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EPISTEMOLOGICAL NATURALNESS: WHAT IS A GOOD HEURISTIC STRATEGY GOOD FOR?

Abstract. According to the standard interpretation of Lewis’s theory of predicate meaning (the U&N theory), the naturalness of meaning candidates should be stated metaphysically — as a length of definition in terms of fundamental properties. Recently, Weatherson has criticized the U&N theory and argued that the criterion of naturalness should be stated epistemologically — as the amount of evidence needed to form a belief. Despite the criticism, his attitude towards the U&N theory is quite relaxed. According to Weatherson, the U&N theory can be used as a good heuristic for delivering the correct verdicts when doing applied semantics, i.e., when we try to determine the best meaning candidate for a particular predicate.

In this paper, I try to show that the “good heuristic strategy” is of no use because A) there is no guarantee that the epistemological and the metaphysical criteria of naturalness deliver the same verdicts and B) even if they deliver the same verdicts, the difference in their theoretical backgrounds may affect arguments which rely on the verdicts. The difference will be shown by drawing on the example of Theodore Sider and his use of the U&N theory.

Keywords: David Lewis; eligibility; meaning; metasemantics; naturalness; properties

1. Introduction

The metasemantic criterion of naturalness was presented in [11] for the first time. Roughly speaking, we can answer certain semantic puzzles in metasemantics by comparing degrees of naturalness of meaning candidates. According to the standard interpretation of Lewis (the U&N theory), the naturalness of a meaning candidate should be stated as the length of its definition in terms of fundamental properties. Because of



that the notion of naturalness highly relies on Lewis's metaphysics of properties.

Recently, Brian Weatherson [29] has provided an attempt to undermine the U&N theory and has presented a new interpretation of Lewis which ascribes less important role to fundamental properties. The most controversial idea put forward by Weatherson is his epistemological reading of the criterion of naturalness. According to Weatherson, the degree of naturalness of candidates should be understood as the amount of evidence needed to form a belief.

Despite his criticism, Weatherson's attitude towards the U&N theory is quite relaxed. Even though the U&N theory is not a good general theory of predicate meaning, it is still acceptable as a good heuristic for picking out the most eligible meaning candidates instead of the epistemological interpretation because it "delivers the right verdicts, and delivers them for Lewisian reasons" [29, p. 16]. In other words, Weatherson tries to make an excuse for philosophers who rely on the U&N theory in their argumentation: even though they rely on a generally incorrect theory of predicate meaning, their conclusions are acceptable because they agree with the deliverances of the U&N theory as regards the meanings of particular predicates. The main aim of this paper is to show that the good heuristic strategy to excuse good verdicts based on an incorrect theoretical background is not admissible.

The good heuristic strategy can work only if the "metaphysical" criterion of naturalness can deliver the same verdicts as the "epistemological" criterion of naturalness. As I will try to show, this overlap between the verdicts of criteria cannot be simply taken for granted because it depends on how we measure and compare epistemological naturalness and this has not been settled yet at the first place. Moreover, even if the verdicts overlap, differences in their theoretical backgrounds may influence the conditions under which arguments implementing the verdicts are valid. The paper focuses on the use that Theodore Sider makes of the U&N theory in his argumentation against the "no fact of the matter" argument. Sider's example shows that the way we determine the most natural candidate is as important as the verdict itself. If we use the U&N theory, then conditions under which the "no fact of the matter" argument can be undermined are different compared to the situation in which the epistemological interpretation is in use. Because of that, it matters which interpretation we use to find the most natural candidate, even if they deliver the same verdict.

In the first part, I will present Lewis's idea of naturalness as well as the current controversy over its correct interpretation. Special attention will be paid to Weatherson's views on the epistemological interpretation of naturalness. In the second part, I will discuss the relation between the metaphysical and the epistemological criteria of naturalness and the influence of their theoretical backgrounds on the validity of arguments which implement their verdicts.

2. Lewis on naturalness

The theory of predicate meaning based on the notion of naturalness was presented in [11] for the first time and Lewis used the notion of naturalness several times after that in various contexts (see [12, 14, 15]). The idea of naturalness is primarily metaphysical in nature. Lewis believed that some properties are somehow simpler than other. This belief is supported by our everyday intuition. Most people would agree that the property of being water is somehow simpler than the property of being an animal, and the property of being an animal is still somehow simpler than the property of being a decoration.

