Meaning-Constitutive Inferences[1]

MATEJ DROBŇÁK

ABSTRACT: A traditional objection to inferentialism states that not all inferences can be meaning-constitutive and therefore inferentialism has to comprise an analytic-synthetic distinction. As a response, Peregrin argues that meaning is a matter of inferential rules and only the subset of all the valid inferences for which there is a widely shared corrective behaviour corresponds to rules and so determines meaning. Unfortunately, Peregrin does not discuss what counts as "widely shared". In the paper, I argue for an empirical plausibility of Peregrin's proposal. The aim of the paper is to show that we can find examples of meaning-constitutive linguistic action, which sustain Peregrin's response. The idea is supported by examples of meaning modulation. If Peregrin is right, then we should be able to find specific meaning modulations in which a new meaning is publicly available and modulated in such a way that it has a potential to be widely shared. I believe that binding modulations – a specific type of meaning modulations – satisfy this condition.

KEYWORDS: Inferentialism – meaning – meaning-constitutive inferences – meaning modulation – normative inferentialism.

1. Introduction

Despite the progress in making inferentialism more rigorous, accomplished thanks to the work of Robert Brandom (1994, 2000) and others,

✉ Matej Drobňák
Department of Philosophy and Social Sciences, University of Hradec Králové
Náměstí Svobody 331, 500 02 Hradec Králové, Czech Republic
e-mail: matej.drobnak@gmail.com

inferentialism still faces many objections.[2] One of the traditional objec-
tions focuses on the analytic–synthetic distinction. According to inferen-
tialism, meaning depends on inferences held valid by speakers. Clearly, so
the objection goes, not all of the inferences we make can be meaning-con-
stitutive and therefore inferentialism has to include a satisfactory version
of the analytic–synthetic distinction. Since this is a Sisyphean task, the rep-
utation of inferentialism seems to be corrupted.

A promising attempt to answer the objection can be found in Peregrin
(2014b).[3] Even though answering the objection is not his main objective,
Peregrin argues that meaning is a matter of inferential rules and only the
subset of all the valid inferences for which there is a *widely shared cor-
rective behaviour* among members of some community corresponds to
rules (and is therefore meaning-constitutive). Unfortunately, Peregrin
does not discuss what counts as "widely shared". This opens a way to a
possible objection if we make use of Peregrin's proposal in the metase-
mantic debate on meaning constitutiveness. Someone can claim that the
criterion of "widely shared corrective behaviour" may be an interesting
theoretical proposal, but it is excessively vague and therefore it is of no
use.

In this paper, I argue for an empirical plausibility of Peregrin's proposal.
The aim of the paper is to show that we can find examples of meaning-
constitutive linguistic action, which take place in specific communication
situations. The idea is supported by examples of meaning modulation from
Ludlow (2014). Meaning modulation is, first and foremost, a phenomenon
which can be observed in communication. Speakers often change, adjust
and discuss meanings of the words they use for various purposes. In gen-
eral, we can understand meaning modulation as a tool, which facilitates
successful communication by deciding open questions about a meaning of

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[2]   For more references on progress in inferentialism see, e.g., Boghossian (2003,
2012), Peregrin (2006, 2010, 2012), Shapiro (2004).

[3]   Brandom (2007) offers a response to this objection, but Fodor and Lepore find it
unsatisfactory. Brandom builds on Sellars's (1949, 296) idea that "conceptual con-
nections are just the lawful ones" (2007, 661). However, this is a weak response as it
leads to a consequence that if speakers are wrong about laws, then the words they use
mean something else as what the speakers intend them to mean. The view that our words
can mean something else as what we intend them to mean is highly controversial. For
criticism of such a view, although in a different context, see Schwarz (2013).

a word, by making some of the features of a meaning more explicit or by changing some of the features of a meaning. A paradigmatic example of a meaning modulation is the discussion of whether Pluto should be a planet. It can be seen – from the semantic point of view – as a discussion and clarification of the meaning of the word 'planet'.

What I find interesting about meaning modulations is the way how they can be (and often are) used within communities. Some of the modulations not only facilitate successful communication, but also serve to settle precedents, which are subsequently adopted and followed by other members of a linguistic community. They are part of more general social mechanisms which operate on the level of whole communities and which constitute new meanings.

