features concerning signs of attention etc), thus able to intend to realize an event of the communicative kind. It may simply be a fallacy to project the theoretical understanding of what is involved in communication on the intentions of the speakers.

Normative/institutional accounts of assertion do not seem to suffer from these problems. For instance, it is plausible that when a speaker asserts that *p*, she in some sense commits herself to the truth of the proposition that *p*. She puts her cognitive authority behind it, so to speak, and has to suffer some measure of social humiliation of what she says turns out false. This idea of commitment can also serve to distinguish between assertion proper and weaker constative forms, such as guesses and conjectures, since these differ from assertion with respect to commitment. So incurring a commitment seems to be a necessary condition of making an assertion. (However, the psychological makeup of some persistent liars poses a problem for this generalization as well. One wonders about the sense of commitment of a thirteen year-old psychopath who at an interview stated: 'I'd just look them straight in the eye and feed them shit. It was great. I still do it. My mother bought it for a long time' (Hare 1999, 162).)

Nonetheless, institutional accounts and intention accounts share a problem about sufficient conditions. It is argued in Pagin 2004 that social characterizations of assertion fail to be sufficient, for one can use the formulation of the account to construct an utterance type that isn't assertoric but that would be assertoric by the account in question. A simple example is given by

- (64) I hereby commit myself to the truth of the proposition that there are black swans.

Intuitively, a sincere utterance of (64) would not be an assertion that there are black swans. What is said does not imply that there are black swans. It is only a declaration of the speaker's stand on the question. Still, it does incur a commitment to the truth of the proposition that there are black swans. If this is right, then incurring a commitment to truth is not sufficient for asserting. Similar constructions can be made out of other accounts, e.g. by letting the speaker declare herself to have certain complex intentions.

Social accounts of either the institutional or the intentional variety risk losing what seems to be a core feature of assertion, the judgment expressing character, however that character is to be understood.

8 Logic

Frege introduced the turnstile, '⊢', as a so-called *assertion sign*. It first appeared in the *Begriffsschrift* (Frege 1879). According to Frege, it serves to *express a judgment* (1879, 11). The sign was meant to be composed from the horizontal part, the so-called *content stroke*, and the vertical part, the so-called *judgment stroke*. The content stroke would mark that what follows it is a judgeable content.

Frege demanded that what follows the the content stroke must have a content that can become a judgment, which is to say a propositional content. With the content stroke attached, but not the judgment stroke, we have an expression of the kind 'the circumstance that ...', or 'the proposition that ...' (1879, 11). He also characterized '⊢' as a common predicate for all judgments, like the predicate 'is a fact' as occurring in sentences such as

(65) The violent death of Archimedes at the capture of Syracuse is a fact.

Here the argument is a noun phrase denoting an event rather than a state of affairs. This difference in syntactic format between that-clauses and event terms is of less significance than the basic idea that there really is just one kind of judgment. There are not e.g. any hypothetical or disjunctive *judgments*, only conditional or disjunctive *contents*. The contents vary, the nature of the judgment remains the same (Frege 1879, 13).

This view was retained in the *Grundgesetze der Arithmetik* (Frege 1893). The assertion sign is here still composed of the vertical part, *the judgment stroke*, and the horizontal, now called *the horizontal (der Wagerechte)*. While the judgment stroke is more or less the same, Frege's conception of the horizontal has changed. The horizontal is now part of the expression of content. It denotes a function from objects to truth values (1893, 9): it maps the True on the True and any other object on the False. It can occur in the interior of formulas. Remember that on Frege's view at the time, truth values are among the objects of the universe.

Since the judgment stroke is always followed by a horizontal, this construction has the effect that what is judged always denotes a truth value, at least if what follows the horizontal is a meaningful closed expression (not containing

gaps or free variables). On the view that Frege had developed since the *Begriffsschrift*, and which he argued for in ‘Über Sinn und Bedeutung’, judging is passing from the level of sense (Sinn) to the level of reference (Bedeutung). Judging that p is passing from the mere thought that p , to acceptance of the truth of the thought that p . Thus, in judging you advance from a sense to a truth value. Conversely, advancing from a sense to a truth value constitutes judging. Therefore, we have a well-formed judgment, correct or incorrect, if what follows the judgment stroke denotes a truth value. With the new conception of the judgmental, the judgment is guaranteed to be well-formed.

