University of Tartu

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PLAYING WITH MONSTERS:

CHARACTER OPERATORS IN NATURAL LANGUAGE

Master's Thesis in Philosophy

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I have written this Master's Thesis myself, independently. All of the other author's texts, viewpoints and all data from other sources have been referred to.

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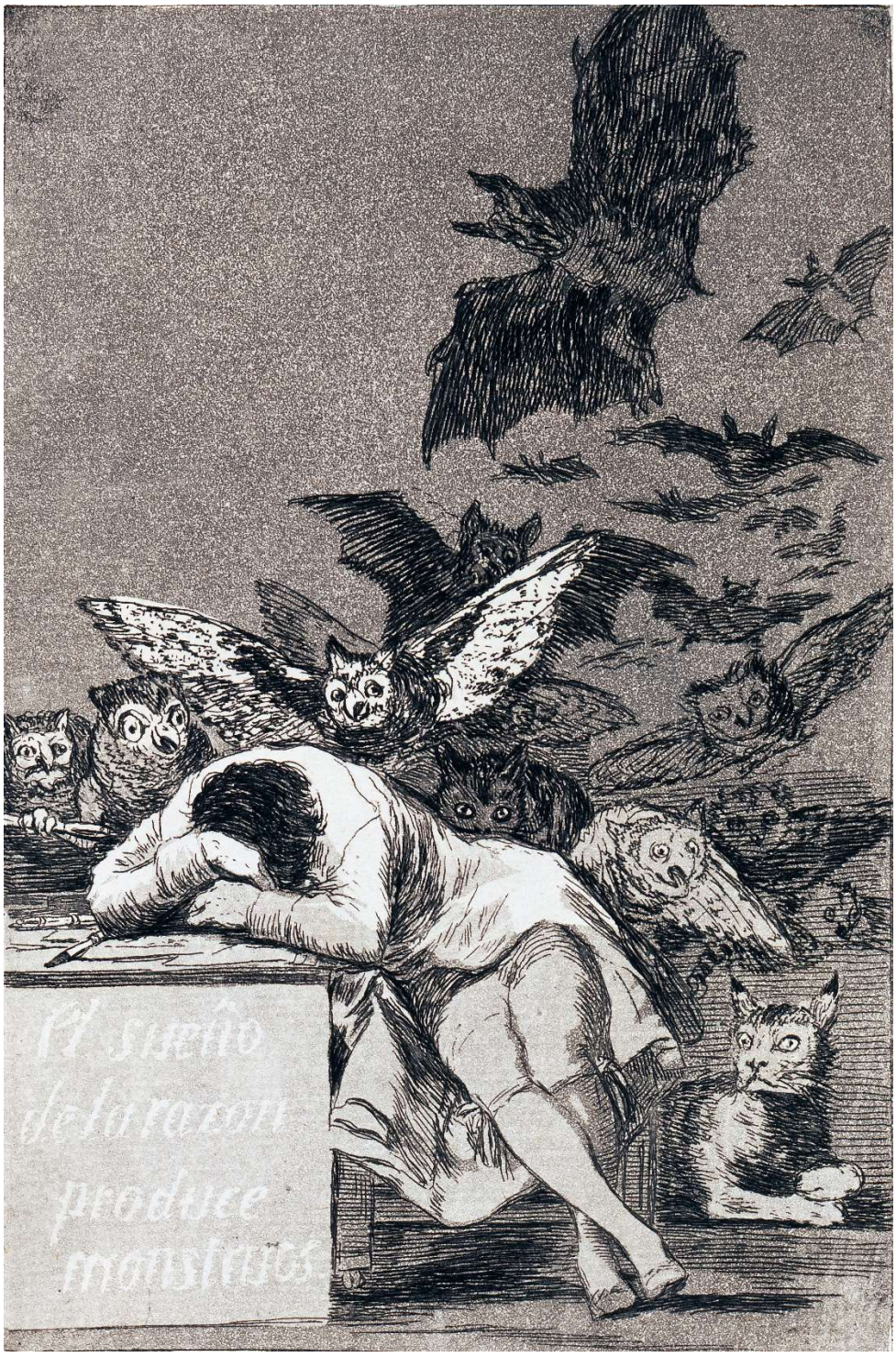


Fig. 1. Francisco Goya's "The Dream of Reason Produces Monsters."[1]

[1] Retrieved from https://upload.wikimedia.org/wikipedia/commons/f/f8/Francisco_de_Goya_y_Lucientes_-_The_Dream_of_Reason_Brings_forth_Monsters_-_Google_Art_Project.jpg]

"*El sueño de la razón produce monstruos.*"

[The dream of reason produces monsters.]

Title phrase of the 43d etching of Francisco Goya's *Los Caprichos*.[2]

[2] I dedicate this thesis to my parents, Elizabeth and Cuauhtémoc, my grandfather, Juan, and my partner Guillermo, for being always the support behind the fulfilling of my dreams. I also want to thank my supervisors, Juhani Yli-Vakkuri and Patrick Shirreff, as well as professors Indrek Lõbus and Alex Davies, and my colleague Nikolai Shurakov, for their vital contributions to the present work.

1. Introduction: Monsters Within

In his seminal work on demonstratives, David Kaplan (1989) banned monsters from the realm of natural language semantics. One of the main reasons behind his and other subsequent crusades against monsters is that their mere existence poses a threat to one of the foundational principles of truth-conditional semantics, namely, the Principle of Compositionality.

To cast such disastrous creatures out, Kaplan argued that the English language does not contain operators that operate on linguistic character and, furthermore, that such operators could not be added to it. The first claim has been disputed since, giving rise to a monster hunt that led to the discovery of alleged monsters in a number of natural languages, and even to monstrous expressions in English. However, the second claim—that they cannot be added to English—seems to have been ignored or, at least, only indirectly refuted by some of the responses to the first one. The goal of this paper is to offer a counterexample to that second assertion: the thesis that monsters could not be added to English. *I claim not only that there are monsters, but that we can introduce monsters into the English language.*

Hence, this is an essay about the possibility of implementing character operators into the English language, something that so far has not been explicitly addressed in the contemporary debate about monsters[3]. In order to do so, I first provide a monstrous taxonomy to answer the question: what it is to be a monster? This is covered in the first section, **Monsters Within**, where I offer the background required to understand what monsters are and why we should care about them. Then, in section number two, **Of Monsters and Children**, I point to a very particularly mischievous monster that terrorises children in the lands of Mexico—the Little Sherry Bottle Operator, an indexical shifter that swaps the referents of 'I' and 'you'—giving a superficial characterisation of it, and, finally, in section number three, **Monster Trials**, I set out its insidious character by showing how it is immune to a number of arguments that have been brought forward to explain away other cases of (putative) monsters by dismissing them as either as quotation devices, implicature triggers, character or meaning shifters or overall an artificial linguistic practices. The last and briefest section, **More Than a Children's Game**, works as conclusion by summarising the argument that since the rules of the Little Sherry Bottle game as well as the truth conditions of its

[3] A notable exception can be found in Rabern 2019.

operator make sense not only in the Mexican variety of the Spanish language but also in English, one can easily imagine how simple it would be to teach exactly the same game to English-speaking children, and by virtue of doing so, introduce a monster into the English language. The moral of this paper, then, is that we only need a bit of wicked, child-like imagination in order to bring monsters to life in English.

1.1. The Principle of the Compositionality of Meaning

How is it possible that we can understand sentences we have never encountered before? How is it that a finite, even limited, vocabulary, can still give rise to a possibly infinite number of sentences? Think about the following one: "The brown matryoshka with the face of Alexander Pushkin casts a shadow on the photograph of Pina playing in the snow last year." Try googling it, I doubt you that will find an exact match. Nevertheless, this completely novel sentence that describes part of the shelf I have in front of me, though unknown to you until know, is still understandable; odd, maybe, but not meaningless. This is because language has the capacity to produce a virtually infinite number of well-formed, meaningful sentences, out a finite number of words. If sentences are built out of words just like Lego castles are built out of Lego blocks, then there must be something special with these word-blocks, for you can assemble immensely large and complex structures out of a basic starter set: you can run out of new blocks yet keep building new castles! We acquire this basic set and a manual that tells us how to put them together as children, and of course, on the course of our lives we keep collecting new blocks, sometimes fancy new words that we learn at school or by reading poetry, but we certainly don't learn an infinity of them, just a relatively small number that we can add to our starter-set. Moreover, we can also acquire other basic sets: foreign languages with their owns words and their own rules of combination, and they also allow us to make as many castles as we can imagine! But how does it work?