If Peregrin is right and meaning is determined by inferential rules, then situations of meaning modulation should support his criterion of widely shared corrective behaviour: we should be able to find a specific type of modulations in which an outcome of the modulations is publicly available and modulated in such a way that it has a potential to establish a widely shared corrective behaviour. I believe that binding modulations – a specific type of modulations – satisfy this condition.

2. Preliminaries

The objection mentioned above was explicitly formulated by Fodor and Lepore (2001, 2007), who attempt to criticize several aspects of inferentialism. Among others, they argue that inferentialism has a problem stating which inferences are meaning-constitutive.

According to them, there are many inferences which are actually made but which are not/should not be semantically relevant. If inferentialism is a doctrine that meaning is an inferential role, i.e. a set of inferences in which an expression plays a role, an inferentialist needs to delineate clear boundaries of meaning-constitutive inferences. Fodor and Lepore believe that this means that an inferentialist has to revive the well-known analytic-synthetic distinction to distinguish between meaning-constitutive and "utterly contingent" inferences. As Quine (1951) persuasively showed, this seems to be a task doomed to failure.

We're also not clear what Brandom thinks about the status of utterly contingent inferences like "If it's a plant in my backyard and it's taller than 6 feet, then it's a tree". He does apparently endorse the idea that "[the concept-constitutive inferences] must include … those that are materially [sic] correct" (MIE, p. 657). But what he gives as examples are two he borrows from Sellars: "A is to the East of B" ⊢ "B is to the West of A" and "Lightning is seen" ⊢ "Thunder will be heard soon". We find this puzzling since the first of these strikes us as arguably conceptually necessary (whatever that means) and the second strikes as arguably nomologically necessary (whatever that means). So even if we granted that both are concept-constitutive, we would still want to know whether clear cases of purely contingent hypotheticals are too; and, if they aren't, how Brandom proposes to do without an analytic/synthetic distinction. (Fodor & Lepore 2007, 680-681)

2.1 Inferentialism and Inferential Role Semantics

It is important to understand the difference between Inferential Role Semantics (IRS) and inferentialism as advocated by Peregrin before responding to the objection.[4] According to IRS as proposed by Boghossian (1993, 2012), the meaning of an expression can be understood as its inferential role. The inferential role is then explained as a set of all the valid inferences in which the expression takes part. Therefore, to understand a meaning of a sentence is to know which other sentences are inferentially connected to the sentence. If the inferential role is understood as a set of *all* the valid inferences related to a sentence and meaning is an inferential role, then all the inferences should be meaning-constitutive – and so such a view is problematized by the objection mentioned above.

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[4]   Despite the fact that Fodor and Lepore address their criticism to Brandom, I will mention his work only to a very limited extent in this paper. The reason is exegetical. Fodor and Lepore present Brandom's views in a way that more or less fits IRS (Boghossian's approach). Peregrin argues that this is a misinterpretation of Brandom and builds a response to the objections on what he sees as a more "Brandomian view". Instead of entering an exegetical discussion, I will talk about Boghossian's inferentialism (IRS) as a target of criticism and Peregrin's inferentialism as a response to the objection.

Such a view is problematic for more reasons. The approach of IRS is individualistic in nature – inferences, which are part of the inferential role of an expression, are determined by the dispositions of a *particular speaker* and her ability to distinguish valid and invalid inferences. As Boghossian puts it, it is determined by an ability to "*infer* from S1 to S2, but not to S3" (Boghossian 1993, 73). Such an approach opens the way once more for the objection mentioned above. If the inferential role depends on the practices of particular speakers, it is not clear how to delineate the boundary between meaning-constitutive and non-constitutive inferences. In particular contexts, some inferences that we would normally be inclined to call meaning-constitutive may be less important (e.g. for successful communication) than some contingent inferences. More importantly, if an inferential role of a sentence is the set of *all* the valid inferences in which a sentence appears, then different speakers ascribe (slightly) different meanings to the same sentence.[5] Which inferences a speaker includes in the inferential role of a sentence depends on his personal experience, and this is a highly subjective factor.