Frege’s conception of his assertion sign fits well in with his own system of deduction. Every sentence occurring in a deduction in the *Begriffsschrift* or the *Grundgesetze* is either asserted or a proper constituent of a sentence that is asserted. Each sentence asserted is either an axiom or is derived from axioms by means of accepted rules of deduction. There is no such thing as an unasserted assumption occurring as a premise of a deduction step, and *a fortiori* no conclusion of a deduction step that depends on an assumption. Correspondingly, the judgment stroke itself only occurs initially in each expression of judgment. There is no such thing as a complex judgment with other judgments as proper parts. In particular, there are no hypothetical judgments, in the sense of a judgment that is the consequent of a conditional.

Several interesting connections between logical issues and the notion of assertion have arisen because of transcendence of these Fregean limitations. The first was crossed by Gerhard Gentzen in the mid-1930s, and, depending on interpretation, maybe the second, too. With Gentzen’s Natural Deduction system (1934-35), a system of deduction was formulated with the possibility of making assumptions, making inferences from these assumptions, and also of *discharging* assumptions in certain deduction steps (e.g. \supset -Introduction). With Gentzen’s work, and the later developments by Dag Prawitz (1965), Natural Deduction has become a well-established and almost standard system of deduction. However, there is still a question of how to understand the act of inferring from an assumption, since it seems itself to be neither an assumption, nor an assertion proper.

It might be natural to think of such an act as a kind of *conditional* assertion. Ideas about conditional assertion have been proposed, but then chiefly in connection with natural language indicative conditionals, i.e. sentences of the form

(66) If p , then q

(in English). Problems with interpreting such sentences as material conditionals,

(67) $p \supset q$

led to the suggestion, first in Quine 1952, that an assertoric utterance of an indicative conditional really is a conditional assertion, in the following sense: If the antecedent is true, then the speaker has asserted the proposition expressed by the consequent, and if the antecedent is false, no assertion has been made.

This idea has been rather controversial.

Finally, generalizing the idea that there are forms of judgment with assertions as proper parts, there has been a development of so-called logics of assertion, and even more generally, illocutionary logic, with complex speech act types, having themselves speech act types as proper parts. In the assertion logic case, there is special logical constant ('A') denoting assertion, and the system is the logic of that constant. In the case of Nicholas Rescher (1968), the basic form of sentence studied is that of

$$(68) \quad x \text{ asserts that } p$$

which is abbreviated as

$$(68') \quad Axp$$

A similar system as is developed by Ingemund Gullvåg (1978).

In illocutionary logic, as e.g. in Searle and Vanderveken 1985, the study concerns in general logical relations between speech acts. In this case the idea is that each speech act has a particular array of characteristics, and two speech acts may then be so related that the characteristics of the one are implied by, or inconsistent with, the characteristics of the other. Cf the entry **Speech Acts**.

Below we shall look a little closer at these aspects of logic and assertion.

8.1 Assumptions

In his work on deduction (1934-35), Gentzen also introduced the Sequent Calculus, with so-called *sequents*,

$$(69) \quad A_1, \dots, A_n \rightarrow B_1, \dots, B_m$$

as the asserted sentences of the calculus. Gentzen originally explained the meaning of the arrow as

$$(70) \quad A_1 \ \& \ A_2 \ \& \ \dots \ , A_n \ \supset \ B_1 \ \vee \ B_2 \ \dots \ B_m$$

By this explanation a sequent is an ordinary construction of propositional logic. However, later on (1934-35, §4), Gentzen introduced another use of the arrow for a Natural Deduction notation:

$$(71) \quad A_1, \dots, A_n \rightarrow A$$

Here there is only a single formula in the succedent. This is a sentence form apt for making claims, and it is correct just if there exists a Natural Deduction *derivation* from the assumptions A_1, \dots, A_n to the conclusion A . So the arrow is no longer to be interpreted as an ordinary implication construction, but indicates that the succedent is derivable from the antecedent, or that the succedent can be *asserted* on the basis of the antecedent as a sequence of assumptions. On

this interpretation, it is like moving Frege’s assertion sign from a sentence initial position, making an assertion depend on assumptions. The question is how to understand this.

In Natural Deduction, as well as in informal reasoning, we make assumptions and infer new propositions on the basis of those assumptions, as in

- (72) Suppose there is life on Mars.
 In that case, there must also be water on Mars.