An explanation of this intriguing feature of human language—its infinite productivity—can be found in what is known as the *Principle of Compositionality,* which tells us that:

> **Compositionality:** There is a function that maps the complete structure and the meanings of the ultimate constituents of any complex expressions on to the meaning of that expression.

It purports to explain how is it that we, as language users, can understand the meaning of a complex expression based on the knowledge we have of the words that constitute it, for instance: "Juanito and Pedrito are really good friends and they all like to play football with Kaija after school when it is not too hot outside". If we can understand this sentence is because we know what the words that make it up mean, and also, because we know how they are ordered or structured: we know that a sentence usually has a subject and a predicate, and that a predicate is usually made up of a verb and some complement, and we know how are they supposed to be put together in order for them to make sense, *to be meaningful*.[4] In other words, we make sense of a sentence, we understand a sentence, we know *what it means* based only on our knowledge of the meaning of its parts (our lexical knowledge) and how they are structured (our syntactic knowledge).

To sum it up, the Principle of Compositionality is at the core of any formal semantics, that is, of any attempt to provide a theory of meaning by means of formal models and methods.

1.2. Monstrous Indexicals

Now, in any starter set there are some very special blocks called *indexicals*. Indexicals are those expressions of a language whose meaning is dependent on context. Many different words in any natural language exhibit context-sensitivity, but there are a number of them that are particularly sensitive, so to speak. In the English language, this class of words includes expressions like 'I', 'now', 'it' and 'that'. Think, for example, of the word 'this'. When uttering "this" one can sometimes point at an object to show what one is talking, though usually it is not required; most of the time we can infer what someone is designating when saying "this" based on a salient aspect of the context, as in the sentence "I knew I would have to talk about *this* at some point in my thesis" where "this" refers to the topic of indexicals. But can we ever know what does "this" refer to without knowing the context in which is used? Indexical words like 'this', 'that', 'I', 'you', 'here', 'there', 'now', 'tomorrow', 'yesterday', etc, seem to be of a different kind from that of other words like 'Eduardo', 'book', 'believe', 'sun', 'philosophy', 'is', etc. We can get to the meaning of these latter words without placing them in a specific context. However, the former class of words are characterised by a particular form of strong *context-dependency*. Following Russell, Szabó and Thomason (2019, p.166-1667) list

[4] We might, of course, do not even know who Pedrito, Juanito and Kaija are, but we still understand the sentence, we just do not know whom the sentence is about.

the following observations about them: (i) they don't seem to be definable without appealing to other words of the same kind; (ii) they seem to lack any descriptive content (the word by itself does not tell us anything about what it refers or points to); (iii) although they seem to apply to many different objects, they are not really ambiguous, given a context, we know exactly what they are about; (iv) they appear to have a single, constant meaning (they do have rules that tell us how to use them), however, this meaning cannot be their designation (knowing their rules of use does not mean knowing what they designate); and finally (v), they are neither proper names nor descriptions (no one is named 'I' and 'I' does not really describe anything or anyone the way 'the President of Estonia', for example, does). Following Kaplan (1989, p. 401-491) one can further classify these words into two groups, *pure indexicals* and *impure indexicals*. Pure indexicals seem to be even more puzzling in that they do not require a physical demonstration or a pointing-at to convey their meaning, like impure indexicals, or demonstratives, do. In the case of pure indexicals one is supposed to infer their meaning by attention to the discourse, by means of the context in which they occur. The perfect example of indexicals are pronouns: 'I', 'you', 'he', 'she', 'it', 'we', the plural 'you', 'they' and their many different word forms built from their basic lexemes.

Luckily for us, semanticist found a way of tackling these mysterious words by construing mathematical models that, besides having the regular formal apparatus of first-order quantified logic, implement contextual parameters—such as an agent or speaker, a time, and a place, and so on—as additional inputs to the interpretation of a language (Ball & Rabern, 2018, p. 15).

I will now introduce some simple notations in order to show how typed lambda calculus—a system that translate expressions of fragment of English—is used to make certain aspects of natural more perspicuous, i.e., to present sentences and expressions in a clearer, more defined way. One can take, for instance, the peculiar word 'I'. First, I will use the double cornered brackets ⟦.⟧ to indicate the denotation of an expression, adding in turn the superscripts a and w to indicate the parameters or points of reference of an agent and a world. One can then provide a definition of the personal pronoun 'I', which is the rule that says that 'I' refers to the agent at a context, like this:

$$⟦\text{'I'}⟧^{a,w} = a$$

Put simply, the denotation of 'I' is the agent or speaker of its context of utterance—the context in which the expression was said or, in this case, inscribed—represented by the ordered pair $<a,w>$.

Next, I will use 'T' to indicate the positive truth value (Truth) and 'iff' as an abbreviation of "if and only if" (a biconditional). The lambda symbol λ, or abstraction operator, is used as a variable binder that allows one to describe a variety of functions without having to name each one of them. A function, if one remembers some high school algebra, is a sort of pairing between objects or elements: it assigns to each element x of a set X, called "the domain of the function", a single element y of another set Y (which can be the same as X), known as "the codomain of the function". Such relation is denoted $f(x)=y$ where f stands for the name of the function, x is the argument or input of the function, and y is the value of the function, or output. Here, the single cornered brackets [.] will then stand for the name of a function and the simple round brackets (.) for its argument, so that $f(x)=y$ will be presented in the form $[\lambda x.x](x)=y$.

With this in mind, I can in turn give the truth conditions of a sentence like "I love sauna" using lambda calculus in the following manner:

$[\![\text{'I love sauna'}]\!]^{a,w} = \text{T}$ iff $([\![\text{'love sauna'}]\!]^{a,w})([\![\text{'I'}]\!]^{a,w}) = \text{T}$

iff $[\lambda x.x$ loves sauna in $w]$ $([\![\text{'I'}]\!]^{a,w}) = \text{T}$

iff $[\lambda x.x$ loves sauna in $w]$ $(a) = \text{T}$

iff a loves sauna in w[5]

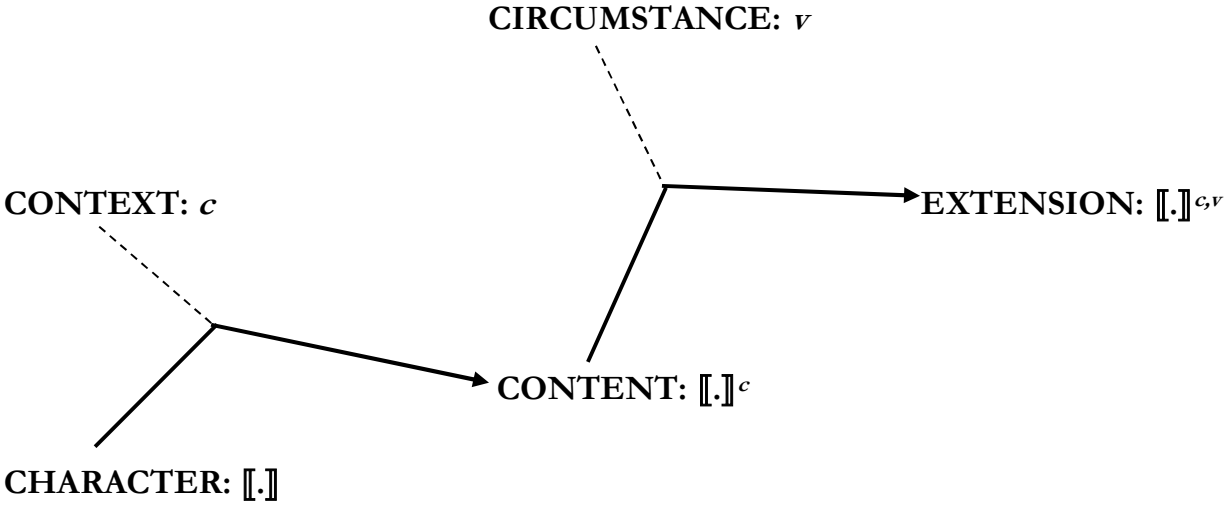
It looks, then, like the apparent mystery behind indexicals has been brought to light, but let us not hurry, there still might be something monstrous lurking in the darkness.

