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A bundle theory of words

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Abstract

It has been a common assumption that words are substances that instantiate or have properties. In this paper, I question the assumption that our ontology of words requires positing substances by outlining a bundle theory of words, wherein words are bundles of various sorts of properties (such as semantic, phonetic, orthographic, and grammatical properties). I argue that this view can better account for certain phenomena than substance theories, is ontologically more parsimonious, and coheres with claims in linguistics.

Keywords Words · Substance · Bundle theory · Ontology · Linguistics

1 Introduction

Debates in the metaphysics of language have largely focused on two interrelated issues. First, whether words are particular objects composed of stages (Kaplan 1990, 2011), or are abstract types or kinds, either as Platonic kinds (Katz 1981; Wetzel 2009), or artifactual kinds (Hawthorne and Lepore 2011; Irmak 2018); and, second, how to individuate words, with the focus being about whether we can do so through phonetic, orthographic, or semantic properties, or through the word's history/origin (see Miller 2019 for a critique of these attempts).

In this paper, I argue that in both of these debates there has been a common assumption that words are substances that instantiate or have properties. Indeed, I will illustrate that most of the literature has proposed that we should posit not just *particular* substances, but *universal* substances too. This means that, assuming none of those cited here are intending to defend a form of resemblance nominalism,¹ in the metaphysics of words almost all theories posit *at least* a two category ontology of substances and properties, with many, if not the majority, in fact defending (at least) a three cate-

¹ Of which I know of no explicit defence in the metaphysics of words. See Rodriguez-Pereyra (2002) for a discussion of the view more generally.

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gory ontology of particular substances, universal substances (or kinds or types), and properties.

That the metaphysics of words has coalesced around this assumption puts the domain, to a degree at least, in contrast to the rest of mainstream metaphysics and ontology. Whilst there are a number of notable defenders of an ontological category of substance,² and some that defend the need for both particular substances and universal substances,³ bundle theories that reject substance as a genuine category in ontology have been widely discussed and defended.⁴ But, in the metaphysics of words, bundle theory is not even mentioned. In this paper, I will question the assumption that our ontology of words requires substances by outlining a bundle theory of words.

To this end, in this paper I will first evidence what I call the ‘substance assumption’ in the metaphysics of words (Sect. 2), before outlining more in more detail the bundle theory of words (Sects. 3–5). I then argue that this view coheres with current linguistic theories (Sect. 6), and finish by commenting on whether the bundle theory of words outlined here is a nominalist theory (Sect. 7).

For space reasons, I will not consider other possible ontologies here. There may be various categories of entities that are neither substances nor properties. Maybe words are events, facts, or some other sort of thing. By restricting my discussion to substances and properties, I do not intend to argue that all entities must be either a substance or a property, nor to say that words cannot be events or facts or some other sort of entity. Rather, there is an assumption prevalent in the literature in favour of words being substances-plus-properties, and it is this assumption I wish to reject.

2 The substance assumption

In her highly significant and influential work on word types, Wetzel is clear that words are ‘objects’ instantiating properties. For Wetzel, words are abstract universal kinds, where ‘abstract’ is strictly contrasted with ‘concrete’ or ‘physical’, and some entity is a universal if that entity has instances:

‘Unlike such properties as whiteness and being Phoenician, types are quintessentially objects’ (2009: p. xiii)

‘we should conclude that the generic objects, the types, apparently referred to in the data exist - that is, species, genes, epigenotypes, languages, body parts like the larynx, syllables, vowels, allophones, computers like the Altair 8800, Mozart’s Coronation Concerto, the Queen’s gambit, the hydrogen atom, the football and so on’ (2009: p. 23)

² See Armstrong (1997), Johansson (1989), and van Inwagen (2011).

³ See Ellis (2001), and Lowe (2006).

⁴ There many variants of bundle theories. Here I will attempt to sketch an initial, relatively neutral, version. For some examples and discussions of the positives and negatives of the many variants see, inter alia, Barker and Jago (2018), Campbell (1990), Casullo (1984, 1988), Ehring (2001), Hakkarainen and Keinänen (2017), Jago (2018), Maurin (2002, 2011), O’Leary-Hawthorne (1995), Paul (2017), Robb (2005), Simons (1994, 1998), Ujvári (2013), and Wayne (2008).

Furthermore, having instances means that types are universals. Yet they differ from many other universals (e.g., properties) in that, as we have seen, words are objects according to the commonsense and scientific theories we have about them - values of the first-order variables and referents of singular terms - rather than properties [...] And since they are objects according to the theory, they have properties according to the theory. And the remarkable thing about these universals, these types, is that unlike universals that are not types, they share many of the properties of their instances, as we have seen; they model their tokens (if they have tokens).’ (2009: p. 124)

What ontology does this view of words commit us to? It is clear that words are explicitly *not* properties, but rather they instantiate or possess properties. The types that Wetzel invokes explicitly ‘differ’ from properties, and are contrasted with universal properties. Types are not properties, but rather are universal entities that instantiate or possess properties. For Wetzel, words, whether universal (types or kinds) or particular (instances or tokens of those types), are a distinct sort of thing from the properties that they possess.