This natural language rendering of the inference step would in a Natural Deduction setting (with the same informal language) look like this:

$$(73) \quad \frac{\text{There is life on Mars}}{\text{There is water on Mars}}$$

It is clear that assuming that p is something different from asserting that p . But it is less clear how to regard the concluding. We cannot simply say that it is of a separate kind, namely *inferring* or *concluding* that p . For the difference at issue is precisely between inferring something from premises that are already established, or that one at least asserts or believes, in which case one *does* assert the conclusion, and inferring something from premises that are only assumed. In the latter case one does not simply assert the conclusion.

One suggestion is that the conclusion is *conditionally* asserted, i.e. conditionally on the truth of the premise. More fully, the idea is that if the premise is true, the conclusion is asserted, and if the premise is false, the conclusion is not asserted, nor advanced in any other way. This is completely implausible, however. The conclusion may serve as an essential middle step of a longer argument, such as

$$(74) \quad \frac{\frac{\text{There is life on Mars}}{\text{There is water on Mars}}}{\text{If there is life on Mars, then there is water on Mars}}$$

The conclusion, on the third line, is formed by the rule of implication introduction from the preceding derivation. The conclusion is (unconditionally) asserted, on the basis of the preceding step from the first to the second line, i.e. from the initial assumption to the intermediate conclusion. The intermediate conclusion depends on the assumption, but the final conclusion does not. But suppose that there is no life on Mars. Then, on the *conditional assertion* understanding, nothing at all is achieved in the second line: no assertion is made, nor any advancing of the proposition in any other way whatsoever. That is, it is as if no inferential step is taken. But that the proposition (that there is water on Mars) is advanced in some way or other is essential for reaching the final conclusion in the second inference step. The first step cannot simply be void.

We shall return below to the idea of conditional assertion in connection with conditionals (also, however, in Barker 1995, there is a non-standard use of ‘conditional assertion’ which largely agrees with what is called ‘hypothetical

assertion' below).

Maybe one could see the advancing of the proposition that there is water on Mars, in (73), as an assertion of the proposition as depending on the truth of the premise that there is life on Mars. That is, the act taken would be an assertion proper, but the object would not be simply a proposition, but a *qua* object, the proposition *qua* depending on the truth of the premise. But this is not a viable option either, even apart from general doubts about *qua* objects, since inferring that there is water on Mars from the premise that there is life on Mars in no way implies that the truth of the conclusion depends on the truth of the premise. There might well be water on Mars without any life on Mars, and the speaker who makes the inference is not required to think otherwise.

So neither the truth of the conclusion, nor the assertoric force itself, seems to depend or be conditional on the truth of the premise. It remains, I think, two main alternatives. The first I shall call the *Prawitz-Stalnaker* alternative, which consists in viewing the conclusion as *asserted under an assumption*. This amounts to a generalization of the concept of assertion. Stalnaker (1975, 65) makes an explicit distinction between the concepts of assertion and *hypothetical assertion*, and the latter is a conclusion drawn from an assumption (supposition).

The other I shall call the *Martin-Löf-Sundholm* alternative. It consists in viewing inferring from assumptions as advancing a sequent-like content of the form (71), i.e. $A_1, \dots, A_n \rightarrow A$. This is what Martin-Löf (e.g. 1998, 108) has called a *hypothetical judgment*. It is supposed to be distinct from the assertion of a corresponding propositional implication

$$(75) \quad A_1 \ \& \ A_2 \ \& \ \dots, A_n \supset A$$

Viewed this way, the argument (74) is recast as

$$(76) \quad \frac{\frac{\text{Life on Mars} \rightarrow \text{Life on Mars}}{\text{Life on Mars} \rightarrow \text{Water on Mars}}}{\rightarrow \text{Life on Mars} \supset \text{Water on Mars}}$$

(with 'there is' left implicit) where we have hypothetical judgments on the first and second line, and a categorical judgment of an implication on the third line.

These two approaches have complementary virtues and vices as regards conservatism. The Prawitz-Stalnaker view is conservative about contents, but generalizes the concept of an assertion, while the Martin-Löf view is conservative about assertion but generalizes the notion of assertoric content (this is done anyway in Martin-Löf's type theory). The Prawitz-Stalnaker view is closer to the surface form of natural language reasoning.

