

Chapter 3

Harmony for Natural Language

Taking the practice of asserting and drawing inference to be the ‘downtown’ of language naturally leads to the idea that the basic unit of semantic significance is a proposition, paradigmatically expressed by an assertible sentence; thus, all other units of meaning that is presupposed in any compositional meaning-theory, including term and (unsaturated) predicate, are explained in terms of propositional content (Brandom, 1994, p.79). Propositional content of an assertion is of course explained inferentially, namely by the *conditions* under which the assertion may be correctly inferred and the inferential *consequences* that follow from it. This is a point that Brandom inherits from Dummett’s inferentialism based on assertibility.¹

Notice that in assuming that the two-aspects of inferential role—viz. condition and consequence—contribute equally to the meaning of an assertion, Brandom departs from Gentzen-style one-sided approach to meaning prevalent in contemporary logical inferentialism.² For, Gentzen’s assumption was that introduction rules, or rules codifying when a statement is assertible, *fixes the meaning*; elimination rules, or rules codifying what can be correctly asserted from it, only makes explicit the consequences of the application of

¹Here, I am simplifying the discussion for the sake of brevity. As explained in section 1, on Brandom’s count, propositional content is explained by incompatibility and entailment (semantic notions) which are then explained by attributions and acknowledgements of commitments and entitlements (pragmatic notions). Since commitments and entitlements are, at base, conditions and consequences of making a claim, I think that making the equivalence between Dummett’s and Brandom’s theories, at least in this case, is safe.

²Brandom also depart from the one-sided approach to meaning that takes the converse side (namely, the consequences) to fix the meaning. Interestingly, Brandom attributes this approach to classical pragmatists like Peirce. Cf. Brandom, 1994, p.123.

the introduction rule. The animating thought is that consequences of any assertion are already implicitly ‘contained’ in the conditions for assertion. In this sense, the normativity of elimination rules are derived from that of the corresponding introduction rule. As we saw in chapter one, this consideration motivates the principle of harmony, which renders expressions governed by intrinsically inharmonious rules meaningless. This observation gives rise to questions regarding the role of harmony within Brandom’s inferentialism. In particular, must rules governing the use of non-logical (or materially contentful) expressions also exhibit harmony?

Brandom comments, rather briefly, on the requirement for harmony, in both its local and global variant, and its relation to his brand of inferentialism. In section 1, I will summarize Brandom’s claim that neither intrinsic harmony nor conservative extendibility is plausible as a criterion for meaningfulness when it comes to materially contentful expressions. (In its stead, Brandom suggests that the requirement for harmony should be understood as a *process* of “harmonizing commitments.” A full treatment of Brandom’s notion of harmony is beyond the scope of this project.)

The plausibility of Brandom’s views notwithstanding, I argue in section 2 that Brandom is wrong to abandon intrinsic harmony altogether. I draw on the Dialogical tradition in logic to show that a proper appreciation of the irreducibly dialogical constitution of meaning allows us to see that harmony is actually an internal feature of any meaningful dialogical interaction between discursive subjects. Not only is harmony a precondition for a compositional inferentialist meaning theory, it is a precondition for a theory of meaningful communication between subjects as such.

3.1 Brandom Against Harmony

3.1.1 Brandom on Intrinsic Harmony

In criticizing Gentzen-style one-sided model of language use, Brandom (1994, p.121) asks us to consider the following pair of assertions:

1. I foresee that I will write a book on Hegel.

2. I will write a book on Hegel.

According to Brandom, the sentences share the same conditions under which asserting it is correct, but differs with respect to what we can infer from it. He writes,

“Any circumstances under which one is entitled to one of these claims (or to acquire the belief it expresses) are circumstances under which one is entitled to the other. [...] Yet what follows from the claim is quite different. If I will write a book about Hegel, then I will write a book about Hegel. Yet that I will write a book about Hegel does not follow from my foreseeing or predicting that I will” (Brandom, 1994, p.121).

Brandom’s reasoning is *prima facie* plausible. Whenever we assert something about the future, we rely on knowledge about what we think will happen in the future; since human beings are not omniscient, to require more, to the effect that future-tensed expressions are assertible only in case the speaker knows that something will happen, appears exorbitant. Conversely, when a speaker makes a prediction about the future, they must have a valid reason (or evidence) to support this claim. This implies that they are also entitled to assert the future-tensed claim without the epistemic qualification (viz. ‘I foresee [...]’).

As for the claim that the consequences of 1. and 2. differ seems self-explanatory. Besides, the fact that at least one of the two aspects of use (i.e. either the conditions or the consequences) comes apart for the two expressions should not come as a surprise; if both the conditions and consequences were identical, then, according to any inferentialist account, the two expressions would express the same propositional content. But it is clear that 1. and 2. express different propositions. So, given that 1. and 2. share the condition for assertion, their consequences must be different.