On the other hand, inferentialism as advocated by Peregrin is in some sense independent of the abilities of particular speakers. As Peregrin puts it: "Language is essentially public, and as such it cannot rest on private associations." (2014b, 45) Meaning is established in the social interactions of many speakers. Additionally, meaning persists within a community only through the existing normative attitudes of speakers – speakers hold some inferences to be correct and by their corrective behaviour force others to conform. If someone ascribes a set of inferences to a sentence which is not in accordance with the publicly established meaning, then she is just wrong and misunderstands the expression (and so she is a legitimate target of criticism).

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[5] It is an open question if small differences in inferential roles are acceptable. Fodor and Lepore build their objection on the assumption of fully shared meanings because they do not see any viable similarity-based alternative. See Fodor & Lepore (1999) for their discussion of meaning similarity. I believe that the assumption of fully shared meanings is problematic because it does not correspond to the actual linguistic practice of speakers; regardless of the fact whether there is any alternative. However, this is not the topic of this paper and I postpone the discussion for another occasion.

It must be emphasized that Peregrin's version of inferentialism is not completely independent of the abilities and practices of speakers. I agree that the meaning of a word is independent of the inferential practices of each particular speaker – I cannot change what a word means within a linguistic community solely by changing my own inferential practices. However, the meaning of an expression still depends on what the majority of speakers (a minority with high semantic authority, maybe)[6] holds and protects as correct – i.e. it depends on the actual practices of *many* speakers.[7]

Of course, even in this "communal" setting, the sets of all the valid inferences related to particular sentences by individual speakers can vary. So how can Peregrin avoid the objection and distinguish meaning-constitutive and non-constitutive inferences? According to Peregrin, inferential roles should be understood as sets of *inferential rules* or, in some sense, as sets of inferences which correspond to inferential rules. An example of inferential rules can be 'X is a dog ⊢ X is an animal' or 'X is a dog ⊢ X is not a cat'. Peregrin also accepts inferential rules linking a sentence to some extralinguistic factors, which can have the form 'X is a dog ⊢ …' in which the three dots indicate some action that is inferable from the sentence, e.g. not irritate X. The inferential role of the sentence 'Laika is a dog' includes the inferences 'Laika is a dog ⊢ Laika is an animal'; 'Laika is a dog ⊢ Laika is not a cat'; 'Laika is a dog ⊢ …' (not irritate Laika). However, the sentence also appears in "utterly contingent" inferences such as 'Laika is a dog ⊢ Laika cannot enter John's apartment' or 'Laika is a dog ⊢ Laika can be off-leash in many areas of Central Park'.

Peregrin's key to deciding which inferences correspond to inferential rules (i.e. are meaning-constitutive) and which are "utterly contingent" lies in the widely shared corrective behaviour of speakers. Corrective behaviour is any kind of behaviour by which speakers respond to the language

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[6]   For the sake of simplicity, I will talk about a majority of speakers from this point onward. But in many contexts (e.g. in the case of scientific terminology), we cannot expect that a majority of speakers really knows all the correct inferences. Semantic authority plays a significant role in language distribution and preservation and it has to be taken into account. In fact, we can understand 'majority of speakers' as a group of speakers with higher semantic authority or we can simply talk about a majority of speakers whose opinion is semantically relevant.

[7]   A similar point was emphasized by Koreň (2017a; 2017b).

use of other speakers. This includes positive as well as negative reactions – rewards in the case of correct inferences and warnings and punishments in the case of incorrect inferences.

> There is an inferential rule in force for a given language if the speakers of the language tend to see some inferences that violate the rule as incorrect. (Peregrin 2014b, 58)

and elsewhere:

> And what I call a propriety, or an (implicit) rule, grows out of such attitudes resonating throughout the surrounding society. (Peregrin 2014b, 10)

In the second quote, Peregrin talks about attitudes, but the attitudes of speakers matter only because they can be expressed behaviourally via corrective behaviour. If I tend to see some inferences as valid, then I tend to correct speakers who violate them. What is even more important is the phrase 'resonating throughout the surrounding society'. While inferences such as 'Laika is a dog ⊢ Laika is an animal' are *publicly well known* and widespread and there is an established *widely shared corrective behaviour* of speakers related to such inferences, inferences such as 'Laika is a dog ⊢ Laika cannot enter John's apartment' depend on the knowledge of particular speakers and so the (relevant) majority of speakers is not able to evaluate their validity. If the speakers are not able to evaluate the validity of such inferences, then they are not able to use corrective practices either and such inferences cannot be meaning-constitutive.