A possible way to flesh out the Prawitz-Stalnaker view is to add the idea that if a speaker S hypothetically asserts that *q* on the assumption that *p* and then adds the assertion that *p*, then S has also, indirectly, asserted categorically that *q*. The net result is the same as on the Martin-Löf-Sundholm alternative, except that in this case an inference is required to reach categorical judgment/assertion.

Then, if we look at the little argument (73), we can see the advancing of the conclusion as an assertion, of the proposition that there is water on Mars, hypothetical in case the premise is only assumed, and categorical in case the premise is itself asserted. In this way we could see hypothetical force as in a sense functional: hypothetical assertoric force is a function that takes a categorical assertion of the premise as argument and yields a categorical assertion of the conclusion as value. This would be an analogy to functional analyses in other areas, in e.g. categorial grammar and proof theory, since hypothetical force must be seen as a structured entity. It fits well with regarding force as an *abstract* category, related to but not identical with elements of speaker psychology.

8.2 Conditionals

The so-called paradoxes of the material conditional have shown that there are discrepancies between the use of ordinary indicative conditionals, such as

- (77) If Reagan lost the 1980 election, he lost because people who didn't like him voted for him

and the meaning of a material conditional such as

- (78) Reagan lost the 1980 election \supset he lost because people who didn't like him voted for him.

Since the antecedent is false, the material conditional (78) is true, but the conditional (77) does not appear highly assertible. Not even the fact that we have excellent evidence that the antecedent is false makes us inclined to accept an assertoric use of it.

The discrepancies also show up in reasoning, especially in combination with the use of negation. The following is an example from Dorothy Edgington (1995, 281):

- (79) If God does not exist, then it's not the case that if I pray my prayers will be answered. I do not pray. Therefore God exists.

If the conditional is material, then the negated conditional is equivalent with a conjunction of the antecedent and the negation of the consequent. So understood, the argument is valid.

If good evidence for the truth of the material conditional does not make a natural language conditional correctly assertible, what does? Good evidence *by subjective standards* for the truth of proposition can be equated with high subjective probability for that proposition. Ernest Adams (1965, 176-77) proposed that a conditional *if A, then B* is assertible just if the corresponding conditional subjective probability of *B* given *A*, $p(B/A)$, is high. This has come to be known as Adams' Thesis, and it is widely accepted (as usual, $p(B/A)$ is equal to $p(A\&B)/p(A)$, in case $p(A)$ is positive, and undefined otherwise). Many examples in the literature illustrate that $p(B/A)$ may be low even though $p(A \supset B)$ is high. Frank Jackson has the following (1979, 568):

- (80) If the sun goes out of existence in ten minutes time, the earth will *not* be plunged into darkness in eighteen minutes time.

The conditional probability of the consequent given the antecedent is low, but the probability of the corresponding material conditional is high, simply because the probability of the falsity of the antecedent and of the truth of the consequent are both high.

As noted above, the standard idea of correct assertibility is that an assertion is correct provided there is good evidence for the truth of the proposition asserted. In terms of subjective probability, it is correct iff the subjective probability is high. This equivalence is violated, given Adam's Thesis, if natural language conditionals are material conditionals. Two strategies that have been employed in response are directly relevant for the theory of assertion. The first is to modify the correctness conditions for assertions of conditionals, or even assertions in general. The second is to claim that what looks like an assertion of a proposition expressed by declarative sentence really is a speech act of another type: a condition assertion. We shall briefly look at these below.

Modify correctness conditions

Grice suggested (1989a) that there is a conversational explanation of why a conditional, when interpreted materially, can fail to be assertible even though something from which it follows, like the negation of its antecedent, is assertible. Asserting Jackson's (80) on the basis of the high subjective probability of the falsity of the antecedent would be *misleading*, since what one asserts is logically weaker than the proposition on which the assertion is based: $A \supset B$ follows from $\neg A$, but not conversely. Therefore, the hearer is lead to believe that the grounds for the assertion are other than they in fact are.

This line won sympathy. David Lewis (1976) followed and elaborated Grice's idea. According to Lewis (1976, 142-43), two factors detract from assertibility of a conditional *if A, then B*: first, that the probability of vacuity $p(\neg A)$ is high, and second that the probability of falsity $p(\neg B \& A)$ is a large fraction of the probability of non-vacuity ($p(A)$). The product

$$(81) \quad p(\neg A) \cdot p(\neg B \& A) / p(A)$$

of these factors gives a measure of the *reduction* of assertibility, and the resulting degree of assertibility is

$$(82) \quad p(A \supset B) - (p(\neg A) \cdot p(\neg B \& A) / p(A))$$

This in turn is equal to $p(B/A)$, in accordance with Adams' Thesis.

