Genericity in event semantics: A look at Yoruba generic sentences¹

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Abstract. In this paper, I argue for a theory of genericity that is based on neo-Davidsonian event semantics (Parson 1990& 2000; Higginbotham, 2000; etc.). I argue that in generic sentences there are ontologically two sorts of things that have generic interpretation: individuals and eventualities. I distinguish broadly between three types of individual: kind individuals, generic individuals and concrete individuals. A distinction is made between particular events and generic events on the one hand; and between kind-level states, individual-level states, stage-level states and generic states on the other hand. I propose that only generic individuals truly require the presence of the Gen operator and that kind and concrete individuals are existentially closed with the logical form of kind individual involving a type-shifting operation. Also, I propose that generic events and generic states contain the generic predicate 'gen (e)' which turns concrete eventualities into generic ones and that the other types of eventuality also have their respective predicates that distinguish them from one another. Using this framework to account for genericity in Yoruba has two implications for current theories of genericity and event semantics. First, it is shown that Kimian states (Maienborn, 2007) in Yoruba have an E-position that the generic predicate (the imperfective) $m\acute{a}a-\acute{n}$ targets (contrary to expectation). Second, in some constructions $m\acute{a}a-\acute{n}$ is best treated as the operator Gen, suggesting that the so-called silent operator Gen is not always silent in Yoruba.

1. Introduction

My major concern in this paper is to propose a theory of genericity that is based on neo-Davidsonian event semantics (advanced in such works as Parson (1990& 2000)), and to account for how generic sentences are constructed in Yoruba, within the framework proposed. The motivation for this can be found in the distinctions in (1).

- (1) a. Dogs bark [(Generic dogs) (bark generically)]
 - b. Dogs are friendly [(generic dogs) (are friendly)
 - c. John smokes a lot [(an individual John) (smokes generically)]
 - d. It rains at night in Lagos (some event of raining occurs generically at night in Lagos)

According to Carlson (1989), a generic sentence is one that expresses a regularity. Ontologically, there are two things that can be regular or generic in a generic sentence (where generic sentences are taken to include habituals and reference to kind). These are entities (what I will later refer to as individuals), realized in the syntax as NPs/DPs, and eventualities, realized as VPs and their adjunctions in the syntax. These two can occur together in the same sentence as in (1a), but they can also occur independently as seen in (1b-d). Note that in (1b), a generic entity appears without a generic eventuality, whereas, in (1c), there is an individual entity and a generic eventuality. The most interesting of the examples in (1) is the case of (1d), which does not appear to have any entity but contains a generic event that is specified spatio-temporally.

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Assuming that the distinctions made in (1) are accurate, this paper argues that there are two sources of genericity that are supplied in the syntax which can be combined in a single clause, but which can also function independently as the foregoing examples have shown. I argue that a proper understanding of genericity requires a distinction between generic, kind and concrete individuals and between generic and non-generic eventualities. As a result, we can distinguish between entity-driven genericity and eventuality-driven genericity. This distinction is close to that made in Krifka et al (1995) between characterizing statements and reference to kind but defers in a number of ways that become clear in the remaining sections of this paper. Languages defer in what sort of NPs can be generic and what sort of predicates can be generic based on the configuration of the syntax. However, there are a number of cross-linguistic generalizations that can be made on the semantics of generic individuals and eventualities. For example, we can make a pre-theoretical assumption that all languages have generic individuals and eventualities as well as other kinds of individuals and eventualities, which are considered in subsequent sections.

The rest of this paper is organized as follows. I lay out a theoretical framework for genericity in event semantics in Sections 2 and 3. I then apply this to Yoruba generic sentences in Sections 4 and 5. I identify some preliminary advantages of the framework in section 6. The two most important conclusions in this section are that Kimian states in Yoruba do have an E-position and that the Operator Gen is pronounced in some constructions in the language. Section 7 concludes with a general summary of the paper.