1.3. The Character/Content Distinction

In the seminal *Demonstratives,* Kaplan, who one might consider a shining champion in the realm of formal semantics, established the idea of meaning as having a two-folded aspect: *character* and *content*. Each of these aspects plays a certain role in his semantic theory. Roughly, what he calls 'content' is

[5] This example is somehow based on the one given by Ball & Rabern (2018, p. 16).

the information contained in an assertion in a particular context[6], or "what is said". One could think of content as the proposition expressed by an assertion of a sentence. It is at the level of content that, according to Kaplan, semantic composition occurs. On the other hand, a 'character' encodes the dependence of the content of an expression on the context of use. One could also think of character as a function from contexts to contents, where the domain is a set of sequences of content generating parameters. Similarly, one could think of content as a function from circumstances to extensions, where the domain is another set of parameters or indices, usually world-time pairs, called "circumstances of evaluation". The following diagram might help one visualize Kaplan's three-step process from the character of an expression to its extension or denotation:



Where the domain of a character function is a set C, and where each $c \in C$ determines a tuple of content-generating parameters (the contexts of utterance). Meanwhile, the domain of a content function is a set V. Each $v \in V$ is another tuple of parameters (the circumstances of evaluation).[7]

According to Ball and Rabern (2019, p.396), Robert Stalnaker finds two independent—though often conflated—reasons for which Kaplan adopted this two-step procedure: first, there is "a linguistic motivation stemming from the compositional interaction of intensional operators and indexicals" (e.g., the interaction present in sentences like "in the future, everyone now living will be

[6] It is important to remark here that in Kaplan's theory, the notion of *utterance* is not the same as that of *sentence-in-a-context* (1989, p. 546).

[7] Or as Ball and Rabern succinctly summarise: "Contexts play a content-generating role—resolving context-dependence in order to determine what's said—and indices play a content-evaluating role—they're the things of which what's said is either true or false"(2019, p.396).

dead", where the indexical expression 'now' does not shift in the scope of the intensional operator 'in the future'); on the other hand, there is "a pragmatic motivation stemming from the idea that a semantic theory should give an account of assertoric content[8] and its broader role in communication".[9] However, some criticism has been brought against the two-step kaplanian approach:

To make just one example: the sentence "I am a philosophy student" has as one of its semantic constituents an indexical, 'I', which turns the sentence into an expression whose character is not a constant function. This means that it may convey different contents depending on the context of utterance. When uttered by me, the sentence is true; it expresses the true proposition that I am a philosophy student. On the other hand, when the same sentence is uttered by my sister, who is an economics student, it comes out as false. Thus, we have two different contents for one and the same expression. This is so because Kaplan's theory has at its core two basic principles regarding demonstratives and indexicals:

Principle 1. The referent of a pure indexical depends on the context[10], and the referent of a demonstrative depends on the associated demonstration.

Principle 2. Indexicals, pure and demonstrative alike, are directly referential.

[8] Rabern defines 'assertoric content' in the following manner: "[r]oughly speaking, when someone makes an assertion by uttering a sentence φ, they offer up some information for their audience to consider. This information that is offered up is the content of the utterance, i.e. it is what is said by the act of uttering the sentence φ. Let's call what is said by the utterance of a sentence the assertoric content of a sentence" (2012, p. 76).

[9] However, the two-step kaplanian approach has not been met without criticism. First, the linguistic motivation regarding the behaviour of indexicals with intensional operators seems to be uncalled for: to accommodate for the empirical facts—the same empirical facts that fuel Kaplan's monster ban—one would only require a multiple indexing system; the sharp character/content distinction is not indispensable, as can be observed in a system like Lewis' (Cf. Kamp 1971, Stalnaker 2017). Moreover, the identification made by Kaplan between the roles of *semantic value* and *assertoric content* (or *what is said*, in Kaplan's terminology) has been criticised by Rabern in a number of papers (Cf. Rabern 2012, 2017, 2019) arguing that assertoric content violates the principle of compositionality and thus, the two notions must be distinguished.

[10] This is in line with what Schlenker (2003, p. 29) calls 'the Fixity Thesis': the referent of an indexical is fixed by the context and it is not affected by any logical operators.

Consequently, and in contrast to our first example, a sentence with a constant character, let us say, "Arvo Pärt is the author of *Fratres"*, is a sentence with no presence of indexicals[11], and for that reason, it expresses the same content in all contexts.

1.4. There Are No Monsters.

Now, let me introduce some basic notation. '$[\![\phi]\!]^{c,i}$' will denote the extension the expression ϕ has relative to context c and circumstance i. The Character of ϕ, then, is the function

$$\lambda k \lambda j\, [\phi]^{k,j}$$

where *k* and *j* stand for a context variable and a circumstance variable, respectively. Consequently, the Content of ϕ in context c is the function

$$\lambda j\, [\phi]^{c,j}$$

While Kaplan is happy to allow intensional operators, that is, operators that act on content—like tense or modal operators—he does not appear to be that comfortable with operators that affect character (in fact, he is so uncomfortable with them that he calls them "monsters" (1989, p. 510)). The example he uses of a putative device like this is 'in some contexts', as it occurs in:

(1) In some contexts it is true that I am not a philosophy student.

What the operator 'In some contexts it is true'—which I will formalise as *M*— putatively does is that it takes content-generating parameters as arguments the same way intensional operators are fed with content-evaluating parameters, thus having the following truth conditions:

$$[\![M\phi]\!]^{c,j} = \text{T iff } \exists c' [\![\phi]\!]^{c',j} = \text{T}$$

Now I can introduce the characterisation of a monstrous sentential operator as proposed by Rabern (2010, p. 395):

[11] Here and throughout this paper I set aside the question of whether verb tenses are indexicals.

> **Definition 2.** A sentential operator Σ is a monster in L if and only if in the semantic evaluation of a sentence Σϕ, ϕ is evaluated with respect to a sequence of content generating parameters c' that is different from the sequence of content generating parameters c with respect to which Σϕ is evaluated.

In other words, a monster operator is such that it modifies the character of a sentence. Non-monstrous operators do not mess with character; they affect, if anything, the content of an expression, and they do so directly, that is, without modifying the character of such expression. Take for instance, an operator like negation. In the sentence "Tallinn is not the capital of Estonia" the operator 'not' does not alter the character of its embedded expression: all the words in the sentence retain their usual meaning; all what the operator 'not' does is that it switches the truth-conditions of the sentence, so that if "Tallinn is the capital of Estonia" is true (as it happens to be), its negation must be false, and hence, "Tallinn is not the capital of Estonia" is false. On the other hand, it looks like the character of sentence (1), "In some contexts it is true that I am not a philosophy student.", has been somehow affected: the 'I' in (1) must refer to me, for I myself wrote it, yet again, it looks like its reference has been blanked, so that its actual context of utterance cannot decisively settle who does it refer to.

Real monsters, thus, have the power to rewrite contexts, and this might seem to happen with the operator 'In some context it is true that', for the sequence of content generating parameters of ϕ, as defined in the truth conditions of $M\phi$, namely, $[\![\phi]\!]^{c',i}$, is different from that of ϕ evaluated on its own, namely, $[\![\phi]\!]^{c,i}$.

With this in mind, one might try to use sentence (1) in such a way that its truth in any context would require there to be someone *in some context*, not in some circumstance, who is not a philosophy student at the time of the context, and of course there is a context (several, actually) where someone is not a philosophy student at the time of that context. But one would inevitably fail to use (1) in that way, for it is hard to see how one could make sense of it without interpreting the indexical I as referring to me, its author.

Kaplan's preoccupation is that even though we can very easily design such operators on the basis of his two-dimensional semantic approach, we should refrain from doing so because a

theoretical model that allows for monsters does not accurately represent how natural language works; instead, it obscures the original conceptual distinction between contexts of use and circumstances of evaluation, and deceives us to believe that there is a possible operator that works with each possible parameter. But for Kaplan this is nothing but a fairy-tale: in natural languages, linguistic operators work only on certain specific parameters and only at the level of content.

