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A Uniform, Concretist Metaphysics for Linguistic Types

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Abstract: I argue that it is not acceptable to restrict the claim that linguistic types are concrete entities (type-concretism) to some categories of linguistic types (such as words or proper names), while at the same time conceding that other categories of linguistic types (such as sentence types) are abstract entities. Moreover, I suggest a way in which type-concretism can be extended to every linguistic type, thereby responding to the so-called *productivity objection* to type-concretism, according to which, whenever tokens of a type *t* are produced in different, causally isolated circumstances, then *t* needs to be identified by a certain form or structure. This extension of type-concretism detaches type-concretism from so-called originalism and gives rules a prominent role in type-concretism.

Keywords: types, words, metaphysics of language, nominalism, linguistic productivity

Introduction

Words can be identified and counted in at least two different ways in sentences and discourses, namely as word *tokens* and as word *types*. In the sentence "Narcissus loves Narcissus" we can identify and count three words, if what we actually identify and count are word tokens, that is concrete inscriptions of words; but we can identify and count two words, if what we actually identify and count are word types, one of which – "Narcissus" – occurs two times in "Narcissus loves Narcissus".

Also sentences can be identified and counted in at least two different ways. Consider the following discourse: "Narcissus loves Narcissus. Let me repeat it. Narcissus loves Narcissus". In this discourse we can identity and count three sentences, if what we actually count are sentence tokens, that is concrete inscriptions of sentences; but we can identify and count two sentences, if "Narcissus loves Narcissus" is considered as a sentence type, which occurs two times in "Narcissus loves Narcissus. Let me repeat it. Narcissus loves Narcissus".

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The token/type distinction is not limited to words and sentences either. Virtually any linguistic item can be analogously identified and counted in two ways: phonemes, syllables, morphemes, phrases.

There is a significant philosophical disagreement about the nature of linguistic types, and about the characterization of the relation between a token on the one hand, and a type of which that token is a token on the other. The opposition I am interested in is that between *type-abstractism* and *type-concretism*. According to type-abstractism, linguistic types are abstract entities. According to type-concretism, linguistic types are concrete entities.

As we are going to see, while type-abstractism is construed as a thesis about types of every category of linguistic entity, type-concretism is usually restricted to word types, and in some cases only to proper name types. Also the allegedly more radical backers of type-concretism (such as David Kaplan and Mark Sainsbury) refrain from applying it to sentence types, and to types of other linguistic categories, and end up conceding that some important kinds of linguistic types are indeed abstract entities.

The purpose of this paper is to criticize these *hybrid* metaphysical accounts of linguistic types, and to endorse the following disjunctive claim:

Uniformity Thesis Either every linguistic type is abstract, or every linguistic type is concrete.

Type-abstractism already obeys the Uniformity Thesis, while type-concretism, in its present form, violates the Uniformity Thesis. In this paper, I will also suggest a way in which type-concretism could be extended from its usual domain of application (word types, and in particular proper name types) to types of other linguistic categories. This extension will also counter an important objection often raised against type-concretism – the so-called *productivity objection*.

Once type-concretism is extended in the way I am going to suggest, it will be on a par with type-abstractism from the viewpoint of the Uniformity Thesis. There can be other reasons to prefer type-abstractism over type-concretism, or vice versa. I will not discuss them. My only purpose is to show that the highly heterogeneous picture that type-concretism, in its present form, gives of linguistic types is undesirable and can be amended. A unified form of type-concretism is viable and preferable to current moderate, restricted forms of type-concretism.

I proceed as follows. In Section *Type-Abstractism Vs. Type-Concretism* I present the current dialectic between type-abstractism and type-concretism, and the reasons why Kaplan and Sainsbury restrict type-concretism to word types, and in particular to proper name types. In Section *The Productivity Objection* I discuss the productivity objection to type-concretism, and show that it concerns several kinds of linguistic types. In Section *The Uniformity Thesis* I defend the Uniformity

Thesis, and argue against hybrid forms of type-concretism. In Section *A Role for Production Rules in Type-Concretism* I suggest a strategy for extending type-concretism to every kind of linguistic type, thereby avoiding the productivity objection. Finally, in Section *Conclusions* I draw some conclusions.

Type-Abstractism *Vs.* Type-Concretism

According to type-abstractism, linguistic types are abstract entities which are *instantiated* by tokens. Tokens differ greatly in their material support: they can be – among other things – inscriptions, sequences of sounds and various kinds of digital codifications. However, they would have something (a form or structure) in common, and this would make them instances of a single universal.

Type-abstractism is the most popular stance, and therefore it is more often assumed than explicitly argued for. The Stanford Encyclopedia of Philosophy entry *Types and Tokens* (Wetzel 2014) is almost entirely focused on type-abstractism. (Cappelen 1999), (Alward 2005), and (Wetzel 2008) are explicit defenses of type-abstractism, and differ in several respects, which I will not discuss for the sake of brevity (insofar as my purpose in this paper is to criticize the extant varieties of *type-concretism*, and suggest a new variant of it).

Type-abstractism is usually applied uniformly to every category of linguistic entities. This means that, for each linguistic type, its tokens instantiate it insofar as they share a certain form. The form is sometimes characterized merely as the acoustic or orthografic perceivable form, but nothing prevents type-abstractists from adopting a richer view of form, which can vary across linguistic categories: the form of a sentence type will correspond to its syntax, and the same will happen for phrases, while the form of a syllable type will consist in an arrangement of certain phonemes (the phonemes will be ordered in a certain way and, in some cases, repeated). In the case of words, the form of complex words, in which other words or so-called morphemes are included, will be its so-called morphological structure, that is the way in which these smaller words and morphemes are combined. By contrast, in the case of simple words (and of morphemes) the form will be the arrangement of the phonemes in them. In all these cases, a formal or structural feature is shared among *instances* of the same *universal*.

Type-abstractists are not *forced* to construe these universals as eternal, unnaturalistic Platonic entities. According to the general metaphysics of properties or kinds which is adopted, linguistic types will or will not be eternal or unnaturalistic entities, but Platonism (or any other general metaphysical thesis on universals) is not a distinctive trait of type-abstractism. Type-abstractists

could hold that word or sentence types appear or are created at a certain point in the history of a language. Instead, the distinctive trait of type-abstractism is the thesis that the tokens of a same type are *unified* by a certain form and/or belong to a single kind.

Kaplan (1990) famously challenged type-abstractism, and proposed that types (more exactly – as we are going to see – *some* types) are concrete entities, namely *causally unified* continuants. Kaplan is the founder of *type-concretism*. According to Kaplan, what makes some tokens tokens of the same type is not the sharing of some form or other feature, but a certain kind of *causal* continuity. If a kind of perdurantism is adopted, then tokens will be temporal parts or stages of a type. If by contrast endurantism is preferred,[1] then the distinction between types and tokens simply collapses. The type is entirely present whenever someone utters or writes it: on each occasion, we simply have *the* linguistic type in its entirety.