Lewis's aim was to overcome the intuitive aspect of such comparisons by formulating a rigorous and objective way how to determine the simplicity of properties. According to Lewis, some properties in our world have a specific status — they are fundamental. Following the current findings of physics we can say that those properties are mass, charge and spin. Lewis's proposal is to rank other properties by their “definitional distance” from the fundamental ones. In other words, we can state and compare the degrees of naturalness of properties by stating and comparing the lengths of their definitions in terms of fundamental properties. The less natural a property, the longer a definition it has.

It is hard to imagine what such a definition would look like. An example of its simplified version in formal notation can be found in [24]. The definition of a hydrogen atom is stated as follows: “ $\exists x \exists y (Ex \wedge Py \wedge Rxy)$ ” which reads as ‘There exist an electron and a proton, the first of which orbits the second’ [24, p. 120].¹ A definition in fundamental terms is a kind of microphysical description of what we usually call a

¹ This is only a simplified version of a definition in terms of fundamental properties: it should be a definition of a property and a hydrogen atom is an object. But this definition shows us a way in which Lewis's vision could be achieved.

‘hydrogen atom’. While it is quite easy to imagine what definitions would look like in the case of simple chemical properties (such as being an atom of hydrogen), it is much harder to imagine the definitions of macro-properties, such as being human, or definitions of even more abstract properties, such as being fair or being selfish. To provide a definition of being human in fundamental terms would require providing descriptions of all the objects we call ‘human’ in terms of microphysical properties such as mass, charge and spin. That would be a Sisyphean task in our current state of knowledge and technology. Even though this may be a serious problem for Lewis’s theory of naturalness,² it is generally accepted that, at least theoretically, there is no obstacle to defining all the properties in terms of fundamental properties.

Subsequently, Lewis used the idea of naturalness to answer certain semantic puzzles. Since [32] and [18], we can find several philosophers who have presented similar semantic puzzles: [17, 7, 4]. Despite differences in formulation and goals, their argumentation follows more or less the same pattern: if there is more than one meaning candidate for a predicate and all of them fit the use of the predicate equally well then there is no fact of the matter which candidate is the correct one. Following the famous example in [4], being green fits the use of the predicate ‘being green’ equally well as being grue and so there is no fact of the matter whether ‘being green’ means being green or being grue (i.e., being green before t and being blue after t). To answer the semantic puzzles,³ Lewis presupposes that properties can play the role of semantic values of predicates. If this is so, the use of the notion of naturalness in metasemantics is quite straightforward. We find the most eligible meaning candidate by comparing the lengths of definitions of appropriate candidates when defined in terms of fundamental properties. In the case of the predicate ‘being green’, it sounds plausible that the length of definitions of all the green things is shorter than the length of definitions of all the green things before t and all the blue things after t . So we can say that the property of being green is more natural than the property of being grue and therefore the property of being green is a better meaning candidate for the predicate ‘being green’.

² A discussion of this problem can be found in [23].

³ Lewis [12] explicitly discusses Putnam’s model theoretic argument only, but it is obvious from his remarks in [11] that he intended to apply the notion of naturalness to a wider range of semantic puzzles.

2.1. The use&naturalness theory

Lewis’s theory of predicate meaning as presented in the previous section fits the standard interpretation of Lewis known as the U&N theory. The U&N theory interprets Lewis’s theory as if it is based on two pillars—use and naturalness. In the first step, an interpreter determines a set of possible meaning candidates which fit the use of a predicate well enough. Lewis accepts that the use of a predicate is not sufficient to determine the best meaning candidate. Thus, he has to face the “Kripkenstein” problem which leads him to seek further meaning-determining criteria. Sider, as a proponent of the U&N theory, reconstructs Lewis’s reasoning here as follows: “In part, the interpreter would look at how I use the words” [22, p. 400]. But if we have more candidates which fit the use equally well then we can think about the situation which “is a misinterpretation of my words, but if the ideal interpreter has only the facts of use to go on, nothing will tell her this” [21, p. xxi]. This is the point at which naturalness enters the picture. If the interpreter is in a situation where more than one candidate fits the use equally well, she should choose the candidate which is the most natural.⁴ “The second source is the controversial one: of the many candidate meanings (whatever their ontological status), not all are created equal. Some are intrinsically more eligible to be meant than others” [21, p. xxi].

