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Variabilism

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1 Introduction

In philosophy of language, the view that proper names should be analyzed as variables is known as VARIABILISM. While similar in certain respects, this view stands in opposition to MILLIANISM which for long has been the predominant view of proper names. Proponents of VARIABILISM maintain that an analysis of names as variables is empirically superior to a MILLIAN analysis since it not only explains the same data, but in addition explains a variety of data points that the MILLIAN analysis cannot. In this article, I introduce VARIABILISM by way of comparison with MILLIANISM. I focus specifically on empirical data that the MILLIAN analysis struggles to account for and I explain why VARIABILISM is better positioned to account for this data.

2 Millianism

According to Millianism, the meaning of a proper name is exhausted by its reference. That is, the meaning of a name is the individual to which it refers. This thesis was first put forward by J. S. Mill—hence the name *Millianism*—who famously distinguished between two kinds of meaning, namely what he referred to as *denotation* and *connotation*.¹ The denotation of an expression corresponds to *reference* or *extension*, but what Mill had in mind with regards to the notion of connotation is more

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¹See Mill (1843, 19-46)

Millianism

difficult to precisely pin down. Loosely, it might be described as a kind of implied descriptive content. However, with respect to proper names, Mill maintained that these expressions have no connotative meaning. Mill writes,

A connotative term is one which denotes a subject, and implies an attribute. By a subject is here meant anything which possesses attributes. Thus, John, or London, or England, are names which signify an object only. [...] None of these names, therefore, are connotative. (Mill, 1843, 31)

As an argument in favor of this claim, Mill continues,

[...] A man may have been named John, because that was the name of his father; a town may have been named Dartmouth, because it is situated at the mouth of the Dart. But it is no part of the signification of the word John, that the father of the person so-called bore the same name; nor even of the word Dartmouth, to be situated at the mouth of Dart. If sand should choke up the mouth of the river, or an earthquake changes its course, and remove it to be a distance from the town, the name of the town would not necessarily be changed. (Mill, 1843, 33)

In this paragraph, Mill is identifying an important characteristic of proper names, namely that once an individual is named, the reference of the name intuitively becomes independent of the facts that may have grounded its being so named, e.g. relational or geographical facts. The river Dart could dry up, but the name 'Dartmouth' would still refer to Dartmouth. By contrast, a definite description denoting Dartmouth, for example 'The town that sits at the mouth of the river Dart', *would* shift its denotation if certain relevant geographical facts were changed, i.e. if the river changed its course. If the river simply ceased to exist, the description would, it seems, fail to refer even if the relevant town remained otherwise unchanged.

Using contemporary tools of formal semantics where ' $\llbracket \cdot \rrbracket$ ' denotes a function from expressions to semantic values and a (for now) extensional semantic framework, the Millian semantics for proper names can be stated as follows:

- (1) $\llbracket \text{'Alfred'} \rrbracket = \text{Alfred}$

In non-technical terms, the reference (and, hence, meaning) of the name 'Alfred', according to MILLIANISM, is just Alfred. Nothing more, nothing less.

Millianism became orthodoxy in philosophy of language largely as a result of the seminal work of Kripke (1980).² Millianism had been the subject of severe criticisms

²Ideas very similar to Kripke's had, however, been published several years earlier, namely by Barcan Marcus (1961).

by chiefly Frege (1892) and Russell (1905) who both favored a descriptivist analysis, i.e. an analysis where names are treated essentially as definite descriptions. However, Kripke argued convincingly that names and definite descriptions behave markedly different in various kinds of linguistic environments. For example, as alluded to above, names are not susceptible to the same kind of variability in metaphysical modal and counterfactual environments as definite descriptions. The latter are clearly capable of picking out distinct individuals across different metaphysical possibilities which explains why a sentence such as (2) is generally judged true.

- (2) The president of France could have been someone other than Emmanuel Macron.

By contrast, names seem to consistently pick out their reference at the world of the context of utterance, i.e. the actual world, even when occurring in the scope of a metaphysical modal. This explains why a sentence such as (3) is generally judged to be false.

- (3) Emmanuel Macron could have been someone other than Emmanuel Macron.

This difference in truth conditions is, of course, difficult to explain if one assumes that a name is simply a covert description, for example that the meaning of ‘Emmanuel Macron’ is just ‘The president of France’.

Upgrading to an intensional semantic framework, we can represent this difference between descriptions and names as follows.