The most common entity posited as a property-bearer within metaphysics are substances (or substratum). Leaving aside various debates about the precise nature of substances (see Hoffman and Rosenkrantz 1994; Robinson 2018), we can characterize a substance minimally as an ontologically basic entity that instantiates or bears properties. Substances, so conceived, are also often posited to individuate entities. That is, it is argued that two entities may share all of the same properties, but still be distinct in virtue of their distinct substances (see Wiggins 1980, 2001). In this Aristotelian tradition, substances are thus non-property property bearers such that substances can instantiate properties, but cannot be instantiated themselves (see Lowe 2006). Objects, if we accept substances into our ontology, can be taken to be entities that are composed (in some sense) of a substance and properties (whether tropes or universals). Applying this to words, if, from the quotes above, words are strictly *not* properties, without any further clarification from Wetzel, it is reasonable to conclude that Wetzel is committed to an ontology of words that posits both the ontological category of substance and the ontological category of property.⁵

Substances seem central to attempts to individuate words too. Wetzel argues that ‘the only linguistically interesting, projectable property that absolutely all the tokens of a word have in common is being tokens of that word’ (2009: p. 124). Tokens of a word are therefore not tokens of that word because they have some property in common. Individuation of words does not happen through properties. What then does individuate words? What makes the word ‘table’ different from the word ‘Paris’, and make it the case that tokens of ‘table’ and tokens of ‘Paris’ are tokens of the type they are tokens of? The most natural answer is that it is the substances that individuate both tokens and types. That is, that the distinct tokens on this page are distinct tokens as they are distinct *particular* substances, and the distinct types are distinct as they are distinct *universal* substances. Given this, Wetzel’s ontology seems to be a three-category ontology of universal substances, particular substances, and properties.

⁵ Wetzel does not discuss whether the properties that she posits are tropes or universals. I will return to this distinction later in this paper.

There are various concerns we could raise about Wetzel's conception of 'abstract' and of 'universal' that might be problematic for the ontology I have argued she is committed to. Lowe, for example, argues that there are alternative ways of understanding the notion of 'abstract' including as an entity that is 'logically incapable of enjoying a "separate" existence' (1995: p. 514). Under this conception, Wetzel's word types would not be abstract as she is explicit that there can be uninstantiated words, and hence word types can exist 'separately'.⁶ We might also object that the notion of 'universal' cannot do the work that Wetzel requires of it to secure the existence of abstract entities as class nominalists may accept that redness (the property) has instances, even though 'redness' is just the class or plurality of physical red things, and is not a universal.

However, the claim here is simply that Wetzel conceives of words such that they are distinct from properties. Wetzel's ontology of words is *prima facie* committed to the existence of (linguistic) properties, and entities that instantiate or bear those properties. Wetzel calls words 'objects', but what she has in mind seems to be a substance-property ontology.

Moving on to Hawthorne and Lepore and their 'abstracta-articulations' model (2011), they similarly accept the existence of types or kinds *qua* universal substances not individuated by the properties those kinds instantiate.⁷ They too talk of words as 'objects', where such objects are ontologically distinct from the properties that token words, or abstract word types, have. Again, Hawthorne and Lepore are not explicit, but it is reasonable to conclude that they have in mind (at least) a two category ontology of substances and properties, if not a three category ontology of particular substances (tokens), universal substances (types or kinds), and properties.

That these views are committed to the ontological category of substance should not be surprising given that they are defences of (versions of) Platonism about words. In both views, the phrase 'the word "table"' picks out a universal object that instantiates various properties, and has instances or tokens. Such a conception is clearly in line with a commitment to an ontological category of substance as words, whether universal or particular, are explicitly distinguished from the properties they instantiate (whether universal or particular).

However, even Kaplan, whose view is not Platonic, also posits the ontological category of substance. Under Kaplan's 'stage-continuant' view, 'utterances and inscriptions are stages of words, which are the continuants made up of these interpersonal stages along with some more mysterious intrapersonal stages' (1990: p. 98). We can easily see that Kaplan assumes a substance ontology:

I might have called the objects I am interested in empirical abstract objects, but some of the characteristic features I find in my created objects do not seem to apply to properties and relations in general (2011: p. 507, fn. 6)

⁶ I will talk more about conceptions of 'abstract' in Sect. 7.

⁷ Hawthorne and Lepore do not embrace, as Wetzel does, the *talk* of types but they make clear that they have 'no deep objection' (2011: 453, fn. 19) to such a way to phrase the view, rather they avoid it because Kaplan (1990) had associated the type-token language with a shape-theoretic view on how to individuate words that they wish to reject.

Again we see that the words *qua* objects are distinct from the properties they instantiate. The words are the ‘objects’ that instantiate properties, in line with typical conceptions of substance within categorial ontology.