More natural properties are intrinsically more eligible because they are metaphysically privileged: they meet the real structure of the world. “This eligibility is starkly metaphysical in nature: some candidate meanings ‘carve nature at the joints’ more than others, and it is part of the nature of reference and meaning that candidates that carve nature at its joints are more eligible to be meant” [21, p. xxi]. In other words, an interpreter should prefer those meaning candidates which are the most natural—i.e., which “preserve” or “follow” the natural carving of the world as much as possible. To compare whether a candidate property “carves the world” better than another, we should compare the lengths of their definitions in terms of fundamental properties.

Two points should be stressed about the U&N theory. The fact that the most natural property (of all the properties that fit the use of a

⁴ It is possible that in some cases a candidate with a high degree of naturalness can trump other candidates even if it does not fit the use as well as other candidates. However, it is unclear in which cases trumping is admissible and so I set this issue aside. I believe that this step has no influence on the issue discussed in this paper.



predicate) meets the real structure of the world justifies the claim that the most natural property is always the best meaning candidate. Therefore the U&N theory is a realistic theory which endorses an external criterion for meaning determination: our language is the one which reflects the natural joints in the world. The second point follows from the first one. We could ask why more natural properties are better meaning candidates. According to the U&N theory it is a *special feature of reality* that it “magnetizes our meanings”. “Natural properties and relations are ‘reference magnets’” [22, p. 400].

The U&N theory is generally considered to be the standard interpretation of Lewis’s views on naturalness. Beside its main proponent, Theodore Sider [21, 22, 24], we can find support for this interpretation e.g. in [26] and [28].⁵

2.2. The epistemological reading of naturalness

The U&N theory has been undermined recently in [29] as a correct interpretation of Lewis’s views and as a general theory of predicate meaning. Weatherson’s interpretation of Lewis departs from the U&N theory in three principal points:

- (a) the criterion of naturalness determines mental content primarily,
- (b) the criterion of naturalness determines meaning only indirectly,
- (c) the criterion of naturalness is an epistemological criterion.⁶

According to Weatherson, Lewis’s comparison of naturalness is supposed to determine the mental content of speakers primarily. We take the naturalness of belief candidates into account when we want to decide which belief is more rational.⁷ Very unnatural beliefs are irrational and so they should not be believed. A comparison of belief candidates comes

⁵ Williams in [30, 31] offers a special version of the U&N theory — while endorsing the metaphysical view on naturalness and a two-step process, Williams emphasizes the holistic aspect of the criterion of naturalness. The criterion of naturalness should decide which candidate for a semantic theory is the most natural and hence the most eligible. Therefore, the criterion of naturalness can determine the best meaning candidate for a predicate only indirectly — as a consequence of determining the best semantic theory for a language as a whole.

⁶ The idea stated in (a) and (b) was presented for the first time by Schwarz in [19] and in his earlier manuscript from 2006.

⁷ For example, when we want to decide if it is more rational to believe that emeralds are green or that emeralds are grue.

into play in two situations — when we form a belief and when we interpret someone as holding a belief. Since we are all human beings with similar physiologies and brains that function in similar ways, we tend to see similar actions as rational.⁸ The similarity of standards of rationality guarantees, abnormal cases notwithstanding, that if we ascribe someone a belief on the basis of the principle of charity, then it is highly probable that the person really holds that belief. This idea leads Weatherson to a conclusion that having a belief is in some respect the same as being interpreted as having the belief. “To a first approximation, a creature believes that p iff the best interpretation of the creature’s behavioural dispositions includes the attribution of the belief that p to the creature” [29, p. 2].

The fact that naturalness determines mental content seemingly changes the situation. What we should compare is the naturalness of belief candidates, not meaning candidates. However, Weatherson’s shift to mental content does not mean that naturalness has no influence on linguistic meaning. As Weatherson points out, Lewis’s theory of sentence meaning highly relies on his theory of rationality. Which language we should ascribe to a speaker depends on in which language she is truthful and trustful (see [8, 10]). And to determine in which language a speaker is trustful requires finding out what a speaker believes in: what she believes is true. Subsequently, what we believe determines conventions prevailed in our linguistic community and therefore our beliefs indirectly determine what our sentences mean. “Naturalness constrains what is reasonable, reasonableness constrains charitable interpretations, charitable interpretations constrain mental content, and mental content constrains linguistic content” [29, p. 5].