2. Three ontological types of individuals (concrete, generic and kind)

In this section, I develop an ontological system that distinguishes between individuals that NPs and DPs refer to (where 'individual' is conceived as referring to different sort of things in the world that NPs or DPs refer to such as persons, animals, things, entities, etc.). I propose an ontological system that first recognizes the nature of things we talk about and then assess how we talk about them by looking at what part of the language manifests the different sorts of ontological distinctions we make. This is so as to avoid the restrictions that any sort of theories in this domain places on one while looking at a language like Yoruba, whose generic constructions have not been examined in much elaborate details as English.

There are quite a number of theories on NP/DP referencing in generic sentences. These include: uniform kind-referencing (Carlson, 1977 and others), neo-Carlsonian Approach (Chierchia, 1998 and others), the Ambiguity Hypothesis (Gerstner-Link and Krifka, 1993 and others), theory of incorporation (Frakas and de Swart, 2003 and others). For an elaborate description of the development of theories on this topic, see Mari et al. (2013). But works on NP/DP referencing that are directly relevant to the ontological distinction made below are those that address the distinction between specific and nonspecific NPs. Discussions of this distinction can be found in Baker (1973), Hawkins (1978) Fodo and Sag (1982) and Enc (1991). A common distinction often made between the two relates to the scope position of the NP. NPs that have narrow scope are generally taken to be nonspecific (a student in (2c)) while those that have wider scope are taken to be specific (a student in (2b)).

- (2) a. Every teacher in that school beat a student yesterday.
 - b. A student was such that all the teachers in that school beat him yesterday.
 - c. For each of the teachers in that school, there was a student they beat yesterday.

Another distinction that plays a major role in the ontology developed below can be found in Krifka et al. (1995). According to Mari et al. (2013:6), Carlson (i.e. 1977) was the first to propose an ontology for kind, distinguishing it from 'normal individuals' like John. This ontology is recognized and advanced in Krifka et al. (1995). The NP 'dinosaurs' in 'Dinosaurs are extinct' refers to the kind individual, 'dinosaur kind'. Krifka et al. (1995) also make a distinction between specific and non-specific NPs but this distinction was different from the traditional distinction that is based on the difference between (2b) and (2c). For them, a specific NP refers to a particular individual while a nonspecific NP does not refer to any specific individual in particular. In the following examples (Krifka et al. 1995:16), 'a dog' (3a) refers to a specific dog while 'a dog' (3b) refers to dogs in general.

(3) a. **A dog** is barking. b. **A dog** barks.

The result of the above discussion is that there is a conflict of terminology regarding what is a specific NP and what is not. Recognizing this conflict, Krifka et al. (1995:15) put their own classification on a purely pre-theoretical level. In what follows, I attempt to resolve this conflict in the categorization that I propose. Now let us consider what we have established up to this point. First, we have established, based on Carlson (1977), that there is such a thing as a kind individual distinct from ordinary individual. Making this distinction also makes us realize the existence of normal or ordinary individual, which is often referred to in the literature as specific individual (e.g. Krifka et al., 1995:15 and Pelletier, 2010:11). Two kinds of individuals are thus sufficiently recognized in the literature: kind individuals (e.g. dinosaurs in the example above) and specific individuals (a dog in (3a)). A general distinction that Carlson (1977:442) makes between kind individual (or kind-level individual) and specific (or normal) individual is that the former can be here and there while the latter is confined to a location at a given time. Using this diagnostic, we can posit that the individuals referred to in (2b), (2c) and (3a) are normal individuals (in the sense that we have been using the term 'normal'), while *dinosaur* refers to kind individual. However, the reference that the NP dogs in (3b) make is not as quite determinable using the kind-normal distinction above. It does not refer to a dog located at a particular location and time, and it does not refer to a kind the same way that dinosaurs does. This, therefore, forces us to recognize another kind of individual that is in a medial position between kind individual and normal individual: an individual which is not specific and is abstract like kind individual, but which is different from kind individual in that it accumulates its properties from generalizations about instances of a kind. I call this 'generic individual', and assume that it is this abstract individual that NPs like a dog in (3b) refer to. The idea of a generic individual is not unheard of. A similar idea can be found in the philosophy literature. Fine (1983), for instance, argued in defense of a long-standing idea about the concept of arbitrary objects which are distinguished from individual objects.