What this shows is that despite the differences between these views there is a consistent assumption that words *qua* objects are to be analysed as *substances* (or substratum) that have (or instantiate) *properties*, and hence that to account for words requires us to posit some entity that is a property-bearer. Such property-bearers may be particular or universal entities, but both are seemingly primitively unanalysable or irreducible entities, play a role in individuating words, and instantiate, and thus are ontologically distinct from, properties. This, I argue, is evidence of a commitment to a category of substance, and hence to at least a two category ontology, if not a three category ontology. In the rest of this paper, my claim will not be that positing the category of substance is necessarily wrong. Rather, I contend only that this is a debatable assumption, and in the rest of this paper I will outline a view that does not require a commitment to the existence of substances.⁸

3 A bundle theory of words

It might be, as Van Cleve notes, too simplistic to state that the bundle theory holds that ‘a thing (individual, concrete particular) is nothing but a bundle of properties’ (1985: p. 95). A better way is to say that ‘concrete objects, abstract objects, and perhaps even space–time are constructed from mereological fusions of qualities’ (Paul 2017: p. 33). Both statements indicate that a core idea in bundle theories is that all that is required is one category of fundamental entities, namely properties or qualities, with objects as derivative upon and ontologically posterior to properties.

In line with this, the view I will outline will be that particular words (tokens) are objects *qua* bundles, or mereological fusions, of various properties or qualities. To get there, there are various aspects worth mentioning. However, to stress, the remainder of this section concerns tokens not types. The view will be that particular words are bundles of properties; I will address word types in Sect. 5.

3.1 Which properties compose words?

If ordinary objects and words are bundles of properties, we need to know what properties might compose those bundles. For ordinary physical objects, these would likely include, amongst others, shape, weight, and colour properties. Some of these seem to also partly compose token words—orthographic properties are, in one sense, simply shape properties. In the case of words, in addition to these there will be a range of other

⁸ There are some other views in the literature that may not be committed to substances, though they are not explicit on this topic. Szabo’s (1999) representational view, for example, rejects the Platonic orthodoxy, but it is not entirely clear what ontological categories are required for his view. More recently, Nefdt (2019) has argued for a ‘structuralist’ view of words. Whether this account posits substances will depend on how we understand the notion of ‘object’ within a linguistic structure. Nefdt does not commit himself either way, but, *prima facie*, if words are offices or placeholders within the structure, then structuralism may be compatible with the bundle theory I am proposing here.

well-known, scientifically justified linguistic properties, such as semantic, phonetic, and grammatical properties (such as ‘being a noun’).⁹

To account for words, we might also think that narrow linguistic properties are not enough. Other social, cultural, physiological, or psychological properties may also be needed to explain fully the nature of words. For example, if speaker-intention is important to word individuation as Kaplan (1990, 2011) has argued, then token words might be partly composed of intentional properties.¹⁰ This list is not intended to be exhaustive, nor the distinctions between these sorts of properties certain.

Further to this, the properties that partly compose words might be intrinsic or extrinsic (or relational). Whether we accept extrinsic properties as partly composing words will depend on a number of further claims about the nature of linguistic properties (and any other category of properties we think partly compose words). Whilst most standard bundle theories reject extrinsic properties, there are some, such as Paul (forthcoming) that posit relational spatio-temporal properties. The bundle theory outlined here is consistent with the view that the properties that compose words are all intrinsic, all extrinsic, or are a mixture of intrinsic and extrinsic properties, though other aspects of how we conceive of words may change significantly depending on these further commitments.

3.2 Tropes or universals?

Are the properties of words tropes or universals? Both trope-bundle and universal-bundle theories have been defended within the metaphysical literature. Whether linguistic properties are tropes or universals is unclear. Take semantic properties. What do we mean when we say that two token words mean the same thing? Does this mean that those words instantiate the numerically identical semantic property, or that they instantiate (exactly) resembling, but numerically distinct, tropes? A similar debate arises within grammatical theories. Are two nouns both nouns because they both instantiate the numerical identical universal property of ‘being a noun’ or exactly resembling but numerically distinct trope properties—‘being a noun₁’ and ‘being a noun₂’? Deciding between these options is beyond the scope of this paper but we can construct a bundle theory in both cases.

If a bundle of universals view is preferred, then the sameness of properties instantiated by distinct tokens can be explained as the words will instantiate (or be partly composed of) a numerically identical property. That is, distinct token words may instantiate numerical identical universal semantic, phonetic, orthographic, etc. properties.

If tropes are preferred, intuitions about ‘sameness’ can be explained through the relation of (exact) resemblance. Most bundle theorists take (exact) resemblance to be an internal relation, and hold that resemblance between tropes is determined by their

⁹ I am not intending to presuppose any semantic theory here, and instead use the term semantic in its most general sense to refer to the meaning of a word however it is that the word gets that meaning. Semantic theories might change what we think about the nature of such properties, or what other properties might exist, but it will not affect the plausibility of a bundle theory of words.

¹⁰ Though see Cappelen (1999) for more on intentional accounts of words.

primitive intrinsic nature. Following Maurin, we can take exact resemblance ‘to be formally characterized as an equivalence relation, i.e., as a relation that is symmetrical, reflexive, and transitive. As such, exact resemblance partitions the set of tropes into mutually excluding and non-overlapping classes; classes functioning more or less as the traditional universal does’ (Maurin 2018).¹¹ Applying this to our case, two token words may instantiate numerically distinct but exactly resembling semantic, phonetic, orthographic, etc. tropes.