One thing deserves a clarification at this point. Even if naturalness determines mental content primarily, there should be a way how to use it to determine linguistic content as well. One way how to achieve this goal is to rephrase the criterion of naturalness in such a way that it includes a remark about the naturalness of mental content: the best meaning candidate is the one which best fits the use of a predicate and if more candidates fit the use of a predicate equally well then, other things being equal, the best meaning candidate is the one which allows us to interpret a speaker as holding the most natural (rational) beliefs. What the phrase “other things being equal” amounts to depends on how straightforward

⁸ See Lewis’s discussion of this point in [13].

the connection between mental content and linguistic content is taken to be. It is not clear how Weatherson understands the connection and whether he would agree with the reformulation of the criterion. But note that this is only a general scheme which aims to be in accordance with Weatherson's interpretation of naturalness. The main point of my reformulation is that if naturalness determines mental content and Lewis believed that naturalness can be used to answer semantic puzzles, then the verdicts about the naturalness of mental content must be somehow incorporated in the criterion for determining linguistic content — even if the incorporation will be more detailed and sophisticated. If this is not the case, then Weatherson's interpretation cannot be correct. There is no doubt that Lewis believed that a comparison of naturalness can be used as a response to semantic puzzles.

Besides that, Weatherson undermines the realistic assumption made by proponents of the U&N theory as well. As I said earlier, the naturalness of a meaning candidate is standardly determined as the length of its definition in terms of fundamental properties. Weatherson disagrees and believes that naturalness of candidates depends on the *amount of evidence* needed to form a belief. In other words, Weatherson believes that the criterion of naturalness is an epistemological criterion:

The agent has, we might assume, sufficient evidence to rationally believe that all emeralds are green, but not sufficient evidence to believe that all emeralds are grue. [...] The striking difference between these two properties lies not in metaphysics, but in epistemology. [29, p. 2–3]

If we incorporate this view on naturalness into the criterion of naturalness, then the revised version of the criterion should be, in some sense, epistemological: the best meaning candidate is the one which best fits the use of a predicate and if more candidates fit the use of a predicate equally well then, other things being equal, the best meaning candidate is the one which allows to interpret a speaker as holding the beliefs which require the least amount of evidence.

Weatherson's epistemological view on naturalness is a big departure from any interpretation of Lewis's views currently under discussion.⁹ Despite that, Weatherson is able to support his epistemological reading

⁹ Even Schwarz [19] who sympathizes with the idea that naturalness plays a role in determining mental content still holds that the criterion of naturalness is metaphysical; it depends on the microphysical structure of candidate properties.

of naturalness by (scattered) textual evidence from Lewis's writings.¹⁰ This is, I believe, partially Lewis's fault. Lewis is often imprecise when discussing naturalness. Moreover, since 1983 he used the idea of naturalness in various contexts and it is sometimes hard to see if he uses the notion of naturalness in a consistent way. The lack of rigor has opened up space for disagreement over the correct interpretation. Taking into account the loose way Lewis talks about naturalness, I do not believe that we can ever find the correct interpretation. However, the aim of this paper is not exegetical. For the sake of the argument, I take Weatherson's epistemological view on naturalness for granted.

3. Schwarz (and Weatherson) for and against the U&N theory

The U&N theory has been undermined recently as a correct theory of predicate meaning as well. In this section, I will focus on the main argument against the U&N theory presented by Wolfgang Schwarz in [19].¹¹

According to Schwarz, the U&N theory requires a language to be more determinate than it is reasonable to expect. The requirement that the most natural property (from all the fitting candidates) is always the best meaning candidate does not seem to be generally valid. It is, at least theoretically, possible that some predicates do not have the most natural properties as their meanings.

I admit that it is hard to find such predicates. Even Schwarz uses a made-up example:

Imagine a community of language users that eat only root vegetables and a rare type of mushroom. They have a word 'food' that plays a role similar to that of 'food' in English, which they apply to root vegetables as well as the mushroom. But the root vegetables by themselves form a much more natural category than the root vegetables together with the mushroom. [19, p. 31–32]

¹⁰ Weatherson admits that there is not much textual evidence for his interpretation in Lewis's writings: "The textual evidence for this is, I'll admit, fragmentary" [29, p. 6].

¹¹ I believe that the argument reconstructed here poses the most serious challenge for the U&N theory. Beside the argument presented here, there are more arguments against the U&N theory stated by Schwarz and Weatherson. For the sake of simplicity, I have decided to omit them in this paper.

