

## Robert Brandom: Inference and Meaning

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### *1. Intellectual Biography*

Robert Boyce Brandom was born in 1950, graduated with a B.A. in philosophy from Yale University in 1972, and received his Ph.D. in philosophy from Princeton University in 1977. While at Princeton, Brandom worked closely with David Lewis, but the director of his dissertation, entitled “Practice and Object” (an allusion to W. V. Quine’s great work, *Word and Object*), was Richard Rorty. Lewis is best known for revitalizing traditional metaphysics within analytic philosophy, while Rorty is famous (notorious?) for his pragmatic and relativistic critiques of analytic philosophy. The combination is striking—Lewis, the ultimate insider whose technical brilliance and clarity is almost worshiped by today’s metaphysicians, and Rorty, the consummate rebel and outsider who attacked virtually everything contemporary analytic philosophers hold dear. The blend of these two features can be seen throughout Brandom’s writings; he is at once working firmly from within the tradition while simultaneously casting a critical eye from the outside.

Brandom arrived at the University of Pittsburgh as an Assistant Professor in 1976, becoming an Associate Professor in 1980, and attaining the rank of Full Professor in 1991. Thirty years after his arrival at the University of Pittsburgh, he was named a Distinguished Professor of Philosophy. Today, his is one of the most familiar names at this top philosophy program.

One can think of Brandom's career as split into two parts with the publication of his most well known book, *Making It Explicit* (MIE, hereafter), in 1994, marking the divide. Prior to that point, he published many articles whose contents eventually made it into MIE. Although there were some historical pieces and some technical pieces (one of which was a book, *The Logic of Inconsistency*, co-authored with Nicholas Resher), the main thrust of his writing was presenting aspects of the view that comes out in MIE. After MIE, we see three collections of essays, *Articulating Reasons* (2001), *Tales of the Mighty Dead* (2002), and *Reason in Philosophy* (2010), the chapters of which either focus on historical figures (Spinoza, Leibniz, Kant, Hegel, Frege, Heidegger, Wittgenstein and Sellars) or extend or defend the view in MIE. In addition, the book *Between Saying and Doing* (2008), based on his John Locke Lectures given at Oxford University in 2006, strikes out in a different direction. Finally, there are two books that will (hopefully) be in press soon: the long anticipated historical work on Hegel, *A Spirit of Trust*, and *Perspectives on Pragmatism*, which promises to do for the line of thought in *Between Saying and Doing* what *Tales of the Mighty Dead* did for MIE.

The vast majority of Brandom's writings fall into one of three philosophical projects. The first, most familiar, and best developed is the inferentialist project of MIE. I say more on the specifics of inferentialism below, but the idea is (roughly) that rational phenomena (which include beliefs, desires, intentions, meanings, actions, perceptions, and linguistic interactions) should be explained by appeal to the systematic connections between them, rather than in terms of some kind of representation relation to things in the world. Many of the early papers, MIE itself, the papers in *Articulating Reasons*, and a couple of pieces in *Reason in Philosophy* constitute this body of work. The second project is historical. In it, Brandom attempts to reverse-engineer our understanding of modern philosophy (roughly since the 1600s) as a battle

between inferentialists and representationalists. The writings collected in *Tales of the Mighty Dead* along with many of the papers in *Reason in Philosophy* and the forthcoming monograph on Hegel constitute this project. The third project is methodological—it is about how one ought to do philosophy. The basis for this project is the book *Between Saying and Doing*, which presents what Brandom calls analytic pragmatism as an explicit methodology.

To be sure, there are connections between the three projects. Many of the historical figures Brandom addresses are read as proto-inferentialists or quasi-analytic-pragmatists. Moreover, the methodology propounded in *Between Saying and Doing* is a generalization of the methodological assumptions at work in MIE and the other inferentialist writings (including those of the historical figures). Finally, the inferentialist project presented in MIE is, a fortiori, an instance of analytic pragmatism, and it bears the marks of many of Brandom's historical influences, especially Frege, Wittgenstein, and Sellars. In this chapter, I focus on the inferentialist project because it is the most closely associated with Brandom and because it has the most obvious impact on our understanding of communication.

## 2. *Discursive Practice and Communication*

I begin with Brandom's views on communication in particular and then place them within the larger context of his inferentialist project. The following passage is a good place to start:

For information (whether true or false) to be communicated is for the claims undertaken by one interlocutor to become available to others (who attribute them) as premises for inferences. Communication is the social production and consumption of reasons.<sup>1</sup>

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<sup>1</sup> MIE: 474.

This is certainly a non-standard way of thinking about communication. Probably the most familiar model takes communication to be the transmission of information from one rational agent to another through the use of meaningful codes. Brandom rejects this “transmission” model for several reasons. First, it takes meanings or whatever is transferred to exist prior to the acts of communication. Communication, on the transmission model, is merely passing along something that already exists. Instead, Brandom takes communication to have a much more central role in conferring meanings on our linguistic expressions. He rejects the idea that meanings are somehow constituted ahead of time and then used to convey information in communication. Rather, for Brandom, one cannot explain how linguistic expressions come to have their meanings without bringing in communication from the start. If that is right, then endorsing the transmission model saddles one with an unacceptable account of how our words get their meanings. Second, Brandom’s preferred theory of meaning implies that when a speaker utters a sentence and a hearer understands that sentence uttered, the two participants invariably associate different meanings with the sentence uttered. That is, the meaning of a sentence is not preserved in communication. According to Brandom, there is nothing invariant to be encoded in the speaker’s utterance and decoded by the hearer. Thus, the transmission model is incompatible with his preferred account of what meanings are and how linguistic expressions come to have them. To understand Brandom’s own account of communication, we need to step back and consider his views on meaning and on rationality in general.

The central goal of MIE is to present an account of *sapience*—the particular kind of rationality that humans have, which includes having propositional attitudes (e.g., beliefs, desires, intentions), the ability to perform intentional actions, and the ability to speak and understand a natural language. According to Brandom, sapience must be explained by appeal to the way

groups of rational agents interact with one another. That is, rationality is a social achievement; it is the kind of thing that can be had only by groups of individuals.

The particular kind of activity that is necessary and sufficient for sapience Brandom calls a *discursive practice*. Discursive practices are essentially those activities in which the participants give and ask for reasons. The *game of giving and asking for reasons*, as Brandom calls it consists in undertaking and attributing commitments and entitlements. ‘Commitment’ and ‘entitlement’ are primitive technical terms for Brandom, but one can think of commitments as akin to obligations and entitlements as similar to permissions. These normative concepts are at the heart of Brandom’s account of discursive practice.