Brandom’s simple argument is controversial for many reasons. One reason is that it implicitly rejects the requirement for intrinsic harmony, which serves as the cornerstone of logical inferentialism. Recall that logical inferentialism is built on the very idea that condition for asserting *fixes the meaning*; the consequences of asserting should not outstrip the grounds for making that assertion. Expressions governed by inference rules that fail to comply with this requirement, on the logical inferentialist view, is incoherent.

Not only does Brandom think inferential practices display this kind of disharmony, Brandom builds his account of objectivity by appealing to the contrast between sentences like 1. and 2. So, Brandom thinks that disharmony, insofar as it allows us to distinguish between norms instituted by perspectives within discursive practice and norms that 'report' to objective reality, is a precondition for objectivity and thus genuine normativity (i.e. the possibility of norms that can issue rational 'oughts'). In this sense, then, there appears to be a fundamental rift between Brandom's inferentialism and logical inferentialism.

3.1.2 Brandom on Conservative Extendibility

Brandom thinks that logical vocabulary must satisfy the requirement of harmony-as-conservative extendibility, but that it is wrong to require non-logical (or material) concepts, to satisfy it. Brandom begins his rejection of the conservative extendibility requirement for non-logical concepts by considering the following influential passage from Dummett (1981):

"[Conceptual change in ordinary discourse can be] motivated by the desire to attain or preserve harmony between two aspects of an expression's meaning. A simple case would be that of a pejorative term, e.g. 'Boche'. The condition for applying the term to someone is that he is of German nationality; the consequences of its application are that he is barbarous and more prone to cruelty than other Europeans. We should envisage the connections in both directions as sufficiently tight as to be involved in the very meaning of the word: neither could be severed without altering its meaning. Someone who rejects the word does so because he does not want to permit a transition from the grounds for applying the term to the consequences of doing so. The addition of the term 'Boche' to a language which did not previously contain it would produce a non-conservative extension, i.e. one in which other statements which did not contain the term were inferable from other statements not containing it which were previously not inferable" (Dummett, 1981, p.454).

In a language that does not contain the concept 'Boche', (presumably) the claim 'Germans are prone to cruelty' is not valid; but, the addition of 'Boche' validates this claim, creating a non-conservative extension of the base linguistic system. So, the main take-away from this example, according to Dummett, is that linguistic practices governed by rules that result in disharmony (understood as non-conservative extension) is, even if it is currently in use and thus learnable, defective. Again, it is not immediately clear whether the 'defectiveness' involving 'Boche' should be understood epistemically or morally (i.e. as unjustified), or semantically (i.e. as incoherent). The immediate impulse is to understand the rules governing 'Boche' as unjustified (either morally or epistemically). But, as we saw in the previous chapter, Dummett understands the defect ultimately as a semantic one. Rules governing the use of 'Boche' are unjustified *precisely because* they give rise to incoherence. Recall that, for Dummett, expressions are incoherent if they "cannot be rendered comprehensible by any systematic ascription of content—and this means it would be impossible to construct a meaning-theory that accorded with all features of its practice" (Dummett, 1991, p.241). And, according Dummett's analysis, if any expression of a given language does not harmony-as-conservative extendibility, we cannot give a coherent inferentialist meaning theory.

Brandom agrees with Dummett that rules governing 'Boche' is defective. However, he explicitly rejects Dummett's explanation for their defectiveness, namely as creating a non-conservative extension of the base language. The problem with 'Boche', Brandom writes, is "not that once we explicitly confront the material inferential commitment that gives them their content, it turns out to be *novel*, but that it can then be seen to be indefensible and inappropriate" (R. Brandom, 1994, p.127). So, according to Brandom, rules governing 'Boche' are unjustified, not because it is semantically incoherent; it is unjustified because it clashes with deeper commitments that we already endorse (perhaps due to moral or epistemic considerations), namely that it is not the case that all Germans are prone to cruelty.

Brandom's explanation is wanting. The most obvious objection would be that, in a holistic system like Brandom's where all meaning-determining rules are in one basket (i.e. intertwined in a complex network), it is practically impossible to determine which

rules are defective and which rules aren't. For instance, imagine someone that has a German friend, Hans, who she knows to be kind; she also is an active member of the French Résistance, regularly employing the concept 'Boche.' The two commitments—i.e. to endorse that Hans is German and kind on one hand and to endorse statements that contain the expression 'Boche'—are clearly incompatible, but it is unclear which commitment should override the other. In particular, within a holistic inferential network, the material inferential role of 'German,' 'kind,' and 'Boche' are interdependent; the perspective from which one can judge norms as “indefensible and inappropriate” are always shifting. Indeed, this is the kind of objection raised by Prior (1960) in the previous chapter: how can we determine that some concepts are defective if its meaning is simply inferential role? It was precisely to combat this type of skepticism that the principle of harmony was articulated.