To sum up, we can decide which inferences are meaning-constitutive (i.e. correspond to inferential rules) by evaluating for which inferences there is a widely shared corrective behaviour among the members of a community. In some sense, Peregrin's proposal serves as a criterion of meaning-constitutiveness.

3. Meaning modulations

The question is if we can find something that corresponds to the inferential roles as proposed by Peregrin at the level of natural languages and

linguistic communities: If there are some inferences which are "widely shared" or if Peregrin's proposal is an unreasonable abstraction. I believe that we can find examples of meaning modulations that show that there are social mechanisms important for establishing new meanings at the level of whole communities. However, before I focus on the empirical plausibility of the criterion in more detail, I will present the topic of meaning modulations in general and briefly sketch its relation to inferentialism. Let us have a look at the conversation from the TV series *The Apprentice* in which Donald Trump (and his aide Caroline) discuss an incident that involved a contestant (Ivana) which happened while she was dealing with a given task – to sell a candy bar:

01 Trump: Ivana. You flashed a group of people.
02 Ivana: Look (…) This…
03 Trump: No, no, no. Did that happen?
04 Ivana: It happened? But it happened for a reason.
05 Trump: Why?
06 Ivana: Because I knew (…) Okay we had gone through a lot of product (…) We only had…
07 Trump: What does flash mean? You ripped down your pants? What does that mean?
08 Ivana: I was wearing (…) I was wearing a bikini (…) and (…) and let's not blow this out of proportion. I was wearing bikini shorts.
09 Caroline: We haven't said anything yet so relax.
10 Ivana: More: I know. I know. I'm just really defensive about this because…
11 Trump: Go ahead I'd like to hear that.
12 Ivana: Um.
13 Trump: But you did flash.
14 Ivana: I did. But it was a gimmick. It was a gimmick, just like (…)[8]

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[8]   The example first appeared in Sidnell (2010), who used it to show how we use the communicational tool of repair – how we go back in conversation to deal with troubles in understanding. The original transcript conventions used by Sidnell are not

Ludlow (2014) uses the example to show how we – more or less implicitly – modulate/litigate meanings within conversations. In this particular case, the word 'flash' has been questioned. In lines 02 and 04, Ivana accepts Trump's accusation of flashing with slight hesitation. Probably, she hesitates for more reasons but as the conversation shows later on, she does not agree that what she did is an evident case of flashing. In line 07, Trump indicates that he is not sure about the meaning of the word (despite the fact that he introduced it into the conversation) and Ivana tries to cash in on Trump's doubts: in line 08, she indicates that flashing should not apply in cases in which someone is wearing a bikini (and so she discusses the boundaries of the meaning of 'flash'). However, Trump does not accept her modulation and forces Ivana to admit that her behaviour was clearly a case of flashing (line 13). Ivana finally defers to Trump and admits that she flashed (14).

Situations like this are interesting for metasemantics in several ways. Most importantly, such situations are quite common and, as Ludlow argues, they should show that meanings are in general underdetermined and meaning modulations serve to specify the meanings for particular conversations and speakers. In other words, the shared language of community is a myth. There are only microlanguages that are created and modulated on the fly and very often include only the speakers who are present, without any impact on other speakers.[9] In the Trump example, it does not matter if there is a correct meaning of ʿflash'. It may even happen that an act counts as flashing only if the exposed body is naked and so Ivana did not flash. But Ivana deferred to Trump's understanding of the word and her acceptance settles what the word means within their conversation.[10]

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important in this context and I decided to use a much simpler transcript: '(…)' indicates a pause made by a speaker and '…' indicates interruption of the speaker by another speaker.

[9]   Even though Ludlow focuses on different phenomena, he basically follows Davidson (1986, 1994) in his conclusion about shared language as a myth.

[10]   It would be interesting to look at how rational the game of giving and asking for reasons is if understood in terms of meaning modulations. As far as I can see, Ivana did not defer to Trump because he was right or because he offered rational reasons for why her behaviour counts as flashing. She deferred because he was an authority in general – it was his show; he was a judge and her prospective employer. However, this is not the aim of this paper.

