

## Brandom and the "Logician's Dilemma"

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**Abstract.** In this introduction to the tutorials I will give a brief sketch of the place of Brandom's ideas in the network of "classical" authors, focusing on some of the central tenets introduced by *Making it Explicit (MIE)*, which antecedes the ideas developed in *Between Saying and Doing (BSD)*. I give here a schematic presentation with some references to pages in *MIE* and *BSD*.

The core point of Brandom's original book *Between Saying and Doing* is to describe discursive practices and to introduce norms for deploying an autonomous vocabulary. Brandom reinforces his criticism to the Fodor's theory of concepts and refuses the explanation of discursive practices in terms of syntactical operations as is presented by the so called "functionalism" in "strong" artificial intelligence. He does not even accept weak functionalism (Searle), rather he aims to present a "logical functionalism" along the line of Gilbert Ryle's account of conditionals. According to Brandom, we are not only creatures who possess abilities such as to respond to environmental stimuli we share with thermostats and parrots but also "conceptual creatures" i.e. we are logical creatures in a peculiar way.

It is a fascinating enterprise to investigate how machines simulate human behavior and the project of Artificial Intelligence, a project that began meads of the XX century, could tell us interesting things about the relationship between syntactical abilities and language. Brandom seriously considers the functioning of automata because he moves from some basic abilities and he gradually introduces more sophisticated practices, which show how an autonomous vocabulary raises. This analysis is a "pragmatist challenge" for different perspectives in analytic philosophy such as formal semantics (Frege, Russell, Carnap and Tarski), pragmatics both in the sense of the semantics of token-reflexive expressions (Kaplan and Stalnaker) and of Grice, who grounds conversation on classical semantics. Brandom uses the term "pragmatics" to characterize his enterprise in the sense of the study of the *use* in virtue of which they are meaningful at all:

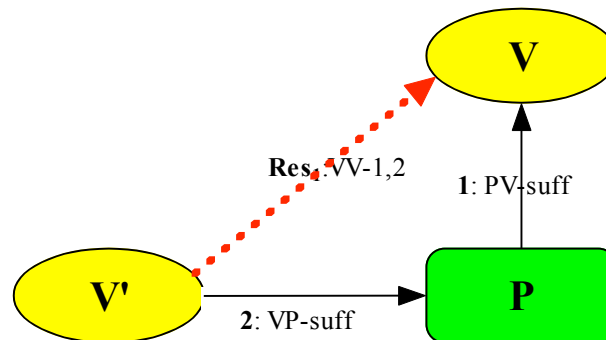
*In its most ambitious form, as in the present project, such an enterprise would aspire to articulate something like a logic of the relations between meaning and use (Brandom 2008 p 8).*

The title of the book suggests that we must look at what it is to use locutions *as* expressing meaning namely at what we must *do* in order to count as *saying* what the vocabulary lets practitioners express. We introduce "practice-vocabulary sufficiency" or "PV-sufficiency" which obtain when exercising a specific set of abilities is sufficient for someone to count as deploying a specified vocabulary. These are for instance

“the ability to mean red by the word red” or “the capacity to refer to electrons by the word electrons” (Brandom includes even *intentions* to refer). Together with these basic abilities we must consider the relationship between these and the vocabulary in which we specify them. A second basic meaning-use relation is the “vocabulary-practice sufficiency” or just “VP-sufficiency” namely the relation that holds between a vocabulary and a set of practices-or-abilities when that vocabulary is sufficient to specify those practices-or-abilities.