Brandom also gives another reason for rejecting that conservative extendibility is a theoretical desideratum of a meaning theory, at least for those concerning languages that involve material content: namely, that introducing concepts with substantive material content (i.e. one which is not already implicitly contained in the base linguistic system) is not, in principle, undesirable. Brandom substantiates this claim by pointing to conceptual progress in the sciences, where novel concepts are introduced all the time, yielding a non-conservative extension of the base system. Consider the following example:

The candle burned $\vdash$ The candle released phlogiston

In a discursive context that endorses the phlogiston theory, according to the conceptual norms governing the concept *phlogiston* and predicate *x burns*, this inference can be seen as valid. But of course, this inference is *invalid*, given that the phlogiston theory is debunked in the current discursive context. So, the issue at hand is the following: since any theory can be wrong in principle, the conceptual norms that determine inferential roles can themselves be wrong. Indeed, a cursory glance at the history of science attests that certain inferences, one understood at the time to be valid in virtue of the meaning of concepts involved, turned out to be invalid because a better theory—i.e. a better set of conceptual norms—came along to replace the existing one. Brandom takes it that concep-

tual progress of this kind shows that it is wrong to uphold the conservative extendibility requirement for conceptual norms governing non-formal (or material) concepts. After all, introducing the concept *oxygen* to our discursive practice created a non-conservative (and non-uniqueness preserving) extension of the base system of inferential relations; but this, Brandom wants to say, surely is a welcome change.

I am sympathetic to Brandom's line of thinking. In particular, I agree that the problem with expressions like 'Boche' is not that it creates a non-conservative extension of the base system. But I disagree that rules governing 'Boche' are coherent if unjustified. The real problem with rules governing expressions like 'Boche' are that they are intrinsically inharmonious: by introduction and elimination of the concept 'Boche', we can conclude more (i.e. an increase in information) than what is granted by the conditions for applying the concept. That is, 'He is cruel' does not follow from 'He is German,' so there is no way to level the local maxima created by the introduction and subsequent elimination of the concept 'Boche.' This is why 'Boche' is not only morally and epistemically unjustified, but also incoherent.

Notice that this explanation is not available for Brandom as he rejects that intrinsic harmony should hold for rules governing natural language expressions. In the next sections, we will see how we can account for Brandom-style counterexamples to intrinsic harmony by drawing on the Dialogical tradition in logic.

3.2 Dialogical logic

Dialogical logic is not a 'logic' in the sense of deductive systems (like classical or intuitionistic logic) but a "general framework having a rule-based approach to meaning (instead of a truth-functional or a model-theoretical approach) which allows different logics to be developed, combined and compared within it" whose foundational idea is that "meaning and rationality are constituted by argumentative interaction between epistemic subjects" (Rahman et al., 2018, p.57). As such, it can be seen, to some extent³, as an implementation of Brandom's game of giving and asking for reasons. As Marion (2010) notes,

³The reason for this qualification will be soon clear.

“My suggestion is simply that dialogical logic is perfectly suited for a precisification of these ‘assertion games’. This opens the way to a ‘game-semantical’ treatment of the ‘game of giving and asking for reasons’: ‘asking for reasons’ corresponds to ‘attacks’ in dialogical logic, while ‘giving reasons’ corresponds to ‘defences’. In the Erlangen School, attacks were indeed described as ‘rights’ and defences as ‘duties’, so we have the following equivalences:

Right to attack $\iff$ asking for reasons

Duty to defend $\iff$ giving reasons

The point of winning ‘assertion games’, i.e., successfully defending one’s assertion against an opponent, is that one has thus provided a justification or reason for one’s assertion” (p.490).

Indeed, there are good reasons to think that dialogical logic can make explicit the process by which meaning comes into view of discursive agents via the game of giving and asking for reason, which is ironically left rather implicit by Brandom. Since, according to R. Brandom (1994) himself, “The conceptual contents employed in *monological reasoning*, in which all the premises and conclusions are potential commitments of one individual, are parasitic on and intelligible only in terms of the conceptual contents conferred by *dialogical reasoning*, in which the issue of what follows from what essentially involves assessments from the different social perspectives of interlocutors with different background commitments” (p.497), it is rather puzzling that his formal semantic projects (viz. incompatibility semantics) abstracts away from this essential dialogical dimension of reasoning.