- (4) $\llbracket \text{‘The president of France’} \rrbracket^w = [\iota x. \text{president-of-France}(x) \text{ at } w]$
 (5) $\llbracket \text{‘Alfred’} \rrbracket^w = \text{Alfred}$

The pivotal difference between (4) and (5) is that the semantic value of the description is sensitive to a world of evaluation, whereas the semantic value of the name is not. So, if one of these expressions occur in the scope of an operator whose function is to force an evaluation of the subsequent expressions at possible worlds other than the world of the context of utterance (e.g. a metaphysical modal), the description can pick out different individuals at these worlds whereas the name cannot.

Kripke referred to this property of being immune to reference shifting by quantifiers over possible worlds as *rigid designation*.

RIGID DESIGNATION

An expression τ is rigid iff for all possible worlds w and w' , $\llbracket \tau \rrbracket^w = \llbracket \tau \rrbracket^{w'}$

In addition to the observation that names are rigid, Millians also maintain that names are not context-sensitive, such as pronouns or indexicals.³ It is widely assumed that expressions such as ‘I’ or ‘she’ function essentially as variables that may have different values on different occasions of use and formally this is captured by relativizing the interpretation function $[[\cdot]]^w$ to two additional parameters, namely a context c and a variable assignment g where g is a function from variables to individuals. The variable assignment is determined by the context (typically as a function of the intentions of the speaker) and the assignment then determines directly the semantic values of any pronouns or indexicals that the speaker used.⁴ However, even though multiple individuals may be referred to using what is intuitively just one expression, for example ‘Alfred’, Millians generally assume that these individuals have distinct names that are simply homonyms, i.e. expressions that are phonologically or orthographically identical, yet have different meanings. So, even though there are multiple individuals who are referred to using the expression ‘Alfred’, Millians assume that each of these individuals have different names, viz. ‘Alfred₁’, ‘Alfred₂’, ‘Alfred₃’, ... ‘Alfred_{*n*}’, cf. Kaplan (1990). In short, on the Millian view, names are constants rather than variables. One argument in favor of this analysis is that names do not appear to be sensitive to operators whose function is to shift variable assignments, e.g. nominal quantifiers such as ‘every’, ‘most’, and ‘many’. Pronouns, for example, have so-called *bound* interpretations where they do not refer to specific individuals and their meanings instead appear to depend on values introduced by a higher quantifier. For example, the sentence (9) has one interpretation where every boy loves *their own* mother in addition to the interpretation that every boy loves the mother of whoever is demonstrated. The bound reading is indicated by co-indexing between the quantificational antecedent and the pronoun.

(6) [Every boy]_{*i*} loves his_{*i/2*} mother.

By contrast, it is not obvious that names can be used in this way. For example, there does not seem to be a corresponding *bound* interpretation of ‘Alfred’ in (7).

(7) #[Every person named ‘Alfred’]_{*i*} loves Alfred’s_{*i*} mother.

Relativizing the interpretation function to a context and a variable assignment, the Millian analysis of proper names looks as follows:

³See e.g. Perry (1997). For a response to Perry, see Pelczar (2001).

⁴I am simplifying somewhat as some researchers maintain that the semantic value of certain pronouns, e.g. ‘I’ and ‘you’ are determined directly by the context c and not the variable assignment. These are classified as indexicals rather than pronouns. I myself do not subscribe to this view, but this issue is orthogonal to the problems discussed in this paper.

Empirical Challenges

$$(8) \quad \llbracket \text{'Alfred'} \rrbracket^{c,g,w} = \text{Alfred}$$

In conclusion, although the Millian analysis is remarkably simple, its explanatory potential is impressive. Millianism yields accurate predictions about the meaning of names in a very wide range of cases including complex modal and quantificational environments. Where Millianism faces problems is with respect to comparatively less standard uses of names.

3 *Empirical Challenges*

As mentioned above, I will focus on three putative problems for MILLIANISM. Due to limitations of space, the presentation of these problems will be short (but hopefully sweet). These problems (and their VARIABILIST solutions) are discussed in more detail in [Schoubye \(2017, 2020\)](#). The relevant problems are the following.

- **Bound uses of names**
- **Shifted uses of names**
- **Predicative uses of names**

Above I stated that names are not susceptible to bound interpretations along the lines of pronouns. However, this is not entirely accurate. It is true that names appear to resist binding in *some* of the linguistic environments where pronouns can be bound, but this does not mean that names have no bound interpretations at all. Consider the following examples.