But as far as I can see, there is at least one predicate in the case of which there should be no doubt that its meaning is not the most natural candidate which fits its use. The predicate is ‘being grue’. There is a general agreement in philosophy that ‘being grue’ means something like “being green when observed before t or being blue after t , where t is some time in future”.¹² As far as I can see, there are at least two meaning candidates which fit the use of the predicate ‘being grue’ better than other candidates.¹³ The first one is being grue and the second one is being green. Before t , both candidates fit the use of the predicate equally well. Why so? When we try to determine if a candidate fits the use of a predicate, we have to look at how competent speakers react to situations in which the predicate is used. Unfortunately, before t speakers assent to the use of ‘being grue’ in situations in which they see green emeralds only. The evidence of green emeralds before t is in accordance with the extension of the property of being green as well as of the property of being grue. Because of that, both the property of being green and the property of being grue fit the use of the predicate ‘being grue’ equally well. The U&N theory says that the property of being green is more natural than the property of being grue. While this is (most likely) the correct answer when we try to determine the best meaning candidate for the predicate ‘being green’, the same verdict is incorrect in the case of the predicate ‘being grue’. If the U&N theory holds, then ‘being grue’ should mean being green, because the property of being green fits its use and it is far more natural candidate than the property of being grue. This is definitely an incorrect verdict, so the U&N theory cannot be a correct general theory of predicate meaning.¹⁴

In general, Weatherson agrees that the U&N theory cannot be a general theory of meaning because it cannot deliver the correct verdicts in all the cases. However, it is questionable whether he agrees with the

¹² The exact definition introduced by Goodman is as follows: “It is the predicate “grue” and it applies to all things examined before t just in case they are green but to other things just in case they are blue” [4, p. 74].

¹³ Actually, the number of meaning candidates is always infinite.

¹⁴ Schwarz formulates the argument slightly differently: as a problem of primacy. According to Schwarz, it is not clear why the criterion of naturalness should have the decisive role over the constitutive decisions of speakers. If the philosophical community decided what ‘being grue’ means (i.e., being grue), why should we follow the criterion of naturalness and claim that it actually means something else (i.e., being green)?

argument as presented in this section. At some points of his paper, it seems that he believes that the U&N theory can deliver correct verdicts for all the predicates, but it delivers incorrect verdicts when applied to the general syntactic and semantic rules of a language. When responding to Williams's argument in [30] that the criterion of naturalness delivers incorrect verdicts when applied to semantic theories (which specify the syntactic and semantic rules of a language) Weatherson states: "But note that these considerations apply primarily to investigations at a very high level of generality, such as when we're trying to solve the problems described in "Radical Interpretation". They don't apply to investigations into applied semantics" [29, p. 15]. The problems described in "Radical Interpretation" are the problems of specifying "the syntactic and semantic rules of a grammar capable of generating Karl's [interpreted person] sentences plus the truth conditions thereof" [9, p. 333]. In other words, Williams's argument against the U&N theory (and the criterion of naturalness) is valid only in the context of determining the most natural candidate for a semantic theory, but it is not valid in the context of determining the most natural candidates for particular predicates.

This is much weaker claim than the one presented earlier and it leaves open the possibility of the full overlap between the verdicts of the epistemological and metaphysical criteria of naturalness for predicates of a language — if the epistemological criterion is taken to be generally correct and the U&N theory delivers correct verdicts for predicates, then they should overlap in their verdicts for any predicate.

3.1. A good heuristic strategy

Despite the deficiencies of the U&N theory, Weatherson is not willing to reject it entirely and he tries to find a use for it.¹⁵ He believes that even if we cannot accept the U&N theory as a correct general theory of predicate meaning, we can nevertheless use it as a good heuristic "because it agrees with the true Lewisian theory in core cases, and is much easier to apply" [29, p. 12]. More specifically, the metaphysical criterion of naturalness, as stated by the U&N theory, can be used to determine the best meaning

¹⁵ It is not clear why someone should look for a use for the U&N theory. Unfortunately, Weatherson is not very explicit about his motivations. His only claim about this point stresses his aspiration to appreciate what is correct about the U&N theory: "That's the heart of what's true about the U&N Theory, even if it isn't a fully general theory of meaning" [29, p. 16].

candidates in the cases in which we do not care about a general validity of our theory¹⁶ and we focus on the meaning analysis of particular predicates only. As Weatherson claims: “So I think there are good reasons to hold that when we’re doing applied semantics, the U&N Theory delivers the right verdicts, and delivers them for Lewisian reasons” [29, p. 16].