Furthermore, it seems that what Kaplan is arguing is not only that there are no monsters in English[12], but that there could not be any monsters at all (p. 510). The reason for this is that not only would monsters violate his **Principle 2**—the intuitive idea that indexicals are directly referential—but they would also transgress the **Principle of Compositionality**, which, as previously explained, tells us that the semantic value of a complex expression is determined by the semantic value of its parts and the way there are syntactically combined.

The disastrous consequences of this *indexical shifting* can be shown if we look back at our prior example:

(2) a. I am not a philosophy student.

b. Eduardo is not a philosophy student.

These two sentences have a different character. Nevertheless, in the same context—this context—they share the same content, that is, express the same false proposition that I am not a philosophy student. This is because the semantic value of the constituents of (2a) is the same as those of the constituents of (2b), and as a result of the principle of compositionality, the semantic value of both sentences is the same.

Now, for the sake of the argument, suppose that 'in some contexts…' is an authentic monster and has the semantics described above, and consider the following sentences:

(3) a. In some contexts it is true that I am not a philosophy student.

[12] The most plausible interpretation would be to understand his claim about the absence of monsters as pertaining not only to the English language but to natural languages in general; otherwise he would have to explain what is so particular about the English language that his general theory, and in particular, his "two obvious principles" (1989, p. 492), only apply to this specific language.

b. In some contexts it is true that Eduardo is not a philosophy student.

Again, they would be distinct in character, but also in content, since (3a) would expresses a true proposition while (3b) would not.[13] This is so because whereas sentences (2a) and (2b) have the same referent as its subject, the referent of (3b), Eduardo, might not be the same of (3a) even when I am the author of both sentences. Consequently, we can now see how would "monsters destroy the compositionality of content" (Westerstahl, 2012, p. 213), for the monstrous presence of "in some contexts" makes "I" and "Eduardo" fail to be coextensional, even though by its context of utterance they must be so. Compositionality is now broken, for to know what (3a) means we cannot solely rely on our knowledge of what its constituent words mean and how they are put together. Ultimately, a monster is dangerous (too dangerous for Kaplan) because it shifts the contribution that an expression makes to the content of the more complex expression to which it is embedded.[14]

No wonder why Kaplan would like to keep the monsters off, then, for it seems that if one were to let them in one would have to do without the compositionality of content. But *if monsters are not real*, what are then operators like 'in some contexts it is true that'? Well, Kaplan would argue that although (2a) and (2b) are expressions of a natural language, the most plausible interpretation of (3a) and (3b) would require us to rephrase them and to make sense of them as introducing a metalinguistic predicate, like in the following reading:

(4) a. In some contexts "I am not a philosophy student" is true.

b. In some contexts "Eduardo is not a philosophy student" is true.

[13] Of course one could argue that (3b) is also true, since evidently there have been contexts in which it has been true, and there will be contexts in which it will be true, but for the sake of the argument, let us reduce the range of times to include only present contexts.

[14] For a detailed discussion on how monsters could (or can) affect certain semantic models like Kaplan's but also Lewis' see Ball & Rabern 2019. To briefly summarise their view: "so construed, the debate about monsters is not just a dry, technical matter, but reflects deep disagreements about the fundamental structure of a semantic theory [and so we argue that:] 1. The interesting notion of a monster is *not* an operator that shifts some formal parameter, but rather an operator that shifts parameters that play a certain theoretical role [just like the monster explored here shifts parameters that have to do directly with the role of reference and content contribution]. 2. One cannot determine whether a given semantic theory allows monsters simply by looking at the formalism […] [the existence of monsters then, from the point of view of a semantic theory, depends on whether such a theory allows for them or not].3. The proposal—to shift only the "index" parameter, and to forbid shifting the "context" parameter—is therefore perfectly compatible with the existence of monsters (in the interesting sense)" (p. 395).

As Emar Maier succinctly explains:

> [F]or Kaplan, direct discourse is just a species of pure quotation, i.e. the quotation marks mark the use/mention distinction an the *I* inside the quote does not refer at all, so, a fortiori, it's reference is not shifted by a monstrous operator (2016, p. 370).

Hence, one can see that these are not monsters but, at best, furtive quotation devices.

1.5. A World of Monsters

Nevertheless, there have been a number of responses to Kaplan's claim that there are no monsters in English or in any other natural language, for that matter. The purported empirical evidence points to the presence of character operators across a variety of languages around the world, and even to some more insidious monsters within the English language itself.

First, Israel and Perry (1996), working on the semantics of discourse and speech reports, signaled the possibility of modal and epistemic monsters, a claim that was later supported by Predelli (2008) and Santorio (2010). Schlenker (2003) then pointed to monstrous behaviour related to propositional attitude clauses in Amharic language. Similar monsters have supposedly been found in other natural languages like Zazaki and Slave, as presented by Anand and Nevins (2004), and modern Uyghur, according to Shklovsky and Sudo (2014). Finally, Recanati (2001), Maier (2007), and Jaszczolt and Huang (2017) have also discussed monsters disguised as quotations, and it even seems that Rabern (2010)—if one follows a basic Tarskian semantics—found monsters hidden in Kaplan's own *Demonstratives* in the shape of quantifiers and variable-binders in general, something that was also pointed out by Yli-Vakkuri (2013). Other areas of philosophical semantics, like two-dimensional modal logics (e.g., Davies and Humberstone 1980) or the problem of substitution in opaque contexts (e.g., Recanati 2001), have also been given a monstrous treatment.

It looks as if, then, monsters have just been hiding in plain sight, and, unless this is all but a children's tale, I believe to have found one myself.

2. Of Monsters and Children

In this section I will offer a superficial characterization of a case that appears to be a clear counterexample to Kaplan's statement that there are no monster operators in natural languages and, more specifically, to his assertion that they could not be added to English.

2.1. The Living Art of *Albur*

To begin with, there is an interesting phenomenon in Mexico known as *albur*. Albur is a colloquial idiomatic practice that is generally considered to be an endemic expression of Mexican idiosyncratic misogyny, or "*macho* culture", and that can be characterised as a sort of verbal duel or dispute where the contestants display their mental agility and dominion of their language by throwing at each other flashy and clever remarks tainted by their violent sexual connotations. It is a competition of double entendre, of veiled and not-so-veiled insults where the winner metaphorically penetrates the defeated with his speech by means of a variety of rhetoric, syntactic and semantic alterations. As Octavio Paz puts it:

> This ambiguous conception is made very clear in the word games or battles -- full of obscene allusions and double meanings - that are so popular in Mexico City. Each of the speakers tries to humiliate his adversary with verbal traps and ingenious linguistic combinations, and the loser is the person who cannot think of a comeback, who has to swallow his opponent's jibes. These jibes are full of aggressive sexual allusions; the loser is possessed, is violated, by the winner, and the spectators laugh and sneer at him (1985, p. 39).

Therefore, to be a skilled *albur*ero is "to turn [words] upside down, modify their meaning[15], twist their intension, make them anew, blow them up so that his interlocutors swallow all their replies and comebacks up" (Mejía Prieto, 1993, p. 11).[16]

2.2. Monster in a Shery Bottle

Our monster, hence, emerges nourished by these somehow perverted semantic conditions, though in a much more innocent social environment. The story begins thus: in Mexican Spanish

[15] The word 'meaning' here is used in a non-technical way.
[16] The translation is mine.

there is a traditional *refrán* (popular saying) that goes like "*Botellita de jerez, todo lo que digas será al revés*[17]" [Little sherry bottle, everything you say will be the other way around]. This proverb is commonly used among children—and occasionally by adults—as a response that deflects insults, jibes, and taunts, back to the name-caller, like a mirror-shield.[18] This guileless locution was corrupted by the irreverent influence of *albur* culture and was turned into a children's language-game which involves the use and mastery of a character operator. The game goes this way: imagine two children, one a bit older or meaner than the other. The older one tries to mock the younger one by twisting the meaning[19] of her sentences. The rules are as follows: first, by uttering the particle '*Botellita de jerez*' [Little sherry bottle], the speaker alters the character of the sentence embedded under it. What this "invocation" does is that it exchanges the referents of the indexicals 'you' and 'I', so that whenever one of them is used within the scope of 'Little sherry bottle', their meanings are switched: 'you' refers to the speaker, whereas 'I' refers to the addressee.[20] Second, the sherry bottle phrase does not affect any other word, only the 1st and 2nd singular personal pronouns, be them in a subject pronoun, direct or indirect object pronoun, or prepositional pronoun position. Third, it only works with complete sentences, individual words or incomplete sentences would not do. Fourth, if the operand clause embedded to 'Little sherry bottle' does not contain any of the first two personal pronouns, then its character remains unaltered. Fifth and last, the contestant who loses the game is the one who, after an indefinitely long exchange of covert jeers, either fails to correctly interpret the content of his rival's remarks or himself delivers a poorly concealed insult. Shortly, to lose the battle is to lose track of the Sherry Bottle monster and its powers of distortion.