For Brandom, for an activity to count as a discursive practice, its participants have to keep track of three kinds of inferential relations: commitment-preserving relations (where commitment to one thing brings with it a commitment to another), entitlement-preserving relations (where one’s entitlement to one thing brings with it an entitlement to another), and incompatibility relations (where commitment to something precludes entitlement to another). A practice is *inferentially articulated* if and only if it exhibits these three kinds of inferential relations. In addition to inferential articulation, for an activity to be a discursive practice, its participants must be able to perform assertions, they must be able to provide and assess testimony, and they must be capable of recognizing and assessing perceptions and actions (what Brandom—following Sellars—calls language entries and exits). Because of Brandom’s emphasis on inferential articulation for discursive practices, his view of sapience in general is often called *inferentialism*. On the inferentialist view of rationality, “to be rational is to play the game of giving and asking for reasons. Utterances and states are propositionally contentful just insofar as they stand in inferential relations to one another: insofar as they can both serve as and

stand in need of reasons. Conceptual contents are functional inferential roles. ... To be rational is to be a producer and consumer of reasons: things that can play the role of both premises and conclusions of inferences. So long as one can assert (put something forward as a reason) and infer (use something as a reason), one is rational.”<sup>2</sup> It is against this background that one ought to understand Brandom’s comment (quoted above) that communication is the social production and consumption of reasons.

The point of Brandom’s account of discursive practice is to explain how the contents of mental states, linguistic expressions, and intentional actions are conferred on them by the activity of those participants in a discursive practice. Here ‘content’ is being used as a catch-all term that includes linguistic meaning but applies to other kinds of entities as well (e.g., beliefs).

According to this terminology, John’s belief that grass is green, John’s assertion that grass is green, and the sentence John asserted (e.g., ‘grass is green’) all have the same content.

The theory of content is first presented as a semantic theory, but the semantic theory rests on a pragmatic theory, so it makes sense to describe them together. I will address Brandom’s semantic theories and pragmatic theories in turn. His semantic theory belongs to a family called *conceptual role semantics*. Members of this family explain meaning or content in terms of the conceptual role of the thing that bears the meaning or content. Brandom’s version takes the conceptual role of a content-bearer to be its role in inference. He takes the primary content-bearers to be sentence tokens and the primary notion of inference to be material inference, which is a relation between two content-bearers that holds (in part) because of the content they bear (as opposed to formal inference which holds because of the form of the content-bearers). Thus, the content of a sentence token is its inferential role.

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<sup>2</sup> Brandom (2002: 6).

Recall that Brandom distinguishes between three types of inferential relations: commissive, permissive, and incompatible. Accordingly, the inferential role of a sentence has three parts—one for each of the inferential relations in which it participates. We can think of the incompatibility role as a set of ordered pairs of sentences that are incompatible. The commissive and permissive parts can each be thought of as sets of inferential antecedents and inferential consequents. The antecedents of a sentence are the sentences from which one can infer the sentence in question (let us call it  $p$ ) and the consequents are the sentences that one can infer from it. The antecedents of  $p$  form a set whose members are sets of sentences from which  $p$  follows. The consequents of  $p$  form a set of ordered  $n$ -tuples. The first member of each  $n$ -tuple is a sentence that follows from  $p$  and the other members of each  $n$ -tuple are the premises besides  $p$  needed to derive the first member. Thus, the inferential role of a sentence  $p$ , will be:  $\{p$ 's commissive antecedents,  $p$ 's commissive consequents,  $p$ 's permissive antecedents,  $p$ 's permissive consequents,  $p$ 's incompatibilities $\}$ . The inferential role of a sentence depends on both which sentences are available to serve as auxiliary premises and which inferences are correct. Brandom assumes that each member of a discursive practice takes everyone else to agree on the latter.<sup>3</sup>

Brandom's pragmatic theory takes as primitives the notions of *deontic status* and *deontic attitude*. Statuses come in two flavors: *commitments* and *entitlements*. The former are similar to responsibilities and the latter are similar to permissions. There are three types of attitudes: *attributing*, *undertaking*, and *acknowledging*. One may attribute, undertake, and acknowledge various commitments and entitlements.

There are several different kinds of commitments that correspond to aspects of discursive practice. *Doxastic commitments* correspond to assertions and beliefs, *inferential commitments*

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<sup>3</sup> MIE, ch.2.

correspond to reasons, and *practical commitments* correspond to actions. The members of a discursive practice keep track of each other's commitments and entitlements. Brandom adopts David Lewis's explanation of this behavior in terms of scorekeeping (discussed in section three). At a given moment in a conversation, the score is just the commitments and entitlements associated with each participant. Each member of the conversation keeps score on all the participants (including herself). Every time one of the participants undertakes (implicitly adopts), acknowledges (explicitly adopts), or attributes (takes another as if he adopts) a commitment or entitlement, it changes the score. I will refer to these as *scorekeeping actions*.

Brandom bases his pragmatic theory on the idea that the use of a linguistic item is the way it changes the score of a conversation by causing everyone in the conversation to perform scorekeeping actions. Because Brandom emphasizes the normative dimension of content, he defines the *pragmatic significance* of a sentence as the way it *should* affect the score of a conversation in which someone utters it. Pragmatic significance has two aspects—the circumstances of application and the consequences of application. The former consists of the scores of conversations in which it is legitimate to utter the sentence in question. The latter is the scores that should result from a legitimate utterance of it.<sup>4</sup>

There are two important senses in which Brandom's semantics answers to his pragmatics. First, the inferences that constitute the content of a sentence are explained in terms of commitments and entitlements. A *commissive inference* is one for which if one is committed to its premises, then one should be committed to its conclusion as well. If one is entitled to the premises of a *permissive inference*, then one should be entitled to its conclusion too. Two sentences are *incompatible* if commitment to one precludes entitlement to the other. The participants of an inferential practice acknowledge inferential commitments by using some

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<sup>4</sup> MIE, 180-198.

sentences as reasons for others. Second, given the force of an utterance, the content of the sentence uttered determines its pragmatic significance. That is, once the members of a discursive practice determine that a given utterance has a certain force, they can use the content of the sentence uttered (its inferential role) to determine how it should change the score of the conversation (its pragmatic significance).

For Brandom, the paradigmatic use of a sentence is an assertion. Consequently, his model of discursive practice is one in which the members make various assertions. He assumes that this model can be extended to include all the other types of speech acts. When a person makes an assertion, she sets off a chain reaction of scorekeeping actions by each member of the conversation. Three important features of assertions govern these scorekeeping actions. First, when someone makes an assertion, she acknowledges a doxastic commitment. She also undertakes all the commitments and entitlements that follow from the one acknowledged. Second, a successful assertion (i.e., one in which the asserter is entitled to the commitment acknowledged) entitles others members of the conversation to undertake the same commitment. Successful assertions present commitments for public consumption. Third, the asserter takes responsibility to justify the assertion by giving reasons for it should the need arise. In general, assertion displays a *default and challenge structure* in which many assertions carry default entitlement that another member of the conversation can challenge.<sup>5</sup>

At this point, we have enough of the details of Brandom's model of discursive practice to turn toward communication. Communication occurs between two scorekeepers, A and B, when a claim, p, undertaken by A (usually as a result of A uttering the sentence that expresses p) becomes available to B as a premise in B's inferential system. B understands A's assertion if B attributes the right commitment to A as a result of A's utterance. A necessary condition for B's

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<sup>5</sup> MIE: 167-179.

understanding of A's utterance is for B to know the consequences of endorsing the claim herself. That is, B must be able to assess the utterance's inferential significance relative to her commitment set. Communication requires that B must be able to select a sentence that (if she uttered it) would have the same (or relevantly similar) inferential significance relative to her commitment set as A's utterance has relative to his commitment set.<sup>6</sup>

One consequence of inferential accounts of meaning is that, in Brandom's terms, the inferential significance of an utterance is relative to one's set of other commitments because the set of inferences in which it serves as a conclusion and the set of inferences in which it is a premise will depend on which other claims are available to serve as premises. For example, 'if p then q' alone does not imply 'q', but together with 'p' as an auxiliary premise, 'q' is in the set of its consequences.