It is questionable whether this “good heuristic strategy” is applicable if the metaphysical criterion of naturalness cannot deliver the same (correct) verdict as the epistemological criterion of naturalness for any predicate. How do we know in which cases it can and in which cases it cannot be used as a good heuristic? If the U&N theory cannot deliver the correct verdict for each predicate, then its verdicts have to be reviewed by the epistemological criterion to make sure that they are really correct and so the good heuristic strategy loses its biggest advantage — its ease of application. In other words, Weatherson’s good heuristic strategy is of no use if the verdicts of the metaphysical and the epistemological criteria of naturalness do not overlap for all predicates.

3.2. Epistemological vs. metaphysical naturalness

The plausibility of the assumption of full overlap depends on how we understand the relation between the epistemological and the metaphysical criteria of naturalness. To justify the assumption, it should be shown that both versions of the criterion of naturalness necessarily overlap because they are somehow interconnected. There must be some reason why the candidate which requires the least amount of evidence is always the candidate with the shortest definition in terms of fundamental properties. Notice that the verdicts overlap only if people always follow the grouping of objects which corresponds to the “natural carving-up of the world”. I admit that such a position may be reasonable, especially from an evolutionary viewpoint. Someone could claim that people are embedded in the world and their existence is necessarily dependent on human ability to discern how the world really is. Thousands years of evolution turned us into efficient explorers whose cognitive abilities and data processing developed in such a way that we are able to explore the world effectively as it really is.

A similar approach is typical for evolutionary epistemology such as [16, 2, 3]. Evolutionary epistemology is a legitimate position and it

¹⁶ And its applicability on the syntactical and grammatical rules.

could have interesting consequences for the relation between epistemological and metaphysical naturalness. It could provide the missing link needed to guarantee the overlap of verdicts. However, there are two catches. The first catch is that evolutionary epistemology has its own weak points. You can find a critical discussion e.g. in [27]. If Weatherson plans to incorporate evolutionary epistemology into his account of naturalness, he has to show how exactly it fits with his views and how it avoids the criticism which is currently under discussion. The second catch is that it is not clear if evolutionary epistemology is a position held by Weatherson at all. The overlap between the metaphysical and the epistemological criteria is taken in his paper as an initial assumption without any justification.

Moreover, the overlap between the epistemological and the metaphysical criteria of naturalness depends on how we decide to measure the epistemological naturalness of properties. Even if Weatherson talks of “measured unit for evidence”,¹⁷ it is not clear what evidence we should compare. Let us say that we are trying to determine the most rational (natural) grouping of substances for the phrase ‘vanilla essence’. If we gather evidence on the basis of taste, then, from the perspective of epistemological naturalness, the class of all the things with the vanilla taste seems to be the most natural candidate. But if we decide to gather evidence on the basis of chemical analysis, we will find out that there are actually two chemical compounds with the same taste – vanillin and ethylvanillin. What does this finding mean for the epistemological criterion of naturalness? If we take into consideration the evidence of taste, then the most natural grouping of objects for the phrase ‘vanilla essence’ is metaphysically heterogeneous and so unnatural according to the U&N theory. If we take into consideration the evidence on the basis of chemical analysis, then either the group consisting of vanillin or the group consisting of ethylvanillin (either of which will be close to the verdict of the U&N theory) seems to be more natural than the group consisting of both chemical compounds. The verdict of the epistemological criterion depends on what evidence we take into consideration and, as a consequence, the overlap between the epistemological criterion and the metaphysical criterion of naturalness depends on how we decide to measure epistemological naturalness.

¹⁷ The U&N theory measures naturalness by counting the number of fundamental properties in definitions. How can we count the “number of evidence”?

In general, if we take epistemological naturalness for granted, there is no reason why we should construct our languages in such a way that the grouping of objects will be always metaphysically homogeneous. There is no reason why the grouping of substances for ‘vanilla essence’ should be metaphysically homogeneous (and so relatively natural according to the U&N theory). It is only up to us whether we decide to follow natural joints of the world and divide the class of objects with vanilla taste on the basis of the evidence of their chemical structure. We have also the full right to ignore it and to take into consideration evidence on the basis of different criteria. The decision depends on the needs of the particular community and our needs may diverge from the natural joints of the world from time to time.¹⁸ After all, metaphysical homogeneity does not matter if you are baking a cheesecake.