If we do accept a trope-bundle view of words, we can also hold that two tokens may instantiate non-exactly resembling tropes. Recognising that tokens instantiate non-exactly resembling tropes may be important for particular explanatory purposes and claims we wish to make. For example, it seems right to say that handwritten tokens may be tokens of the same type even if they are not instantiating *exactly* resembling orthographic tropes. Whether it is right to think of two non-exactly resembling tokens as being instances of the same type will depend on broader issues concerning types that I discuss in Sect. 5.

3.3 Composing bundles?

What relation holds between the properties that compose an object is also a matter of much debate. Some take it to be a primitive relation, others have invoked co-instantiation or compresence, and some have taken the ‘constructing’ talk I have invoked above seriously and think of properties being related by composition relations.¹² The outline I provide here is consistent with any account of how properties are ‘bundled’. For ease, I will talk of words being constructed or composed of properties, but nothing unique to words turns on this issue.

3.4 Stating the bundle view

We are now in a position to more fully state the view. The view is that particular or token words are objects, which are bundles of various sorts (most notably semantic, phonetic, orthographic, and grammatical) properties. Distinct words are distinct in virtue of being different bundles of properties. If those properties are taken to be tropes, two token words exactly resemble if it is the case that those words are composed of exactly resembling tropes; if properties are universals, then two words can instantiate a numerically identical property in virtue of being partly composed of the same universal.¹³

Centrally, this means that a bundle theory need not posit substances within their ontology. Token words are objects, but those objects are bundles (or fusions) of proper-

¹¹ These positions are widely agreed upon by those defending a trope bundle theory, though not universally; see Mormann (1995) and Ehring (2011) for some alternatives.

¹² See, inter alia, Bacon (1995), Campbell (1990), Castañeda (1974), Denkel (1997), Paul (forthcoming), Schaffer (2001), Simons (1994), and Russell (1940).

¹³ A further possibility is that the universal properties compose a single word that is located at a number of different spatio-temporal points (see O’Leary-Hawthorne 1995; Curtis 2014). This might even allow us to combine a bundle theory with certain aspects of Kaplan’s view of words, however I leave investigating this possible view for future work.

ties, and hence we can avoid any ontological commitment to the category of substance. This immediately means that the theory is more ontologically parsimonious than its major competitors. Unlike other views proposed in the metaphysics of words which posit substances, the bundle theory holds that all we require to account for the nature of words are properties. Granting that parsimony is a theoretical virtue (cf. Miller 2018), this is a significant positive for the bundle theory.

It might be immediately objected that this parsimony argument in favour of bundle theory holds for ontological parsimony, but not for ideological parsimony as the notion of bundling or composition that we require under the bundle theory is not something that the substance theorist requires, and this is an additional ideological cost. However, first, the substance-property view will require a relation that holds between a substance and a property, and hence may require as many ideological posits as the bundle view.

Second, it has been argued that the primitives invoked in bundle theories are, in fact, ideologically simpler (Campbell 1990). That is, even if there are more ideological primitives in bundle theory, we might favour the view for its relative ideological simplicity. For the objection to work, we would need a reason to favour a simple form of parsimony based on the cardinality of primitives over a more complex comparison of theoretical virtues.

Third, even if we accept that substance theories are more ideologically parsimonious, this objection would require some argument to say that ideological parsimony is to be preferred over ontological parsimony. There is no argument in the metaphysics of words currently amongst those endorsing a substance theory that justifies the extra ontological cost of positing substance, and so pending that argument, it is reasonable to suggest that a bundle theory leads to benefits with respect to parsimony.

4 Changing words

One possible objection to the bundle view of words is a version of an argument raised against the bundle theory by Van Cleve (1985). Van Cleve argues that a particular bundle cannot change its members without becoming another bundle, and thus, another particular or individual. In effect, the objection is that bundle theory makes every property essential to the object.¹⁴

In the case of words, this would mean that altering any property that partly composes a token word would result in that word being a different token. The problem is that there seem to be clear counterexamples to this. Consider a case where I have typed out a particular word in a particular font, as seen in (1).

(1) Table

After some reflection, I decide that this paper would be better in an alternative font, and hence I press some buttons and (1) becomes (2):

(2) **Table**

¹⁴ This problem may not arise for all bundle theories, such as the trope bundle theories defended by Simons (1994), or Keinänen and Hakkarinen (2014), who argue that they are not committed to the claim that the change of property entails the destruction of an object and the creation of a new one.

In this case, intuitively, what has happened is that the particular token word in (1) has simply changed its orthographic properties. It is not that I have destroyed the object in (1) but merely changed one of its (non-essential) properties. However, according to the objection, if a particular, or token, word were only a bundle of properties then this would mean that changing the font results in the destruction of one token and the creation of a distinct entity, not just a simple change of properties. That is, a bundle theory will have to say, *contra* our intuitions, that changing the font of a token word destroys one object and creates a new one as (1) is a different bundle of properties than (2).

This, we should admit, is counter-intuitive. The response, though, comes from considering ‘false friends’ as thinking about these cases will show us that small changes in other properties of token words does intuitively result in different tokens, and that the counter-intuitive consequences produced by (1) and (2) is less problematic than initially seemed to be the case. Consider:

- (3) Gettare il **confetti**.
 (4) Throw the **confetti**.