The relativity of inferential significance to a set of background commitments causes an *interpersonal problem* pertaining to communication. If assessing the inferential significance of a claim is a necessary condition for understanding it, and the inferential significance is relative to a commitment set, then different participants in a conversation will not be able to understand each other's utterances. In a conversation, person A utters a sentence, p, with which he associates an inferential significance that is relative to the set of commitments he acknowledges. Person B hears A's utterance, but associates p with the inferential significance that it would have relative to her set of auxiliary commitments. Because A's and B's sets of commitments differ, they associate different inferential significance to p. Thus, B misunderstands A's utterance. The only case when this would not happen is if A and B have the exact same set of background commitments (which is impossible and also eliminates the need for communication).

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<sup>6</sup> MIE: 478-82.

When a scorekeeper attributes a commitment to another or undertakes a commitment by uttering a sentence, the content of the commitment must be specified. Just which commitment is attributed is relative to the attributer's commitment set because its specification will depend on the available auxiliary commitments. In other words, different scorekeepers cannot understand one another or communicate because they attach different contents to the utterances they use to specify each other's commitments.<sup>7</sup>

Brandom considers several solutions to this problem and finds further difficulties with each. Quine proposed a solution to the problem of the relativity of inferential significance whereby meaning is eliminated from all but the largest linguistic units. He treats reference as the only semantic feature and allows only extensional information to be communicated; inferential significance is given no role whatsoever. This solves the interpersonal problem: communication consists in transmitting extensional information. Intensions can be defined in terms of extension, but they have no direct role in communication.<sup>8</sup> The problems with an extensional account of communication notwithstanding, Brandom cannot adopt Quine's solution without abandoning the inferential approach to semantics. Further, Quine's solution requires an independent account of extension and reference, whereas Brandom explains reference and extension inferentially.

Another solution is to restrict the class of meaning-constitutive inferences by distinguishing between a set of primary inferences that constitute the content of an expression and a set of secondary inferences involving the expression that are merely correct applications. The interpersonal problem is solved because a hearer understands a speaker when she grasps the primary inferences associated with the speaker's expressions but their beliefs can diverge beyond

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<sup>7</sup> MIE: 587.

<sup>8</sup> See MIE: 81-2, 477-8.

these.<sup>9</sup> Quine famously criticized one version of this idea with his critique of the analytic/synthetic distinction. He showed that one way of construing the distinction between primary and secondary inferences could not be implemented by linguistic usage.<sup>10</sup>

Instead of giving up on meaning altogether (as Quine did) or defending an account of analyticity, Brandom instead gives up the transmission model of communication.

The paradigm of communication as joint possession of some common thing is relinquished in favor of—or modified in the direction of—a paradigm of communication as a kind of cooperation in practice. What is shared by speaker and audience is not a content-as-function but a scorekeeping practice. Contents as functions from repertoires to inferential significances can be seen as implicit in such practices, but the practice can retain its identity even though the functions implicit in it are different (at different times, and from different doxastic points of view). ... From each doxastic point of view on a speech act there can be a content common to the one undertaking a commitment and the scorekeepers attributing it, but what is taken to be shared may be different from the points of view of different scorekeepers. Thus inferential contents are essentially perspectival—they can in principle be specified only from a point of view. What is shared is the capacity to navigate and traverse differences in points of view, to specify contents from different points of view. ... So what appear theoretically as distinct moves down from inferential significances to extensions by assimilating expressions as intersubstitutable (=coreferential), on the one hand, and up from those significances to intensions by relativizing them to repertoires of background commitments on the other, correspond to aspects of a single interpretive activity of understanding, grasping a meaning—the cognitive uptake of communication that is deontic scorekeeping.<sup>11</sup>

This is a dense passage with a lot going on. Here is my gloss on it. When two people are having a conversation, each one keeps score; that is, each one keeps track of his own commitments and entitlements and keeps track of the commitments and entitlements of the other. However, when keeping score on another, one must keep two sets of books. In one book go the commitments and entitlements the person actually acknowledges. In the other go the commitments and

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<sup>9</sup> MIE: 483-4, 634.

<sup>10</sup> See Quine 1951.

<sup>11</sup> MIE: 485.

entitlements the person has undertaken according to the scorekeeper. These two books will differ since the two scorekeepers have different commitments.

Consider an example. Suppose that John is having a conversation with a shaman near a certain tree, and the shaman asserts

(1) Drinking the liquor distilled from the bark of that tree will prevent malaria.<sup>12</sup>

John keeps score on the shaman by recording that the shaman believes that drinking the liquor distilled from the bark of that tree will prevent malaria. This is specification of one of the commitments the shaman has acknowledged. If John figures out that the tree in question is a cinchona tree and John already knows that quinine is distilled from the cinchona tree, then John can specify the shaman's belief in another way: the shaman believes of quinine that malaria can be prevented by drinking it. The first kind of belief attribution is called a *de dicto* attribution, while the second is called a *de re* attribution.<sup>13</sup> The second is a specification of a commitment the shaman has undertaken, but does not acknowledge since the shaman does not understand the term 'quinine'. Moreover, if John also knows that quinine is a treatment for lupus as well, then he can attribute another commitment undertaken by the shaman; namely, that drinking the liquor distilled from the bark of that tree will treat lupus. The shaman has undertaken this commitment even though he has no idea what lupus is. John can extract information from the Shaman's utterance by using his own commitments (that is a cinchona tree, quinine is distilled from cinchona tree bark, quinine treats lupus).

For Brandom, communication consists in the ability of the hearer to keep two sets of books, to move back and forth between *de dicto* and *de re* attributions based on commitments acknowledged and commitments undertaken, and to extract information from the speaker's

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<sup>12</sup> This example is a variant of one found in MIE: 513-514.

<sup>13</sup> Note that most philosophers treat these as different kinds of beliefs, but for Brandom, they are different kinds of belief attributions.

utterance by exploiting the two different books kept on the speaker. Despite the fact that the sentence uttered has different inferential significance for the speaker and the hearer, because scorekeepers keep two sets of books and have the ability to coordinate them to extract information, communication is possible. On Brandom's model, there is no perspective-independent thing—the content of the sentence—that the shaman and John both grasp. If one wants, one can think of a content as function from sets of commitments to inferential significances, so that from the shaman's perspective, the sentence he uttered has one inferential significance while from John's perspective, the sentence the shaman uttered has a different inferential significance. The difference comes out in the different characterizations of the content of that sentence based on the differences in their background commitments. For John, the sentence has a content that includes the claim that quinine prevents malaria, while the sentence has a different content from the shaman's perspective. Who is right? There is no sense in which one of them is right and the other is wrong because, for Brandom, contents are essentially perspectival. This kind of semantic perspectivism goes hand in hand with his inferentialism, his account of scorekeeping, and his particular model of communication.