Let us now go back to the conflict of terminology identified above. In all of the examples above where we have identified specific or normal individuals, the common characteristic of all the NPs is that all of them refer to concrete instances which are located in time and space. For this reason and to escape the terminological problem associated with the specific-non-specific distinction, I will refer to this kind of individual as 'concrete individual' which can, therefore, be subdivided into different categories to account for the differences among (2b), (2c) and (3a). Consider the following as examples of the three kinds of ontological individuals that we have established so far:

(4) a. **Dogs** are everywhere.

[kind individual]

b. A dog barks. [generic individual]
c. A dog is barking. [concrete individual]
d. Everyone brought a dog each. [concrete individual]
e. The dog is barking. [concrete individual]
f. Jack barks at night. [concrete individual]

We can now examine each of these individuals one at a time. I start with concrete individuals. These individuals have nuances that make them distinct from one another. The difference we pointed out between (2b), (2c) and (3b) suggests strongly that we must be able to distinguish different kinds of concrete individuals in our system. At this point, we can recognize at least four types: specific, non-specific, definite and proper. This is illustrated as follows:

(5) a. A dog is barking.
b. Everyone brought a dog each.
c. The dog is barking.
d. Jack barks at night.
[concrete specific individual]
[concrete definite individual]
[concrete proper individual]

I assume that these types have the same general logical form which can be modified variously to account for the minor differences. For example, (5a), will have the following logical form, leaving out events for now: $\exists x [dog(x) \land barks(x)]$. To distinguish (5b) from (5a), all we have to do is appeal to scope position. To do the same for (5c), we can make use of the iota notation. For (5d), we might consider 'Jack' a referring expression (as in [barks(j)]) or a predicate that is bound by existential closure as it is the case in (5a-c). What will seem to be common to different types of concrete individuals is that they are bound by existential closure. There are a number of ways that we can account for the logical difference between these subtypes of concrete individuals. In most cases, I give them the standard neo-Davidsonian treatment.

Next, I consider the kind individual. According to the general assumptions of Carlson (1977), kind individuals are abstract individuals that may have actual instantiations. Since they are not concrete, they lack the kind of regular existential closure used for concrete individuals. There are broadly two ways in which we can implement the logical form of kind individuals. We can treat them as proper names with direct kind predication as in (6b); we can also assume that they involve variables with existential closure which are type-shifted into the kind individual. The latter way can be implemented in the various ways shown below (6c-e). I continue to leave events aside till the next section.

- (6) a. Dinosaurs are extinct
 - b. extinct (dinosaurs)
 - b. $\exists x [dinosaur_k(x) \land extinct(x)] (after Krifka et al 1995)$
 - c. $\exists x \ [\uparrow dinosaur (x) \land extinct (x)] (after Link 1995:382)$
 - d. $\exists x [\cup^{\cap} \text{dinosaur}(x) \land \text{extinct}(x)] \text{ (after Chierchia 1998)}$

Another way to implement (6) is to assume that there is a Gen operator, which binds a type-shifted variable that refers to the kind. I assume here that kind individual, as well as concrete individual, does not need the Gen operator and that it is only the generic individual that the Gen operator binds. This assumption is based on the following argument. I assume here that an inherent part of the concrete individual and the kind individual is that they are existentially identified in terms of ontology. For example, when we say *a dog is outside*, we can paraphrase this as 'there is something

in the world namely a dog that is outside'; likewise, when we say *dogs are widespread*, we can paraphrase this as 'there is some kind in the world namely the kind dog that is widespread'; it will be awkward, however, to paraphrase a statement like *dogs bark* as 'there are some individuals in the world namely some dogs that bark'. Generic individuals are not existentially closed at least not in the sense that concrete and kind individuals are.