PV-sufficiency and VP-sufficiency are the basic meaning-use relations (MUR’s). Starting from them we can introduce a more complex relation namely the relation between vocabulary V’ and vocabulary V when V’ is VP-sufficient to specify practices-or-abilities P that are PV-sufficient to deploy vocabulary V. This VV-relation is the *composition* of the two basic MUR’s so that V’ is a *pragmatic metavocabulary* for V. It allows one to say what one must do in order to count as saying the things expressed by vocabulary V. Let’s introduce the following meaning-use-diagram (MUD) (Brandom 2008, p. 10):

**Meaning-Use Diagram #1:  
Pragmatic  
Metavocabulary**



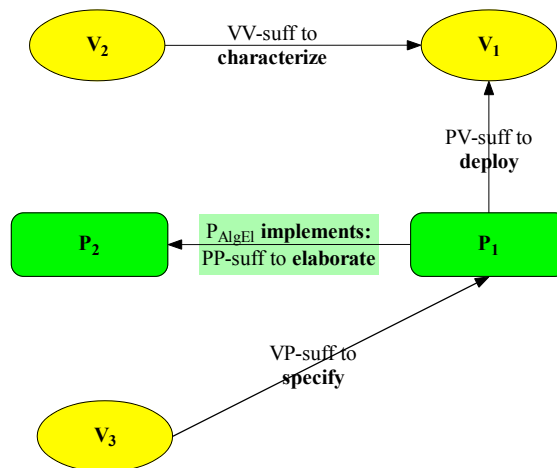
MUD defines a resultant MUR as the relation that obtains when all of the basic MURs listed on its label obtain. V’ is a pragmatic metavocabulary and is the simplest species of the genus Brandom presents. The play of the MURs relations that is developed in different steps recursively generates an infinite set of such pragmatically mediated semantic relation. Moreover, unless we follow this model we cannot properly understand the expressive role, which characterizes *logical, modal, normative and intentional* vocabularies. In Brandom terms:

*I think, is if it turned out that, in some cases, pragmatic metavocabularies exist that differ significantly in their expressive power from the vocabularies for the deployment of which they specify sufficient practices-or-abilities. I will call that phenomenon “pragmatic expressive bootstrapping ” (Brandom 2008, p 11).*

In the second chapter of *Between Saying and Doing* we find a first example of bootstrapping that is exemplified by the elaboration abilities of transducing automata of primitive practices-or-abilities into more complex ones. Just to give a brief idea Brandom distinguishes between single-state transducing automata (SSTA), final-state transducing automata (FSTA) and push-down automata (PDA) to show some idealizations about pragmatically mediated syntactic relations and pragmatically mediated semantic relations.

SSTA generalize the primitive reading-and-writing abilities i.e. discriminating stimuli of any kind, on the input side, and differentially responding in any way, on the output side. This model is similar to behaviorism, which provides a VP-sufficient vocabulary to explain some basic abilities such as riding a bike or toeing the party line. FSTA are more flexible because besides responding differentially to stimuli by producing performances from its responsive repertoire can respond differentially by changing state. This process is an advance from behaviorism to functionalism in the philosophy of mind that corresponds to the move from a single-state to a multi-state model. PDA is a kind of automata (for instance a Turing machine) that elaborate information according to implemented rules and so it seems to simulate humans' semantic abilities. Let's refer to the following diagram (Brandom 2008, p 40):

### MUA Terminology



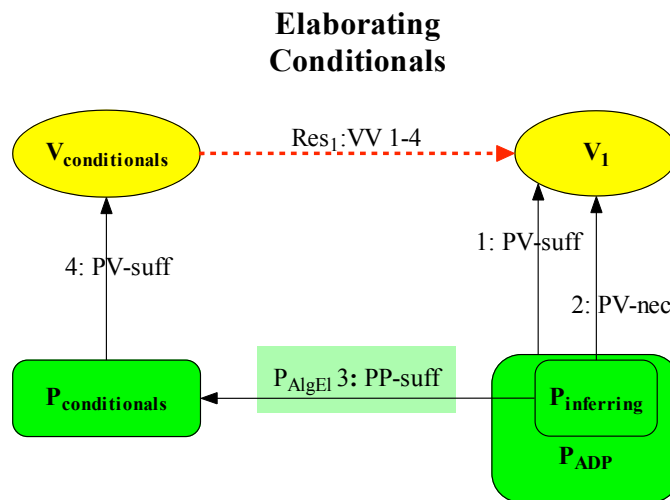
In this case we have three vocabularies: V<sub>1</sub> emerges from basic practices, V<sub>2</sub> characterizes V<sub>1</sub> i.e. is a syntactic or semantic metavocabulary and V<sub>3</sub> specifies what the system is doing according to certain rules.