With that said, let me give an overview of how Dialogical Logic works.

3.2.1 Basic Overview of Dialogical Logic

Note: This subsection relies heavily on Clerbout & McConaughey (2022), since it is the clearest exposition of the framework available in English. Many parts of it—namely the explanation of how to build a play—are direct quotations from this source with minor changes.

Dialogical logic studies dialogues, and takes the form of dialogues, thereby giving semantics a game-theoretical treatment.⁴ In a dialogue, two parties (players) argue on a thesis (a certain statement that is the subject of the whole argument) and follow certain fixed rules in their argument. The player who states the thesis is the Proponent, called **P**, and his rival, the player who challenges the thesis, is the Opponent, called **O**. In challenging the Proponent's thesis, the Opponent is requiring of the Proponent that he defends his statement. Actions in a dialogue are called moves; they are often understood as speech-acts involving declarative utterances (statements) and interrogative utterances (requests). The rules for dialogues thus never deal with expressions isolated from the act of uttering them.

The rules in the dialogical framework are divided into two kinds of rules: particle rules, and structural rules.

Particle Rules

Particle rules (*Partikelregeln*), or rules for logical constants, determine the legal moves in a play and regulate interaction by establishing the relevant moves constituting challenges and defences, depending on the main logical constant in the expression at stake. The appropriate challenges and defences (interaction) are the appropriate ways of asking for reasons and of giving them, and are specific to each kind of statement. (These rules are analogous to how the pieces move in chess.)

The below table shows particle rules for constants that make up first-order logic. Two things to note immediately about the notation: i) **X** and **Y** represent anonymous players so that the meaning of the logical constants stays player-independent; ii) the exclamation mark after the player indicates that the player asserts the following proposition, the question mark indicates that the player is making a request (i.e. asking for reasons).

⁴Here, I will discuss the framework as it pertains to the Lorenzen and Lorenz tradition (e.g. Lorenzen & Lorenz (1978)), though there are many other traditions working broadly on dialogue-based logical/argumentation frameworks. Cf. Clerbout & McConaughey (2022).

Table 1: Particle Rules for First-order Logic			
	Statement	Challenge	Defense
Conjunction	$\mathbf{X!}A \wedge B$	$\mathbf{Y?} L^\wedge$ or $\mathbf{Y?} R^\wedge$	$\mathbf{X!}A$ respectively $\mathbf{X!}B$
Disjunction	$\mathbf{X!}A \vee B$	$\mathbf{Y?}_\vee$	$\mathbf{X!}A$ or $\mathbf{X!}B$
Implication	$\mathbf{X!}A \rightarrow B$	$\mathbf{Y?}A$	$\mathbf{X!}B$
Negation	$\mathbf{X!}\neg A$	$\mathbf{Y?}A$	–
Universal quantification	$\mathbf{X!}\forall x P(x)$	$\mathbf{Y?}[x/a_i]$	$\mathbf{X!}P[x/a_i]$
Existential quantification	$\mathbf{X!}\exists x P(x)$	$\mathbf{Y?}_\exists$	$\mathbf{X!}P[x/a_i]$

Structural Rules

Structural rules (*Rahmenregeln*) determine the general course of a dialogue game, such as how it is initiated, how to play it, how it ends, and so on. In contrast to the particle rules, the point of these rules is not to spell out the meaning of the logical constants by specifying how to act in an appropriate way; it is rather to specify the structure according to which interactions take place.⁵ It is one thing to determine the meaning of the logical constants as a set of appropriate challenges and defences (as above), it is another to define whose turn it is to play and when a player is allowed to play a move. (These rules are analogous to the starting position, what constitutes a checkmate, etc. in chess.) There are four basic structural rules in the standard dialogical framework, defining which conditions must be respected for a given sequence of moves to constitute a legitimate play.

SR0: Starting Rule A play starts with the proponent stating a proposition called the thesis. After the thesis has been stated, the opponent chooses a positive integer which will be her repetition rank during the play. Then the proponent chooses his own repetition rank.

SR1: Development Rule Players move alternately. Once the repetition ranks have been chosen, each move is either attacking or defending a move made by the other player, in accordance with the particle rules.

⁵In order to avoid any confusion, it should be noted that these rules are quite different in kind from what is known as structural rules in sequent calculus (i.e. cut, weakening and contraction, permutation).

SR2: Copy-cat Rule (also known as *Formal* or *Socratic* Rule) **P** can play an atomic formula (e.g., Pa) only if **O** has stated it previously in the play.

SR3: Winning Rule The play ends when it is a player's turn to make a move but he has no available move left. That player loses and the other player wins.