However, Kaplan refrains from applying type-concretism to every linguistic entity. After all, the titles of his two papers on type-concretism are "Words" and "Words on Words".[2] And not only is there no trace of any application of the idea that types are concrete continuants to sentences, phrases, phonemes, or syllables, but Kaplan even explicitly declares that type-concretism should be rejected in the case of sentences. Far from being concrete continuants, sentence types would be individuated by their form.

Moreover, while word types, insofar as they are continuants, need to have a token at least at one time (so that there would be no words that are never uttered, written, stored or codified in some other way), sentence types, which are said to be structures, could fail to have any token. Kaplan writes:

> Put roughly, the basic elements of the language are earthly creations, but the compounds generated by syntactical rules (the rules also being earthly creations and thus subject to change) are structures – types – which may or may not have tokens. (Kaplan 2011, p. 511)

As a result, the metaphysics of linguistic types endorsed by Kaplan is highly heterogeneous: word types are causally-unified continuants, while sentence types are abstract entities, which in many cases have no instance. Kaplan does not say what he thinks about phrases, syllables, morphemes, phonemes.

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1 Some references to temporal parts and other perdurantist jargon are present in (Kaplan 1990). Kaplan's alleged perdurantism about word types has been criticized by (Hawthorne and Lepore 2011). (Kaplan 2011) later clarified that he had no intention to make a commitment to a specific view of persistence, and even conceded that type-concretism is apter to be combined with endurantism than with perdurantism (pp. 508–509).

2 (Kaplan 1990, 2011).

Kaplan makes the example of "Help, help, my hair is on fire", which – he writes – "may have had its first token when I wrote my notes" (p. 511). This sentence type is built from preexisting words according to some syntactic rules. After Kaplan's notes and the publication of (Kaplan 2011) in many digital and physical copies, the type *has* tokens, but this seems to contingently depend on Kaplan's choice of this example: many other equally well-formed sentences – that are equally as useless in real life – have not been and never will be uttered, written or otherwise codified.

Kaplan remarks – in the above quotation – that the syntactic rules, by which sentences such as "Help, help, my hair is on fire" are generated, are "earthly creations". Kaplan seems to suggest that rules – as much as words, "the basic elements of the language", according to Kaplan – are created by humans at a certain point in time. This is a bold and controversial claim about syntactic rules, and Kaplan does not further elaborate on it, and does not say anything else about the nature of rules. However, this short and rather cryptic reference to rules suggests that rules could have a role to play in type-concretism. In Section *A Role for Production Rules in Type-Concretism* I am going to build upon this short suggestion, in order to suggest an alternative to Kaplan's restriction of type-concretism to words.

In the meantime, let us see why also the most recent reappraisal of type-concretism by (Sainsbury 2015)[3] does not actually endorse the claim that *every* linguistic type is a concrete entity. Sainsbury's type-concretism is even narrower than Kaplan's: it concerns only proper names. The gist of Sainsbury's motivation for endorsing type-concretism is indeed the need to distinguish between *generic proper names* and *specific proper names*.[4]

Donald Trump and Donald Sutherland would have the same generic name, yet a different specific name. When we truly say "Trump and Sutherland have the same name", we would be talking about the generic name. What we would actually be doing is *mentioning* this generic name. If we were to clarify the reference of the description "the same name", we should use the usual metalinguistic name of the generic name, by surrounding it with quotation marks. We would say something like "Trump and Sutherland have the same name: 'Donald'".

However, there is – according to Sainsbury – a sense in which Trump and Sutherland have different names. This is the reason why "Donald is a famous actor" is true of Sutherland, while "Donald is a famous actor" is false of Trump, but no violation of the principle of the Indiscernibility of Identicals ensues. Sainsbury opposes the idea (defended by Burge (1973) and Pelczar and

3 See also (Sainsbury and Tye 2012, Chapter 4).

4 The distinction was already sketched out in (Kaplan 1990), but Kaplan preferred to dub specific names "common currency names".

Rainsbury (1998))[5] that proper names have some indexical component that changes the reference of the single proper name type "Donald" (and, as a consequence, also the truth value of the single sentence type "Donald is a famous actor") from context to context (that is, from token to token). According to Sainsbury, there is no compelling evidence that proper names have an indexical component, and we should instead admit that "Donald" for Trump and "Donald" for Sutherland are different specific names. When we *use* proper names – instead of *mentioning* proper names – we commonly use specific proper names.

Both specific and generic proper names would be *types*. Type-abstractism is unsuitable for drawing this distinction, because a token of "Donald" used for Trump is no less formally similar to the tokens of "Donald" used for Sutherland than it is to the other tokens of "Donald" used for Trump. Thus, there is no way to distinguish the specific name for Trump from the specific name for Sutherland from a formal viewpoint.

On the other hand, according to type-concretism names are causally-connected continuants, and there is nothing surprising in the fact that a certain causally-connected continuant is in some sense a *smaller part* of another. Thus, in our example, there would be two specific names, each of which has its origin and causal development. The specific name type "Donald" for Trump presumably finds its origin in the first occasion in which one of Trump's parents called him "Donald"; after that, the specific name has been repeated, written, stored in memory and on many digital supports. The causal history of the specific name type "Donald" for Trump is – so to say – self-constrained: it is not intertwined with the different causal history of the specific name type "Donald" for Sutherland (which has a different origin). Nonetheless, the causal histories of both specific names belong to a wider causal history, the much longer and more complicated history of the *generic* name "Donald", to which the causal histories of the other specific names of other people called "Donald" (such as Donald Trump Jr.) belong too

Here I do not aim to assess whether the distinction between generic and specific names is real and whether – as Sainsbury argues – type-concretism is the only way to draw this distinction. The reason why I have dwelt on the distinction is that it is a prominent example of how type-concretism, in its current form, is mostly motivated by considerations that *directly* concern words, and proper names in particular. This holds also for other motivations of type-concretism that can be traced in the literature. Already in (Kaplan 1990) it is possible to see that type-concretism is expected, for example, to be of help

5 Other forms of this idea have been recently discussed in the debate about the proposal that proper names should be represented as predicates in the logical form of a sentence. See for example (Rami 2013, 2015).

in approaching in the correct way: (a) Frege's puzzle about identity statements with proper names; (b) Kripke's Paderewski puzzle about proper names in propositional attitude reports.

Let me leave aside the complex case of the Paderewski puzzle, and explain how type-concretism is expected to be of help in the case of Frege's puzzle. Type-concretism would have an advantage over type-abstractism, insofar as only type-concretism would draw the limit between *informative* and *uninformative* identity statements with *proper names* in a simple and correct way.[6]

The simplest and standard way of drawing this limit is to say that, if in an identity statement with proper names there are two tokens of the same proper name type, then that identity statement *cannot* be informative; and that, if there are two tokens of different proper name types, then the identity statement *can* be informative. The standard Fregean example of an uninformative identity statement is "Phosphorus is identical to Phosphorus", in which there are two tokens of the proper name type "Phosphorus", while the standard Fregean example of an informative identity statement is "Phosphorus is identical to Hesperus", in which there are two tokens of different proper name types.

Type-abstractists and type-concretists disagree about what being two tokens of the same type amounts to. As a consequence, they also disagree as to how to interpret the above-mentioned simplest and standard way of drawing the limit between informative and uninformative identity statements. According to type-abstractists, an uninformative identity statement includes two formally similar proper name tokens. By contrast, according to type-concretists, an uninformative identity statement includes two causally connected proper name tokens.