- (9) If a child is christened 'Bambi', Disney will Sue Bambi's parents. ([Geurts, 1997](#))
- (10) Every woman who has a husband called John and a lover called Gerontius takes only Gerontius to the Rare Names convention. ([Elbourne, 2005](#))

The names in these sentences do not function as referential terms, but rather as bound variables. For example, the sentence in (10) does not intuitively express a proposition about *one specific* individual, but rather a general proposition about individuals called Gerontius. The same applies mutatis mutandis to (9). These uses of names present an immediate challenge for MILLIANISM, because according to this view, names are logical constants, i.e. expressions whose semantic value is only determined by the model and therefore not shiftable by assignment shifters such as nominal quantifiers. Consequently, if MILLIANISM is correct, it should not be possible to use names in this way.

Moreover, names also have cross-sententially bound interpretations. Consider the following example from Cumming (2007).

- (11) There is a gentleman in Hertfordshire by the name 'Ernest'. Ernest is engaged to two women.

As in the previous examples, there is a natural interpretation of (11) where the unquoted name is functioning as a bound variable rather than as a referential term. To see this, simply imagine a situation where there are two individuals called Ernest in Hertfordshire and both are engaged to two women. Furthermore, suppose that the speaker is not acquainted with either Ernest₁ or Ernest₂, but has deduced, say, on the basis of various kinds of statistical data concerning marriages in Hertfordshire, that at least one Ernest is engaged to two women. In this case, the speaker's assertion of (11) is intuitively true, but in order to make sense of this on the MILLIAN analysis, one has to maintain that the speaker's use of 'Ernest' in (11) refers to, and therefore expresses a proposition about, either Ernest₁ or Ernest₂. But this seems highly implausible. After all, which of them would it refer to and why? It seems more natural to think that the right analysis here is one where 'Ernest' is a variable bound by a quantifier in the previous sentence.

Next, let's consider *shifted* names. According to MILLIANISM, names are rigid. Consequently, operators whose function is to shift the world of evaluation (i.e. modal operators) *should not* be able to shift the reference of any name. As argued above, this prediction is clearly desirable for a variety of flavors of modal vocabulary, but it is not clear that the prediction is correct with respect to *epistemic* modal vocabulary. Consider the following case: It is believed by some that Del Naja, a member of the Bristol based music trio Massive Attack, is in fact identical to the infamous street artist Banksy (whose identity is currently unknown).⁵ Given the current state of ignorance about Banksy's identity and assuming that there is some plausibility to this theory about Del Naja, it seems that the sentence in (12) is intuitively true.

- (12) Del Naja might be Banksy.

Moreover, the sentence in (12) is intuitively true even if in actual fact, but unbeknownst to us, Del Naja is not Banksy. That is, (12) is intuitively true now even if we later discover that its prejacent, viz. (13), is false.

- (13) Del Naja is Banksy.

⁵Some of the reasons behind this theory are covered in the following story from the Independent: <https://www.independent.co.uk/arts-entertainment/music/news/banksy-robert-del-naja-massive-attack-art-who-is-he-identity-real-name-graffiti-music-similarities-a7805741.html>

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There is a natural explanation for the source of this judgement. We do not know the identity of Banksy and, moreover, it is compatible with what we know—perhaps even *probable* given what we know—that Del Naja is Banksy. Consequently, we judge it to be true that it is possible that Del Naja is Banksy.

However, the intuitive truth of (12) is a problem for the standard Millian view. If names are rigid, and hence immune to world-shifting operators, it follows that identity sentences are either necessarily true or necessarily false. Consequently, a sentence such as (12) can only be true if its prejacent is true, i.e. if (13) is true.

The same problem arises when sentences such as (13) are embedded under a non-factive epistemic attitude verb such as ‘believe’. For example, the sentence in (14) could be true even though the sentence in (15) is false.⁶

- (14) Goldie believes that Del Naja is Del Naja.
- (15) Goldie believes that Del Naja is Banksy.

Finally, let’s consider so-called *predicative* uses of names. It has been observed at least since Sloat (1969) and Burge (1973) that names can be used as predicates. Consider the following examples from Burge (1973).

- (16) There are relatively few Alfreds in Princeton.
- (17) An Alfred joined the club today.
- (18) The Alfred who joined the club was a baboon.
- (19) Some Alfreds are crazy.