Lewis's application of Grice gave a kind of explanation of Adams' Thesis. In Lewis 1986b, however, Lewis retracts his account in favor a related one offered by Jackson (1979). Jackson criticizes the principle that one assert the stronger instead of the weaker, and provides counterexamples such as

- (83) If the sun goes out of existence in ten minutes, the earth will be plunged into darkness in about eighteen minutes.

(1979, 567). Here both the negation of the antecedent and the conditional have probabilities close to 1, with the latter only marginally greater. So this would be a case where the maxim of asserting the logically stronger should apply. But (83) is highly assertible (as it also is on Lewis's account, but not by the simple maxim). Jackson instead advocates the idea that we as speakers aspire to two things: a high probability of the proposition asserted and *robustness*. Robustness of a proposition A with respect to another B amounts to preservation of high probability of A given the truth of B . The official definition is then that A is robust with respect to B iff $p(A)$ and $p(A/B)$ are close and high (Jackson 1979, 569).

This is applied to the case of conditionals with the further idea that assertions of natural language conditionals are made both with claiming the truth of the corresponding material conditional *and to signal* that this conditional is robust with respect to its own antecedent (1979, 576). Given this combination, and the definition of robustness, the resulting assertibility of $A \supset B$ is high provided the robustness condition is met, i.e. provided $p(A \supset B/A)$ is high, and since $(A \& A \supset B) \equiv (A \& B)$ we also have

$$(84) \quad p(A \supset B/A) = p(B/A)$$

and the requirement of Adams' Thesis is met.

Both Lewis's and Jackson's accounts are successful in combining a material interpretation of indicative conditionals with adherence to Adams' Thesis. Still, from an assertion theoretic point of view, both appear somewhat *ad hoc*. They propose special rules for the assertibility of conditionals, and ultimately one would want such rules motivated from general consideration about assertion, but it is not clear how that should be done.

We find a more general pragmatic motivation in Stalnaker's account (Stalnaker 1975). Stalnaker provides truth conditions for conditionals '*if A, then B*' in his possible worlds framework, including his notion of a conversational *context set* (cf. subsection 2.1). Stalnaker then provides the following rule for asserting indicative conditionals (1975, 71):

- (RSI) It is appropriate to make an indicative conditional statement or supposition only in a context which is compatible with the antecedent.

Stalnaker immediately comments: 'In effect, this says that *counterfactual* conditionals must be expressed in the subjunctive.' (italics in the original).

Together with properties of Stalnaker's possible worlds semantics in terms of a *selection function*, and the pragmatic requirement on the selection function, the result is, as Stalnaker says:

[...] the indicative and the material conditional are equivalent in the following sense: in any context where either might be appropriately as-

serted, the one is accepted, or entailed by the context, if and only if the other is accepted, or entailed by the context. [...] they coincide only in their assertion and acceptance condition, and not in their truth conditions. (Stalnaker 1975, 72-73)

The assertibility restriction (RSI) saves the account from the ordinary problems with the assertibility conditions of material conditionals. However, if Jackson is right that (83), which is indicative, is highly assertible, then the (RSI) restriction is too strong.

Conditional assertion

An alternative strategy is to simply give up the idea that utterances of conditionals are properly assertoric at all. Minimally, this amounts to the view that advancing a conditional is not putting forth a proposition as true, i.e. it is not an assertion in the usual sense. So views by which conditionals are not propositional, or don't have truth conditions, are views of this kind. Defenders include Adams, Edgington (1985), Appiah (1985), Bennett (2003).

You take a further step by providing an alternative speech act account. One proposal of this kind has been prominent: that such utterances are *conditional assertions*, not assertions proper. The standard idea of a conditional assertion is that an assertion of B conditional on A is an assertion of B if A is true, and no assertion at all if A is false. Early suggestions that an utterance of a conditional is to be understood as a conditional assertion were made by Quine (1952, 19, crediting Philip Rhineland), and by G H von Wright (1957, 130). A fuller and more systematic treatment was given by Nuel Belnap (1973). It is defended by Edgington (1995, 288-91). The idea is applied in an account of so-called *biscuit conditionals* by DeRose and Grandy (1999). For a more comprehensive history, see Milne 1997.