Focus on the tokens in bold only. In (3) and (4), these tokens have a number of resembling properties. As written here, they have exactly resembling orthographic properties, have resembling grammatical properties (both are nouns, though one is count and the other mass), and even have somewhat resembling semantic properties in that both are terms that in their respective languages pick out items involved in certain types of celebrations.¹⁵

Now imagine a scenario where after writing (3) on a blackboard, I subsequently erased the Italian words except ‘confetti’ and replaced them with English words ‘Throw the’ as they appear in (4). In this case, is the token ‘confetti’ still the same particular object? That is, did my actions destroy the token in (3) and replace it with a new token, or has the token survived through the changes made to the other words on the board?

I suggest that most people will say the token in (4) is a distinct entity once they realize the subsequent change in the semantic properties—in (3) ‘confetti’ refers to almonds with a hard sugar coating eaten at wedding ceremonies, whilst in (4) ‘confetti’ refers to small pieces of paper thrown at wedding ceremonies. We have this intuition despite the words that have been directly changed—‘Gettare il’ to ‘Throw the’—both meaning the same. However, now we have competing intuitions. What are the metaphysical grounds to consistently object that (1) and (2) are the same word whilst allowing that (3) and (4) are different words?

Why then are our intuitions about (1) and (2) different from those about (3) and (4)? I propose that this is because a change in semantic properties, such as the change in turning (3) into (4), is more relevant to how we (normally) engage in language. Metaphysically, particular words may not, under a bundle view, be able to change their properties, but this is not as counter-intuitive as it first seems. In normal communication, it is irrelevant whether the orthographic properties of a word are changed, and we intuitively think the particular word can survive that change because it is not

¹⁵ This will depend on how fine-grained we take semantic properties to be. Thanks to Anna Bortolan for language help on this example.

relevant to the purpose of the word at that time.¹⁶ For most linguistic communities and purposes, the difference in properties in (1) and (2) is not relevant to how we think of those words. However, the difference is relevant in (3) to (4).

Tolerated differences for relevant communicative aims or purposes are, though, pragmatic concerns about successful and productive communication. The bundle theory can accept the influence of these pragmatic concerns whilst holding that, metaphysically, changing the font of a word creates a different particular word, just as a change in the semantic properties of a particular word will also create a new particular word. The counter-intuitiveness of the bundle theory in the first case is undermined by the intuitiveness of accepting the objects as being different particulars in the second.

5 Word types

A well-discussed problem in the metaphysics of words is that whilst we intuitively think that two particular words can be instances of the same word, it is unclear what makes them the same. Token words of the same type can differ in their semantic, phonetic, orthographic, and/or grammatical properties and yet we still intuitively think they are the same word. This difficulty has led Hawthorne and Lepore to state that identity conditions for words might be impossible to provide. This does not necessarily mean that there are no identity conditions, but rather that we should be ‘sloppy realists’ holding that ‘the unsettled questions turn out to rest on borderline cases and are to be handled using the correct theory of vagueness (whether it be epistemicist, supervaluationist, or whatever). In that case, there either are facts we may never know or simply no facts at all about the myriad borderline cases left unresolved by our capacity to settle questions in the area’ (2011: p. 36).

Hawthorne and Lepore assume that the only other alternative is ‘atheism’ about words, the view that there are no words, and no interesting equivalence relations between words. Finding such a view unattractive, they state:

The challenge remains to provide a criterion for word matching between performances. Having eschewed superficial criteria, this challenge takes on a forbidding character, since there is no obvious surrogate that can provide a criterion once the form-theoretic ones have been dispensed with. Rather than expect that such criteria will be forthcoming, we must take seriously a conception of our practice which guardedly endorses on ontology of words while despairing of such criteria. (2011: p. 38)

It is clear, though, that Hawthorne and Lepore base their argument on the assumption that words are substances instantiating properties. For them, word matching cannot just be case of there being ‘interesting equivalence relations’ between the properties

¹⁶ This, though, may not always be the case. Certain signs in shop windows, for example, are designed such that they can be read as both ‘open’ and ‘closed’ depending on which way the sign is hung. In this case, it seems that the orthographic properties are important as only certain designs will allow this purpose to be fulfilled. However, this is an unusual case. Handwriting style and choice of font are at least very often taken to be irrelevant to the intended function of the words in a given context. This paper, for example, is intended to be an exploration of a bundle theory of words, and it is irrelevant to that purpose which font the journal it is published in uses.

of words as the properties are non-essential to the identity of words, both at the level of tokens and at the level of types. If we accept that assumption, then they are quite possibly right—either it is the case that the identity will likely be vague or we must accept atheism about words.

However, this is a false dilemma as bundle theory provides a non-atheistic alternative that can provide identity conditions for words. Under a bundle theory, words, or types, cannot be kinds of the sort that Wetzel or Hawthorne and Lepore invoke. This is because there is no notion of substance to ultimately ground the claim that two tokens are tokens of the same type in virtue of being instances of the same substantial kind. Instead, I suggest that if tokens are bundles of properties, then types are bundles (or sets or collections or pluralities) of tokens, where those types have their criterion of identity in virtue of the properties of the tokens that are members of type. That is, whether two tokens are tokens of the same type will be determined by the properties that compose the tokens.