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[17] (Mejía Prieto, 1993, p. 11). There are some regional variations of this expression in across different parts of Mexico, but they all convey the same idea of a veer or a swerve, a change of direction. For instance: "Botellita de jerez, quien lo dice es quien lo es", which could be translated as "Little sherry bottle, the one who says that is the one who is that"

[18] Analogous expressions in other languages and cultures include the American English voice "I am rubber and you are glue, everything you say bounces off of me and sticks to you" and the Russian phrases "*Говоришь про меня переводишь на себя*" [You are speaking about me but it redirects onto yourself] and "*Кто как обзывается, тот так и называется*" [Whatever name you call someone is what you yourself are called], see Berdy (2009).

[19] Again, 'meaning' here is not theory laden.

[20] The possibility of a monster very much like this one is discussed in Rabern 2019. Though it could be taken as a response to Rabern, this paper was originally a short essay written in April 2019 for Professor Juhani Yli-Vakkuri's course on the Philosophy of Language at the University of Tartu.

With this in mind, let me introduce some examples of friendly insults[21] one could come up with in this game. First, a sentence without the *Botellita* clause, and then the same sentence embedded under the *Botellita* matrix:

(5) a. *[Yo][22]estoy bien menso.*
be.PRES.SUBJ.1SG very dumb.
'I am very dumb'.

b. *Botellita de jerez [[yo] estoy bien menso].*
Little sherry bottle.MONSTER [be.PRES.SUBJ.2SG very dumb].
Little sherry bottle, ~~I~~/you* ~~am~~/are* very stupid.
'You are very dumb.'

And this is what happens when we have both the first and second pronouns:

(6) a. *[Yo] te amo [a ti].*
love.PRES.SUBJ.1SG 2SG.OBJ
'I love you.'

b. *Botellita de jerez [[yo] te amo [a ti]].*
Little sherry bottle.MONSTER [love.PRES.SUBJ.2SG. 1SG.OBJ].
Little sherry bottle, ~~I~~/you* love ~~you~~/me*.

[21] As Anania and Cózar Angulo write: "The intention of an albur is to verbally trip the other person jokingly and in fun. [It is] a means to communicate an insult or an affront that is generally friendly towards another interlocutor" (2014, p. 144). It is worth noting how the *Botellita de Jerez refrán,* itself is a non-aggressive response to insults, has been subverted into a device to perform or create new insults, no matter how veiled or beautifully wrapped they are. For this reason, this game strikes one as a form of training for, or first contact with—the mature, non-suitable for children—*albur*.

[22] Since conjugated verb endings in Spanish grammar already indicate both person and number, subject pronouns can be left out of the sentence. I will, however, mark them inside brackets for a clearer exposition.

'You love me.'

One could also capture the truth conditions of the **Little Sherry Bottle Operator** –which, for simplicity, one could call the "**Twist Operator**"– by making use of a model that reconceives contexts as triplets made up of: *w*, the world of context *k*; *s*, the speaker at context *k* (the one who says ϕ); and *a,* the addressee at context *k* (the one to whom ϕ is uttered to).[23] The truth condition of Twist would thus be the following:

$$[\![\text{Twist } \phi]\!]^{<w_k,s_k,a_k>,j} = [\![\phi]\!]^{<w_k,a_k,s_k>,j}$$

Next, suppose that our older kid, Pedrito, understands very well how Little Sherry Bottle goes, but possibly his younger friend, Juanito, does not. Taking advantage of this situation, Pedrito utters the following sentence:

(7) a. *Botellita de jerez: estoy bien menso.*

'Twist: I am very dumb.'

Formalised as:

(7) b. $[\![$ 'Twist: I am very dumb' $]\!]^{<w_c,s_c,a_c>,i}$

Juanito, poor little kid, failing to understand how a monster works, thinks that Pedrito is calling himself an idiot when in fact the content of (7a) in context c is the same as that of the following sentence if expressed in that same context:

(8) a. *[Tú] estás bien menso.*

'You are very dumb.'

Because the Twist Operator switches the s, the author, for the a, the addressee, in $<w_c,s_c,a_c>,i$ giving in return:

[23] It is worth noting that the parameter of the addressee is missing in Kaplan's original framework since he did not deal with the second person pronoun.

$[\![$ 'You are dumb' $]\!]^{<w_c,a_c,s_c>,i}$

That is why the "I" in (7b) is referring no longer to Pedrito, the speaker, but to Juanito, the hearer. And that is how cunning little Pedrito has managed to sneakily insult Juanito. Something similar would happen with the following examples:

(9) a. $[\![$ 'Twist: I love you' $]\!]^{<w,s,a>,i} = [\![$ 'You love me' $]\!]^{<w,a,s>,i}$ [24]

b. $[\![$ 'Twist: meeting you was the best thing that ever happened to me!' $]\!]^{<w,s,a>,i} = [\![$ 'Meeting me was the best thing that ever happened to you!' $]\!]^{<w,a,s>,i}$

Also note that

c. $[\![$ 'Twist: twist: ϕ' $]\!]^{<w,a,s>,i} = |$'ϕ'$|^{<w,a,s>,i}$

Accordingly, here is a sketchy argument in favour of the Twist Operator being monstrous:

Following Kaplan's notation I will represent a sentence's character by '{}^{c}', where c stands for context, or in this case, the <w,a,s> triplet I introduced previously but without the subscripts indicating context. Now, let s = Eduardo, a = you, @ = the actual world, and suppose that I am not happy, but you, my addressee, are. Then,

(10) a. $[\![$ 'Twist: I am happy' $]\!]^{<@,s,a>,@}$

≠

b. $[\![$ 'Twist: Eduardo is happy' $]\!]^{<@,s,a>,@}$

[24] As helpfully pointed out by Indrek Lõbus and Patrick Shirreff, when confronted with examples like this one, we might be tempted to consider the effects of 'Little Sherry Bottle' not as altering the context-parameters of an expression, i.e., working at a semantic level, but rather working at a metasemantic level, or in this case, a syntactic one. There is a concise reply to this consideration: a syntactic account that tries to explain the Little Sherry Bottle cases would have to be involve some sort of iterative rule, and since a syntactic account—if there would be one—would have to do with any possible syntax, we would need to also have an infinite number of syntactic types where each one has its own replacement rule (say, for example, replace 'I' for 'you'). Even if we come up with an account that offers all this and satisfactorily explains what the Little Sherry Bottle expression is doing in terms of syntax, the more simple monstrous account would still be more preferable, precisely because of its simplicity.

Since the truth values of (10a) and (10b) are different, the former being true while the latter being false. Consequently,

(10) c. {'Twist: I am happy'}$^{<@,s,a>}$ ≠ {'Twist: Eduardo is happy'}$^{<@,s,a>}$

Because the content contribution of 'I' in (10a) and the contribution of 'Eduardo' in (10b) are different, yet

(10) d. {'I am happy'}$^{<@,s,a>}$ = {'Eduardo is happy'}$^{<@,s,a>}$

Therefore, we see how the Twist Operator violates the compositionality of meaning just like a monster would. For this reason, it looks like our boys are using a very elegant monster to subtly make fun of each other. Why do they do this? Because Mexican kids are savage. Savage enough as to even prove Kaplan wrong.

3. Monster Trials

The main goal of this section is to offer responses to four *prima facie* objections that could be raised against the claim that this operator is in fact a monster, that is, that the semantic nature of the phrase 'Little sherry bottle' or, on the same grounds, of the expression Twist', which I have used to simplify the former expression, is that of an operator that meddles with linguistic character. These objections have been used in the past to explain away putative monsters, that is, to show that the cases of apparent monsters that have appeared before are simply that: putative, not real monsters. The first objection originates in Kaplan's claim that monsters are actually quotation devises. The second one pretends to exorcise a monster into a harmless implicature trigger, rendering the discussion into just a matter of innocent pragmatics. A third asks if this could simply be a case of semantic stipulation, as some famous riddled horses have been shown to be. Finally, the last one wonders if what these children are doing is natural, that is, if the linguistic behaviour engaged in the Sherry Bottle game can still be considered as a normal part or practice of what we would call 'natural language'.