The description that a conditional assertion *is* an assertion of the consequent provided the antecedent is true is highly misleading. On this description, if speaker X utters *if A, then C* and speaker Y utters *if B, then C*, then if both A and B are true X and Y have done the very same thing, namely asserted C . Similarly, if both A and B are false, then again on this description they have done the same thing, namely made no assertion. But clearly they have made utterances of different kinds, with different significance, in either case. So what we should say is that if the antecedent is true, the conditional assertion *generates* an assertion of the consequent, and does not generate anything if the antecedent is false. This takes care of the immediate difficulty.

One question is how a conditional assertion is to be evaluated. Stalnaker (2006) provides a brief survey over possible answers. Four different answers come from four different answers to how categorical assertions are evaluated. Stalnaker considers the norm of truth (rule (T) of subsection 5.4), the norm of knowledge (rule (K) of subsection 6.2), the norms of justification and commitment (cf. Brandom's proposal in section 7), and the norm of subjective probability (the higher the subjective probability, the better). Then, for instance, if there is basic norm governing assertion and it is that what is asserted be

true, then in case the antecedent of the conditional is true, the act is evaluated according to whether the consequence is true, given the context. Analogously for the other three alternatives. But what if the antecedent is false? Stalnaker speaks of temporarily adding the antecedent proposition to the context, and then evaluating the consequent assertion. Then it might happen that no evaluation is forthcoming. But it is not clear whether Stalnaker thinks that there is no evaluation in case the antecedent is in fact false, or whether it fails just in case the addition of the antecedent to the context set does not yield a verdict (in the latter case, I guess, background theory must be taken into account).

In case it depends on the truth of the antecedent whether a categorical assertion has been made at all, there is a corresponding difficulty about the truth of the antecedent: a speaker may fail to know what assertions she has made, because of not knowing the truth of the antecedents of her conditional assertions. This is counterintuitive. Similarly, concerning linguistic interaction, Dummett objected (1981, 341; 1991, 115) that the idea of a conditional assertion is like the idea of handing someone an envelope saying ‘open in case of *A*’, and when opened proves to contain a letter saying ‘ $\vdash B$ ’. He first comments that there is no such linguistic device, but retracts after considering conditional bets and conditional commands. Clearly, if the condition of a conditional bet is unfulfilled, then the bet is simply off. It doesn’t have to be concealed what bet it would have been, had the condition been met. Dummett therefore does not find any knock-down argument against the very idea of a conditional assertion.

There are, however, specific problems concerning the application of the idea of conditional assertion for the account of ‘if, then’-constructions. These chiefly concern the embedding of such constructions in more complex sentences. As Dummett, Edgington and others have pointed out, it is difficult to make intuitive sense of conditionals that themselves have conditionals as antecedents, such as

- (85) If, if Barcelona beats Real, then Barcelona will beat Dynamo, then Lazio will beat Dynamo.

This might indicate that conditionals are made for assertoric contexts alone. However, in some other non-assertoric cases it is a lot easier, such as

- (86) It holds either that if Barcelona beats Real, then Barcelona will beat Dynamo too, or that if Lazio beats Dynamo, then Lazio will beat Borussia as well.

The speaker of (86) does not advance either of the conditionals. Since (86) is fairly easy to understand, one may wonder whether the problem with (85) is not merely a processing problem due to the complexity of the sentence, rather than qualitative difference (for the intuition, assume that there is a successful coach who will soon sign up either for Barcelona or for Lazio; if he signs up for Barcelona, the first disjunct will be believed, and if he signs up for Lazio, the second).

There are further problems for the conditional assertion account of indicative conditionals with embedding the ‘if, (then)’ particle in *quantified* contexts, as

in

(87) If any player shows up late, he will be kicked out of the team.

(87) is not a conditional, but a quantified conditional. An utterance of it cannot be regarded as a conditional assertion, since the consequent does not express a self-contained proposition. Nonetheless, it does not seem hard to understand.

These difficulties are handled in Belnap 1973. Belnap develops the semantics for conditional assertion pretty much as a three-valued possible worlds semantics. A sentence s at a world w is either non-assertoric or expresses a proposition. The semantics is given recursively over sentence complexity. For instance, a negative sentence $\neg A$ is assertoric just if the negated sentence A is assertoric, and what is asserted is the negation of what is asserted by A . This accords with Adams' Thesis for simple conditionals, on the assumptions that i) Adams' Thesis concerns *conditional assertibility* rather than assertibility proper, and that ii) negation inverts conditional assertibility.