The standard Fregean examples are disposed of in the same way, but some non-standard examples are classified in a more compelling way by type-concretism than by type-abstractism. Indeed, it seems that sharing a certain form is *neither a necessary nor a sufficient* condition for constituting an uninformative identity statement, in contrast with the type-abstractist construal of the simplest way of drawing the limit between informative and uninformative identity statements. Let us see why.

Sharing a certain form is not a *necessary* condition for forming an uninformative identity statement, because the names in an identity statement may differ in form, even though one is an attempt to repeat the other. Consider "Phosphorus is identical to Fosforus". *If* "Fosforus" is *written* with the intention

6 The following type-concretist account of Frege's puzzle is inspired by some rapid remarks in (Kaplan 1990), but I make no claim to be faithful to what Kaplan had in mind. It also bears some resemblance to Kit Fine's take on Frege's puzzle in (Fine 2009, Chapter 2). Fine's approach is not committed, however, to any specific metaphysical account of linguistic types.

of repeating "Phosphorus", then "Phosphorus is identical to Fosforus" is not informative. Nonetheless, type-abstractism risks classifying the two tokens of proper names as tokens of different types, due to the formal (orthografic) differences between them. By contrast, type-concretism sees the intention to repeat as a mark of the causal continuity between them. As a consequence, type-concretism classifies the two terms of the identity statement "Phosphorus is identical to Fosforus" as tokens of the same type (insofar as, in the scenario we are considering, "Fosforus" is written with the intention of repeating "Phosphorus"), and thereby explains why this identity statement is uninformative.

On the other hand, sharing a certain form is not a *sufficient* condition for forming an uninformative identity statement, either. It is possible to envisage a scenario in which the names in an identity statement are formally and structurally indiscernible, while the identity statement *is* informative. Suppose that I am at a pub – which happens to be quite near to the department where I work – with some friends. A very old man enters the pub and acts strangely. I comment on his strange actions with my friends. We decide to jokingly dub him "Methuselah". The day after, I hear some colleagues – with whom neither I nor my friends interacted in the meantime – chatting, and one of them says: "Methuselah is a nice person, I love him". It is far from clear whether my colleague is speaking about the same old man I saw yesterday at the pub. "Methuselah is identical to Methuselah" can be an informative sentence in this scenario. It can be used to tell me that my colleague is indeed speaking about that same old man.

Type-abstractism forces me to say that "Methuselah is identical to Methuselah" includes two formally indistinguishable tokens of the same type, and is therefore unable to explain its informativeness in this scenario. By contrast, type-concretism can tell a different story: the causal history of my utterances of "Methuselah" at the pub is isolated from the causal history of my colleague's utterances of "Methuselah". Thus, the two terms of the identity statement are tokens of different types. The informativeness of "Methuselah is identical to Methuselah" in this scenario is thus explained.

We have presented two main motivations for type-concretism. Type-concretism would be able to ground the distinction between generic and specific names and would draw the distinction between informative and uninformative identity statements in Frege's puzzle in the simplest and right way. Both these motivations concern words, and proper names in particular. This is an important reason why Kaplan and Sainsbury focused on words and in particular on proper names, without extending their proposal to sentence types and other categories of linguistic types.

In Section *The Uniformity Thesis* I will argue that the motivations for endorsing type-concretism for words can be easily transformed into motivations for endorsing type-concretism for other linguistic categories, in particular for sentences. As a

result, the hybrid version of type-concretism endorsed by Kaplan and Sainsbury is unjustified.

The Productivity Objection

Before directly arguing against hybrid type-concretism in Section *The Uniformity Thesis*, it is useful to discuss the most important objection in the literature against type-concretism – namely the *productivity objection*. We will see that *prima facie* the productivity objection might seem to more seriously concern the application of type-concretism to high-level, typically complex linguistic types such as sentence types. However, as the existing literature has already partially shown, the productivity objection also concerns words, and potentially also proper names. As a consequence. the productivity objection does not justify the restriction of type-concretism to words or proper names. The productivity objection is the most serious challenge to type-concretism on the whole, and should be answered in a way that works for every linguistic type (in Section *A Role for Production Rules in Type-Concretism* I will suggest a way to construe uniform type-concretism that aims to avoid the productivity objection).

The productivity objection has been formulated by (Hawthorne and Lepore 2011).[7] Many linguistic items are *produced* by combining smaller linguistic items according to some rules of combination. This is especially clear for sentences and phrases, and this is perhaps another reason (together with the fact that – as we have seen in Section *The Productivity Objection* – some important positive motivations for type-concretism more directly concern words and in particular proper names) why Kaplan and Sainsbury refrain from extending type-concretism to them.

Let me focus on sentences. Sentences are typically produced by combining some words of a certain language in some admissible way, where the admissibility depends on the *syntactic* rules of that language. The productivity of syntax is a solid assumption of much linguistic research, while obviously the details about the nature and the role of rules, and about their degree of universality or specificity to a certain language are controversial.

The productivity of syntax seems to clash with type-concretism for sentences. According to type-concretism for sentences, sentences have a causal history. The usual picture of this causal history is inspired by Kripke's causal theory of *reference*. There is an originating event (a sort of baptism), that is the first occasion in which that sentence is pronounced. After that, the sentence is

7 I introduce the expression "productivity objection" because there is no settled name for it in the literature. The gist of the objection is also discussed by (Bromberger 2011).

repeated, transcribed, stored in memory, digitally codified. At each stage, the person who utters the token has the intention of repeating a previous token of that type, that is of producing a token that is formally similar to it.[8] Its causal history grows in a ramified way. What unifies this causal history? How are the identity conditions for types determined? According to Sainsbury – who is more explicit than Kaplan on this point – the *origin* unifies the causal history and determines the identity conditions for types, and for this reason Sainsbury dubs his stance *originalism*.[9]

The problem is that most sentence types have no unique origin, from which every subsequent utterance or transcription causally stems. Many speakers or writers can build that sentence type independently, by combining the same word types according to a certain rule. They do not need to have any acquaintance with a previous token of that sentence type, and *a fortiori* no intention to repeat it. The productivity of syntax makes the idea that every sentence type (or every phrase type) has a single origin implausible.

New tokens of already instantiated sentence types can be newly produced at any time, without any causal connection with their previous tokens. After an incident with his hair dryer, my uncle might well say "Help, help, my hair is on fire", and his utterance would be of the same type as Kaplan's above-mentioned

8 Does this appeal to formal similarity make type-concretism collapse on type-abstractism? One could argue for this conclusion in the following way: type-concretism gives a central role to the repetition of tokens, and repetition is the act of producing a formally similar token. Thus, type-concretism presupposes a typically type-abstractist classification of linguistic tokens. According to (Wetzel 2014), "it would be putting the cart before the horse to try to explain what the word 'color' is by appealing to the intention to produce a token of the word 'color'" (§2.4.2).