### *3. The Significance of Brandom's Views on Communication*

There are so many ways one could go in placing Brandom's views in a wider context that one could write a whole book about it. In this chapter, I limit myself to three aspects that are likely to be of interest to those in communication studies: Brandom's relation to Habermas, his views on pragmatics, and his views on semantics.

#### *3.1 Brandom and Habermas*

Since Habermas' views on communication have been so influential, comparing and contrasting them with Brandom's account might help situate the latter. Habermas is probably most well known for his theory of communicative action, which is intended to explain a wide range of rational phenomena by appeal to the coordinating properties of language. At the heart of the theory of communicative action is a theory of meaning. Instead of giving necessary and sufficient conditions for a linguistic expression to have a certain meaning, Habermas focuses on the conditions for understanding a sentence or speech act. For Habermas, one understands a sentence if one knows how to use it to come to agreement with someone about some topic, and one understands a speech act if one knows its acceptability conditions, which are the conditions under which a person could be persuaded to accept the speech act and endorse its validity claims. The reasons one might give for a validity claim are an essential part of the acceptability conditions for the speech act in question. Of course, there is much more to Habermas's account of meaning and communication, but this rough sketch should be fine for our purposes.

Habermas and Brandom agree that the meaning of a sentence or utterance is determined (in part) by its inferential role (i.e., what can be inferred from it, and what it can be inferred from). For Habermas, this comes out in his emphasis on the reasons that could be given for the validity claim made in a particular speech act. Both thinkers reject the claim that meaning is to be explained in terms of truth conditions. Instead, they focus on the way claims are used in rational discussion. Habermas emphasizes the process of coming to agreement as the central point of language use, whereas Brandom is skeptical that there is an overarching goal of linguistic activity, but they both agree on the centrality of inferential role in the determination of meaning.

Habermas and Brandom disagree on another issue, however. Habermas thinks that successful communication requires that speakers and hearers mean the same things by the words

they use. As we have seen, Brandom disagrees. For Brandom, no two members of a discursive practice mean the same things by their words because any two rational entities will have different sets of auxiliary beliefs to draw from in reasoning. That is, Brandom acknowledges that a sentence has different inferential roles for different people, and thus it has different meanings for different people. Instead of presupposing that everyone means the same thing by their words, Brandom adopts a different model of communication and communicative success. One might wonder whether it is coherent for Habermas to both explain meaning in terms of inferential role and assume that conversational participants generally mean the same things by the words they use. I have argued (in other work) that it is not coherent, but reproducing that criticism would take us too far afield.<sup>14</sup>

### *3.2 Brandom and Pragmatics*

As I mentioned, Brandom borrows the idea that rational activity involves something like scorekeeping from David Lewis, but this idea is part of a larger tradition in pragmatics. There are several proposals for how to understand the way conversations develop. Here, I review Robert Stalnaker's notion of common ground, David Lewis's scorekeeping theory, and Craige Roberts' model; these form a progression in the sense that Lewis incorporates Stalnaker's model and Roberts incorporates Lewis' model.

Stalnaker's theory of discourse focuses on assertion and presupposition. The main idea is that when a speaker makes an assertion in a conversation, the content of the sentence asserted furthers the conversation in a certain way. In particular, the content rules out ways the world might be that were previously live options in the conversation. If the content asserted is accepted

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<sup>14</sup> See Scharp (2002) for discussion and for references to Habermas' work.

by everyone in the conversation, then the potential ways the world might be have been narrowed, and that is one of the central goals of conversation.

To model this idea, assume that we have a conversation consisting of several people. Each person has many beliefs. Stalnaker defines a participant's *presupposition* as a purportedly shared belief in the conversation. It requires that the participant believes it, the participant believes that everyone else believes it, the participant believes that everyone else believes that everyone else believes it, and so on. Since beliefs are often taken to be attitudes toward propositions, and propositions are often taken to determine a set of possible worlds in which they are true, we can simplify matters by talking about propositions. A participant's presupposition will divide the class of possible worlds into two—those in which the presupposed proposition is true, and the rest. If a participant's presupposition is also a presupposition of all the other participants, then it is a *shared presupposition*. The set of shared presuppositions is called the *common ground*—it is what everyone in the conversation agrees on, agrees they agree on, and so on. The crucial notion for Stalnaker's view is the set of possible worlds in which all the propositions in the common ground are true; call this the *context set*. As the conversation develops, the common ground expands and the context set shrinks. When a participant in the conversation makes an assertion, the proposition asserted should not be entailed by the common ground; that is, it should be false in some worlds in the context set prior to the assertion.<sup>15</sup> That way, if everyone in the conversation accepts the assertion, it narrows the context set. Stalnaker's model of conversation has been extremely influential, and offers a powerful explanation for a variety of pragmatic phenomena.<sup>16</sup>

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<sup>15</sup> Obviously, this feature of Stalnaker's model is an idealization since it would rule out asserting necessary propositions (e.g., in mathematical conversations).

<sup>16</sup> See Stalnaker (1999).

Lewis's views on conversations are similar to Stalnaker's in that it treats conversations as rule-governed, and Lewis' model incorporates Stalnaker's ideas of presupposed propositions and common ground, but is more general. Lewis begins with an analogy between the score in a baseball game and the score in a conversation. One can model the score in a baseball game as a septuple with entries for visiting team runs, home team runs, half of the inning, inning, strikes, balls, and outs.<sup>17</sup> Rules of baseball then come in four kinds:

- (i) *Specifications of the kinematics of score*: rules that specify how the score changes over time in response to the behavior of players (e.g., a home team runner crossing home plate without being tagged out as the result of a hit or steal increases the home team runs by one).
- (ii) *Specifications of correct play*: rules that specify what is permissible and obligatory behavior for the players as determined by the score (e.g., if in the top half of an inning, the outs reaches three, then the home team players leave the field, while the visiting team players take the field).
- (iii) *Directive requiring correct play*: all players ought to obey the specifications of correct play at all times.
- (iv) *Directives concerning score*: players try to make the score change in certain ways (e.g., visiting team players try to increase the visiting team runs, visiting team players try to prevent home team runs from increasing, and in the bottom half of innings, visiting team members try to increase the outs).<sup>18</sup>

Lewis suggests that conversations can be usefully modeled along the same lines. The conversational score consists of a mathematical structure that includes “sets of presupposed propositions, boundaries between permissible and impermissible courses of action, and the like.”<sup>19</sup> The four types of rules carry over. (i) Conversational score changes in a rule-governed way in response to the behavior of participants (e.g., when an assertion is accepted by everyone, the proposition asserted gets added to the common ground). (ii) Acceptable behavior for the

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<sup>17</sup> Notice that Lewis' formulation is incomplete since it does not account for runners, batting order, pinch hitters, etc., all of which might affect specifications of correct play and directives concerning score.