How we flesh this out further will turn on whether properties are tropes or universals. If universals, then types are collections of tokens that all instantiate the same (numerically identical) universal property or properties. If properties are tropes, then tokens are tokens of the same type in virtue of instantiating (exactly) resembling properties. This does not mean that the tokens need to instantiate *all* of the same properties. Rather, ‘color’ and ‘colour’ may count as tokens of the same type in virtue of both instantiating the same universal semantic property, or (exactly) resembling semantic tropes.

There remains the question of whether there are any particular (set of) properties that are necessary for type-membership. Personally, I think that this concern should lead us to accept the idea that type-membership for tokens words will vary depending on a variety of sociological and explanatory factors relevant to speakers within a community. Whether ‘color’ and ‘colour’ are tokens of the same type will depend on the overall communicative and explanatory goals to which we are putting those tokens. ‘color’ and ‘colour’ are (likely) tokens of the same type in virtue of instantiating the same universal semantic properties, or (exactly) resembling semantic tropes, but tokens of distinct types relative to the orthographic properties they instantiate.

We might flesh this out by adopting a version of Hawthorne and Lepore’s ‘tolerance principle’ that was introduced to handle cases of words changing their properties and holds that:

Tolerance: Performance p is of a word w only if p meets relevant local performance standards on w (2011: p. 18)

Adjusting for a bundle theory, we can hold that to say that performances p_1 and p_2 (where these performances can be inscriptions, utterance, or some form of mental performance) are of a word w is to say that p_1 and p_2 are sufficiently similar with regards to some relevant criteria within a particular community which are in part dictated by the purpose of that performance within that community.

Platonists may object to this more conventionalist account of types, and it is not strictly required by the bundle theory outlined here. However, it shows that the bundle theory of words is not an atheistic theory of words, in either sense outlined by Hawthorne and Lepore. Words exist, at both the level of tokens and types, and there

are interesting equivalences between particular words. Perhaps relations of (exact) resemblance (assuming tropes) are not what Hawthorne and Lepore intended when they sought ‘interesting equivalence relations’, but, to object in this way is to beg the question about what sort of equivalency could be ‘interesting’. Even if the bundle theory does give up some intuitions we have about tokens being the ‘same’ word, this does not mean they give up all explanations. Indeed, it is plausible that interesting equivalency relations will be *more* prevalent for the bundle theorist as they can hold between token words in virtue of any of the properties that partly compose them (cf. Miller ms.).

6 Coherence with linguistics

The idea that Platonic realism about words coheres with the practices and claims of linguistics has been explicitly invoked in order to support the view. Wetzel (2009: chapter 1) runs through a number of claims in historical-comparative linguistics, phonetics, phonology, and other sciences (including biology and physics) to show that ‘type talk is pandemic’ (2009: p. 21), arguing that it should therefore be taken ontologically seriously. In this section, I argue that in certain domains of linguistics ‘bundle talk’ is pandemic and that those theories are committed to an ontology that far more closely coheres with a bundle theory than Platonism.

Before doing this, though, it is worth noting that saying that any philosophical position has support from the linguistics literature may be met with an immediate scepticism given the divided nature of linguistics itself. Even drawing distinctions between the different schools, theoretical frameworks, or foundations of linguistics is fraught, and none of the distinctions that I draw here should be taken to be anything less than controversial.

In the broadest sense, though, we might draw a distinction between the generative grammar programme, inspired by Chomsky’s work in the 1950s and 1960s, and cognitive linguistics. Central to this distinction is the existence, or not, of some language specific or autonomous module, and a related disagreement about whether language evolved in one genetic leap, or more gradually alongside other complex cognitive abilities.¹⁷ Generative approaches can also be distinguished from constraint-based views. Very much in brief, the difference between these views is that whilst generative grammars, as their name suggest, explain language by listing the rules that generate well-formed sentences, the constraint approach, as their name suggests, focuses on what certain rules might stop sentences from being well-formed. That is, both state a set of rules, but the generative approach takes those rules to tell us what is allowed, whilst the constraint approach takes those rules only to tell us what is not allowed, with all structures not otherwise constrained being acceptable.¹⁸

These disagreements mean that my discussion will draw upon concepts, or definitions of concepts, that some linguists would reject. Appealing to (potentially)

¹⁷ See Hauser et al. (2002), Miller and Hughes (2014), Tattersall (2004), Jackendoff and Pinker (2005), Pinker (2003), and Tallerman (2007) for a range of views on language evolution.

¹⁸ For an in depth discussion of the difference between generative and constraint-based approaches, see Pullum (2013) and Jackendoff (2018).

controversial empirical evidence to support metaphysical claims is not new, as shown by the various appeals to the latest, disputed evidence from physics. I do not know if linguistics suffers from greater internal disagreements than physics. What is offered here is at least a (falsifiable) point in favour of the bundle theory of words.