I think that this objection misunderstands the content of type-concretism. Type-concretism *does not deny* that words or sentences have formal properties, and often are mutually similar with respect to these properties. Every non-atomic causally-unified continuant (a person, an artefact, a natural entity) has formal properties, and there is no reason why linguistic entities should be an exception: at the end of the day, according to type-concretism linguistic entities are precisely down-to-earth, standard, causally-unified continuants like many others.

Type-concretism simply argues that the different tokens of a linguistic type are *not unified* by their formal similarities (in spite of their being – in many cases – mutually similar), but by a causal chain whose rings are connected by the *intention* to repeat. Insofar as the intention to repeat is not always fulfilled, different tokens of the same type are not always mutually similar. When I intend to repeat "color" and I mispronounce it due to distraction, linguistic incompetence or articulation problems, the resulting token *is* – according to (Kaplan 1990) – a token of the type "color", no matter how discernible from the original, deviant, or indecipherable it is.

9 See (Gasparri 2016) for an interesting analysis of Sainsbury's originalism about word types. As we have seen, Sainsbury limits his analysis to words. As a consequence, here I am not reporting Sainsbury's account of sentence types. By contrast, I am speculating about what would happen if Sainsbury's originalism *were* applied to sentence types.

example. My uncle – as far as I know – has no acquaintance with Kaplan's works, and has never heard or read that sentence elsewhere: nonetheless, he is familiar with the words constituting the sentence, and he masters the relevant syntactic rules; as a consequence, he can produce a new token of "Help, help, my hair is on fire".

Sainsbury – as much as Kaplan – is a *hybrid* type-concretist, and he *does not* endorse type-concretism for sentences, so the case of my uncle is no counter-example to his account. Nonetheless, it seems that the productivity objection can be reproduced for words, and – with some limitations – also for proper names. Once it is reproduced for words, you obtain an objection to Kaplan – the objection (Hawthorne and Lepore 2011) had in mind, inasmuch as they were discussing the proposal of (Kaplan 1990). They write:

> Consider [...] the fact that the prefix 'un-'('im-','in-','il-') can combine with ever so many adjectives to produce a word. (p. 455)

A word can be produced by combining a word with a morpheme, that is with a sub-word morphological item, which – in contrast with words – lacks positional mobility. The prefixes mentioned in the quotation are morphemes. Consider the adjective "implausible". It is built from the adjective "plausible" and the morpheme "in-", with the appropriate orthografic adjustments. Was there a specific baptism-like occasion in which a single speaker uttered "implausible" for the first time, an occasion from which all the other tokens of "implausible" causally descend? That seems an unlikely historical hypothesis. More plausibly, many speakers independently applied an English morphological rule and combined the morpheme "in-" with the adjective "plausible". Each of these *multiple originating events* ignited a chain of repetitions.

Other kinds of morphemes are inflectional affixes. Until some decades ago, a member of the government was called a "ministro" in Italian, no matter whether the member was a female or a male. Nowadays, female members of the government are often called "ministra". "Ministra" is the result of completing the lexical root in "ministro" ("ministr-") with a standard Italian inflectional suffix ("-a") for female nouns. There has been no unique baptism of "ministra", from which all its now frequent occurrences causally derive, but rather a multiplicity of baptisms at the origin of multiple chains of attempted repetitions.

In some cases, words are built without resorting to morphemes, but from other complete words, such as "stationmaster" (from "station" and "master"). Also in these cases we should not expect there to have been a single origin.

Originalism for words is a very difficult position, because all these cases fly in its face. The productivity objection is as serious an objection against originalism for words as it is against originalism for sentences and phrases. If type-concretism

embraces originalism, the productivity objection risks being fatal also for type-concretism for words and sentences. In Section *A Role for Production Rules in Type-Concretism* I will actually propose a kind of type-concretism that drops originalism, and – as a result – avoids the productivity objection. But, for now, it is important to observe that there is no *qualitative* difference between words on the one hand and sentences (and phrases) on the other: both words and sentences can be produced according to some rules from smaller linguistic items, and their production can independently happen multiple times. There is a *quantitative* difference, because any multi-word sentence is produced according to some syntactic rules from smaller linguistic items, while *morphological production* is limited to those words which include some smaller words or some morpheme.

Nonetheless, morphological productivity is far from sporadic: it occurs in any case of *derivation*, in which a word with a different meaning is created from a preexisting word by adding a suffix or prefix, such as "-ness" ("happy" / "happiness") or "un-" ("happy" / "unhappy"); and in any case of *inflection*, in which a word is modified (most typically through an affix) to express different grammatical categories such as tense ("create" / "created"), case ("calamus" / "calami" in Latin), voice ("amo" / "amor" in Latin), aspect ("andavo" / "andai" in Italian), person ("make" / "makes"), number ("philosopher" / "philosophers"), gender ("ministro" / "ministra" in Italian, "actor" / "actress" in English) or mood ("is" / "were"). In many languages (in particular in so-called *inflected languages*, such as Latin) inflection is a pervasive phenomenon for nouns, adjectives and verbs, and makes the hypothesis of a single origin of the inflected forms untenable.

At this point a type-concretist such as Kaplan could reply that the targets of his account were not the inflected forms, but the so-called *lexemes*. Linguists – and in particular morphologists – usually disambiguate the term "word" in various ways,[10] and in particular distinguish between the *inflected form* and the *lexeme*. "Philosopher" and "philosophers", (as well as "ministro" and "ministra" in Italian) are different inflected forms of the same lexeme. Inflection would fall out of the expected domain of application of type-concretism.

However, the token/type distinction can be applied both to lexemes and to inflected forms; it would be difficult to explain why there should be a metaphysical divide between lexeme types and inflected form types, when these types are so mutually connected and *prima facie* metaphysically on a par. Moreover, even if we restrict our attention to lexemes, *derivation* is still a pervasive phenomenon in which a lexeme is derived from other lexemes and

10 See (Di Sciullo and Williams 1987) for a highly pluralist approach to the concept of word in linguistics. See also (Matthews 1991, Chapter 2).

morphemes according to a morphological rule: any word such as "unhappy", "implausible", "stationmaster" or "happiness" would be a potential counter-example to the originalist claim that word types are individuated by their origin. Even if morphological productivity is more limited than syntactic productivity, it is still a very frequent phenomenon, which should be accounted for in a satisfying metaphysics of words.

At this point, one could think that, if production is a problem, then originalism should restrict its ambitions to *simple* words. As Hawthorne and Lepore write:

> The Kaplanian might try to retreat by claiming that the stage-continuant model is only appropriate for words that are not built up out of other words, and propose a different account of the remainder. (Hawthorne and Lepore 2011, p. 456)

They object to this Kaplanian retreat that "we surely would prefer a more unified account if we can get it" (*ibid*.). How it is possible that simple words are concrete continuants, while *complex* words are abstract entities individuated by their forms? After all, *also* complex words (as much as sentences, and inflected forms) are repeated as such, without rebuilding them each time through morphological rules: I can learn the word "happiness" from my parents, and after that repeat and transcribe it, before becoming able to produce it morphologically.