Examples like this can easily be "translated" in the inferentialist's terms. We can say that speakers discuss or disagree on the validity of some inferences. In this particular case, it can be an intralinguistic inference 'You flash ⊢ You are completely naked'. Obviously, Trump does not accept the inference, but Ivana would be happy to accept it. An advantage of inferentialism is that it can find meaning litigations in even less obvious circumstances. Let us have a look at the conversation from the TV series Gilmore Girls where Lorelai and her mother Emily dispute whether the offer of a lunch is still on if someone changes their previous plans:

01	Emily:	Stop being so dramatic. I just showed up for lunch…
02	Lorelai:	What do you mean you showed up for lunch?
03	Emily:	Our lunch, at 1:00. You, me, Rory – the three of us. We're having lunch, aren't we?
04	Lorelai:	I didn't think so.
05	Emily:	You didn't?
06	Lorelai:	Well, no, but (…)
07	Emily:	When you invited your father and me for the weekend, you said it included a lunch with you and Rory.
08	Lorelai:	Well, yes, I know, but that was before you left.
09	Emily:	What does my leaving have to do with anything?
10	Lorelai:	Well, when you left, you weren't here anymore. You were gone, so we just assumed lunch was...
11	Emily:	Where's Rory?
12	Lorelai:	Okay, see, you left, so (…)
13	Emily:	She's not here, is she?
14	Lorelai:	No.
15	Emily:	Didn't she know about the lunch?
16	Lorelai:	Yes, mom, she knew about the lunch, but you (…) so we (…) and she (…) I'll call her.
17	Emily:	I'll wait.

From the inferentialist's perspective, the conversation can be reconstructed as a dispute over the validity of the inference 'You cancel your previous plans ⊢ You cancel the rest of the plans as well'. The validity of the inference is proclaimed in line 08 by Lorelai and challenged by Emily in the next line 09. Emily ignores Lorelai's repeated appeal to accept it and

Lorelai finally defers to Emily in line 16. The example is clearly a case of meaning modulation/litigation from the perspective of IRS. According to IRS, meaning depends on all the inferences held valid by particular speakers and the validity of an inference is in question here, therefore we can conclude that the meaning is in question. What is more, we can conclude that Lorelai has changed/adjusted her understanding of the sentences 'You cancel your previous plans' and 'You cancel the rest of the plans as well' during the conversation.

3.1 Meaning-constitutive modulations

However, the situation is less obvious from the perspective of Peregrin's inferentialism. Not all inferences are meaning-constitutive, i.e. not all inferences are maintained and reinforced by the widely shared corrective behaviour of a community of speakers. In the same manner, not all modulations can be meaning-constitutive as well. If we want to show that Peregrin's criterion presented earlier is empirically plausible, then we should be able to find litigations/modulations that establish meaning-constitutive inferences. In short, we should be able to discern meaning-constitutive modulations.[11]

The modulations presented in the previous examples are made within small groups of people (the conversation between Trump and Ivana is followed by a small group of contestants and judges, the conversation

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[11]   It is generally accepted in the philosophy of language that meaning change is a long-term, unconscious process. If there are any changes in meanings, they are usually implicitly adopted by speakers in the same way as most of the expressions of a language are learnt. Such a view is typical of Wittgenstein (1953), but also of Peregrin (2014b) and discussed in more detail in Peregrin (2014a). A similar view on meaning change and acquisition, discussed in the context of deciding signalling systems, can also be found in Lewis (1969, 129). In the following sections, I focus on examples of explicit meaning modulations and intentional acceptance of their results. By doing so, I do not intend to claim that this is the only way in which meaning can be adopted by speakers and become widely shared. I focus on explicit examples because the social mechanisms which are applied in the distribution and adoption of a new meaning in such cases are much more evident and so easier to document and analyse. I even think that both views are partially compatible. I can imagine a situation in which a meaning is settled in an explicit modulation, but after some time the modulation is forgotten and the meaning is adopted implicitly by new speakers.

between Emily and Lorelai is private) and there is no indication that these modulations should be applied globally as a precedent for other speakers.[12] On the contrary, it is likely that even Ivana and Lorelai will not follow the results of those modulations in future and their deference is only pretended. Since the modulations that were presented did not establish widely shared corrective behaviour, these modulations cannot be meaning-constitutive. Of course, in some cases, similar modulations which take place in personal communication may play an important role in the concept formation of particular speakers, but they are not important from the perspective of entire linguistic communities.