<sup>18</sup> Lewis (1979: 236).

<sup>19</sup> Lewis (1979: 238).

participants at any stage in the conversation is determined by the score (e.g., it is unacceptable to assert something that has already been accepted by everyone). (iii) Participants are expected to cooperate by following the rules for acceptable behavior. (iv) Participants try to change the score in certain ways (e.g., a speaker attempts to get others to accept what she believes by making assertions in the hopes that they are accepted and added to the common ground). The beauty of Lewis' model is that it is not restricted to assertions—it is designed to handle commands, questions, suppositions, challenges, promises, and a wide range of other discourse actions; it also allows information to come off the record through retraction or accommodation. Although not as influential as Stalnaker's model, it too has been used to explain a variety of pragmatic phenomena.

Roberts expands Lewis's model and fills in many of the details for dealing with non-assertoric utterances. According to Roberts, the conversational score consists of the following structures (these should be thought of as relativized to a time  $t$ ):

- (i)  $I$ : A set of *interlocutors* at time  $t$ .
- (ii)  $G$ : A function from pairs of individuals in  $I$  and times  $t$  to sets of *goals* in effect at  $t$  such that for each  $i \in I$  and each  $t$ , there is a set,  $G(\langle i, t \rangle)$ , which is  $i$ 's set of goals at  $t$ .
- (iii)  $G_{\text{com}}$ : the set of *common goals* at  $t$ ; i.e.,  $\{g \mid \text{for all } i \in I, g \in G(\langle i, t \rangle)\}$ .
- (iv)  $M$ : The set of *moves* made by interlocutors up to  $t$  with the following distinguished subsets— $A$ , the set of assertions;  $Q$ , the set of questions;  $R$ , the set of requests; and  $\text{Acc}$ , the set of accepted moves.
- (v)  $<$ : a total order on  $M$  that reflects the chronological order of moves.
- (vi)  $\text{CG}$ : The *common ground*; i.e., the set of shared presupposed propositions at  $t$ .
- (vii)  $\text{DR}$ : The set of *discourse referents*; i.e., the ontological commitments of the claims in  $\text{CG}$ .<sup>20</sup>

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<sup>20</sup> This element plays a role in modeling anaphora.

- (viii) QUD: The set of *questions under discussion* at  $t$ ; i.e., a subset of  $Q \cap \text{Acc}$  such that for all  $q \in \text{QUD}$ , CG does not entail an answer to  $q$  and the goal of answering  $q$  is a common goal.

On Roberts' model, the conversational score is updated in the following ways:

- (i) Assertion: if an assertion is accepted by all the interlocutors, then the proposition asserted is added to CG.
- (ii) Question: if a question is accepted by all the interlocutors, then the set of propositions associated with the question is added to QUD. A question is removed from QUD iff either its answer is entailed by CG or it is determined to be unanswerable.
- (iii) Request: If a request is accepted by an interlocutor,  $i$ , then the goal associated with the request is added to  $G_i$ , and the proposition that  $i$  intends to comply with the request is added to CG.

One nice aspect of Roberts' model is that it relates the conversational score back to Grice's original insight that participating in a conversation is a rational enterprise—each participant has certain beliefs and desires, and each participant engages in the conversation to rationally further his ends. The common goals of the conversation and the question under discussion are meant to help explain why the participants are engaging in a conversation at all, and why they pursue their own particular strategies in the conversation. These structures also allow Roberts' model to explain the pragmatic significance of questions and commands. Roberts' model is relatively new, but she uses it to explain a number of recalcitrant data pertaining to demonstratives, anaphora, definite descriptions, ellipsis, and prosodic deaccentuation.<sup>21</sup>

Notice some of the differences between Roberts' scorekeeping model and Brandom's. First, Brandom focuses exclusively on assertion, while Roberts considers other kinds of speech acts as well. Second, for Roberts, the score is common to everyone in the conversation, whereas for Brandom, each participant keeps score and these scores differ from person to person. Indeed, it is these differences that allow Brandom to deal with the problem posed by the relativity of

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<sup>21</sup> See Roberts (1996, 1998, 2002, 2003, 2004, 2010).

inferential significance. Third, Roberts incorporates discursive goals and the question under discussion into her account of score, while Brandom has nothing corresponding to these features. They are rather powerful and allow Roberts to explain why participants in a conversation are engaged in communication at all (because they are interested in answering the question under discussion) and why they make the particular moves they make in a conversation (because of their conversational goals).

It seems to me that Brandom could alter his account of scorekeeping to accommodate some features of Roberts' model. First, he needs to expand his account to make sense of different kinds of speech acts, at least questions and commands (especially for someone who places so much emphasis on the game of giving and *asking for* reasons). It seems to me that he already has the materials to do this. To explain commands, all Brandom needs to do is use practical commitments. If a person issues a command to another and that command is accepted, then the commanded agent acknowledges a practical commitment to obey the command. Simply issuing a command has an impact on the score as well since the commander acknowledges a practical commitment to get the commanded agent to comply with the command. Indeed, all talk of goals in Roberts' model could be replaced by talk of attributing, acknowledging, and undertaking practical commitments. As for questions, one can explain them as acknowledgements of practical commitments to find an answer to the query. If question is deemed acceptable by a participant in the conversation, then that person inherits the practical commitment to provide an answer to it. Indeed, the question under discussion is just what everyone in the conversation acknowledges as a practical commitment to answer. Given the role it plays, if something counts as the question under discussion in a conversation, then all the participants would also

acknowledge a doxastic commitment that the common ground does not entail an answer to it, and that the question is answerable.

On the other hand, Brandom would surely not take on the perspective-independent feature of Roberts' model. For Brandom, the fact that each participant keeps score and keeps two sets of books on the other participants is an essential feature of his model. The difference between them amounts to the fact that Roberts implicitly accepts the transmission model of communication, whereas Brandom does not. From Brandom's perspective, anyone who accepts Roberts' pragmatic theory is incapable of explaining how linguistic expressions come to have content in the first place.

One other development in pragmatics deserves mention in this subsection. Rebecca Kukla, Mark Lance, and Greg Restall have recently presented a formal theory of pragmatics that is explicitly inspired by Brandom's model.<sup>22</sup> However, the Kukla/Lance/Restall model (KLR hereafter) aims to explain the pragmatic forces of speech acts in terms of commitments and entitlements rather than taking them as primitives as in the case of Brandom and Roberts. The KLR model has the following elements:

- (i) AGENT: a set of agents
- (ii) ACTION: a set of action types
- (iii) STATUS: a set of prescriptive statuses

In what follows, let lowercase Greek letters range over agents and uppercase English letters range over action types, and lowercase English letters range over statuses. Although the KLR model allows for any number of statuses, they focus on commitment, entitlement, and doing. In the formalism, statuses evaluate action types with respect to agents, so a basic formula of the theory has the form  $s(F, \alpha)$ , where  $s$  is a status,  $F$  is an action type, and  $\alpha$  is an agent. They call

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<sup>22</sup> Kukla, Lance, and Restall (2009).

these basic formulas *prescriptive assignments*. A scorecard is a set of prescriptive assignments that satisfies certain constraints.