If the criterion of naturalness is epistemological, it is possible that we determine the best meaning candidate for a predicate, but without any guarantee that it follows a natural carving of the world. It is possible that the epistemological criterion identifies the class of all the things with the vanilla taste as the best meaning candidate for the phrase ‘vanilla essence’ but there is no simple class in the world which corresponds to that candidate. In such a case, the decision for the most eligible candidate would be epistemologically reasonable, but metaphysically groundless/inaccurate.

All this depends on how we decide to measure epistemological naturalness. Clear presentation of epistemological naturalness is therefore of the utmost importance. Unfortunately, Weatherson does not provide any details about it and so his assumption of full overlap stays unwarranted until clear criteria are provided for the comparison of naturalness on the basis of “evidence needed to form a belief”. Anyone who tries to argue that the evidence in question is only the evidence of the microphysical structure of objects needs to show that our languages are restricted in such a way. I do not think this is the case if we look at the predicates of natural languages used in everyday life, such as ‘vanilla essence’ used e.g. by a baker, and I do not see any reason why our languages should be restricted in such a way either.

¹⁸ By saying this, I am not saying that the decision will always be arbitrary. Following the natural joints of the world as precisely as it goes may be beneficial in many contexts — e.g. in science, engineering, construction and many others.

4. Sider and the U&N theory

What is more, even if it is possible to show that both versions of the criterion of naturalness deliver correct (overlapping) verdicts, it is still doubtful whether the good heuristic strategy can be of any use. Another problem for the good heuristic strategy is that even if the verdicts delivered by the U&N theory and the epistemological interpretation overlap, differences in their theoretical backgrounds can affect arguments which implement the verdicts. More specifically, a difference in their theoretical backgrounds can affect conditions under which an argument implementing a verdict is/is not valid. Such a difference matters for practical reasons as it may significantly influence the strategy of someone who tries to undermine such arguments.

In this section, I will try to show how the transition from metaphysical naturalness to epistemological naturalness affects the conditions of an argument discussed by Theodore Sider. I believe that the example of Sider's argumentation can show discrepancies between the epistemological and metaphysical naturalness which prevents their mutual interchangeability — including the use of the metaphysical criterion as a good heuristic.

In [20] Sider does applied semantics for the predicate 'exist' (for the existential quantifier) to determine if it has the most eligible meaning candidate.¹⁹ Subsequently, he uses the verdict of this analysis in further argumentation against the “no fact of the matter” argument used by quantifier variantists in the ontological debate about existence.²⁰ Sider reconstructs the argument in general as follows:

1. There exist multiple candidate meanings for T , corresponding to the conflicting theories about T
2. None of these T -candidates fits use better than the rest
3. None of these T -candidates is more eligible than the rest
4. No other T -candidate combines eligibility and fit with use as well as these T -candidates

¹⁹ The word 'exist' is usually used when the ordinary use of the predicate is discussed (when we talk about lay-speakers' notion of existence). For the sake of simplicity, I will not follow this convention. I will use the predicate 'exist' as a synonym for the existential quantifier and I will talk about different notions of existential quantification as about meaning candidates for the predicate 'exist' from this point onwards.

²⁰ The main proponent of quantifier variantism is Eli Hirsch. See [5, 6]. The idea of quantifier variantism can be found also in [1].

5. Meaning is determined by use plus eligibility
6. Therefore, T is indeterminate in meaning among T -candidates corresponding to the conflicting theories of T , and so there is no fact of the matter which of these theories is correct. [20, p. 189–190]

When applied to the case of the ontological debate about existence (and existential quantification) $T = \text{'exist'}$. In order to undermine the “no fact of the matter” argument, Sider offers a specific realistic view about existential quantification which is based on the U&N theory. According to Sider, all the ontologists (quantifier variantists as well as quantifier realists) should accept the unrestricted existential quantifier, referring to the “class of all the objects there are” (see [21, p. xxii]), as the best meaning candidate for the predicate ‘exist’. The absence of other equally eligible candidates is explained in line with the U&N theory. The class of all the objects there are is the best meaning candidate for ‘exist’ because it carves the world at its joints. It is a metaphysically privileged candidate. “In particular, in addition to there being distinguished classes of objects that count as genuinely similar, the world comes ‘ready-made’ with a single domain D of objects: the class of all the objects there are. This class is the most eligible meaning possible for any symbol playing the inferential role of the unrestricted existential quantifier” [21, p. xxii].²¹ By finding the most natural/eligible meaning candidate, Sider undermines the third premise in the “no fact of the matter” argument presented above and so the conclusion of the argument is undermined as well.