All these are PP-sufficient practices to deploy a particular vocabulary but now we can ask: are there any practical abilities that are *universally* PV-necessary?

In Brandom terms:

*inferential practices are PP-necessary components of every autonomous discursive practice, hence PV-necessary for the deployment of every autonomous vocabulary, hence PV-necessary for the deployment of every vocabulary whatsoever. They are universally PV-necessary* (Brandom 2008, p. 41).

In order to deploy any autonomous vocabulary we must consider the necessity of certain discursive practices defined as “asserting” and “inferring”. Asserting and inferring are internally related because “Assertions are essentially, and not accidentally, speech acts that can play the role both of premises and of conclusions of inferences”. According to the PV-necessity thesis, there are two abilities that must be had by any system that can deploy an autonomous vocabulary: the ability to respond differentially to some sentence-tokenings as expressing claims the system is disposed to *assert* and the ability to respond differentially to moves relating one set of such sentence-tokenings to another as *inferences* the system is disposed to *endorse*. These abilities are PP-sufficient for the purpose of algorithmic elaboration as the following diagram shows (Brandom 2008, p44):

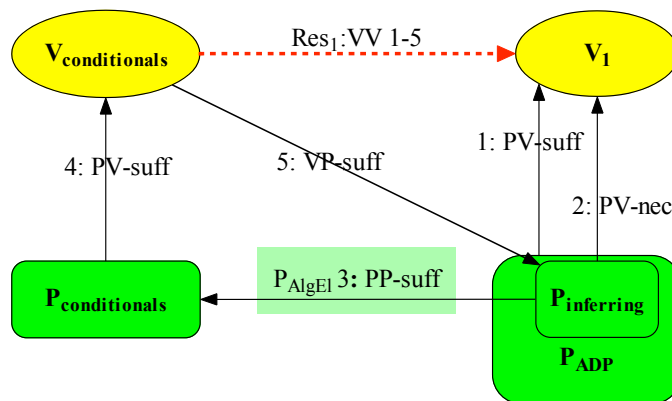


What is important is that if we want to sort inferences into good or bad we must focus on conditionals that are PP-necessary to deploy an autonomous vocabulary. What is the relationship between these abilities? By hypothesis, the system has the ability to respond differentially to the inference from p to q by accepting or rejecting it. It also must have the ability to produce tokenings of p and q in the form of asserting:

Saying that if something is copper then it conducts electricity is a new way of doing – by saying – what one was doing before endorsing the material inference from “that is copper” to “That conducts electricity”. Conditionals make explicit something that otherwise was implicit in the practical sorting of non-logical inferences into good and bad. Where before one could only in practice talk or treat inferences as good or bad, after the algorithmic introduction of conditionals one can endorse or reject the inference by explicitly saying something, by asserting or denying the corresponding conditionals. What the conditional says explicitly is what one endorsed by doing what one did (Brandom 2008, p. 45-6).

The following diagram shows the algorithmic elaboration of conditionals (Brandom 2008, p. 44):

### Elaborated-Explicating (LX) Conditionals



Conditionals are the paradigm of *logical* vocabulary to remain in the spirit of Frege’s *Begriffsschrift*. But, according to Brandom, the meaning-use analysis he provides of conditionals specifies the genus of which logical vocabulary is a species.

This genus are ascribed three characteristics:

1. being deployed by practices-or-abilities that are algorithmically elaborated from;
2. practices-or-abilities that are PV-necessary for *every* autonomous vocabulary (and hence every vocabulary whatsoever) and that
3. suffice to specify explicitly those PV-necessary practices-or-abilities.