This observation about predicative uses of names is in fact completely general. That is, setting aside bare singular uses of names in argument position of a predicate, for example (12) and (13), names appear to have the same syntactic distribution as standard count nouns (see Fara (2015) for an in-depth discussion). In particular, names combine happily with indefinite determiners (16-17), definite determiners (18), quantifiers (19-20), and numerical determiners (21). They can even occur as bare plurals as in (22).

- (20) All/most/many Alfreds joined the club today.
- (21) Three/four/seventeen Alfreds joined the club today.
- (22) Alfreds are clever.

Predicative uses of names present an immediate problem for MILLIANISM. After all, since these names denote properties, this directly contradicts the claim that the

⁶This is, of course, just a variant of Frege’s (1892) famous argument against MILLIANISM, viz. Frege’s puzzle.

meaning of a name is its reference. These uses of names are simply not referential uses.

For reasons that are not entirely clear to me, predicative uses of names have been somewhat neglected or dismissed by proponents of MILLIANISM.⁷ It is sometimes argued that such uses of names are *coerced*, i.e. arbitrary instances of temporarily forcing an expression outside its normal grammatical category. Since such coerced uses are both rare and unsystematic, the argument is that they therefore do not pose a threat to the MILLIAN thesis. However, the coercion explanation does not seem to be supported by any empirical evidence. Predicative uses are considered completely standard to normal speakers of English and are readily available (without any extensive contextual setups) for more or less every name in the language. For example, I am guessing that you, the reader, did not have a sense of immediate squeamishness when the name ‘Alfred’ was used predicatively earlier in this paper. Most likely, you did not even notice, because such uses are completely unremarkable.

Another fairly typical response is to deny that these are actually names or, relatedly, to argue that names are ambiguous (between predicative and referential types). Since the MILLIAN analysis only intends to provide an analysis of the referential type, it thereby avoids having to also account for predicative uses. But, as has been pointed out by Hornsby (1976), Leckie (2013), and Schoubye (2017), there are many reasons to be skeptical of this response. I mention only two here.

First, the meanings of predicative uses of names and referential uses of names are clearly closely related. This is evidenced, for example, by certain types of inferences that seem intuitively acceptable. For example, (23) and (24) below.

- (23) Alfred joined the club today.
∴ An Alfred joined the club today.
- (24) No Alfred joined the club today.
∴ Alfred did not join the club today.

These inferences are, using Kaplan’s (1989) terminology, *indexically* valid. If the premise is true in a context *c*, then the conclusion must also be true in *c*.

Now, if one subscribes to the MILLIAN view, this is difficult to explain. The reason is that referential names contain and express no semantic information about the name of their referents. Nothing in the MILLIAN analysis rules out the existence of a context where Alfred joined the club today but where no one is called Alfred. You

⁷Exceptions include Leckie (2013) and Jeshion (2015) both of whom consider these uses very carefully and provide spirited defenses of MILLIANISM. I do not have space here to engage with these papers, but I refer the interested reader to Schoubye (2017, 2020) for further discussion.

might think that such a context *should* be ruled out, but all it takes for the sentence ‘Alfred joined the club today’ to be true (given a MILLIAN analysis) is that the referent of ‘Alfred’ joined the club—not that the referent is called Alfred.⁸

Second, if the existence of predicative and referential uses of names is simply a manifestation of a brute ambiguity, then it becomes difficult to explain certain facts about competence. Mainly that competence with referential uses appears to suffice for competence with predicative uses. For example, suppose that some speaker *s* is competent with referential uses of ‘Alfred’. She has encountered such uses and has been capable of determining its meaning (i.e. its reference) on one or more occasions. Now, even if *s* has never encountered a *predicative* use of ‘Alfred’, it is highly implausible that *s* will be incapable of understanding or inferring the predicative meaning simply on the basis of her competence with the referential counterpart. Moreover, no elaborate contextual setups are generally needed in order for *s* to successfully do this.

This observation about competence is difficult to reconcile with a MILLIAN analysis, because given that a name conveys no semantic information about the properties of its referent, it is mysterious why competence with a name would suffice for competence with a descriptive predicate. According to the MILLIAN, the meanings of referential and predicative names are just fundamentally unrelated.

These are not knock down arguments against MILLIANISM and there are various avenues that proponents of MILLIANISM might pursue in response. However, for the remainder of this paper, I will focus on VARIABILISM and explain why this view not only accounts for the standard data (that MILLIANISM also accounts for), but also avoids the three potential problems outlined above.