Within the generative approach, it is a commonly held that the primitives of our linguistic system are ‘units that are standardly characterized as bundles of features’ (Boeckx 2008: p. 63). The basic idea is that lexical items are bundles of features, such as phonetic, semantic, and formal features. Using Chomsky’s example of the word ‘airplane’ as an illustration, ‘airplane’ has the following sorts of features: phonetic [begins with vowel]; semantic [artefact]; and formal [+ nominal] (Chomsky 1995: p. 230).¹⁹ Such items, or ones like them, are the building blocks of language, and are taken to be the elements stored within our mental lexicon. Indeed, this sort of ‘bundle-talk’ is so pandemic that Sprouse and Lau say that ‘we believe it is fair to say that there is some degree of consensus that the basic units are bundles of features’ (2013).

Some have argued that we do not need to build so much information into these linguistic items. Marantz (2000) and Borer (2005), for example, hold that we do not need to posit formal features in the lexicon as such features can be explained during the derivation of a sentence by the operation Merge functioning over these lexical items, or ‘roots’.²⁰ However, such differences in the theoretical linguistics will not matter for present purposes. The more general point is that linguists working in these domains theorise that the elements of language that are then combined via syntactic relations, patterns, and dependencies are *bundles* of certain sorts of features, in line with the view outlined in this paper.

Furthermore, features look a lot like what I have been calling properties. We can easily map the sorts of features onto the sorts of properties: semantic features are semantic properties, phonetic features are phonetic properties, and formal features are grammatical properties. Our mental lexicon could therefore be said to contain bundles of these features, or, in my terms, bundles of properties. That is, if we wish to hold to our intuition that our mental lexicon contains words, then the linguistics seems to be already suggesting that these words are not substance-property pairs.²¹ Instead, the mental lexicon contains elements that are bundles of features or properties. This again is in line with the theory outlined in this paper, whilst also suggesting a unified ontology across both externalised and ‘internal’ (or mental) instances of words.

What about the orthographic properties, as they are missing from this discussion? Whether or not words instantiated in the mind have such properties is an issue that is independent of the underlying ontology, though it at least seems plausible that words

¹⁹ ‘Formal’ features, as this example shows, can be roughly taken to be equivalent to what we might more colloquially call grammatical features. [+nominal] is thus broadly equivalent to a grammatical property that a word might have of ‘being a noun’.

²⁰ This would be to disagree about how much information is contained within any single ‘root’. See Acquaviva (2014a, b), Borer (2013, 2014), and Harley (2005, 2014) for more on ‘roots’. I also leave aside the issue here of whether any of these sorts of features exist prior to lexicalisation, the process through which it is held that concepts become interpretable by linguistic operations such as Merge. See Miller and Hughes (2014).

²¹ I am certainly not alone in positing that in some sense there are word tokens that are ‘mental’. Kaplan posits ‘mysterious intrapersonal stages’, and Wetzel talks about words having tokens such that only ‘some [...] are physical objects/events’ (2009: 114), which suggests that other tokens are non-physical.

instantiated within the mind do not have orthographic properties. We might have an image in our mind about how a word is spelt but an image in our heads does not have the physical orthographic properties that the image might represent. However, this only suggests that it might be the case that some words have properties of a sort that other words lack.

This, though, leads to the consequence that if we accept a bundle view of words then inscribed or uttered words can never be the same word as those in our heads as they will be composed of different properties. This would strike many as counter-intuitive. After all, if I think of a word, and then write it down, most would want to say that I am writing down the same word that I thought of. However, any theory will have to accept that an uttered token and mental token are different *particulars*. For the bundle theorist, the written token and the mental token are distinct particulars in virtue of one being partly composed of orthographic properties whilst the other is not; but the two particulars can be of the same type in the way outline above.

Can linguists help provide an answer as to whether we should think of the properties that compose words as tropes or universals? Boeckx, in the abstract for his 2015 book, says that ‘most syntacticians, no matter their theoretical persuasion, agree that features (types or categories) are the most important units of analysis’. Taking this on face value we might think that this suggests that Boeckx thinks of features as being universals, not tropes.

However, some caution is needed here. Linguists typically use of the language of set theory to group together features. This is entirely consistent with features being tropes as we need not think that these sets are genuine universal entities. This is exactly how many trope theorists talk, holding that to say that two particularized properties are the ‘same’ is only to hold that they are both a member of some set or class such that all the members of that set exact resemble.

Indeed, it seems that the only major difference between the bundle view outlined here, and the theory taken from linguistics is how fine-grained the features or properties are individuated. For example, I have been using the notion of semantic properties as being akin to potentially complex semantic properties such as [being an apple], whilst the linguistic theory typically breaks such complex properties down into smaller chunks, such as the mental item associated with the word apple having semantic features such as [+edible].