One innovation of the KLR model is that it appeals to sequent calculus versions of formal proof theory to explain the constraints on prescriptive assignments. That is, they think of assignments as standing in consequence relations to one another. If  $X$  and  $Y$  are assignments, then  $X \vdash Y$  is a structural constraint on scorecards such that a scorecard satisfies it if and only if it is not the case that the scorecard contains every assignment in  $X$  and no assignment in  $Y$ . With this terminology, they formulate several general constraints on scorecards that are analogous to the normal structural rules for the consequence relation (i.e., reflexivity, weakening, and transitivity).

Another interesting feature of their model is that prescriptive assignments can turn out to be action types. That is, in the interesting cases, for every  $\alpha \in \text{AGENT}$ ,  $F \in \text{ACTION}$ , and  $s \in \text{STATUS}$ ,  $s(F, \alpha) \in \text{ACTION}$ . This would be the action type of taking  $\alpha$ 's  $F$ -ing to be  $s$ . In this way, they can make sense of things like the idea that if  $\alpha$  cannot take  $F$  to be an entitled action, then no other agent can take  $F$  to be an entitled action.

Using these resources, the KLR model can define various speech acts as those that satisfy certain constraints on scorecards; Kukla, Lance and Restall provide specific definitions of declarative and prescriptive speech acts, but these are a bit too complex to reproduce here. The KLR model is an exciting innovation because it allows one to explain what it is for an action to have a particular pragmatic force by appealing only to agents, actions, and normative statuses, which are the raw materials of Brandom's scorekeeping pragmatics. As their theories stand now, Brandom and Roberts have to take pragmatic forces as primitives that cannot be explained by

their pragmatic theories. In addition, it seems to me that the KLR model is extremely powerful and could be used in many other ways as well.

### 3.3 *Brandom and Semantics*

Although inferentialism has had some impact on semantics, it has mostly been confined to an account of the meanings of logical terms. Moreover, Brandom's particular theory of content seems to have had little influence on formal semantic theories of natural languages. This is probably due to the fact that most formal semantic theories presuppose something like the transmission model of communication and aim to give a formal account of the contents expressed by sentences uttered in context. For Brandom, there is no such thing as a perspective-independent content for a sentence to express, so it is unclear how one might incorporate his views on communication and content into a formal setting. However, it seems to me that there are a couple of ways to accomplish this. One would be to try dynamic semantics, which is a tradition in formal semantics going back several decades. On dynamic semantic theories, sentence contents are modeled on updates of the information in conversational contexts. Another option is to think of Brandom's semantic perspectivism as a kind of semantic relativism, which is a new development in formal semantics. Although I think the dynamic semantics idea is worth pursuing, here I develop the second option.

#### 3.3.1 *Formal Semantics*

Following Stefano Predelli's recent discussion of formal semantics for natural language, let us distinguish between a *linguistic practice*, which consists of rational entities making noises and inscriptions in the course of their interactions with other rational entities, and an *interpretive system*, which is used as a tool by natural language semanticists to explain the semantic

properties of those noises and inscriptions.<sup>23</sup> In all that follows, one must keep this distinction firmly in mind. Natural language semantics is typically taken to be the enterprise of systematically assigning truth conditions to sentences of natural language. However, as Predelli emphasizes, it is considerably more complex because the tool of natural language semantics, the interpretive system, is an abstract theory that does not take sentences of natural language as inputs and does not yield truth conditions as outputs. Instead, there is an extra layer of processing that occurs between the linguistic practice and the interpretive system. For example, many English sentences are ambiguous and must be disambiguated before they can be assigned truth conditions; ‘e.g., Montgomery is at the bank’ could mean that Montgomery is at the riverbank or that Montgomery is at the financial institution. For this reason, interpretive systems do not take natural language sentences as input; instead, their inputs are complex structures that result from disambiguating sentences. I use Predelli’s neutral term ‘clause’ for these items.

For context dependent sentences, the interpretive system needs something in addition to the clause as input. Assume for example that Nelson is in fourth grade and Stu is an adult with a high school diploma; if Nelson says ‘I am in fourth grade’ and Stu says ‘I am in fourth grade’, then they have uttered the same sentence (type), but Nelson has uttered something true, while Stu has not. Not only do the two utterances have different truth values, they express different propositions as well. The proposition Nelson uttered is true iff Nelson is in fourth grade, while the proposition Stu uttered is true iff Stu is in fourth grade. Clearly, the difference in propositions uttered should be traced to the word ‘I’ that occurs in the sentence. ‘I’ is a paradigmatic indexical, which has different semantic features in different contexts of use. In order for an interpretive system to handle cases like this, it needs more input than just a clause. It needs information about the environment in which these utterances occurred. Again, following Predelli, I use the term ‘index’ for the information that gets fed into the interpretive

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<sup>23</sup> Predelli (2005); ‘interpretive system’ is Predelli’s term, ‘linguistic practice’ is my own.

system, and ‘context’ for the concrete environment in which the utterance is performed.<sup>24</sup> (Note that these two terms are used in so many different ways in philosophy of language and linguistics that it is a wonder anyone can follow along.) For sentences like the one uttered by Nelson and Stu, the input for the interpretive system is a clause/index pair. For this example, the index needs to contain, at least, the speaker who uttered the sentence since ‘I’ often (but not invariably) refers to the person who uttered or inscribed the sentence in which it occurs. Since there are other kinds of indexicals (e.g., ‘here’, ‘now’, ‘that’), indexes need to contain more information (e.g., place, time, demonstratum).<sup>25</sup>

Just as interpretive systems accept only specific inputs, they produce special outputs. Recall that the goal is assigning truth conditions to sentences uttered in the linguistic practice; however, there is an additional level of complexity between the output of the interpretive system and the assignment of truth conditions. The truth conditions of a sentence are usually taken to be its truth value across a variety of empirical descriptions (ways the world might be or have been). Predelli notices that this idea conflates the distinction between the interpretive system and the linguistic practice. Instead, utterances made in the linguistic practice have *truth conditions*, while the interpretive system outputs *t-distributions*, which are assignments of truth values to clause/index pairs (or propositions) relative to points of evaluation. The points of evaluation contain information like a possible world and a time. This array of truth values at points of evaluation is called a *t-distribution*. Just as there is interpretive work to be done in moving from an utterance to a clause/index pair, there is interpretive work to be done in moving from a *t-distribution* to truth-conditions. A *t-distribution* is at the level of the interpretive system, whereas truth conditions are at the level of the linguistic practice.