4 Variabilism

Variabilism has been defended in some form or other by several researchers including Yagisawa (1984), Recanati (1993), Haas-Spohn (1995), Dever (1998), Heim (1998), Pelczar and Rainsbury (1998), Pelczar (2001), Cumming (2008), Santorio (2012), and Rami (2014). Most of these views are quite similar. Names are assumed to behave essentially like free variables.⁹ In this paper, I will focus on the version of VARIABILISM

⁸A response to this point that I often encounter is that this is not a problem because the MILLIAN can just provide a pragmatic explanation for the seeming acceptability of the inference in (23). But that seems to me to miss the point, because a pragmatic explanation (whatever that may be) cannot explain why the inference is indexically valid (as indexical validity is purely semantic notion). Of course, proponents of MILLIANISM could also deny that these inferences are indexically valid, but I am not sure on what grounds.

⁹I am grouping together here so-called “indexical” views of names with views where names are explicitly treated as variables. There will be important differences between indexical and VARIABILIST

that I have defended more recently, namely in Schoubye (2017, 2020). According to this view, names are free variables whose meaning depends on a variable assignment determined by the context of utterance. However, assignments of semantic values to names come with a precondition (a semantic presupposition), namely that the individual assigned as the semantic value of the variable bears the relevant name. So, the analysis ends up looking as follows:

$$(25) \quad \llbracket \text{'Alfred}_i \text{'} \rrbracket^{c,g,w} = \begin{cases} g(i) & \text{if } g(i) \text{ is called Alfred in } w_c \\ \text{undefined} & \text{otherwise} \end{cases}$$

This says that the semantic value of 'Alfred_{*i*}' relative to a context *c* and an assignment *g* is whatever *g* assigns to *i* on the condition that *g*(*i*) is called Alfred in the world of *c*. If *g*(*i*) is not called Alfred in *w_c*, the expression has no semantic value relative to that context and assignment, i.e. it fails to refer.

This analysis treats names essentially along the lines of pronouns. According to the standard analysis of pronouns, pronouns are also free variables whose semantic value depend on a variable assignment, but again this assignment is constrained by certain grammatical features of pronouns, namely its person, number and gender features (also called ϕ -features). The standard analysis of pronouns looks as follows:

$$(26) \quad \llbracket \text{'she}_i \text{'} \rrbracket^{c,g,w} = \begin{cases} g(i) & \text{if } g(i) \text{ is not the speaker or addressee in } w_c \\ & g(i) \text{ is singular in } w_c \\ & g(i) \text{ is female in } w_c \\ \text{undefined} & \text{otherwise} \end{cases}$$

The background assumption here is that the speaker's intentions in context is what determines the operative variable assignment in that context. If a speaker intends to refer to *a* using 'Alfred_{*i*}', the context will determine an assignment *g* such that *g*: *I* \mapsto *a*. Whether the speaker then succeeds in referring will depend on whether $a \in \{x \mid x \text{ is called Alfred in } w_c\}$

Although the VARIABILIST analysis of names is obviously different from a MILLIAN analysis, it shares many essential features. First, names are singular terms and the meaning of a name is simply the individual to whom the name refers (in context). So, in standard cases, a name's truth conditional contribution is simply an individual—precisely as on the MILLIAN analysis. Names are also *rigid designators* in a VARIABILIST

views depending on what assumptions are made about the nature of these expressions. These views are nevertheless similar in spirit, and so I group them together here under the banner of VARIABILISM. Yagisawa is perhaps the only slight outlier since he assumes that names are variables that are bound by a covert existential quantifier. However since names strictly speaking *are* variables on this view, I think it deserves mentioning here.

analysis. Shifting the world parameter has no effect on the semantic value of a name, so the meaning of a name (relative to an assignment g) is constant across all possible worlds (given g).

This means that a VARIABILIST analysis is going to make the same predictions as the MILLIAN analysis for the vast majority of cases, for example in simple sentences involving names, but also cases such as (3). The question, then, is how and why a VARIABILIST analysis is superior to a MILLIAN analysis when it comes to the three problems outlined above. Below, I provide a short overview of the answer to this question. The observations and arguments in this section are essentially abbreviated versions of observations and arguments detailed in Schoubye (2017, 2020).