In this picture, are *proper names* special? Perhaps Sainsbury narrowed down its type-concretism even more than Kaplan precisely because proper names are not produced according to morphological rules. They really do have a single origin. In Section *The Uniformity Thesis* I will argue that it is implausible to claim that proper name types belong to a different metaphysical category than all the other linguistic types, including other categories of words that are combined with them in phrases and sentences. As a consequence, if the productivity objection refutes the combination of type-concretism and originalism for other words, then it refutes the combination of type-concretism and originalism for proper names as well, no matter whether proper names are involved in productivity or not.

Moreover, it is plausible that proper names *are* involved in productivity, so that the limitation to proper names – besides determining an unacceptably heterogeneous metaphysics of types – falls short of avoiding the productivity objection. In some languages, proper names are involved in inflection, so that there are, for example, different case forms of a proper name.[11] One could try to leave inflection aside and focus on proper names *as lexemes*. As a result, we

11 See (Savary, Rabiega-Wisniewska, and Wolinski 2009) for a discussion of the inflection of proper names in Polish.

would incur in yet another form of hardly justifiable heterogeneity in the metaphysics of language, such that lexeme types of proper names and inflected form types of proper names would belong to different metaphysical categories.

Moreover, some cases of productivity are difficult to classify as cases of inflection. For example, it is far from clear that the creation of a female counterpart of a male proper name in many languages is a case of inflection, rather than a case of production of a different proper name. It is not clear in what sense "Friedrich" and "Friederike" in German would share a lexical content and should therefore be classified as a single lexeme.

Suppose that this is not the case, and that "Friedrich" and "Friederike" are not two inflected forms of a single lexeme. In German the name "Friedrich" is older than "Friederike". Was there a single baptism-like occasion in which someone coined "Friederike" for the first time? More plausibly, there were multiple baptism-like occasions in which someone applied a standard German female suffix and the relative orthographic adjustments to "Friedrich", and obtained "Friederike". As a result, "Friederike" had no single origin.

Perhaps Sainsbury could avoid speculating about the origins of *generic names*, and further restrict his combination of type-concretism and originalism to *specific names*. While "Friederike" as a generic name has plausibly been produced in multiple, causally-unrelated baptism-like originating events, it is much more plausible that "Friederike" as the specific name of – say – Friederike Brion was introduced on a single occasion, perhaps by one of her parents. It seems reasonable to think that specific names – if they exist at all – are not independently produced on different occasions.

One could still doubt this for complex specific name. The specific complete name "Friederike Brion" derives from the combination of the specific name "Friederike" and of "Brion", the specific name of her family. Is there a single baptism-like occasion in which someone combined them and uttered and wrote her specific complete name "Friederike Brion"? It is at least plausible that two or more relatives or acquaintances of the family combined them autonomously, by abiding by the simple combination rule of placing the first name before the surname.

Perhaps, complex specific names are not the target of Sainsbury's proposal. His account might be expected to work only for *simple* and *specific* proper names. However, as we have seen in Section *Type-Abstractism Vs. Type-Concretism*, generic names and specific names are expected to be simply different ways of divvying up a causal history. The various specific names should still be causally connected. When someone baptizes a person with a certain name, she usually chooses it from a repertoire of *generic* names already used in the past. The specific name is not created out of the blue. In order to make sense of their mutual links, generic and specific names should be construed so that specific names can be seen as *parts* of

generic names. It is not admissible that specific names be causally-united continuants, while generic names are abstract entities identified by a certain form.

Let me take stock. The productivity objection concerns the combination of type-concretism and originalism at almost every level of linguistic complexity – with the possible exception of simple, specific proper names. Also in the case of simple, specific proper names, endowing them with a special metaphysical status runs counter to the motivations for the distinction between generic and specific names. In order to save type-concretism from the productivity objection, we should not restrict type-concretism to some more or less narrow linguistic category, such as words or proper names. By contrast, we should detach type-concretism from originalism, and in Section *A Role for Production Rules in Type-Concretism* I will sketch a non-originalist, uniform variety of type-concretism that aims to avoid the productivity objection. Before that, in Section *The Uniformity Thesis* I will provide some more positive reasons to look for a uniform treatment of linguistic types belonging to different categories.

The Uniformity Thesis

A general motivation for endorsing type-concretism is that type-concretism construes linguistic types as down-to-earth, standard entities. Type-concretism acknowledges that linguistic types are created by human activities, and that we can causally interact with them. Moreover, linguistic types resemble one another, by mutually sharing properties or relations. Given a realist metaphysics of properties and relations, this could mean that types *instantiate* abstract entities. However, they are not abstract entities: they are not instantiated entities, but *instantiating* entities. There is no *categorical difference* between a single inscription or sequence of sounds on the one hand, and the usually much more extended and historically complex *type* to which it belongs on the other: both are bearers of *first-order* properties and relations. Type-concretism is apt to vindicate this categorical homogeneity between linguistic types and linguistic tokens.

You may be convinced by these general motivations or not, and you may doubt that type-concretism is the only way to satisfy them (as we have seen in Section *Type-Abstractism Vs. Type-Concretism*, type-abstractism is not committed to the view that linguistic types are eternal, Platonic entities).[12] However, I fail to

12 One could admit that linguistic types are first-order entities, while denying that they are concrete entities. After all, there are other examples of first-order, abstract entities, such as numbers. The large metaphysical debates on *abstract artifacts* is precisely about abstract entities (such as fictional works, computer programmes, and perhaps words) that instantiate first-order

see why these motivations should concern only words – or proper names – and lead one to endorse type-concretism only for them. Language comes to us primarily in the form of a flux of sounds or inscriptions. In this flux, we can identify important units, which belong to historically evolving types. This happens at several levels of complexity, such as phonemes, syllables, morphemes, words, phrases, sentences. At each level, other speakers sometimes want to *repeat* these units, that is to articulate the same phoneme, to utter the same word, the same phrase, the same sentence. The chains of these attempted repetitions determine a kind of continuity. If this *does not* bring us to an abstract, second-level entity (a form or structure that is instantiated by tokens) at the level of words or proper names, why should it bring us to an abstract, second-level entity in the case of sentences or phonemes?

It seems that the burden of proof is upon the defender of a claim of metaphysical, categorical discontinuity between different linguistic types. In the absence of an argument in support of discontinuity, the uniformity thesis is at least *prima facie* reasonable:

Uniformity Thesis Either every linguistic type is abstract, or every linguistic type is concrete.

Moreover, there are two ways to directly argue for the Uniformity Thesis, and to show that, as a consequence, type-concretism, if it is to qualify as a sensible alternative to type-abstractism, should respect the Uniformity Thesis too. The first (a. below) concerns the fact that different linguistic items are connected by *parthood* and composition relations. The second (b.) builds upon the hypothesis that in some cases linguistic types of different degrees of complexity *overlap*, in the sense that some tokens belong to both. Both remarks contribute to show that there is no categorical divide between different linguistic types.

a. **Parthood.** Phonemes are parts of syllables and of words, syllables are parts of words, words are parts of phrases and sentences. These parthood relations are not limited to the level of tokens.