Dialogical Meaning Explanation: Play vs. Strategy Level

So far, we have been focusing on how actual plays are constructed. But the dialogical framework also allows for one to study games in terms of collections of plays. The former layer—in which actual games are carried out—is known as the *play level*; the latter layer—in which a collection of possible plays for a given thesis is studied—is known as the *strategy level*.

A strategy for player **X** in a dialogical game is defined as a *complete conditional plan* of action. It is conditional in the sense that the strategy informs how **X** plays depending on the moves of the adversary. It is complete in the sense that it must inform how **X** plays for every possible choice of move by the adversary. Given a formula A , a strategy for **X** in the game for A can be described as a function that assigns an **X**-move M to every non-terminal play Δ ending with a **Y**-move such that extending Δ with M results in a play for A . Such a strategy is *winning* if all terminal plays resulting from it are **X**-terminal (i.e., won by **X**). In other words, a winning strategy for a player is a complete conditional plan of action leading to the player's victory no matter how the adversary plays.

The notion of winning strategy is important because it corresponds to the proof-theoretic notion of *validity*. Indeed, various algorithms have been devised to turn the procedure for construction of winning strategy within the Dialogical framework into proofs in other formal frameworks (and vice-versa).⁶ As mentioned in passing in Chapter 2, the clear separation of the play-level and the strategy-level is one of the founding insights of Dialogical Logic in the Lorenzen and Lorenz's tradition. What the distinction allows for, in essence, is to designate the play-level as the layer where meaning is constituted, while associating the with validity features. This distinction becomes obvious once we reflect on the fact

⁶For example, in Chapter 9 of Rahman et al. (2018), the correspondence between winning strategies and demonstrations in Martin-Löf's Constructive Type Theory is demonstrated.

that it is possible for proponent (or opponent) to lose an individual play even if the thesis is valid (or invalid), that is to say, has an associated winning strategy. What the player needs to know in order to count as having the grasp of the meaning of the expression is explained purely pragmatically (i.e. as a know-how): knowing how to (legally) take part in play in accordance with the particle rules and strategy rules.

On the Dialogical view, the meaning of an expression is constituted in the actual interaction of the players during a play. Within the play level, there is a fine-grained distinction *local* meaning and *global* meaning. The *local meaning*, which pertains to logical constants, is set by the particle rules that determine the proprieties of interaction. Notice that some particle rules specify which player gets to choose which elementary proposition to defend. For example, the difference between a conjunction and a disjunction, is that in the case of a conjunction, the challenger chooses the conjunct that will be defended, whereas in the case of a disjunction, it is the defender who chooses the disjunct (and similarly for universal and existential quantification). The meaning of logical constants is then not captured by which proposition it figures into (i.e. in an assertion or request) but also by the *choices* governing which player can do what with it. So, it is the actual plays ground meaning. Crucially, particle rules set local meaning, which is *player-independent*: the rules do not change depending on which player (i.e. **P** or **O**) defends or challenges.

In contrast to the local meaning of constants which are specified by player-independent rules for interaction, the global meaning is governed by *player-dependent* structural rules, which specify the structure according to which interactions must take place. The contrast between these two levels is made obvious by the fact that one can achieve the validity features of different deductive systems simply by modifying the structural rules (i.e. maintaining the same particle rules). The difference between local and global meanings are made salient when we compare how validity features of different logics can be expressed in the dialogical framework. The particle rules and structural rules defined in this subsection is a dialogical rendering of classical logic. We can, for example, yield validity features (or the consequence relation) of intuitionistic logic by simply replacing **SR1**, by its intuitionistic counterpart:

SR1i: Intuitionistic Development Rule After the repetition ranks have been chosen, each

move is a challenge or a defence in reaction to a previous move, in accordance with the particle rules shown previously. Each player can challenge the same previous move at most n times—where n is the player’s repetition rank—or defend against the adversary’s last unanswered challenge.

The point is that we can keep fixed all of the particle rules, thus maintaining the local meaning, and yet by changing the structural rules, we thereby change the global meaning and thus validity features associated with the strategy-level.⁷

Thus, meaning, both local and global, is a feature of the play-level (structured by particle and structural rules). If meaning is to be constituted in a dialogue (i.e. interactions of the players following rules), then dialogue games must be characterized something humans can actually perform. Therefore, the games must be finite: *Dialogue-definiteness* is thus introduced as a constraint of all dialogues. This notion is important for two reasons: first, it captures the human cognitive constraint; second, it allows us to define what a *proposition* is: proposition is a *dialogue-definite expression*, that is, as an expression A such that there is an individual play about A that can be said to be lost or won after a finite number of steps, following some given rules of dialogical interaction.⁸