5 *Addressing the Empirical Challenges*

As regards bound names, it is fairly obvious why a VARIABILIST analysis would have an advantage over MILLIANISM. If names are variables that range over individuals, there is no *prima facie* reason to assume that such variables cannot be bound. And, as demonstrated above, they *can*—at least in certain linguistic environments. So, since VARIABILISM straightforwardly predicts the possibility of bound interpretations of names, the main question for proponents of VARIABILISM is rather why bound interpretations of names are so much more limited than bound interpretations of e.g. pronouns. For example, names appear to not permit bound interpretations in many cases where one might think they should, for example in (10).

However, building on work by Gundel *et al.* (1993), one can give a compelling psycholinguistic explanation of the relative infrequency of bound interpretations of names. Gundel *et al.* (1993) show that among referential/anaphoric expressions such as demonstratives, pronouns, proper names, and descriptions, speakers have a preference for pronouns whenever the intended referent/anaphoric anchor is cognitively activated, for example, by being retrievable from the immediate linguistic environment. They refer to this as the *givenness hierarchy*. Whenever the intended referent is *given*, using a pronoun is preferred because it is less cognitively demanding to process. For illustration, consider the three sentences below. These sentences could all be used to express the same proposition, but in normal contexts, most speakers have a strong preference for (27).

- (27) Alfred_{*i*} thinks he_{*i*} is a genius.
- (28) #Alfred_{*i*} thinks Alfred_{*i*} is a genius.
- (29) #Alfred_{*i*} thinks [the person called Alfred]_{*i*} is a genius.

Now, notice that when a name occurs in a linguistic environment where it ought in principle to have a bound interpretation, i.e. where it has a suitable antecedent

c-commanding it, the name is in direct competition with a corresponding pronoun. Furthermore, the “intended referent”, viz. the anaphoric anchor, is in any such case cognitively activated. Consequently, the speaker *ought* to use a pronoun (since that promotes easy processing) if that interpretation is intended. If the speaker uses a name, then it would be perfectly rational to infer that the speaker is *not* intending a bound interpretation, because if she were, she should have used a pronoun. So, if a name is used rather than a pronoun, one naturally gravitates towards the interpretation where the name is *not* bound and this explains why names *appear* to resist bound interpretations in the vast majority of cases.

Assuming that this explanation of the infrequency of bound interpretations of names is correct, it raises another question, namely in what types of cases is a bound interpretation of a name licensed? One candidate case is a situation where using a (bound) pronoun over a (bound) name would *impede* rather than promote processing of the intended interpretation. If the processing explanation is correct, we should expect a preference for a name over a pronoun in such cases. As it happens, we have already encountered such a case, namely Elbourne’s example in (10)—repeated below.

- (10) Every woman who has a husband called John and a lover called Gerontius takes only Gerontius to the Rare Names convention.

In this case, if a pronoun is substituted for the name ‘Gerontius’, there are now two potential anaphoric anchors both of which are activated, cf. below.

- (30) Every woman who has [a husband called John]₁ and [a lover called Gerontius]₂ takes only him_{1/2} to the Rare Names convention.

Determining that the speaker’s intended interpretation of the pronoun is one where the anaphoric anchor is ‘a lover called Gerontius’ rather than ‘a husband called John’ requires fairly laborious pragmatic reasoning. Consequently, the processing costs of using the pronoun are much higher than the costs of using a name since the latter provides immediate disambiguation. For this reason, a bound interpretation of the name is licensed. This looks like strong evidence in favor of the processing explanation outlined above.¹⁰

Moving on to *shifted* uses of names, one might think that VARIABILISM has no tangible advantage over MILLIANISM. After all, according to both views, names are

¹⁰To keep this fairly short, I am leaving out some important details here. For example, an attentive reader might have noticed that both Elbourne’s and Geurt’s cases of bound interpretations of names are donkey cases, i.e. cases where the standard structural constraints on binding are not satisfied (the binder does not c-command the name). I discuss this complication (and others) in Schoubye (2020).

rigid, and so their predictions with respect to names embedded under modals should be identical—and they are. However, the solution to this problem is not to be found in the semantics of names (alone), but rather in the semantics of *epistemic* modals.

In recent years, several researchers have argued that epistemic modals should not be analyzed simply as quantifiers over possible worlds. One of the main motivations for this analysis is precisely to account for cases of shifted uses, namely shifted uses of pronouns (including even so-called “pure” indexicals) under epistemic modals. Here is an example of such a case: Suppose Del Naja has been involved in an accident resulting in severe amnesia leaving his memory of the past 20 years extremely hazy. Suppose further that someone hands Del Naja the aforementioned article detailing all the evidence that he is Banksy. In this case, it seems clear that Del Naja could truly assert (31) even if it later turns out that Del Naja is not Banksy.