Now let us have a look at a different example. In 2000, Hayden Planetarium demoted Pluto from the status of a planet in their newly opened exhibition.[13] The decision was unusual at that time and it triggered a wave of criticism. One year later, the New York Times published a front page article called "Pluto Not a Planet? Only in New York", in which the author calls the decision "unilateral" and cited several astronomers who criticized the head of the planetarium, Dr. Neil de Grasse Tyson. The article started a "witch hunt" – Dr. de Grasse Tyson received many letters and emails from ordinary people demanding an explanation and renouncement of his view. Nevertheless, the article triggered an academic debate about the definition of 'planet' as well, and as the debate very soon showed, there were no clear criteria for calling an astronomical object a 'planet'. The International Astronomical Union therefore decided to redefine the term and the new definition did not apply to Pluto anymore: Pluto was officially relegated and pronounced a "dwarf planet" in 2006. Despite the fact that this decision raised a new wave of discussions, after 10 years we can say that it is generally accepted by the vast majority of astronomers, as well as non-experts.

When Ludlow presents the examples of Trump and Pluto, he admits that there is a difference – namely in the explicitness of the modulation. In the case of Pluto, astronomers explicitly discussed the meaning of the term 'planet', while in the case of Trump's conversation with Ivana, the litigation

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[12]   Both conversations are from TV series and they both have been seen by millions of people. However, this does not change the main aim of those examples – to show that there is an everyday phenomenon which *is* usually private.

[13]   For a longer overview of the case see Weintraub (2007).

over the meaning of 'flash' was to a large extent implicit. As Ludlow puts it, in cases like Pluto "we are consciously aware of disputes about word meaning" (Ludlow, 2014, 39). As far as I can see, we can identify more differences and all of them are surprisingly well suited to a delineation of the class of meaning-constitutive modulations. The differences lie in

a) the intentions of the speakers;
b) the number of participants in a modulation;
c) information flow and its general accessibility.

a) *The intentions of the speakers*. Even though Lorelai and Emily were engaged in modulation, they do not have any reason to look for the most acceptable modulation. Emily wants to have a lunch with her daughter and granddaughter and her position in the litigation follows from this aim. Lorelai defers to Emily's modulation because she knows she has no chance of convincing her. Neither the intentions of Emily nor the intentions of Lorelai are directed towards the most plausible solution. In fact, it does not matter if there is any plausible modulation; even if there were, it would most probably be ignored. On the other hand, in the case of Pluto, the members of the International Astronomical Union try to find an acceptable modulation – acceptable with regard to the future use of the term within the whole community and with regard to possible future discoveries. In fact, in 2006, there was at least one known object of a size similar to Pluto and potentially there are more such objects in our solar system. The decision that Pluto is a planet would therefore lead to ad hoc decisions about the status of objects in our solar system or to a possible extreme increase in the number of planets. The declassification of Pluto is therefore a result of a reasonable debate looking for plausible solutions[14] for the whole astronomical community, and this was part of the intentions of the committee which was responsible for a redefinition.

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[14] I admit that the talk about intentions and the most plausible solutions may be somewhat loose. A reformulation of Dennett's idea of an ideal agent could be used to make the talk rather more rigorous. Dennett (1971) suggests that we can predict someone's behaviour by treating her as an ideally rational agent who uses the best means to attain her aims. Similarly, we can define the most plausible modulation as the one which best suits the aims of the community, where aims are a result of general consensus. In

In general, we can distinguish two types of modulations on the basis of the intentions of the speakers. On the one hand, we have modulations that are intended to serve personal aims, with no intention of attaining a plausible consensus with other speakers. On the other hand, we have modulations that aim at plausible solutions with regard to generally acceptable objectives. We can call the first kind ad hoc modulations and the second kind binding modulations. From the perspective of Peregrin's inferentialism, we can say that the ad hoc modulations are not meaning-constitutive, while the binding modulations are meaning-constitutive – only binding modulations are full-fledged *meaning* modulations.