This, though, is a difference only in which properties (or features) exist and how fine-grained semantic properties are; not about the overall ontological structure within which they exist. I do not take it to be the job of this paper to say which properties exist, but rather to provide an ontological structure into which whatever properties do exist fit. Just as many philosophers no longer think that macro properties are real properties, the complex semantic properties that we might normally attribute to words may not survive our empirical theorising. The same goes for grammatical properties. Our common-sense notion of grammatical properties are things like ‘being a noun’ or ‘being a verb’, but such properties are liable to be reduced in the linguistics to agreement relations, argument places, and the interaction of other more specific properties in complex ways that give rise to what we in ordinary usage call the property of ‘being a noun’. Whether such a reduction takes place or not will not affect the plausibility of a bundle theory of words.

In summary, bundle theory therefore coheres with some important linguistic theories. Many linguists working in these (certain) areas make no ontologically committing use of a notion of words as objects that are ‘substances-plus-properties’. Rather, they posit bundles of features, in line with the idea that words are bundles of properties. To stress, this is not to say that work in this domain of linguistics *must* or *can only* be taken to be in support of a bundle theory. After all, linguists working in this field are not likely paying attention to metaphysical distinctions of the sorts that I have been discussing. However, at the very least, bundle theory is coherent with the linguistics in a way that it has previously been argued non-substance views like this fail to be. It is enough then that, *prima facie*, what linguists, in this domain at least, seem to be positing is not some substance that instantiates certain features, but rather bundles of features.

7 Nominalism?

I will close with some comments on whether the bundle view should be labelled as a nominalist view. The assumption in favour positing substances has normally been motivated in the metaphysics of words to respond to the ‘nominalist’ conception of words often attributed to Goodman and Quine (1947). However, there are two notions of nominalism that need to be distinguished in the vicinity before we can see whether the bundle theory of words is a nominalist theory.

The first sort of nominalism rejects abstract entities, in line with the way that Wetzel understands ‘abstract’ as distinct from ‘concrete’ or ‘physical’. In this sense, what I have proposed is nominalist, as I have not invoked any non-physical entity. Properties, whether tropes or universals, have been assumed to be concrete, spatio-temporal entities, and I have suggested that types might be mere collections rather than being additional Platonic existents. So understood, bundle theory is a nominalist theory.

If, though, as Lowe discusses, ‘abstract’ entities are those that are ‘logically incapable of enjoying a “separate” existence’ (1995: p. 514), then whether this view is nominalist will depend on whether we think that either (a) universal properties can exist uninstantiated, or (b) that objects could be such that they are composed of only a single property. I think that there are good reasons to reject both of these options, for independent reasons to the main topic of this paper, meaning that this view is not committed to the existence of entities that are ‘logically incapable of enjoying a “separate” existence’. Nothing here rests on the rejection of either (a) or (b), but if we do, then bundle theory is not rejecting abstract entities in this sense, and hence is not a nominalist theory.

Alternatively still, Fisher (2019) has argued that Williams (1986 [1960]), the father of contemporary trope theory, considered tropes as abstract in the sense that they are capable of being co-located with other abstract entities. Under this understanding of ‘abstract’, a trope-bundle theory of words would certainly not count as nominalist in the sense of denying the existence of abstract entities. Under this conception, a trope-bundle view of words would, in fact, only posit abstract entities.

The second notion of nominalism is the notion that more commonly attributed to bundle theories in metaphysics. This is rejection of universal entities. Again, though, this will depend on what we mean. Wetzel understands an entity to be ‘universal’ if

it can have instances; Simons invokes nominalism as (in part) the acceptance of only entities that are ‘nonrepeatable’ (2013: p. 279).

Clearly, if we opt for a bundle of universals view, on both counts this view would not be nominalist. Universal properties both have instances, and are repeatable entities. If properties are tropes, bundle theory would be nominalist in light of Simons’ notion of ‘nonrepeatable’—tropes are, by definition, particular nonrepeatable properties. It is less clear in light of Wetzel’s criteria though. As I have outlined it here, the bundle theory can accept types where those types are collections of objects (qua bundles of properties), and hence we can think of those types having instances. That said, a trope version of the bundle theory of words, will likely reject any additional ontological commitment to those universals (or types), as they are ‘merely’ collections of objects. If this is enough to be nominalist, then a trope-bundle view of words is nominalist.

8 Conclusion

My contention has been that much time has gone into defending the idea that words are universal and abstract, but little attention has been paid to the resultant ontological requirement that we posit at least two ontological categories: substance and property. In this paper, I have outlined a bundle theory of words which holds that, contra the dominant views, words are not substances, either particular or universal, but are bundles of properties.

I have not tried to hide the potentially counter-intuitive consequences of this view. However, I have suggested that those intuitions are not consistent across the different properties that words have, and often do not respect the commonly accepted view that all of the properties of words are non-essential to that word. Further, I have suggested that the bundle theory is in fact consistent with various claims made in the empirical literature, and that this consistency with the empirical literature is at least a weak reason to suppose that we might be willing to simply accept those counter-intuitive consequences.

I therefore (minimally) suggest that the bundle theory of words has been unfairly ignored in the metaphysics of words due to prior assumptions in favour of positing an ontological category of substance by the main theories in this field, and that the bundle theory of words is a view that deserves serious philosophical consideration and discussion. By approaching words in this way I hope to widen the range of metaphysical theories that are represented in the literature, and hopefully encourage those that have assumed substances within their theory to provide an explicit defence of this posit.

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