(31) I_i might be Banksy.

In order to capture this, it seems that the semantic value of one of the singular terms flanking the identity sign must somehow be assigned a different semantic value from the semantic values assigned at the world of the context.

Shifted uses of pronouns were first discussed in detail by Santorio (2012). He argues that the best way to account for these cases is by assuming that the function of an epistemic modal is not merely to change the possible world that the prejacent is evaluated at, but moreover to change the variable assignment in accordance with the speaker’s information state. So, simplifying somewhat, rather than assuming (as is standard) that sentences of the form ‘might ϕ ’ are true at w iff there is an accessible world w' (where w' is compatible with the speaker’s information state) such that $\llbracket \phi \rrbracket^{w'} = 1$, one instead assumes that ‘might ϕ ’ is true at $\langle w, g \rangle$ iff there is an accessible $\langle w', g' \rangle$ (where $\langle w', g' \rangle$ is compatible with the speaker’s information state) such that $\llbracket \phi \rrbracket^{\langle w', g' \rangle} = 1$. In Santorio’s version, this is combined with a Lewisian style counterpart semantics where every individual in the domain has one (or more) epistemic counterparts at each possible world. An individual a counts as an epistemic counterpart of b iff it is consistent with b ’s information state at the world of the context that b is identical to a . Going back to the example above, given that Del Naja has no recollection of his whereabouts for the entire period where Banksy has been active as an artist, it is therefore consistent with Del Naja’s information state that he is Banksy. As a result, there is an accessible $\langle w', g' \rangle$ such that the epistemic counterpart of Del Naja that is assigned to ‘I’ by g' is identical to Banksy. So, (31) is true.¹¹

¹¹For a detailed outline of the semantics, see Santorio (2012). A quite similar strategy for dealing with shifted uses is also employed by Cumming (2007), Ninan (2012, 2018), and Rabern (2018). Cumming

The idea that epistemic modals have this kind of a dual function can also be motivated by more general considerations. Remember, epistemic modals are information modals, i.e. they are sensitive to a body of information available to a relevant party, typically the speaker. And since variable assignments are essentially representations of referential relations that obtain given certain features of the context, it makes sense to think that once an expression (that depends for its meaning on this assignment) is embedded under an epistemic modal, the assignment is shifted to represent the referential relations that are *assumed* to obtain given the relevant information state. In other words, when a speaker makes a statement whose meaning depends on her information state, it makes sense to think that what various referential expressions denote also depends on this information state.

Santorio's analysis of epistemic modals is, of course, perfectly suited to account for shifted uses of names given that these are also analyzed as variables (a point that Santorio also makes himself). However, if names are analyzed as constants, as the MILLIANS maintain, then the problem with shifted interpretations remains. Since names are not the type of expression that can be shifted by operators that shift variable assignments, Santorio's modified analysis of epistemic modals is of no use. A further advantage of a VARIABILIST analysis of names is that it makes it possible to provide a uniform explanation of *all* shifted uses, both pronouns and names.

Finally, let's turn to *predicative* uses of names. Again, since VARIABILISM assumes that names are singular terms, predicative uses of names appear to pose as much of a problem for VARIABILISM as it does for MILLIANISM. However, while assuming that names are type-ambiguous between referential and predicative uses is implausible given a MILLIAN analysis of referential names (as argued above), this is not the case for a VARIABILIST analysis. Recall, two of the main problems with a type-ambiguity view for MILLIANISM are (a) indexically valid inferences, cf. (23)-(24) above, and (b) issues concerning competence. But these are not problems for a VARIABILIST analysis. Let's start with indexically valid inferences. Consider again (23), repeated below.

- (23) Alfred joined the club today.
∴ An Alfred joined the club today.

The problem for MILLIANISM was explaining why whenever the premise ('Alfred joined the club today') is true in a context *c*, it follows that the conclusion ('An Alfred joined the club today') is also true in *c*. On the VARIABILIST analysis outlined in section 4, this follows straightforwardly from the semantics (i.e. the analysis of bare

(2007) in particular employs the strategy to deal with shifted interpretations of names and argues that it also provides a way of solving Frege's puzzle, i.e. cases such as (14) and (15).

singular names in argument position of a predicate, viz. referential uses of names). On the analysis of names in (25), the meaning of a name is simply the individual to whom the name refers (given the speaker's intentions), but in order for a bare singular occurrence of 'Alfred', to refer, it is required that the intended referent is called Alfred. If the individual determined by the variable assignment does not satisfy this condition, the name fails to refer. Hence, in any context in which the premise of (23) is true, it follows straightforwardly that the referent of 'Alfred' is called Alfred in that context. Consequently, it also follows that there is an x such that x is called Alfred and x joined the club today. The same type of reasoning can be used, mutatis mutandis, to account for the indexical validity of (24). So accounting for these inferences is remarkably straightforward given the VARIABILIST analysis in (25).