3.1. "Monsters"?

In his 2016 paper "A Plea Against Monsters", Emar Maier points to "four types of potential monsters and reconstruct[s] Kaplan's reasons for dismissing them" (p. 368). Each of these types involves a certain phenomenon: 1) Quantifying over contexts, 2) Pure Quotation, 3) Direct Discourse and 4) Indirect Discourse. The first three types can be "explained away as involving mention", while the last one can be analysed as dealing with an intensional operator.

I will briefly show why these strategies will not work with the Sherry Bottle monster. To begin with, as illustrated in the example bellow, Twist allows for quantifying and it is not case of direct discourse (and hence, neither a case of pure quotation):

(11) a. *Todos piensan que botellita de jerez: yo soy un tonto.*

Everyone$_1$ thinks that little sherry bottle I$_1$ am a fool.

Meaning

Everyone thinks that you are a fool.

If we tried to do a Kaplanian manoeuvre of direct discourse and assumed the sherry bottle operator in (11a) simply adds invisible quotation marks,[25]we would find ourselves unable to make the quantifier break into the embedded sentence "I am a fool", thus ending up with a reading of (11a) that says that everyone thinks everyone (each one of them) is a fool, which is not what we were trying to say.

Further, Maier's own attempt a dealing with monsters involving indirect quotation possess no threat to our monster: in his paper "Quotation Marks as Monsters or the Other Way Around?", he argues that indexical shifting like the one observed in monstrous clauses—particularly the behaviour of the indexical *I* in Amharic language—should be analysed as a case of mixed quotation using a hybrid use-mention logic (p. 148-149). For matters of scope and extension I will not present the formal apparatus he uses to analyse the Amharic *I*—which, though most likely functional and successful, seems to be way more complex and laborious than a monstrous approach—but I will

[25] Cf. (4a-b) in § 1. 4

simply refer to his account of what indexical shifting consists of. According to Maier, then, a shifty *I* in the Amharic language is in fact a quoted *I* that "refers to *the individual the reported speaker intended to refer to with her use of* I"(p. 149).[26] Such intentions would be, in turn, available in the common ground of the report situation (p.150). He claims too, that this metasemantic approach has a further advantage over the semantic one (the monstrous one) in that such a recourse to intention offers a less rigid account, one that doesn't bind the *I* to the reported speaker invariably. Consequently, one could expect the claim that our monster is of this very same kind. I will dismiss such an accusation, nonetheless, on the basis that Maier himself maintains that the sort of indexical shift he is proposing to analyse as quotation is that which is exclusive to reportative contexts due to the "inherently reportative nature of quotation." Twist is not a monster of reportative contexts. The monstrous effects of Twist are not enclosed by a reportative context. In this sense, Little Sherry Bottle is a very particular monster, since, in contrast to the majority of character operators discussed in the literature[27], this naughty little creature is not an operator linked to propositional attitude verbs. The Twist monster manifests itself without needing a propositional attitude verb[28] nor a speech report to summon it. In effect, it could also haunt an attitude report. To illustrate, consider the following reports, the first one as direct, the second as indirect discourse:

(11) *b. Juanito dijo: "Botellita de jerez: estoy bien menso."*

Juanito said: "Little sherry bottle: I am very dumb."

*c. Juanito dijo que *botellita de jerez*[29] tú estás bien menso.*

Juanito said that *little sherry bottle* you are very dumb.

We can see that Twist can be reported in direct discourse, that is, with its embedded sentence enclosed by quotation mark and also in indirect discourse, embedded as a that-clause. Moreover, it

[26] Emphasis in the original text.
[27] Cf. Schlenker (2003), Anand and Nevins (2004), or Shklovsky and Sudo (2014) for monsters of reportative contexts and Israel and Perry (1996), Predelli (2008) and Santorio (2010) for epistemic and modal monsters which, although not exclusive to reportative contexts, still arise only in the presence of propositional attitude verbs.
[28] Prior examples (5b) and (7a) in § 2.2 should make this clear.
[29] This construction sounds odd but there is no reason to believe that it is *eo ipso* infelicitous.

seems that Twist can also be expressed within the scope of epistemic verbs, as shown in the following examples:

(11) d. *"Yo creo que botellita de jerez [yo] estoy bien menso."*

I believe that little sherry bottle I am very stupid.

e. *"Yo sé que botellita de jerez [yo] estoy bien menso."*

I know that little sherry bottle I am very stupid.

Similarly, with volitives like 'want' or 'desire', like in the following sentence:

(11) f. *"Yo quiero que botellita de jerez yo te quiera (a ti)."*[30]

I want that little sherry bottle I loved you.

Therefore, it seems that, first, twist is neither a quotation nor a mixed quotation device, and secondly, the indexical shift effected by it is different from that observed in other monstrous constructions in that it is not exclusive to reportative contexts.

3.2. Cancelling Monsters

Another objection would be to claim that Little Sherry Bottle is not a monster but something like a pragmatic trigger, in the manner of an implication or a presupposition. Such strategy has been used not to explain monsters away but to place them outside the field of semantics[31], which would *eo ipso* end the discussion, for what we are trying to argue here is the existence of *semantic* monsters, that is, linguistic phenomena that are determined by generally accepted convention. To put it in a sketchy yet intuitive way: it has to do with how the linguistic items work on their own.

Now, when it comes to pragmatic triggers, cancellability is a basic test. If our operator were not a semantic monster but rather another sort of pragmatic creature, one could face it up and cancel it. But real monsters are not that easy to get rid of, for one cannot just cancel them. Grice explains how we can cancel implicatures in the following way:

[30] This sentence seems infelicitous. A more natural construction would be "(Yo) quiero quererte (a ti)", as in English "I want to love you". Alternatively, the opposite construction with the subject and object of the sentence exchanged thus "(Yo) quiero que (tú) me quieras" is felicitous.
[31] Cf. Maier 2016, p. 373.

> [A] putative conversational implicature that *p* is explicitly cancellable if, to the form of words the utterance of which putatively implicates that *p*, it is admissible to add *but not p*, or *I do not mean to imply that p*, and it is contextually cancellable if one can find situations in which the utterance of the form of words would simply not carry the implicature. (1975, p. 44)

In order to show you the Mexican monster cannot be cancelled, consider the following sentence:

> (12) "Twist: you are the best thing that ever happened to me. However, I am not saying that I am the best thing that ever happened to you".

Next, suppose Pedrito utters a complex sentence with the exact same content of (12) to Juanito. Notice that only the first sentence is in the scope of the Twist Operator. One would expect Juanito, clever boy, to reply with something in the following manner:

> (13) "Yes, you are saying that *you* are the best thing that ever happened to *me*, you scoundrel!"

For one can see how an utterance of (12) would be infelicitous, or in any case, dishonest. Just another attempt by Pedrito to cynically mock and outsmart Juanito. Furthermore, one can confirm that Twist is not an implicature trigger, since, unlike an implicature (and more like Roman Polanski) it just cannot be cancelled.

3.3. Semantic Stipulation and Meaning Shifters.

Another objection stands against our monster: what if the Sherry Bottle monster is not a character operator but rather an expression that invites to change the meanings of words, in this case, switching the meanings of 'I' and 'you'? This would automatically disqualify Twist as a monster by categorising it as a hyperintensional operator. As Brian Rabern puts it:

> The notion of a "character operator" here is clearly of one that is sensitive to character and looks at its profile across various contexts—on analogy with a content operator that takes the intension of its complement and looks at its profile across circumstances—not an operation that reassigns the complement a *different* character (2019, p. 18).