Any vocabulary meeting these conditions is called by Brandom “*universal LX-vocabulary*”. A crucial consequence of this proposal is that only algorithmic elaboration is required to turn the ability to distinguish material incompatibility into ability to deploy logical *negation*. For example if the ability to distinguish a monochromatic

patch is deployed, it (together of the conditional) lets one say *that* two claimable claims are incompatible: “If a monochromatic patch is red, then it is *not* blue”.

The development of these points represents Brandom’s argumentation to avoid what he calls the “logician’s dilemma”:

*The logicist’s dilemma – or perhaps we would say, challenge – is to explain how logical vocabulary (or any vocabulary) can be at once semantically transparent and analytically efficacious: how it can remain sufficiently semantically modest and unassuming to be eligible for use as an analytic auxiliary, while still being in a position to make a substantive contribution to the analytic semantic expressive enterprise* (Brandom 2008, p. 52).

How do we solve the logicist’s dilemma? A first response comes from an observation Brandom formulates in the spirit of Hempel famous essay “The Theoretician’s Dilemma” according to which vocabulary and metavocabulary seem of two different kinds pulling against one another. Because Brandom explains logical vocabulary as a species of the genus of conditionals then the dilemma seems to be solved. A further step is to explain why analytic pragmatism is “semantically transparent” and “analytically efficacious”. The semantic transparency is due to the fact that we do not need, for example, to use notions such as definitability, translateability, reducibility, supervenience or whatever because there is no interest to the claim that culinary vocabulary supervenes, for instance, on chemical vocabulary, if it turns out we mean that it does so if we can help ourselves to the vocabulary of home economics as an auxiliary in securing that relation. The problem is: how is the contrast between semantic form and content to be drawn so as to underwrite criteria for demarcation of logical vocabulary?

Even Frege’s notion of substitution seems not to fulfill this requirement as it does not *provide* but *presuppose* a criterion of demarcation of logical vocabulary. According to Brandom, Frege makes the notion of formality promiscuous because we can pick any vocabulary we like to privilege substitutionally: an inference is good and a claim true in virtue of its *theological* or *geological* form just in case it is good or true and remains so under all substitutions of *non-theological* for *non-theological* vocabulary, or *non-geological* for *non-geological* vocabulary. For Brandom, the sense-dependence in Frege’s terms implies that theological and geological formality will not just depend upon but will express an important aspect of the *content* of theological and geological concepts.

The second criteria of *analytical efficacy* means that logic must help in the processes of establishing the semantic relation between vocabularies and we have, according to Brandom, a much more powerful “glue” available to stock together and articulate what is expressed by favored base vocabularies be they phenomenological, secondary-quality or observational (criticism to Russell and Whitehead *Principia*).

Semantic transparency is thus secured by the fact that practices sufficient to deploy logical vocabulary can be algorithmically elaborated from practices necessary to deploy any autonomous vocabulary. The notion of algorithmic elaboration gives a definite sense to the claim that the one set of abilities is in principle sufficient for the other: anyone who can use any base vocabulary already knows how to do everything needed to deploy any universal LX-vocabulary. For analytical efficacy we focus on

the fact that logic has an expressive task: to show how *to say* in a *different* vocabulary what can already be said using the target vocabulary. But logic is PV necessary i.e. logical vocabulary must make it possible to *say* something one could not *say* without it.

Let's briefly refer to the interesting comments of John MacFarlane on this final conclusion (MacFarlane 2008). The vocabulary of conditionals is supposed to "suffice" to explicitly specify the practice-or-abilities of distinguishing good material inferences from bad ones. For MacFarlane, on a weak reading the claim might be just that by using conditionals we can "partially" describe the inferential practice. On a stronger reading, the claim is that using the language of conditionals we can "fully" describe the inferential practice. MacFarlane suspects that Brandom intends the stronger reading here because of the emphasis he puts on the elaboration processes in the case of the Turing machines (PDA).