What about competence? Again, VARIABILISM offers a simple and elegant explanation. On the VARIABILIST analysis, referential names encode a semantic presupposition that the intended referents must satisfy. This precondition is simply that the intended referents have a certain appellative property, namely that they are called that name. It follows that competence with any referential name requires understanding that the intended referents must be called that name. When a name is used as a predicate, syntax alone is going to alert the speaker to the fact that the expression in question denotes a property of some kind rather than an individual. And if the speaker is competent with referential uses of the name, the speaker will know what property serves as a precondition on the use of that name. Hence, the speaker can infer, on any given occasion, that if the name is being used to express a property, the property in question is most likely the one that serves as a precondition on the use of its referential counterpart.¹²

In conclusion, it is perfectly viable for a proponent of VARIABILISM to assume that names are type-ambiguous between referential and predicative uses, because VARIABILISM provides a straightforward explanation of why this ambiguity is systematic.

Finally, it is worth pointing out that VARIABILISM avoids the conclusion that referential names are also multiply *lexically* ambiguous. As mentioned above, according to MILLIANISM, each individual called 'Alfred' have different names. Since

¹²Again, due to space limitations, I am leaving out many important details here. The more detailed story involves the observation that predicative names can be understood as morphologically derived from referential names. There is evidence for this in not only English, but many other languages and this explains the systematic availability of predicative names in these languages, see Schoubye (2017) for discussion. Another issue that I do not have space to discuss here are predicative uses of names, but where the property expressed by the name is not a naming property. For example, uses of 'Einstein' to mean intellectual genius or 'Picasso' to mean 'a replica of a painting by Picasso'. I discuss these uses and why they are not a problem for either VARIABILISM or MILLIANISM in Schoubye (2020).

Concluding Remarks

there are literally hundreds of thousands of people called Alfred, this leads to a quite significant inflation of the lexicon. It also assumes that whenever one encounters a new individual called Alfred, one learns a new word. This strikes me as rather implausible. As [Pelczar \(2001\)](#) writes:

Why, for example, doesn't a good dictionary list up all of the (supposedly) many meanings of a name, given that it is so unstinting in the case of a standardly recognized ambiguous term? Perhaps considerations of material economy and other practical limitations make it unfeasible to include all of the (again, supposedly) many meanings of a name like 'David'; but surely the task is not so daunting when it comes to a name like 'Cleopatra' or 'Willard Van Orman Quine.' Are we to account for the absence of these terms from the O.E.D. as a consequence of their obsolescence or marginality? But this is a book that contains an entry for 'mammothrept.' ([2001](#), 134)

Of course, a VARIABILIST view completely avoids this problem, because according to VARIABILISM, there is just one name 'Alfred'. It just so happens that this name can be used to refer to many different (indeed, hundreds of thousands of) individuals as long as they are called Alfred.

6 Concluding Remarks

Above, I introduced MILLIANISM about names and outlined three problems for this view. I then introduced VARIABILISM and showed that this analysis will make the same predictions as MILLIANISM in more or less all standard cases. In addition, I argued that a VARIABILIST analysis provides simple solutions to the three aforementioned problems without compromising or giving up any of the core virtues of MILLIANISM (e.g. direct reference and rigidity). But the explanatory potential of VARIABILISM quite likely extends beyond the issues discussed in this short paper. VARIABILISM also provides a potential explanation of certain metasemantic problems for MILLIANISM, for example the so-called problem of reference shift discussed by [Evans \(1973\)](#).¹³ And the analysis also seems well suited to explain what happens in cases where there is a mismatch between speaker's reference and semantic reference. These are issues to be further explored and developed in future work. In conclusion, it seems clear that VARIABILISM is a viable, and very attractive, alternative to MILLIANISM (and various forms of DESCRIPTIVISM).

¹³See [Pelczar and Rainsbury \(1998\)](#) for discussion

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