### 3.3.2 Presemantic, Semantic, and Postsemantic Theories

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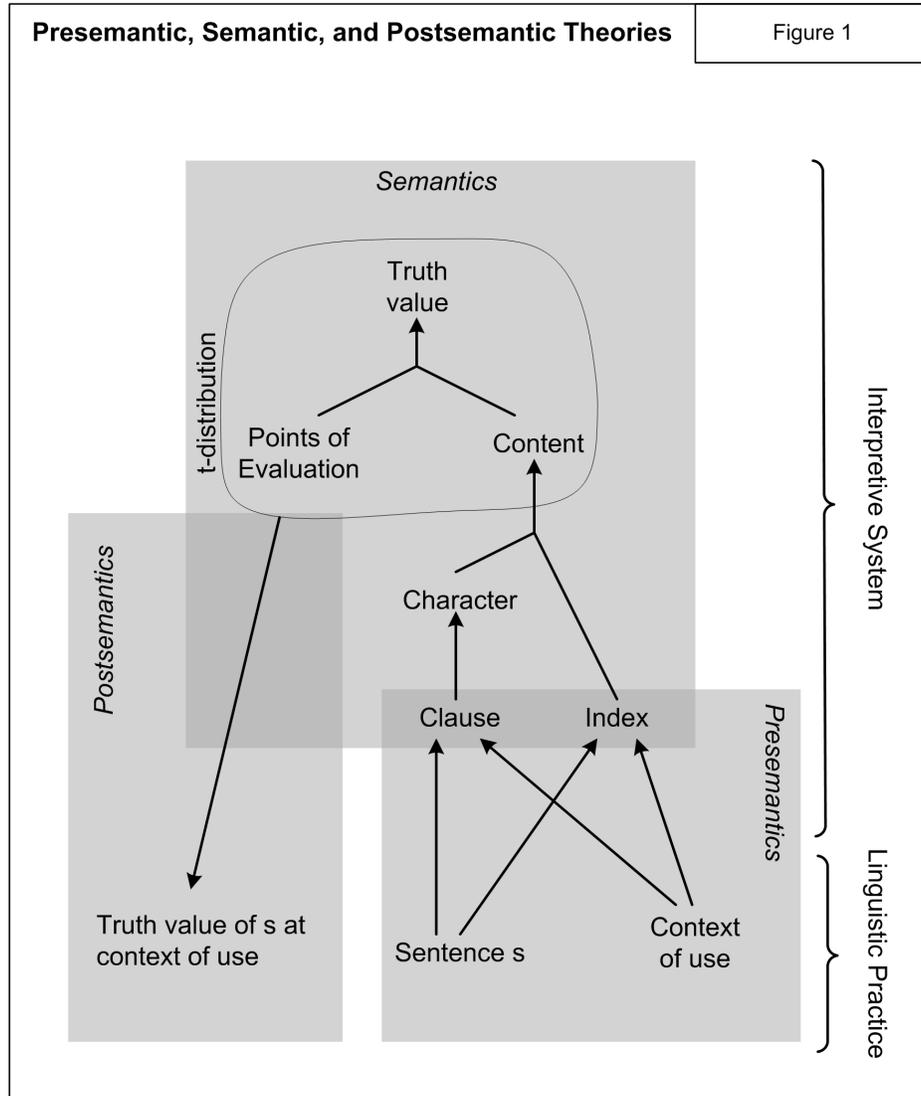
<sup>24</sup> Note that contexts in this sense can be modeled using standard pragmatic theories; see Stalnaker (1999), Lewis (1979), and Roberts (1996, 2004, 2010).

<sup>25</sup> Predelli (2005: ch. 1).

We need to distinguish between a presemantic theory, a semantic theory and a postsemantic theory.<sup>26</sup> Interpretive systems are semantic theories—they take clause/index pairs as input and produce t-distributions as output. *Presemantic* theories take natural language utterances as input and produce clause/index pairs as output. Thus presemantic theories relate natural language utterances to semantic theory inputs. *Postsemantic* theories take t-distributions as input and produce truth values and truth conditions for natural language utterances. Hence, postsemantic theories relate semantic theory outputs to natural language utterances. In sum, we begin with a natural language utterance, run it through a presemantic theory to arrive at a clause/index pair, then use a semantic theory to compute a t-distribution for that clause/index pair, and finally use a postsemantic theory on that t-distribution to generate truth conditions and a truth value for the natural language utterance with which we began. In what follows, this three-part structure is essential; see Figure One for a handy diagram.

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<sup>26</sup> I get the term ‘presemantic’ from Perry (2001) and ‘postsemantic’ from MacFarlane (2005).

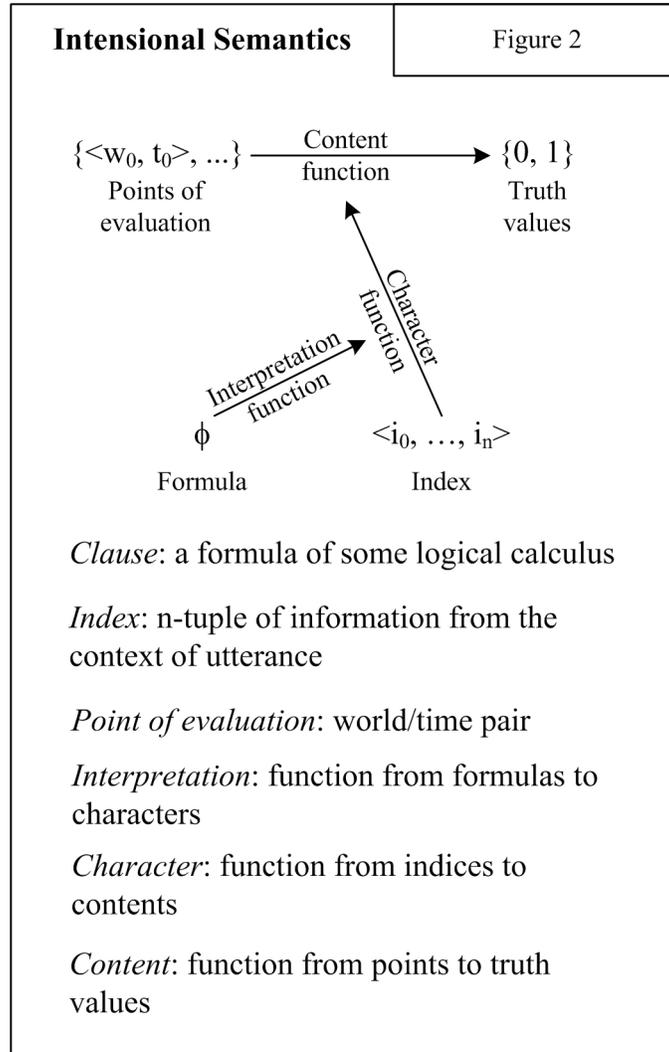


Let us now look at semantic theories. There are two main varieties—extensional and intensional. Extensional semantic theories deal only with sentences (clauses), whereas intensional semantic theories posit contents or propositions. There is a large literature on each kind, but the disputes about them do not matter for my purposes here. In order to draw the distinctions we need for a descriptive theory of truth, we need to focus on propositions that are the purview of intensional semantic theories.