However, the intentions of speakers are important for the distinction between modulations only because they lead to a difference in the expected consequences in the behaviour of the speakers. Since the litigants in ad hoc modulations follow particular personal aims, we can expect that even a speaker who enforces a modulation will not be consistent in the use of the expression when compared to her past and future conversations. As a result of achieving her aim, a speaker has no reason to follow the modulation any more. Moreover, a speaker may not follow the modulation in the context of her different aims. Since other speakers do not expect that a speaker will follow the modulation, they do not have any reason to adjust and apply their own corrective behaviour so as to be in accordance with the modulation in future conversations as well.

On the other hand, the reasons, which led to the decision about Pluto, are a result of a debate with regard to generally acceptable objectives. Binding modulations are intended from the outset to settle a *widely shared* consensus followed by a majority of a linguistic community in the future and this means that some individuals have to adapt from time to time. However, since the outcome of binding modulations is supposed to be generally acceptable, we have good reason to assume that most speakers will systematically follow the modulation in future conversations, regardless of their initial position in meaning litigation.

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the case of Pluto, the decision to declassify it was the most plausible solution with regard to more aims – it avoids a possible extreme enlargement of the number of planets and it allows a more rigorous definition of a 'planet' and a more accurate classification of objects in our solar system in general.

b) *The number of participants in a modulation*. Another notable difference between ad hoc and binding modulations lies in the number of speakers who participate in the modulations. Ad hoc modulations are usually incidental and appear in small groups of people, even in one-to-one conversations very often. On the other hand, binding modulations are usually open to all the speakers of a relevant linguistic community. In the case of Pluto, a part of the astronomical community decided which modulation would be in use, but the discussion was open to non-experts as well. Even small children sent letters to Dr. de Grasse Tyson. It does not matter whether their opinion was taken into consideration or not. What is most important is that they took part in the litigation and, by doing so, they designated themselves as members of a relevant community to which the litigation – and its result – applies. This is an important point when compared to ad hoc modulations. If Lorelai refuses to follow the modulation proposed by Emily, her status as a member of any linguistic community will not be harmed in any sense regardless of the fact that she took part in the litigation. Nevertheless, someone's refusal to follow the decision about Pluto can be seen as a reason for the enforcement of corrective practices and, in an extreme case, a reason for her detachment from a linguistic community.

Moreover, the example of Pluto is a rather specific binding modulation. The term 'planet' belongs almost exclusively to astronomy and so astronomers have some semantic authority in litigations. This is why the opinion of non-experts was not taken seriously. However, there are many examples in which the authority is not so clear and the role of "vox populi" is much bigger. This is the case of words such as 'marriage' or 'person'. These words became the centre of attention as they appeared in the press, at academic conferences, and in courtrooms. But the question whether an unborn child is a person is not only a legal, medical, or religious matter. It is, first and foremost, a social matter. The results of these modulations will directly influence the everyday lives of many people and therefore a wide public discussion plays an important role in the final decision.

c) *Information flow and its general accessibility*. Since 2001, the New York Times has published more than twenty articles and commen-

taries on the topic of Pluto's demotion, most of them written by the journalists Kenneth Chang (KC) and Dennis Overbye (DO). This is only a short list:

Jan. 29, 2002	"Planet or No, It's On to Pluto" (KC)
Jul. 30, 2005	"Planet or Not, Pluto Now Has Far-Out Rival" (KC/DO)
Oct. 4, 2005	"9 Planet? 12? What's a Planet, Anyway? (DO)
Feb. 2, 2006	"Icy Ball Larger Than Pluto. So, Is It a Planet?" (KC)
Aug. 16, 2006	"For Now, Pluto Holds Its Place in Solar System" (DO)
Aug. 22, 2006	"Pluto Seems Poised to Lose Its Planet Status" (DO)
Aug. 24, 2006	"Pluto Is Demoted to Being a Dwarf Planet" (DO)
Aug. 25, 2006	"Vote Makes It Official: Pluto Isn't What Is Used to Be" (DO)
Aug. 25, 2006	"And Now There Are Eight" (Editorial)
Sep. 1, 2006	"Debate Lingers Over Definition for a Planet" (KC)
Dec. 24, 2006	"Dwarf Planet" (DO)
Jun. 12, 2008	"Not a Planet, but a Plutoid" (KC)
Jan. 12, 2009	"How Many Planets Do You Want in the Solar System?" (KC).[15]