It is perfectly accurate to say that the word "case" is composed by the phonemes indicated in its phonemic transcription /keɪs/, and that the phoneme /k/ is one of its parts: when we make these claims, we are not usually speaking of a single token – of a single sound or sequence of sounds – but of types. It is also perfectly accurate to say that the word type "case" is part of the phrase type "in that case", as well as of the sentence type "In that case, I don't

properties. The most important work on abstract artifacts is (Thomasson 1999). (Irmak 2018) is the most articulate development of the idea that word types are abstract artifacts.

care". The parthood relations at stake also connect less proximal types, the phoneme type /k/ is part of the sentence type "In that case, I don't care".[13]

It may be difficult to understand how parthood works in these cases. For example, in our last example, the phoneme /k/ is *twice* part of "In that case, I don't care", and in so-called classical mereology things cannot be parts multiple times, inasmuch as mereological fusion is an idempotent operation. Perhaps a non-classical mereology is needed, or perhaps one can identify the parts in a different way.[14]

Nonetheless, it seems that there is no evidence of categorical mismatch between the entities involved in these parthood relations. Transitivity seems to hold: if the linguistic type *a* is part of the linguistic type *b* and *b* is part of the linguistic type *c*, then *a* is part of *c*. For example, phonemes or syllables are not only parts of words, but also of the phrases, sentences or even discourses of which the words are parts.[15] By contrast, inter-categorical relations are typically non-transitive. Instantiation (which typically connects concrete and abstract entities) is non-transitive: an apple instantiates the property of redness, the property of redness instantiates the second-order property of being a color property, but the apple does not instantiate the property of being a color property.

The transitivity of linguistic parthood among linguistic types shows that one and the same parthood relation is at work at different levels, and also suggests that linguistic types are one and the same metaphysical category of entities at every level of complexity.

This conclusion is compatible with both *uniform* type-concretism and uniform type-abstractism. In the case of type-concretism, various causally-unified continuants will be part of one another, as much as my left hand (presumably, a causally-unified continuant) is part of my body (another, bigger, causally-unified continuant). In the case of type-abstractism, various formal or structural abstract entities will be part of one another; the kind of parthood involved could be similar to the one between simpler and more complex properties, e. g. between the property of being a hydrogen atom and that of being a water molecule.[16]

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13 /k/ (or any other phoneme or syllable of the words in the sentence) are not immediate or functional parts of the sentence "In that case, I don't care". Nonetheless, they are part of it inasmuch as they are *in* the sentence and their replacement with something else (a different phoneme, a different syllable) would transform the sentence in something else. See (Fine 2010) for a defense of the claim that *x* is part of *y* if and only if *x* is *in y* and the replacement of *x* with a different *z* changes what *y* is or how *y* is.

14 See (Bennett 2013) for the sketch of a non-classical mereology in which an entity can be part of another multiple times.

15 See n. 12.

16 See (Wetzel 2008, Chapter 7) for an in-depth analysis of the role of so-called structural universals in type-abstractism.

b. **Overlap.** In many languages, including English, sentences may include a single word. This can happen, for example, with sentences with a single verb in the imperative mood ("Run!"), or in nominal sentences where a single noun expresses a request ("Water!"), or states the existence of something ("Fire!"). Also when one is asked "What is your favourite color?", a synthetic, single-word sentence such as "Violet." is an adequate answer.

In an English written sentence, the first letter of the first word is usually in upper case; moreover, the sentence usually ends with an appropriate punctuation sign, such as a full stop (".") or an exclamation mark ("!"). However, these conventions are disobeyed in sloppy writing. If I am asked – for example during a blind psychological test – to provide a written answer to "What is your favorite color?" on a post-it, "violet" (without any capitalization or punctuation) is a perfectly serviceable answer. Also if the answer is read aloud, it may happen that nothing in the intonation or in the prosody corresponds to the typical punctuation of a sentence.

All the tokens of the sentence "Violet." (including the sloppily written tokens "violet", and the flatly pronounced oral tokens) are – obviously – tokens of a sentence type. Then, there are tokens of the word "violet" (the only word in "Violet.") which are part of longer sentences (such as "I love to wear violet ties in the winter"). It is at least *prima facie* plausible that the sloppily written tokens and the flatly pronounced oral tokens of the sentence "Violet." are also tokens of the word "violet". It follows that in these cases word types and sentence types assemble, classify or group some common tokens. They overlap. This suggests once again that there is no categorical, metaphysical divide between word types and sentence types.[17]

Besides these two direct arguments in support of the Uniformity Thesis, there is further evidence that, in the case of type-concretism, its hybrid, non-uniform variety, endorsed by Kaplan and Sainsbury, lacks a justification. We have seen in Section *Type-Abstractism Vs. Type-Concretism* that two arguments for type-concretism (namely, the argument from the distinction between generic names and specific names and the argument about Frege's puzzle) *directly* concern proper names, and that this could explain why Kaplan and Sainsbury have narrowed down their type-concretism to words, or to proper names only.

17 Type-abstractism and type-concretism will disagree about the reason why the sloppily written tokens and the flatly pronounced tokens of the sentence are also tokens of the word. According to type-abstractism, it is because there is no formal difference between them and the other tokens of the word. According to type-concretism, it is because, when I sloppily write "violet" or flatly pronounce it, I am causally connected with other tokens of the word, inasmuch as I have the intention to repeat some of them.

However, the coherent development of these arguments leads one to endorse type-concretism for sentence types, no less than type-concretism for word types. Let us begin from the distinction between generic names and specific names. The reason to think that there are specific names would be that "Donald is a famous actor" said of Donald Sutherland is true, while "Donald is a famous actor" said of Donald Trump is false. According to Sainsbury, two different specific proper name types are involved in the two cases: the specific name of Sutherland and the specific name of Trump; they are formally indiscernible, yet have a different causal history; as a consequence, type-concretism manages to distinguish them, while type-abstractism is forced to identify them.

The initial need was to explain why "Donald is a famous actor" said of Donald Sutherland is true, while "Donald is a famous actor" said of Donald Trump is false, without resorting in the explanation to any contextual element. So, this line of analysis should also end up claiming that there are two sentence types, each of which has a different specific proper name type ("Donald" for Sutherland and "Donald" for Trump) as a part. Type-abstractism *for sentences* cannot do this, because the sentence token "Donald is a famous actor" about Sutherland and the sentence token "Donald is a famous actor" about Trump are formally indiscernible. Thus, in order to explain why "Donald is a famous actor" said of Donald Sutherland is true, while "Donald is a famous actor" said of Donald Trump is false, we should also endorse type-concretism for sentences.

As far as Frege's puzzle is concerned, type-concretism – by contrast to type-abstractism – allows us to say that, if the token of "Fosforus" is produced with the intention to reproduce the token of "Phosphorus", then "Phosphorus is identical to Fosforus" includes two tokens of the same type; type-concretism thus explains the non-informativeness of "Phosphorus is identical to Fosforus" in this scenario. Moreover, type-concretism allows us to say that "Methuselah is identical to Methuselah" *does not* include two tokens of the same type, if the second term of the identity statement is not causally connected to the first term; as a result, type-concretism explains the informativeness of the identity statement when it is uttered in the scenario I have drawn in Section *Type-Abstractism Vs. Type-Concretism*.