Finally, an important philosophical point is in order. According to the dialogical perspective, it is the particle rules that ground the structural rules, and the play-level that grounds the strategy-level. Particle rules ground the structural rules in the sense that the structural rules ought to be formulated in accordance with the particle rules: the sole purpose of structural rules are to specify when and how we can implement that particle rules of interaction (i.e. it provides the context in which we play). In turn, the strategy-level is grounded on the play-level in the sense that strategies, and by extension *winning strategy* (i.e. validity), only make sense to talk about when a course of choices implemented in

⁷There is a similarity between this idea and the proof-theoretic idea that we can distinguish between classical and intuitionistic logic within sequent calculus without modifying the inference rules, instead specifying whether conclusions must be single (yielding classical logic) or multiple (yielding intuitionistic logic). In this sense, the dialogical framework vindicates the idea behind *Meaning Invariant Logical Pluralism* due to Beall & Restall (2000), though of course there are important differences due to the fact that the latter proof-theoretic approach focuses only on inferential relations (or, in dialogical terms, the strategy-level).

⁸Cf. Lorenz (2001, p. 258): for an expression to *count* as a proposition A there must exist an individual play about the statement $X!A$, in the course of which X is committed to bring forward a local reason to back that proposition, play which must result in either win or loss after a finite number of moves according to definite particle and structural rules.

the play-level by each player is abstracted for the purposes of analysis. (Consider: what would a strategy for playing chess consist in if there were no such game as chess?) As Rahman & Keiff (2005) put it,

“Indeed, the distinctive feature of the pragmatic semantics of dialogic is its connection to proof, both in its elementary and its complex level. In its elementary level it is associated to prime formulæ which express a proposition understood as encoding an informal proof, conceived as the predicate atomic language games. In this context, the particle rules show how to play a game fixing the semantics for complex formulæ based on the atomic (game) meaning assigned to prime formulæ – but (possibly) independently of any determinate assignation. Now, one very important point, and a quite often misunderstood tenet of the dialogic, is that this theory of meaning should set the basis for the formal concept of proof leading to the notion of validity. Once more, *the meaning in use of the notion of informal proof underlying the local semantics should furnish the way to formal proof, and not the other way round*” (p.19, my italics).

In fact, the fine-structure of dialogues takes care of the Dummettian claim that meaning theories should be compositional without an explicit appeal to the principle of harmony (though harmony, as we will soon see, implicitly holds in some sense within the dialogical framework). We should expect any dialogical framework, regardless of which logic it implements, to give rise to a compositional meaning theory: the meaning of an atomic formulae (if any) are constituted in the dialogical interaction that are pre- or informal; the meaning of complex formula are determined by the rules of interaction and the meaning of atomic ones.⁹

⁹The standard dialogical framework does not have the expressive power necessary within the object language to model what has been characterized here as the ‘informal’ proof, and thus cannot provide a meaning theory for atomic formula. The standard dialogical framework, enriched with the expressive resources of Martin-Löf (1984)’s Constructive Type Theory, can deal with the meaning of atomic formulae, cf. Rahman et al. (2018).

3.2.2 Dialogical Explanations for Defective Rules

I have promised that a proper appreciation of the dialogical constitution of meaning allows us to see why Brandom is too quick to reject the requirement for harmony. I will now show that Dialogical logic has the resources to account for linguistic phenomena that purportedly undermine the requirement for harmony.

Tonkitis

The dialogical framework gives us a straightforward explanation of why certain inference rules, namely those governing the meaning of logical constants, are defective. The case of Prior's *tonk* will once again be the test case. Recall that the inferential role of *tonk* is given by the following rules:

$$\frac{A}{A \text{ tonk } B} \text{ tonk-I} \quad \frac{A \text{ tonk } B}{B} \text{ tonk-E}$$

Now, the challenge is to reformulate these rules, which describe inferential validity, into particle rules, which describe proprieties of interaction, within the dialogical framework (given, let's say, the structural rules that yield classical logic). The short dialogical answer to why *tonk* is defective is that we simply cannot articulate coherent particle rules that capture the validity features given by inference rules governing it.