While some authors have previously stated the connection between monsters and semantic stipulation (e.g., Israel an Perry 1996), Rabern is clear in denying that cases like the riddle "If we call a horse's legs a *tail*, how many legs does a horse have?" constitute an example of a monster. If anything, riddles of this form are just examples of explicit meaning shift that "involve constructions of semantic stipulation, where one coins new terms or stipulates new meanings for old terms (p. 19)." Now, natural languages seem to have plenty of resources for introducing new terms, and for changing the meaning of the old ones. These are cases of semantic stipulation and are not uncommon at all in everyday conversations. Take the following example: a young Finnish girl named 'Kaija' has just recently moved to Pedrito and Juanito's neighbourhood and she starts hanging out with these two bad boys (she speaks Spanish too; her mom is also Mexican). They like playing football and learning about Finland, however, they struggle a lot to pronounce her name, so, they decide to call her 'Lupita'. Thus, these kids have introduced a new name to refer to Kaija by mere and simple semantic stipulation: "From now on, we will call you 'Lupita'".

It is not hard to see why Twist is not a case of renaming like the one mentioned above: to begin with, indexicals, though referential terms, are not proper names, first and foremost, because indexicals are context-sensitive expressions whereas names are not. Second, it is not as if Twist would just substitute the word 'I' for the word 'you'. Twist is a swapping monster: it exchanges the referent of 'I' for that of 'you' and vice versa. The terms 'Kaija' and 'Lupita' have the same referent: Kaija. Third, again, being a switching of indexicals, it is different from the switching of singular names in that the relation between a singular name and its referent is taken to be mediated by a causal chain, while the way to get from 'I' to its referent is by applying the descriptive rule: *identify the speaker of the context* (Rabern 2019, p.2), as from 'you' to its respective referent is by following the rule that tells you to *find the addressee of the context*. In the case of general terms, like in the riddle "If you call a horse's tail a leg, how many legs does a horse have?", when we change the meaning of 'leg' for that of 'tail', we are changing the definition of the word 'leg' for that of the word 'tail', or in formal semantics terms, we change the model by giving it a new interpretation function, one that maps the semantic value of the term 'tail' to the term 'leg'. However, Twist does not modify the interpretation function, for if it is to work as I have described so far, the model has the remain the same.

On the whole, the Little Sherry Bottle Operator is patently context-sensitive, a strong reason to believe it is not a meaning-shifter but an indexical-shifter. Moreover, following the Twist can be correctly characterised following any of the four notions of a monster that are offered by Rabern (2019, p.10):

Characterological operator: For it operates on the character of its operand.

Context-shifting operator: Since it shifts the Speaker and Addressee parameters of the context.

Indexical-shifting operator: Because it shifts the referents of indexicals in its scope.

Content-shifting operator: Given that it shifts indexicals, which are content-fixing parameters.

Thus, it looks that according to Rabern we have found ourselves a real monster, an operator whose existence was once denied by Kaplan and it is now proclaimed by mischievous children.

3.4. Unnatural Creations.

There is one last underlaying and pervasive objection that is at once simple but quite possibly disastrous: what if what Juanito and Pedrito are doing cannot be considered a natural linguistic practice? What if the Little Sherry Bottle game, though created by simple-minded children, is in fact an artificial construct and thus—to evoke Kaplan's original description—the Twist Operator is, at the end of the day, a monster begat by elegance, not by nature?

To elaborate on the last claim, I will now paraphrase an example put forward by Szabó and Thomason (2019, p.61-62) arguing that compositionality should be understood as a law of possible human languages. Imagine our dear children, Juanito and Pedrito, come up with yet another ingenious game which has the following rules: whenever the kids are in the presence of Lupita—formerly known as Kaija—an utterance of the sentence (S)"*Las saladitas son horneadas"*, which could be translated as "Crackers are baked", would lose its original and conventional meaning and instead it would mean that it is time for them to go home. If the same sentence (S) is uttered whenever Lupita is not around, it shall retain its usual meaning that crackers are baked. And that is all, the

children have come up with a new language, let us call it Baked Spanish, which is just like Spanish except for the sentence (S), whose meaning depends on whether Lupita is in the context of utterance or not. The meanings of article *'las'*, the noun *'saladitas'*, the verb *'son'* and the adjective *'horneadas'*, as well as the structure of the complete sentence '*Las saladitas son horneadas'* is the same in Spanish and in Baked Spanish. Therefore, Baked English cannot be compositional, for the meaning of (S) is determined by its context of utterance and not solely by its syntactical structure and the lexical meaning of its constituents.

The example above is supposed to show that noncompositional languages are fairly easy to imagine and even rather easy to learn. And this is in turn used to argue that one can imagine a compositional language going through changes that would render it noncompositional, in the same way that compositional English became the noncompositional Baked English after a few stipulations.

> So, even if compositionality is a law, it is certainly not a law of all possible languages. At best, it might be a law of all possible *human* languages—the sort of languages that normal human beings can acquire under normal social conditions as first languages. [Baked] English is plausibly not a possible human language in this sense: while it can be learned, competence with it is parasitic on prior competence with English (Szabó & Thomason, 2019, p.62).

Well, it is also pretty easy to see how this example could be reformulated on the basis of the Little Sherry Bottle game and, hence, the same could be said about our Twist Language: *that it is not a possible human language*. But this would amount to say that what the children speak when they play Little Sherry Bottle is not a natural language, yet, if this is correct, then my entire argument never really leaves the ground: Kaplan's ban has jurisdiction only within the realm of natural language, so, if I have been talking all along about an artificial language, he has always been right.

Let us figure out whether this argument applies to our game too. First, take the sentence (S) and substitute it for a sentence (B) "*Botellita de Jerez* ϕ", where ϕ is a variable for another sentence. Secondly, introduce the first four of the five rules I first mentioned in § 2.1, namely: 1) by uttering the particle '*Botellita de jerez'*, the speaker alters the character of the sentence embedded under it by exchanging the referents of the indexicals 'you' and 'I', so that 'you' refers to the speaker, whereas 'I' refers to the addressee; 2) the sherry bottle phrase does not affect any other word, only the 1st

and 2nd singular personal pronouns; 3) it only works with complete sentences; 4) and final, if the operand clause embedded to 'Little sherry bottle' does not contain any of the first two personal pronouns, it retains its usual meaning. And so, it is alive! It is alive! The Mexican boys have created Bottle Spanish, a new artificial language!

But have they really? I am going to show you how Botellita Spanish differs from a so-called artificial language like Baked Spanish. Just to start with, a sentence (B) differs from the sentence (S) in that when (S) is uttered in front of Lupita, all of its constituents—'*las'*, *'saladitas'*, *'son'* and *'horneadas'*—lose their regular meaning and thus the content of such an utterance becomes '*Es hora de ir a casa'* , which is both lexically and syntactically different from the content of (S) uttered in the absence of Lupita. Nonetheless, an utterance of (B) would constantly retain its lexical and syntactical form if only for the changes in reference, it doesn't erase the meaning of the other constituents of the expression, as it doesn't eliminate meaningful constituents[32] nor adds new ones. The following section should help clarify this point:

Take two utterances of (S), ($S_{\neg L}$), said when Lupita was not there, and (S_L), uttered next to Lupita. Then,

($S_{\neg L}$) $[\![$'*Las saladitas son horneadas'* $]\!]^{c',i}$ = T iff $\exists c'[\,(c' \neq c) \wedge [\![$'*Las saladitas son horneadas'* $]\!]^{c',i}\,]$ = T

Where c stands for a context with Lupita.

But this is what happens to the second utterance:

(S_L) $[\![$'*Las saladitas son horneadas'* $]\!]^{c,i}$ = T iff $\exists c\,[\![$ '*Es hora de ir a casa'* $]\!]^{c,i}$ = T

Where $[\![$'*Las saladitas son horneadas'* $]\!]^{c,i}$ is clearly distinct from $[\![$'*Es hora de ir a casa'* $]\!]^{c,i}$ in that the former has four meaningful constituents arranged in a particular syntactic structure, whereas the latter has no trace of any of the original constituents and instead introduces six new constituents arranged in a new structure.

[32] Cf. Szabó & Thomason 2019, p. 45.