Also in this case, the expected explanation of the informativeness or non-informativeness of identity statements *more directly* concerns the proper names in them. However, at the end of the day, it *also* concerns the sentences themselves. In the case of Phosphorus, our attention is focused on a scenario A in which "Fosforus" is produced with the intention to repeat "Phosphorus". In a different scenario B, this intention could simply be missing: in B "Fosforus" is a causally autonomous name; the person who uttered it had no intention to repeat a previous token of "Phosphorus". In B "Phosphorus is identical to Fosforus" *is* informative. Thus, "Phosphorus is identical to Fosforus" uttered in A is uninformative, while

"Phosphorus is identical to Fosforus" uttered in B is informative, and the difference in informativeness is not explained by a contextual element. "Phosphorus is identical to Fosforus" uttered in B should not be a token of the type of which "Phosphorus is identical to Fosforus" uttered in A is a token, otherwise their different informativeness would be unexplained. Indeed, type-concretism holds that they are tokens of different types, provided that they are causally isolated. By contrast, type-abstractism for sentences is forced to claim that they are two tokens of a single type, inasmuch as they are formally indiscernible.

Analogously, in the case of Methuselah, we are focused on a scenario C in which the two terms of the identity statement "Methuselah is identical to Methuselah" are not causally connected, so that type-concretism can claim that they are not two tokens of the same type and thereby explain the informativeness of the sentence in C. However, consider a scenario D in which "Methuselah is identical to Methuselah" is used in a logic course as an instance of the reflexivity of identity. In D, the second term of the sentence is uttered precisely with the intention of repeating the first term, so that the two terms are classified by type-concretism as two tokens of the same type. The sentence token "Methuselah is identical to Methuselah" in C and the sentence token of "Methuselah is identical to Methuselah" in D must be tokens of different types, otherwise their different informativeness would be unexplained. Indeed, type-concretism holds that they are tokens of different types, provided that they are causally isolated. By contrast, type-abstractism for sentences is forced to claim that they are two tokens of a single type, inasmuch as they are formally indiscernible. In both these cases concerning Frege's puzzle, the motivation for endorsing type-concretism for proper names is easily transformed into a motivation for endorsing type-concretism for sentences.

In conclusion, there are two main problems for hybrid type-concretism. First, the fact that linguistic types of different degrees of complexity are parts of one another and that they sometimes overlap show that there is no categorical divide among them. Second, the arguments for type-concretism for words or proper names can be easily extended to arguments for type-concretism for sentences.

A Role for Production Rules in Type-Concretism

Given the problems of hybrid type-concretism, let us explore the prospects offered by *uniform* type-concretism, that is the only alternative to uniform type-abstractism left open by the Uniformity Thesis. Uniform type-concretism needs a general answer to the productivity objection. The productivity objection shows that, at different levels of linguistic complexity, types can be produced on

multiple, causally independent occasions. After these occasions, the types can have a causal development, in the sense that someone may produce another token of them if she produces a sequence of sounds, or writes something, or memorizes them with the intention of repeating them.

A first step in the right direction is to drop originalism. For many words, sentences, phrases, phonemes, syllables, there is no single baptism-like occasion on which they are introduced. In the absence of this single occasion, the conditions at which two tokens belong to a linguistic type should not be formulated in terms of this occasion: it is not the case that they belong to the same type if and only if they are causal descendants of the same past token, which qualifies as the origin of that type.

One could hope to replace originalism with a criterion based on the causal connection itself. The idea could be that, even if there are several originating events, the causal trees originating from them at a certain point end up mingling. There are – say – two baptism-like productions t_1 and t_2 of "Help, help, my hair is on fire", in accordance with English syntactic rules, but at a certain point someone utters something (t_5) with the intention of repeating *both* t_3 (a causal descendant of t_1) *and* t_4 (a causal descendant of t_2). In this scenario, one could say that t_3 and t_4 (as well as t_1 and t_2) are tokens of the same type because they belong to the same causal net: there is a path in the causal net that goes from t_3 to t_4 (and from t_1 to t_2) through t_5.

The problem with this idea is that there is no warrant that causal trees originating from distinct origins at a certain point end up mingling. Suppose that there is a causal chain that departs from Kaplan's baptism-like introduction of the sentence "Help, help, my hair is on fire" in his notes for (Kaplan 2011), and consists exclusively of tokens intending to repeat what Kaplan said, in the context of papers and seminars in linguistics and philosophy. Then, there is another baptism-like introduction of that same sentence, operated by my uncle during the incident with his hair dryer. Other people witness the incident and intend to repeat my uncle's utterance in similar circumstances (problems with hair dryers are common in that community). There is no overlap and no direct or indirect communication between the community of philosophers and linguists discussing Kaplan's work, and the community to which my uncle belongs, and in which problems with hair dryers are common. So there is no t_5 in this scenario.

The same can happen in the case of a word which is built either from morphemes and other words, or from certain phonemes, and even in the much more sporadic case of a phoneme which is introduced at a certain point in a language. Also within a community that speaks a single language, it is possible that two causal chains of transmission of these words or phonemes *de facto* never mingle.

Type-concretism should simply concede that a type, while being a concrete entity that consists in tokens that are often mutually causally connected, *is not* a single causal chain. *Productivity* concerns many levels of linguistic complexity, and unavoidably opens up the possibility of a causal separation between various causal branches of a same word, sentence, phrase, phoneme or syllable. It may happen that this causal separation is later overcome (thanks to a token such as t_5 in the discussion above), but there is no warrant that this will happen in every case: it is possible that two or more causal branches of a single linguistic type remain mutually isolated.

Given the possibility of causal separation, the causal connections and the intentions to repeat need to be complemented, in a satisfying account of the conditions at which two tokens are tokens of the same linguistic type, by *something else*. This something else needs to concern *productivity itself*. How does it happen that a single linguistic type can be produced multiple times in a baptism-like event? It happens because these multiple originating events are *analogously produced*, namely by applying the same *rules* to the same things in the same way.

I propose the following disjunctive criterion by which two tokens are tokens of the same type:

> **Identity Criterion for Linguistic Types.** Two tokens are tokens of the same linguistic type if and only if *either* they belong to a single history of attempted repetitions *or* they belong to histories of attempted repetitions whose initial episodes consist in the application of the same linguistic rules to the same types in the same way.

The term "linguistic rule" is underdetermined on purpose, because there should be no expectation that there is a single kind of linguistic rule, and a metaphysics of word types *should not* be committed to a precise view about the nature of syntactic, morphological, phonological rules. Given a certain level of linguistic complexity, the initial episodes of types at that level will be produced by applying some appropriate rules to types of a certain, lower level of complexity in a certain way. An exception will be the level of minimal types (which could be phonemes), since in their case there will be no smaller types[18]: the rules involved will not be applied to "smaller" types, but will only concern the process of production (perhaps the articulation process).

Syntax is the domain of linguistic productivity for which it is relatively less controversial how production happens and what the rules are. The syntactic rules of

18 Every minimal type will trivially consist in the application of some rules to *the same types*, since the rules will not be applied to any type in these cases. The difference between various minimal types will only depend on the production rules and on the ways of applying them.

a certain language admit the combination of certain categories of words and phrases in certain positions, and forbid other combinations. The identity of type between causally unrelated tokens will depend on the words and phrases combined, on the syntactic rules at stake, and on the roles assigned to words and phrases in the application of the rule (this is what "in the same way" in the Identity Criterion for Linguistic Types refers to in the case of syntactic productivity).