One of the major assumptions of this paper is that there is a third kind of individual that is neither concrete nor is a kind individual. I identified this as the generic individual. Like kind individual, it is an abstract individual but it gets its own properties from generalizations about instances of a kind. Put differently, kind and generic individuals are different from concrete individuals in that they are not actual instances, but they defer from each other in that kinds are constructed from their instances (one can think of this in terms of type-shifting) while generic individuals are constructed from generalizations about these instances. I assume here that since they are based on rough generalizations about instances of a kind individual, they are bound by the unpronounced Gen operator as in the following: Dogs bark = Gen x $[dog(x) \rightarrow bark(x)]$.

My argument up to this point can be summarized as follows. There are three kinds of ontological individuals: kind, concrete and generic. These three have different logical forms. Concrete individuals are variables bound by existential closure; kind individuals are type-shifted variables bound by existential closure (which can also be treated as proper names), while generic individuals are variables bound by Gen. In the following section, I explore different types eventuality in natural language.

3. Eventualities

Davidsonian events semantics, starting with the work of Donald Davidson (Davidson, 1967), assumes that verbs of action and change in natural language have a hidden event argument now commonly referred to as the E-position (see Higginbotham, 1985:555). The idea is that, in addition to the other information encoded in verbs of action such as thematic roles, there is an event variable that is existentially closed. This idea has been extended in the neo-Davidsonian tradition (represented in such work as Parsons 1990 and 2000; Landman, 2000; Higginbotham, 2000, etc.) which assumes that all predicates, including statives, have the E-position. While this has been widely accepted in the literature, scholars such as Maienborne (e.g. Maienborn, 2007 and 2011) and Katz (e.g. Katz, 2000) have continued to argue for a Davidsonian view that only eventive predicates (Katz, 2000) and 'Davidonian states' like *sit* and *sleep* (Maienborn, 2007) have an E-position. Maienborn (2007), for example, demonstrates that a kind of state she describes as Kimian state, ontologically and linguistically, defers from eventive predicates and Davidsonian states in a number of ways, arguing that they lack the E-position.

For the purpose of space, I do not address this distinction between eventives and Kimian states or what Moltmann (2013) calls 'abstract states' in this section, but see Section 6 for the consequences that the framework advanced in this paper has for Kimian states. In the theoretical framework that I lay out shortly, I assume that all predicates have an E-position (I explore how this fact is born out in Yoruba in the next section). I also assume (following Parson, 1990) that there are three sorts of things that predicates generally encode: events, states, and process. I follow Bach (1986) and refer to these three entities with the label 'eventuality'. For the purpose of this paper, my focus is on events and states. First, I propose that there are different kinds of states and events with regard to their interaction with individuals, their duration and number of instances

across time and space. For example, states such *is extinct*, only apply to kind individuals, a state such *is hungry* is shorter induration than a state like *is intellegent*, while a particular event such as *smoked last night* has one instance whereas an event such as *smokes after dinner* has multiple instances. It is based on these facts that the following ontological distinctions are made. I start with events.

3.1 Events

The general tradition in event semantics is to think of events in concrete terms. Events are located in space and time. We can have multiple events such as e₁, e₂, etc.; we can also have subevent (e') commonly proposed for such constructions as resultatives and causative-inchoatives. What is not common is to think of events as having uncountable instances. But there are some events which cannot be given the description of a particular event and which seem to have multiple instances that are not countable. Consider the following:

- (7) a. Mary smoked at the party b. ∃e [smoking (e) ∧ ag (e, Mary) ∧ at_the_party (e)]
- (8) a. Mary smokes after dinner b. * ∃e [smoking (e) ∧ ag (e, Mary) ∧ after diner (e)]