Now, remember the truth conditions for our Twist Operator:

$$[\![\text{Twist } \phi]\!]^{<w_k,s_k,a_k>j} = \text{T iff } [\![\phi]\!]^{<w_k,a_k,s_k>j} = \text{T}$$

And apply them to an utterance of (B):

$$[\![\textit{Botellita de Jerez } \phi]\!]^{<w_k,s_k,a_k>j} = \text{T iff } [\![\phi]\!]^{<w_k,a_k,s_k>j} = \text{T}$$

Where *k* stands for a context and *j* for a circumstance of evaluation and where we can substitute ϕ for the Spanish sentence 'Te amo' and imagine it is uttered by Juanito to Pedrito in front of Lupita.

$$[\![\textit{Botellita de Jerez } \text{`}\textit{te amo}\text{'}]\!]^{<w_c,s_c,a_c>i} = \text{T iff } [\![\text{`}\textit{te amo}\text{'}]\!]^{<w_c,a_c,s_c>i} = \text{T}$$

But in this case, $[\![\textit{Botellita de Jerez } \text{`}\textit{te amo}\text{'}]\!]^{<w_c,s_c,a_c>i}$ is only different from $[\![\text{`}\textit{te amo}\text{'}]\!]^{<w_c,a_c,s_c>i}$ in that the parameters of their contexts are ordered differently and the expression *Botellita de Jerez* in the former, acting just like an operator would, disappears from the latter $[\![\text{`}\textit{te amo}\text{'}]\!]^{<w_c,a_c,s_c>}$ since it does not occur as a meaningful constituent, nevertheless, it contributes to the meaning of the phrases in which it occurs, like, for example, a negation operator does in the following formula:

$$[\![\ulcorner\text{`}\textit{te amo}\text{'}]\!]^{c,i} = \text{T iff } [\![\text{`}\textit{te amo}\text{'}]\!]^{c,i} = \text{F}$$

Thus, one can see how Botellita Spanish is not like Baked Spanish.

Furthermore, one can notice another important difference: Baked Spanish and the Little Sherry Bottle game violate the principle of compositionality in different ways. Baked Spanish violates compositionality because in order to know the meaning of an expression in that language, in this case, the sentence (S), a speaker would have to consider external factors to those of syntactic structure and lexical meaning, that is, to figure the meaning of (S), a speaker would have to know not only the facts about what do the words mean and how are they structured in (S), but also whether Lupita is there or not. This further knowledge regarding the presence of Lupita makes Baked English noncompositional, for to understand the meaning of an expression of a compositional language one would only need to resort to one's syntactic and lexical knowledge. On the other hand, our little game breaks compositionality in a different manner. It does so by incurring into a violation of the following principle:

> **Substitutivity**: Substituting within a complex expression an ultimate constituent for a synonymous one does not change the meaning of the complex expression.[33]

And we can show this is so by going back to the argument provided at the end of § 2.1., p.16, where it was shown that {'Twist: I am happy'}$^{<@,s,a>}$ and {'Twist: Eduardo is happy'}$^{<@,s,a>}$ are two distinct characters that when provided with a particular context—this context—fail to arrive to the same content even though by the principle of substitutivity they should, since in this context, both the constituents 'I' and 'Eduardo' refer to the same entity: me. [34]

Notwithstanding, in contradistinction to Baked English, one can understand the meaning, or at least, the truth-conditions of any English sentence embedded to a Twist Operator without resorting to any knowledge beyond its syntactic and lexical facts. To get to the extension of any of those sentences, however, would have to know the context of utterance, but this applies to all languages with indexicals, and, in fact, to all context-sensitive languages.

However, one could still argue that this does not really answer the objection: what if Botellita Spanish is not a possible human language? What if the Little Sherry Bottle game does not even belong to the sphere of natural language? The fact that the Mexican kids' game is different from what Szabó and Thomason consider to be a primary example of a noncompositional language constructed on the grounds of a compositional one does not necessarily mean that Botellita Spanish belongs to "the sort of languages that normal human beings can acquire under normal social conditions as first languages (2009, p. 62)." For it is not uncontended that Botellita Spanish requires prior competence with (normal) Spanish: to really play the game, to understand the rules of the Twist Operator, one needs to know how indexicals behave in normal, non-ludic conditions. Hence, are we not compelled to accept that the Little Sherry Monster is an artificial, unnatural parasite of natural Spanish? And would it not be also be a parasite was it added to English? Well, if one accepts

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[33] Cf. Szabó & Thomason 2019, p. 53.

[34] Note that a language which is not compositional cannot guarantee to preserve substitutivity since this principle is a consequence of compositionality. According to Szabó & Thomason: "if there is a function that maps the structure of the meaning of the ultimate constituents of a complex expression ϵ to the meaning of ϵ, then replacing one ultimate constituent with a synonymous constituent obviously can't affect the meaning of ϵ. (2009, p. 53)." So, it is clear that Baked Spanish violates substitutivity because it violates compositionality. On the other hand, it is not so obvious that the Twist Operator violates compositionality, at least not until one realises that it violates substitutivity.

Szabó's (2000) claims about compositionality being a law of possible human languages, then it follows that Twist is an unnatural creation and does not really threaten Kaplan's monster prohibition but rather enforces it. But what I dispute now is the assumption that Botellita Spanish could not be acquired by normal human beings under normal social conditions:

First, children (even those as savage as the Mexican variety) are evidently normal human beings. Second, I do not believe that language games or ludic linguistic contexts in general constitute abnormal social conditions, for even if the apparition of the Sherry Bottle monster most likely occurred due to the fertile environment produced by the social practice of Mexican *albur,* there is no reason to believe it cannot be transplanted into a language that lacks such social background; in fact, the presence of a similar principle or notion in languages as diverse as Estonian, English and Russian would only show that the characteristic social conditions of the Sherry Bottle monster are not necessary but merely contingent factors contributing to the development and sustenance of such a linguistic monster. Why would we have to think that engaging in a language-game constitutes by itself an unnatural linguistic practice? Such an arbitrary border between the natural and the non-natural aspects of our language calls for further justification.

Ultimately, one has to keep in mind that *the Twist monster was not begat by elegance but by spontaneous, natural (if only a bit childish) ingenuity*. This monster was not brought to life by sophisticated logicians exploring the expressive possibilities of an artificial linguistic model—as it seems to have been Kaplan's original preoccupation—but by normal, everyday speakers of a natural language. More importantly, it was begat by what I would consider the paradigm of natural language speakers: children. Therefore, if we accept that when it comes to ludic contexts, the distinction between a natural linguistic practice and a non-natural is at best a blurry one that allows for extra considerations, we are not compelled to discard the Little Sherry Bottle game for not being an authentic part of a natural language.

4. Conclusion: More Than a Children's Game

To sum it up, it is plausible to accept that the Little Sherry Bottle Operator is an indexical shifter that swaps the referents of 'I' and 'you'. *Prima facie* objections that pretend to dismiss it either as a

quotation device, an implicature trigger, a character shifter or an artificial linguistic practice all have been responded to. Furthermore, the rules of the game as well as the truth conditions of its operator make sense not only in the Spanish language but also in English. One can easily imagine how simple it would be to teach exactly the same game to English-speaking children, and by virtue of doing so, introduce a monster into the English language. Therefore, contradicting not only Kaplan's claim that there are no monsters, but most importantly, as it seems that it has not yet been done, his claim that they could not be added to English.

My conclusion then, is that if my argument is correct and the Twist Operator is after all a monstrosity, it seems that Kaplan was mistaken about his monster prohibition: there are real monsters awaiting out there and letting them into our language is just a child's game. Faced with this new world of monstrous possibilities, should we keep the monsters off, or should we be ready to rethink the relation between indexicals, character, content, and compositionality in the company of monsters?

Abstract

In his seminal work on demonstratives, Kaplan (1989) banned monsters from the realm of natural language semantics arguing that the English language does not contain operators that operate on linguistic character and, furthermore, that such operators could not be added to it. The first claim has been disputed since, giving rise to a monster hunt that led to the discovery of alleged monsters in a number of natural languages, and even to monstrous expressions in English. The second claim, however, seems to have been just implicitly answered by some of the responses to the first one. The goal of this brief paper is to offer a counterexample to that second assertion: the thesis that monsters could not be added to English. *I claim not only that there are monsters, but that we can introduce monsters into the English language.* Therefore, this is an essay about the possibility of implementing character operators into the English language. In order to do so, I first lay out a framework for a monstrous taxonomy. I then point to a very particular monster that terrorises children in Mexico, giving a superficial characterisation of it, and finally replying to some possible objections regarding its status as a real monster. The moral of this paper is that we only need a bit of wicked, child-like imagination in order to bring monsters to life in English.

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PLAYING WITH MONSTERS: CHARACTER OPERATORS IN NATURAL LANGUAGE

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