The focus here is on the New York Times because it is one of the most influential newspapers in the world, but it is basically arbitrary. We can find a similar list of articles about Pluto in practically any newspaper. The interest of journalists in the topic caused an extensive information flow, which ensured that the information about the current status of Pluto (and so about the current state of the meaning of 'planet') was distributed among the members of the relevant linguistic community. This is hardly an accidental feature. Of course, even an ad hoc modulation *can* exceptionally become the centre of attention. However, this fact does not change the main point: an extensive information flow is an important component of meaning-constitutive modulations because it creates favourable conditions for a

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[15]   It is worth noticing that the opinions of the New York Times journalists changed radically as the discussion proceeded. The journalists adopted the view of the International Astronomical Union without much hesitation, despite their initial criticism.

distribution of the new meaning within a relevant linguistic community. A modulation cannot become widely shared if it is not generally accessible by a majority of speakers.

When combined, the three points related to binding modulations (the intentions of speakers to follow a modulation, a large number of participants in a modulation, and an extensive information flow) constitute ideal conditions for their results to become widely shared and so to establish a widely shared corrective behaviour with regard to a particular set of inferences. Of course, the fulfilment of these conditions does not necessarily guarantee that the new meaning will be adopted and we can easily find borderline situations. This is, for example, the case of the word 'polyarchy', promoted by Robert Dahl within the field of political science. Dahl (1956, 1971, 1984) argued that the contemporary political system in the USA is not democracy, but polyarchy. Democracy is a system in which all the citizens are considered to be equal in political decisions, while in polyarchy control over governmental decisions is constitutionally vested in elected officials. While his distinction was well known, globally discussed, and later on generally accepted in the field, the word 'polyarchy' has never replaced the word 'democracy' within the "linguistic community of political scientists". It is hard to say why this was the case. A possible explanation might be that there was no need to start using the new word because political scientists in 1956 knew very well that 'democracy' did not mean anymore what it used to mean in Ancient Greece. The meaning of the word 'democracy' has changed with emerging modern republics and so there was no need to adopt 'polyarchy'.

However, even if 'polyarchy' is an example of an unsuccessful modulation, I do not think that the existence of borderline cases causes any problems in our current context. What is sufficient for the purpose of supporting Peregrin's criterion is that there are at least some examples in which binding modulations were successfully adopted by a community. The existence of such examples shows that there are general mechanisms for establishing new meanings on the level of whole communities – even though they might fail from time to time. Mechanisms that are related to binding modulations are exactly those mechanisms that guarantee that there is a widely shared corrective behaviour for particular inferences and so the inferences correspond to inferential rules.

4. Conclusion

The conclusion of this paper may seem rather subtle: an outcome of a meaning modulation can hardly become widely shared if a majority of speakers does not know about the modulation, if the speakers do not take part in it, and if the speakers do not intend to follow it. However, the mere fact that there are modulations the outcomes of which are widely shared has interesting consequences for the discussion of meaning-constitutive inferences. It shows that Peregrin's criterion of meaning-constitutiveness can be empirically supported – that there are social mechanisms thanks to which a set of inferences corresponding to inferential rules can become widely shared.

I agree that this is not exactly what Fodor and Lepore had in mind when they discussed the analytic–synthetic distinction. Peregrin is not able to give fixed and finite lists of analytic and synthetic inferences. Nevertheless, actually, this can be seen as an advantage. Peregrin can get rid of the analytic–synthetic distinction in its traditional (problematic) form. His criterion does not depend on any "intrinsic" semantic properties of sentences/words and so it is not circular in defining semantic properties and analyticity.[16] On the contrary, the criterion for meaning-constitutiveness based on the notion of widely shared corrective behaviour follows the dynamics of natural languages and this is a feature worth keeping.

Acknowledgments

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[16]   In other words, it does not define semantic properties as those which correspond to analytic inferences and analytic inferences as those which are part of meaning.

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