In the case of the universal quantifier, the clause is

(88) 1. $\forall xAx$ is assertive _{w} just in case for some $t \in C$, At is assertive _{w}
2. $(\forall xAs)_w = \&\{(At)_w: At \text{ is assertive}_w\}_{t \in C}$

Applied to (87), this means that an assertion is generated, in a world w , only if there are terms $t_1, \dots, t_n, 1 \leq n$, such that t_i 'shows up late' is true at w , for $1 \leq i \leq n$. It further means that what is asserted in w is the conjunction of what is asserted in w by t_i 'will be kicked out of the team', for $1 \leq i \leq n$. Hence if Bill and George show up late, what is asserted is that

(89) Bill will be kicked out of the team and George will be kicked out of the team

and if nobody shows up late, nothing is asserted.

This is counterintuitive, since a speaker S might agree with (89) but may want to express denial of (87) by means of stating its negation

(90) It is not the case that, if any player shows up late, he will be kicked out of the team.

The reason might be the the speaker thinks it holds for every team member except for Harry:

(91) Harry is on the team, and Harry will show up late, but he will not be kicked out of the team.

S might have excellent reasons for this belief, and from (91), S validly infers (90). However, by Belnap's clauses, if Bill and George show up late but Harry doesn't, what S has asserted by means of uttering (90) is that

(92) It is not the case that (Bill will be kicked out of the team and George will be kicked out of the team)

and this is even more counterintuitive: S is represented as inconsistent because of both asserting and denying that Bill and George will be kicked out of the team.

In a slightly different format, focusing on existential rather than universal quantification, this argument was advanced by Kölbel (2000) against Edgington and Belnap. Edgington (2000) responds that she has no general method for handling generality problems (but insists that if a truth conditional theory were right, there would be no problems with such sentences in the first place). All in all, it is difficult to make the conditional assertion theory of conditionals fit intuitions.

8.3 Assertion logic

If we set out principles specifically valid for reasoning with sentences of the form

$$(93) \quad x \text{ asserts that } p$$

we may be said to have set out an *assertion logic* or *logic of assertion*. Exactly what to count as a logic of assertion is not so clear, since it depends on whether the term ‘assertion’ in this context is taken in its default sense of an overtly performed speech act, or in some other sense, such as that of *implicitly asserting* something, or being *rationally committed* to asserting something. In these latter senses a logic of assertion tends to be a form of *doxastic* logic (logic of belief), or a related kind of modal logic. We shall here look at the assertion logics by Rescher and Gullvåg.

Nicholas Rescher’s *Assertion logic*, (Rescher 1968), is concerned with what a speaker (individual or collective) implicitly is committed to in virtue of overtly made assertions (Rescher 1968, 250). Rescher sets out several systems of logic with principles governing sentences of the form (93), abbreviated into ‘ Axp ’. Most of his systems contain a rationality postulate, that no speaker commits herself to a contradiction:

$$(94) \quad \sim (\exists x)Ax(p \ \& \ \sim p)$$

Rescher’s first system \mathbf{A}_1 contains three axiom schemata and one rule of inference:

$$\begin{array}{ll} (A1) & (\forall x)(\exists p)Axp & \text{(Nonvacuousness)} \\ (A2) & (Axp \ \& \ Axq) \supset Ax(p \ \& \ q) & \text{(Conjunction)} \\ (A3) & \sim Ax(p \ \& \ \sim p) & \text{(Consistency)} \\ (R) & \text{If } p \vdash q, \text{ then } Axp \vdash Axq & \text{(Commitment)} \end{array}$$

By (A1) every speaker (assertor) asserts at least one proposition. By (R), a speaker asserts (is committed to) everything entailed by what she asserts. Specifically, it then follows that every speaker asserts every truth of logic:

$$(95) \quad \text{If } \vdash p, \text{ then } \vdash Axp$$

Rescher gets the stronger system \mathbf{A}_2 by adding

$$(A_2) \quad (\forall x)Axp \supset p \quad (\text{Lincoln})$$

an axiom to the effect that whatever is asserted by all speakers is true (you can't fool all the people all the time). An alternative strengthening \mathbf{A}_3 of \mathbf{A}_1 is generated by adding A_3 :

$$(A_3) \quad p \supset (\exists x)Axp \quad (\text{Collective Omniscience})$$

that is, whatever is true, is asserted by someone. Rescher notes that within \mathbf{A}_1 \mathbf{A}_2 follows from \mathbf{A}_3 (because of Consistency and Conjunction).