At other levels of complexity, it is more controversial what a rule is and what smaller types are combined. At the level of the morphological production of words, the rules could prescribe – for example – that a certain prefix can be added before certain words (for example, adjectives), with some consequential orthographic and phonological adjustments: the morpheme "in-" can be added to the adjective "logical", thereby producing the adjective "illogical". Morphology is the field of linguistics which studies these kinds of rules. At the level of the phonological production of simple words, the rules could admit certain successions of phonemes (or of syllables), and forbid other successions (for example, the phonological rules of English seem to forbid having more than three consecutive obstruents at the beginning of a word). At the level of the production of phonemes, the rules will concern the stock of phonemes countenanced in a certain language, and will be constrained by the articulatory capacity of speakers.

There could be huge disagreements about rules. Are they positively prescriptive, or are they merely negative constraints that exclude some combinations? Why does it happen that some possibilities admitted by the rules are never actualized? I have nothing to say about these difficult and important problems, and about the different ways in which they could be solved for different levels of linguistic productivity. The nature of rules at a certain level of linguistic complexity should be studied (and is indeed studied) by a specialized area of linguistics.

While there is no reason to think that there is any categorical, metaphysical heterogeneity among linguistic types, it is reasonable to think that the production of syllables from phonemes, the production of words from morphemes and smaller words, the production of sentences from words and so on work in largely heterogeneous ways, and are governed by largely different rules. There is a sense in which the metaphysics of linguistic types I am sketching out *is uniform*, as the title of this paper suggests, and another sense in which it *is not* uniform: it is uniform in the sense that, at every level of linguistic complexity, it makes sense to think that there is a kind of production, governed by certain rules, and that later someone may want to repeat those products; but it is not uniform in the sense that there is no expectation that production – at the various levels of complexity – works in the same way.

Many aspects of this rule-based kind of type-concretism deserve further scrutiny and cannot be discussed in this paper. I would only like to discuss

two philosophical objections that could be raised against this resorting to rules in type-concretism. The first (1. below) concerns the risk that the appeal to rules commits us to linguistic types that *cannot be* continuants in any sense, because they have no tokens. The second (2. below) is about the metaphysical status of rules themselves.

1. Rules and Possible Types *Objection:* Suppose that in a language there is a certain stock of word types, and then a stock of *syntactic* rules. One would think that the language in question includes as sentence types *all* the combinations of those words that are admitted by those rules. However, some of these combinations have never been and will never be uttered, written, codified, thought by anyone. These unuttered sentence types cannot be continuants in any sense, no matter if we have admitted – in the Identity Conditions for Linguistic Types above – that some types are causally segmented into various branches. They are completely devoid of tokens, and they have no extension in time at all. These unuttered sentence types are not concrete items in any sense, and are counterexamples to type-concretism. The same holds for other linguistic types that are admitted by linguistic rules, but have no tokens. Consider for example the remote inflected form of an existing verb: the second-person plural of the present subjunctive of the Italian verb "olezzare" (to smell) would be "olezziate", but it is at least conceivable that nobody felt the need to produce it before me. How could the inflected form type "olezziate" be a continuant, if it had no token?

Reply: I agree that the hypothesis of uninstantiated, unuttered linguistic types is incompatible with type-concretism. However, I do not see why the introduction of rules in the Identity Conditions for Linguistic Types should lead to a commitment to uninstantiated linguistic types. Syntactic rules (as well as linguistic rules in general) do not establish what types *exist*, but what types *can exist*. Unuttered types do not exist in the actual world. They *could* exist.

Their possible existence will be construed in different ways, according to the preferred stance in the philosophy of modality. From a *possibilist*, Lewisian viewpoint, *mere possibilia* (including merely possible linguistic types, admitted by linguistic rules) exist in other possible worlds; however, also their tokens exist in those possible worlds, so that they are not uninstantiated types *there*.

On the other hand, from an *actualist* viewpoint, possible existents do not exist at all. The actualist will probably construe the possibility of existence admitted by the rules as a *de dicto* possibility, which does not require any ontological commitment to possible existents.

This is a patent simplification: the debate on the metaphysics of possible existents is large and complex, and there are many other options. However, I fail to see why linguistic rules should force us to admit uninstantiated types. Linguistic rules do not say only what linguistic types there could be, but also

what linguistic *tokens* there could be. There is no reason why they should legitimize a scenario where there is a linguistic type but none of its tokens.

2. Rules as Abstract Entities *Objection*: The purpose of type-concretism is to get rid of abstract entities in the metaphysics of language. However, the uniform variety of type-concretism you are advocating is committed to rules, another kind of abstract entity. Thus, at the end of the day, your variety of type-concretism does not get rid of abstract entities in the metaphysics of language, thereby failing to achieve the purpose of type-concretism.

Reply: I do not know whether rules are abstract entities. The nature of linguistic rules is a difficult topic that is beyond the scope of this paper.

However, rules are a fundamental constituent of various levels of linguistic analysis, quite independently of the debate on the metaphysics of linguistic types. I do not see how *any* metaphysics of types could hope to get rid of syntactic rules and other kinds of linguistic rules. Thus, the commitment to rules does not count as a distinctive shortcoming of the present approach.

I concede that, if the purpose of type-concretism were to get rid of abstract entities in the metaphysics of language, then the hypothesis that linguistic rules are abstract entities would indeed run counter to this purpose. To repeat: I do not know whether rules are abstract entities. In any case, I do not think that the main purpose of type-concretism is to get rid of abstract entities in the metaphysics of language. By contrast, type-concretism is primarily motivated by the belief that words, sentences, phonemes, etc. are human products, which are created at a certain time, evolve in history, and may cease to exist at a later time. This belief is completely neutral about other roles of abstract entities in the metaphysics of language: for example about abstract entities in semantics, such as propositions or intensions in general. Type-concretism is not committed to a general nominalistic stance about the metaphysics of language.

Conclusions

The form of type-concretism endorsed by (Kaplan 1990) and (Sainsbury 2015) is unduly narrowed down. There is no compelling reason to think that word types or proper name types are metaphysically special compared to other linguistic types.

On the one hand, the positive motivations for type-concretism, while concerning more directly words and proper names, cannot be consistently developed without endorsing type-concretism also for other linguistic items, and in particular for sentence types. On the other hand, the productivity objection – the most important objection against type concretism – concerns several kinds of linguistic types, and does not justify any differential treatment of words or proper names.

Type-concretism, if it is to qualify as a viable alternative to type-abstractism, should be amended, and extended to every linguistic type. To this purpose, it should be detached from originalism, since many linguistic types simply lack a single origin. Type-concretism should also drop the claim that a type is always causally unified, in favour of the idea that there can be multiple causal branches of a single linguistic type. I put forward the hypothesis that these multiple causal branches are unified by the fact that all their initial tokens are produced from the same smaller linguistic types, by applying to them the same production rules in the same way.

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