Informally, it's not difficult to see why. Suppose that we want to implement the run-about inference (i.e. from A to B via $A \text{ tonk } B$) in the dialogical framework. Accordingly, we set B as the thesis, and **O** concedes A to begin the play. Now, **P** asserts $A \text{ tonk}_1 B$. The opponent will now challenge this claim. Now, what would consist in an appropriate challenge? There are two pairs of possibility here. The first pair consist of asserting an atomic formulae (i.e., ' $\mathbf{O}!A$ ' or ' $\mathbf{O}!B$ ') and the second pair consists of a request, (' $\mathbf{O}?R^{\text{tonk}}$ ' or ' $\mathbf{O}?L^{\text{tonk}}$ ' or ' $\mathbf{O}?_{\text{tonk}}$ '). Now, **SR2**, or the Copy-cat Rule, states that **P** can only state an atomic formula only if **O** has stated it previously in the play. Therefore, the only option to secure a winning strategy for **P**, which is what is required to capture the inference rules for *tonk* given the equivalence between validity and winning strategy, is for **O** to challenge by stating the right-side formula, i.e. ' $\mathbf{O}!B$ '. (Note also that the concession made by

the opponent, i.e. A , was not even invoked in the dialogue at all.)

There is clearly something circular about this meaning explanation. In fact, since the challenge ' $X!B$ ' and the defense ' $Y!B$ ' are in fact identical assertions, tonk may not be seen as a dyadic connective at all: the meaning would reduce to that of B . The philosophical point here is that the Copy-cat rule secures a form of analyticity that emerges in the interaction of the proponent and the opponent. Given that, for example, only A has been conceded by the opponent (perhaps as a result of a previous material dialogue concerning the elementary statement), no thesis stronger than A can be associated with a winning strategy. Indeed, the Copy-cat rule can be seen formally as the dialogical rendering of the principle of (intrinsic) harmony (Rahman et al., 2018, p.80).¹⁰

Nonetheless, we might force an interpretation of tonk such that the particle rules make it clear that tonk is a dyadic connective and still model its validity features. In that case, we must sacrifice the player-independence of particle rules:

Table 2: (Proposed) Particle Rules for tonk			
	Statement	Challenge	Defense
tonk_1	$X!A\text{tonk}_1B$	$Y?\text{tonk}_2$	$X!A$ or $X!B$
tonk_2	$X!A\text{tonk}_2B$	$Y?L^{\text{tonk}_1}$ or $Y?R^{\text{tonk}_1}$	$X!A(\text{resp.})O!B$

The particle rules for tonk_1 are essentially modeled after disjunction: the defender has the choice in which atomic formula to request. The particle rules for tonk_2 , by contrast, is modeled after conjunction: the challenger has the choice in which atomic formula to request. We can only implement the inference rules for tonk (i.e. build a winning strategy for $\mathbf{P}$ given by Prior) in the dialogical framework iff tonk_1 is applied when $\mathbf{P}$ states and tonk_2 is applied when $\mathbf{O}$ states. But particle rules, in fixing the local meaning for both parties, should be player-independent. Since tonk must violate player-independence in order to achieve the desired validity features, it does not have a stable local meaning.

So, tonk is ruled out in the dialogical framework in two ways: by symmetry, based on

¹⁰It would be interesting to see if the Copy-cat rule also guarantees *stability*, which in the dialogical framework would be the constraint that the proponent should not be able to say less than what is granted by the opponent. It is *prima facie* implausible that it does; however, it would be worth investigating whether stability should be incorporated into the dialogical framework, and if so, what the adequate formulation of the structural rule should be.

considerations pertaining to local meaning, and by intrinsic harmony, based on considerations pertaining to global meaning. Indeed, symmetry and intrinsic harmony are crucial aspects of the dialogical approach to meaning. As Rahman et al. (2018) put it, these are the very “principles for *immanent reasoning*” (p.81, my italics). Reasoning in accordance with these principles is immanent in the sense that the reasoning requires no external assumption or perspective to those which are contained within a given dialogue.¹¹

Let me close this discussion with a quick methodological point. As explained, a constant like `tonk` could never arise from a dialogical understanding of meaning as constituted in the play-level, due to both constraints at the local and global level. Only when validity features given by inference rules at the strategy-level are imposed onto the play-level in a top-down manner do these problems arise.

Asymmetry between conditions and consequences

Dialogical logic also has a straightforward explanation of the seeming asymmetry in the (identical) assertability conditions and (differing) consequences of application for claims that Bandom invokes to substantiate his account of objectivity, like the following two pairs:

1. (a) I foresee that I will write a book on Hegel.
(b) I will write a book on Hegel.
2. (a) The swatch is red.
(b) The claim that the swatch is red is properly assertible by me now.

Bandom objects to Gentzen-style one-sided meaning theories and, with it, the harmony conceived of as a local property, on the basis that the first claim of each pair and the second of each pair share the same assertibility conditions but differ in their consequences. The dialogical view is to insist that Bandom—and inferentialists more generally—have the play-level (pragmatic/semantic layer) and the strategy-level (ontological layer) confused.

¹¹This notion of immanent reasoning has interesting resemblances and connections with the Hegelian tradition of *immanent critique* popular in Critical Theory, cf. Jaeggi (2018). My intuition is that immanent reasoning could complement the project of immanent critique by providing a semantic foundation for it.