The system \mathbf{A}_4 is generated from \mathbf{A}_3 by the axiom

$$(A_4) \quad Ax(Axp) \equiv Axp$$

of which the *if* part is called 'Metahonesty' and the *only-if* part 'Metacandor'. The system \mathbf{A}_5 , finally comes from \mathbf{A}_4 by the axiom

$$(A_5) \quad Axp \vee Ax(\sim p)$$

by which every speaker is *complete* in the sense of taking a stance towards every proposition.

Speakers according to these logics, and especially \mathbf{A}_5 , can be modeled as sets of propositions, and thereby as possible worlds. One can therefore define a box operator $\Box p$ as $\forall xAxp$, and investigate what is needed to get the usual modal systems (section 13). If axiom \mathbf{A}_5 doesn't hold, one can apply a three-valued logic, where the third value corresponds to indifference. Rescher also considers, among other things, adding deontic and alethic modal operators to the assertion operator language.

A related perspective on assertion is taken by Ingemund Gullvåg (1979). Gullvåg is more interested than Rescher in overt assertions, but still adopts a similar consistency requirement (1979, 79): you cannot, in one act, assert incompatible propositions. This serves to partly define what to count as one act of assertion. If an overtly inconsistent assertion seems to be taking place, the utterance cannot really count as an assertion (1979, 80). Gullvåg's format is ' $S_{xst}p$ ', meaning that speaker x at time t by uttering sentence s asserts that p . The consistency requirement is then set out as the axiom

$$(96) \quad \sim (S_{xst}p \ \& \ S_{xst} \sim p).$$

Gullvåg also has a conjunction axiom (or assumption) corresponding to Rescher's:

$$(97) \quad S_{xst}(p\&q) \equiv (S_{xst}p \ \& \ S_{xst}q).$$

However, when it comes to setting out consequences of an assertion, Gullvåg turns to a notion of a speaker's *pragmatically implying* something by means of an assertion. What the speaker implies is what she is *committed* to (1979, 89). Among other things, Gullvåg adopts the axioms and rules of inference

- (A₁₁) $I_{xst}p \supset I_{xst}(I_{xst}q \supset q)$
 (A₁₂) $I_{xst}(p \& q) \equiv (I_{xst}p \& I_{xst}q)$
 (A₁₃) $I_{xst}I_{xst}p \supset I_{xst}p$
 (RI) $\vdash p \supset q \rightarrow \vdash I_{xst}p \supset I_{xst}q$
 (RTF) $\vdash p \rightarrow \vdash \sim I_{xst} \sim p$

(I have changed the notation slightly). By A₁₁ if a speaker implies anything, then she implies that whatever she implies is true. By A₁₃, if a speaker implies that she implies that p , then she implies that p .

Later on (1979, 103) Gullvåg defines the S operator in terms of both expressing and implying a proposition p , by which it follows that

$$(98) \quad S_{xst}p \supset I_{xst}p.$$

To this Gullvåg adds axioms about belief and implied belief:

- (A₁₄) $I_{xst}B_{xst}p \equiv I_{xst}p$
 (A₁₅) $I_{xst}B_{xst}p \supset I_{xst}(\sim B_{xt} \sim p)$
 (A₁₆) $I_{xst}B_{xt}(p \supset q) \supset I_{xst}(B_{xt}p \supset B_{xt}q)$

Here, by A₁₄, speakers imply that what they believe is true. By A₁₅, if a speaker implies that she believe that p , then she implies that she does not believe the negation of p . Finally, if she implies that she believes a conditional, then she implies that she believes the consequent if she believes the antecedent.

With the help of these axioms and rules Gullvåg derives a number of theorems, including the theorem

$$(99) \quad \sim S_{xst}(p \& \sim B_{xt}p)$$

(1979, 108), saying that Moorean propositions are not assertible, thereby offering a treatment of Moore's paradox. Gullvåg has some related theorems on pragmatic inconsistency. He offers a Hintikka style possible worlds semantics validating the axioms.

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