4.1. The U&N theory and the “no fact of the matter” argument

The fact that Sider uses the U&N theory to undermine the “no fact of the matter” argument has a surprising influence on the conditions of its validity. His acceptance of the U&N theory sets standards for eligible candidates and their comparison. Beside the metaphysical naturalness of candidates, there are different grounds on which we can compare the eligibility of meaning candidates currently. One of them is the pragmatic

²¹ We can define the privileged candidate as follows: “being a P such that everything has P ”. All other candidates seem to be less natural according to the U&N theory because they have to include the symbols for the additional constraint in their definitions. Consider for example the case of “counterfactual existence” = “being a property P such that if composition were unrestricted, then something would have P ” and the case of “plural existence” = “being a property P such that there are some X s that instantiate $pl(P)$ ”. All the definitions are from Sider [22, p. 407–408], 407–408.

view presented by Sperber and Wilson in [25]. We can easily imagine that the eligibility of candidates could be compared on the basis of the context-mediated information about the linguistic use of speakers. In such a scenario, which meaning candidate is the most eligible would be highly context dependent. The best meaning candidate would be the one implied by the context-mediated information based on our experience with the overall language use of a particular speaker.

Sider relies on the U&N theory according to which the best meaning candidate is determined metaphysically. This assumption is a part of the theoretical baggage which he sneaks into the argument. The problem is that the acceptance of this assumption influences how we should understand the phrase ‘the fact of the matter’ which is part of the conclusion. If we accept the U&N theory, then only the facts about the microphysical structure of objects are relevant. This means that the meaning of the phrase ‘the fact of the matter’ is, in some sense, nonstandardly strict. The phrase ‘there is a fact of the matter that P ’ standardly means that it is determinately P or non- P . In general, there are no restrictions on facts which can serve as determinants. Sider’s reliance on the U&N theory excludes the possibility that the most eligible meaning candidate is determined on the basis of pragmatic considerations, i.e., that there are pragmatic facts which are sufficient for favouring one of the candidates. As a consequence, Sider’s reliance on the U&N theory nonstandardly restricts the ways how the “no fact of the matter” argument can be undermined.

On the other hand, there is no such theoretical baggage/restriction in the case of epistemological naturalness. According to Weatherson, naturalness (eligibility) of candidates should be determined as the amount of evidence needed to form a belief. Such a formulation does not exclude the possibility that the evidence in question is of the pragmatic kind. In fact, we often form our beliefs on the basis of what other people say or do and we interpret others on the basis of what they have said or done in the past.

Even if the metaphysical criterion of naturalness delivers the same verdict as the epistemological criterion, their theoretical background matters as it may affect the conditions under which the argumentation which implements the verdicts is valid. In Sider’s example, it influences the conditions under which the “no fact of the matter” argument can be undermined. When Weatherson tries to save the U&N theory, by saying that it can be used as a good heuristic, he ignores this difference. More-



over, the difference in the theoretical backgrounds is not related only to Sider's case. It is a general discrepancy between the U&N theory and the epistemological interpretation of naturalness. Because of that, I do not think that the good heuristic strategy can be rightly applied in any case.

5. Conclusion

In this paper, I have tried to raise doubts about Weatherson's relaxed attitude towards the U&N theory. Specifically, I tried to argue against his claim that the U&N theory can play the role of a good heuristic. To achieve this aim, I discussed the relation between the metaphysical and the epistemological criteria of naturalness. As I have tried to show, Weatherson's good heuristic strategy is possible only if the verdicts of both criteria overlap. Unfortunately, the assumption of overlap of verdicts lacks adequate support and because of that the use of the U&N theory as a good heuristic seems to be unwarranted.

Moreover, as the example of Sider's argumentation shows, there is a difference in the theoretical backgrounds between the metaphysical and the epistemological criteria of naturalness and this difference may affect conditions under which arguments implementing their verdicts are/are not valid. And this difference is still present even if both criteria deliver the same verdict. Because of that it really matters which version of the criterion of naturalness we use to determine the best meaning candidate.

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