Let us review why Brandom thinks that 1a and 1b share the same assertibility conditions. (I will use Brandom's first pair of examples, even though analogous points apply for the second pair.) The motivating idea is that whenever we have enough evidence (e.g., an intention to write the book, the fact that 'I' have been in the past capable of fulfilling my intentions, etc.) to serve as a reason for 1a, the same evidence should suffice as a reason for 1b. Given that humans are not omniscient beings, we cannot know for sure whether 1b will realize; so, assuming that we can coherently assert 1b, it must be the case that 1a and 1b must share assertibility conditions.

But from a dialogical perspective, the assertibility conditions of the 1a and 1b are different. Recall that, in technical terms, 'inference' belongs to the strategy-level, as the minimal semantic unit for which the notion of validity applies to. Thus, when we are engaged in giving and asking for reasons (i.e. the play-level), we are not drawing inferences in this technical sense. Since conditions for application (of conceptual norms) and consequences of application are *inferential relations*, they belong to the strategy-level. So, we may make the respective equivalence between the inferentialist questions, "What are the conditions for asserting A?" and "What are the consequences of asserting A?" and the dialogical questions, "Is there a winning strategy for A, and if so, how can we build it?" and "What are the claims for which winning strategies can be built, on the basis that there is a winning strategy for A?"

There are, in general, no winning strategies available for theses that involve empirical vocabulary, since empirical reasoning is defeasible.¹² Nonetheless, we might ask, "What sort of conditions must obtain for something to count as a winning strategy for a claim?" One can make explicit, by treating time modally (as in branching-time temporal logic¹³), that 1a has an associated winning strategy iff we can show that there is at least one history (i.e. course of events), or perhaps most histories, there is a point at which 'Brandom writes a book on Hegel' is true. On the other hand, 1b has an associated winning strategy iff we

¹²What about empirical analytic statements? A case could be made that winning strategies can be built for such statements, but this reader of Quine's "Two Dogmas of Empiricism" remain unconvinced. In dialogical terms, 'subplays' can be opened for any elementary statements. This involves playing *material dialogues*, which I do not have the space to discuss here. But the general idea is that rules governing any empirical statements are subject to change as new information are introduced. This is the same point Brandom makes by invoking the example of conceptual progress in the sciences.

¹³Cf. for example Prior (1967).

can show that in all possible histories, there is a point at which ‘Brandom writes a book on Hegel’ is true. So, the ‘winning-strategy conditions’ for 1a and 1b differ. To translate this back to Brandomian language: the conditions for and consequences of assertion for 1a and 1b differ.

If the conclusion that there are no winning strategies for empirical statements were to imply that we cannot meaningfully use empirical concepts (in assertions), this would be a blow for the dialogical framework. But, recall the dialogical insistence that meaning is constituted at the play-level, and that proposition is a dialogue-definite expression. The point is that **P** and **O** can play to win according to discursive rules, thereby constituting the meaning of the expressions. In addition, if the play results in **P**’s win, she is able to assert the propositionally contentful expression, provided that the normative validity for the assertion is understood locally within the context of the dialogue. For an assertion of a universally valid sort, **P**’s reason for asserting must account for all the possible plays that constitute a strategy. In particular, **P** must be in possession of the know-how to build a winning strategy.

In short, the dialogical approach allows us to account for the asymmetry in meaning between statements like 1a and 1b, while at the same time upholding the principle of intrinsic harmony at the level of inference, understood as a certain necessary coordination (as prescribed by the Socratic rule) between **P** and **O** for a meaningful dialogue.

3.3 Conclusion

I think that Brandom is too quick to dismiss the requirement of intrinsic harmony, since intrinsic harmony is just the requirement that wards off worries about conventionalism about the meaning of logical constants understood inferentially. Furthermore, appreciating the dialogical constitution of meaning dispels Brandom-style counterexamples to intrinsic harmony, wherein two expressions seem to have identical conditions for application but differing consequences.

An important consequence of this result is that Brandom’s explanation for objectivity (as attitude transcendence of norms) appears to be fundamentally misguided, as his

objectivity proofs presuppose the idea that expressions governed by inharmonious rules are not only coherent but necessary to make sense of objectivity. So, the question, “Is objectivity possible in Brandom’s system?”, is, in my opinion, moot. Brandom’s efforts to refashion objectivity is futile. What we need in order to ward off the charge of relativism and anti-rationalism is to identify the *source* of normativity: in virtue of what are rules genuinely normative? The answer to this question lies, as we will see in the next chapter, in intrinsic harmony.

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