### 3.3.3 Intensional Semantics

For intensional semantics, truth values are assigned to propositions instead of clause/index pairs, and intensional semantics introduces points of evaluation, which are usually taken to be just worlds or sometimes world/time pairs (if tense is treated as an intensional operator). A major advantage of intensional semantics is that it provides us with an account of propositions, which can be used in pragmatic theories and theories of propositional attitudes. Moreover, it permits more flexibility in the structure of the semantic theory (e.g., the distinction between indexicalism and non-indexical contextualism discussed below).

Following Kaplan, we distinguish between two levels in the intensional semantic theory. At the first level, expressions are assigned a character, while at the second level, the character/index pair is assigned a content. The output of the intensional semantic theory is an assignment of an extension to this content at every point of evaluation (in the case of sentences, their contents are propositions and their extensions are truth values). As such we can think of characters as functions from indexes to contents, and we can think of contents as functions from points of evaluation to extensions. See Figure Two for a diagram.



One motivation for intensional semantics is to make sense of the idea that indexicals and demonstratives have an invariant aspect of their meaning and a variable aspect of their meaning. For example, ‘I’ usually refers to the speaker—that is an invariant aspect of the meaning of ‘I’, but different contexts have different speakers, so ‘I’ refers to different people in different contexts—that is the variable aspect of its meaning. In intensional semantics, indexicals like ‘I’ are assigned a constant character but variable content. The character of ‘I’ is always the same, but its content differs from context to context. When we plug in the index, the character of ‘I’ gives us a content for ‘I’. Finally, when we plug in a point of evaluation, the content of each term gives us an extension.

The output of an intensional semantics (a *t*-distribution) is an assignment of truth values to contents at points of evaluation. To get from this to a truth value and a truth condition for the utterance in question, we need a postsemantic theory. It is standard to use something like:

- (2) A sentence *p* is true at a context *c* iff the content assigned to the clause that represents *p* with respect to the index that represents *c* is true at the point of evaluation that represents the world and time of *c*.

Note that we have again defined clause truth at a index in terms of the output of the semantic theory—in this case, it is content truth at a point of evaluation.

### 3.3.4 *Varieties of Semantic Phenomena*

The following is a classification of some kinds of linguistic expressions from the point of view of formal semantics.

- (i) univocal and invariant
- (ii) ambiguous
- (iii) use-indexical (i.e., indexical contextualism)
- (iv) use-sensitive but not use-indexical (i.e., non-indexical contextualism).
- (v) assessment-sensitive (i.e., non-indexical relativism).
- (vi) assessment-indexical (i.e., indexical relativism)

Expressions in class (i) have a single invariant content. They are assigned a character that picks out the same content no matter what the index. These words have the same content in every context of use. Moreover, their contents contribute to the truth values of sentences in which they occur in the usual way.

Expressions in class (ii) have multiple invariant contents. Once the expression is disambiguated in the presemantics, it is modeled by a clause in the semantics and that clause is treated just as words in class (i).

Expressions in class (iii) have a single content that varies by the context of use. They are assigned a character by the semantics and that character together with elements of the index

picks out a content. The content then contributes to the truth value of a sentence in which the word occurs in the usual way. To say that an expression type X belongs in this category is to be an indexical contextualist about X.

Expressions in class (iv) have a single invariant content. They are assigned a character that picks out the same content no matter what the index, and these words have the same content in every context of use. However, the contribution their contents make to the truth values of sentences in which they occur are affected by the context of use. That is, if a sentence contains an expression of this type, then it might be that that sentence uttered in context A is true and that same sentence uttered in context B is false even though the sentence has the exact same content in each context. To say that an expression type X belongs in this category is to be a non-indexical contextualist about X.

Expressions in class (v) have a single invariant content. They are assigned a character that picks out the same content no matter what the index, and these words have the same content in every context of use. However, the contribution their contents make to the truth values of sentences in which they occur is unusual. The truth values of sentences in which these words occur are relative to an additional parameter: contexts of assessment. That is, sentences in which these words occur are assigned truth values relative to contexts of use and contexts of assessment. If a sentence has an expression of this type, then it might be that that sentence uttered in context A is true from context of assessment B and that same sentence uttered in that same context A is false from context of assessment C. That is possible even though the sentence has the exact same content in each context. To say that an expression type X belongs in this category is to be a non-indexical relativist about X.

Expressions in class (vi) have a single variable content. Their content depends not only on the context of use, but also on a context of assessment. That is, they are assigned a character by the semantics and that character together with the index from the context of use (the use-index) and the index from the context of assessment (the assessment-index) determines a content for the

expression. The content contributes to the truth values of sentences in which the expression occurs in the usual way. To say that an expression type X belongs in this category is to be an indexical relativist about X.

Categories (iv), (v), and (vi) have only recently been treated by formal semantic techniques, and there is currently a huge debate about which (if any) expressions belong in these categories. For example, Francois Recanati advocates non-indexical contextualism (iv) for all linguistic expressions<sup>27</sup>, John MacFarlane proposes non-indexical relativism (v) for predicates of personal taste (e.g., ‘fun’) and epistemic modals (e.g., ‘might’)<sup>28</sup>, and Brian Weatherson endorses indexical relativism (vi) for conditionals.<sup>29</sup>

Recall that Brandom’s semantic perspectivism is the claim that contents are essentially perspectival in the sense that they can be specified only relative to a set of background commitments. The reason is that the content of a sentence is determined by its inferential significance (i.e., the sentences from which it follows and the sentences that follow from it), and the inferential significance of a sentence is relative to a set of background commitments that can be used in inferences. I want to suggest that Brandom’s semantic perspectivism can be modeled in a formal setting as *global indexical relativism*. That is, every sentence has its content determined by a context of use (i.e., the context in which it is uttered) and a context of assessment, which picks out a set of background commitments to be used in assigning an inferential significance to the sentence. For example, when the shaman from the example in section two asserts ‘Drinking the liquor distilled from the bark of that tree will prevent malaria’, from the shaman’s context of assessment, the sentence has one content, but from John’s context of assessment, it has a different content. When the shaman utters the sentence, both he and John grasp the character expressed by the sentence and it is their shared grasp of this character that constitutes successful communication. The shaman can then use his understanding of John’s

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<sup>27</sup> Recanati (2007).

<sup>28</sup> MacFarlane (forthcoming).

<sup>29</sup> Weatherson (2009).

background commitments to figure out what content the sentence has from John's context of assessment and John can use his understanding of the shaman's background commitments to figure out what content the sentence has from the shaman's context of assessment. Despite the fact that the content expressed by the sentence differs relative to each context of assessment, we can make sense of what it is for their communication to be successful. Notice that this suggestion does not reinstitute the transmission model of communication since it is not the case that successful communication requires grasping a single content expressed by the sentence uttered. However, this model does emphasize that there is something they both grasp, namely, the character of the sentence expressed, which accounts for the ways in which the utterance affects the conversational score as kept by each of them.

This proposal for how to understand Brandom's semantic perspectivism and his model of communication has not been developed elsewhere and I am unsure what kinds of criticisms it might warrant. Nevertheless, I hope that this discussion of the import of Brandom's views on communication for a field like formal semantics does something to justify the ongoing interest in his work.

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