However, Brandom seems to be only entitled to the weak claim even though to completely characterize VP-sufficiency of conditionals we will need more expressive power. In MacFarlane terms:

*One reason for this is that, in order to use conditionals to explicitate an inferential practice involving sentences A, B, and C, one would need to "use" other sentences. "If A and C, then B" expresses an inferential propriety; "If 'A' and 'C' then 'B' expresses", which mentions the sentences without using them, is ungrammatical; and "if...then" by itself says nothing. So a vocabulary V cannot "completely" describe an inferential practice involving, say, snail talk, unless it contains lots of sentences about snails, in addition to conditionals (...) The language of conditionals allows one to make explicit the inferential properties one recognizes relative to one's current background commitments. But doing this only "partially" characterizes one's inferential practices. Two inferential practices that agree on which inferences are good relative to a set K of background commitments might diverge wildly on which inferences are good relative to a different set K'. To describe the difference between these practices it seems to me, we will need more than the language of conditionals (Mac Farlane 2008, p. 9).*

Just to express my point of view on MacFarlane solution I would say that I am skeptical about the use of assertion in terms of "truth rule". The thesis that grounds this option is: Assertion is the unique speech act whose sole constitutive rule is: An agent at C2 is permitted to assert that p at context C1 only if p is true as used at c1 and assessed from c2. I find this thesis too strong to give a realistic account of what the speakers do in conversation and I prefer to refer to a different plausible Fregean account. Moreover the distinction between force and content open a space to correctly understand the relationship between linguistic and prelinguistic practices by looking at important results in the field of neurobiology (Searle 1969, 2007). Contrary to what MacFarlane maintains at the beginning of his paper, I think that Brandom's project is quite different from the Kantian account of the function of logic in judgment that is inherited and reinterpreted in a useful sense by Frege.

Let's go back to Brandom's challenge to Frege. According to Brandom, Frege's notion of substitution presupposes a criterion of demarcation of logical vocabulary so that logic loses its semantic transparency. The problem is that Brandom refers to geo-

logical vocabulary and theological vocabulary in the same way. If an autonomous vocabulary is a set of good sentences derived from incompatibility relations with other set of sentences, is theological vocabulary a set of true sentences? Is our true nature “logical” in virtue of the “fact” that conditionals are the genus of our expressive rationality? Could it be rather that we are “communicative” beings so that in Frege’s sense our nature is to express thoughts (even false thoughts) through assertions, questions and negation of assertions and to perform judgments?

I conclude by quoting a fundamental passage from Frege’s essay *Negation*:

*With the belief that negation has a dissolving or separating power there hangs together the view that negative thought is less useful than an affirmative one. But still it cannot be regarded as wholly useless. Consider the inference:*

*‘if the accused was not in Berlin at the time of the murder, he did not commit the murder: now the accused was not in Berlin at the time of the murder: therefore he did not commit the murder’;*

*and compare with the inference;*

*‘If the accused was in Rome at the time of the murder, he did not commit the murder; now the accused was in Rome at the time of the murder; therefore he did not commit the murder’.*

*Both inferences proceed in the same form, and there is not the least ground in the nature of the case for our distinguishing between negative and affirmative premises when we are expressing the law of inference here involved. People speak of affirmative and negative judgments; even Kant does so. Translated in my terminology, this would be a distinction between affirmative and negative thoughts. For logic at any rate such a distinction is wholly unnecessary; its ground must be sought outside logic (...) What is more, it is by no means easy to state what is a negative judgment (thought). Consider the sentences ‘Christ is immortal’, ‘Christ lives for ever’, ‘Christ is not immortal’, ‘Christ is mortal’, ‘Christ does not live for ever’. Now which of these thoughts we have here is affirmative, which negative?*

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