While the interpretation in (7b) is accurate for (7a), ignoring tense and salience, (8b) does not give an accurate interpretation of (8a) for the reason that (8b) suggests that there is a concrete event which took place at a certain time but which does not take place with some regularity. This is against the meaning of (8a). Although (8a) can be given the standard analysis in the following way: GEN [x,s] (x = Mary & smoke (x. s); after.dinner (s)) (Krifka, 1995:238), the question is: can event semantics handle the regularity that is associated with some events such as the one in (8a)? To answer this question, I first propose that there are two types of events. These are particular/concrete events and generic events. This particular distinction can be found in the work of Montague (Montague, 1969) as reported in Pianesi and Achille (2013). According to them, Montague distinguished between *sun rises* which he called generic event and *sun rose yesterday* which he termed particular events. For him, generic events are a kind of property and particular events are instantiations of generic events. Montague's theory is metaphysical however, and its major assumption is that particular events are derived from generic events. In the system that I advocate in this paper, generic events are derived from particular events with an addition of a predicate. My own distinction between generic and particular events, therefore, is purely linguistic and ontological rather than broadly metaphysical. Let us start by observing the following:

- (9) There are ontologically two kinds of events in natural language:
 - a. Particular events with countable instances
 - b. Generic events with uncountable instances

I define particular events here as a kind of event that is located in a specific time and location, and does not express any form of regularity. I also assume that they have single instances. Of course, they can be distributive as in *John buttered three loafs of bread*, and have subevents, but they generally lack the property of having uncountable instances. A generic event, on the other hand, is an event which expresses some regularity. A generic event is true only when there is some regularity involved and it is not the case that it has definite instances. For instance, in the event in the expression *Africans drink palmwine*, it is hard to think of how many instances this event *drink* has. To formalize this regularity in the neo-Davidsonian framework, I propose that all events have an additional predicate which is either concrete (10a) or generic (10b).

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(10) a. [[concrete]] \langle v, et \rangle = \lambda P \lambda e [P(e) \wedge con(e)] b. [[generic]] \langle v, et \rangle = \lambda P \lambda e [P(e) \wedge gen(e)]
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When (10b) is applied to a standard neo-Davidsonian event, it turns such an event into one that occurs with some regularity and allows for counterfactuals, whereas when (10a) is applied to an event, it indicates that the event has a concrete instance. The distinction between (7a) and (8a) can now be handled as in (11a&b) respectively.

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    (11) a. [λPλe [P (e) ∧ con (e)]] (∃e [smoke (e) ∧ ag (e, mary) ∧ at_the_party (e)]) = ∃e [smoke (e) ∧ con (e) ∧ ag (e, mary) ∧ at_the_party (e)]
    b. [λPλe [P (e) ∧ gen (e)]] (∃e [smoke (e) ∧ ag (e, mary) ∧ after_dinner (e)]) = ∃e [smoke (e) ∧ gen (e) ∧ ag (e, mary) ∧ after_dinner (e)]
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This derivation defers from the standard treatment of events only with the introduction of the generic predicate. Introducing a new predicate is not uncommon in the event semantics literature. Parson (1990:28) for example, uses **Cul** and **Hold** to account for tense and aspect; **gen/con** is no less a predicate accounting for a functional category. Summarily, what distinguishes concrete events from generic events is the generic/concrete predicate.

3.2 States

Four distinct types of states can be identified in terms of duration, number of instances and the kind of individual that can be their argument. Let us start with (12):

(12) Four ontological kinds of states can be identified:

a. kind-level stateb. stage-level statec. individual-level stated. generic state

Kind-level states are a kind of state that only takes a kind individual as a theme. For example, is extinct is a state that can only be true of the kind the dinosaur. I borrow Carlson's (1977) terminology of individual-stage-level predicates and distinguish between stage-level states and individual-level states. A stage-level state is one which applies to stages of an individual; this is tantamount to what one might regard as temporary state. Is hungry is an example of stage-level states. An individual-level state applies to each and every stage of an individual. This is what one might consider a permanent state. An example of this is is brave. Generic state is a kind of state that comes with some regularity and has multiple instances that are not definite. An example of this is is always hungry. This is neither a pure stage-level state nor an individual-level state. It is a state that is scattered among the stages of an individual and does not apply to each and every stage of such individual. I assume that the mechanism in (10) is applicable to the categories in (12), and use the predicate kind-l (s) for kind-level states, stage-l (s) for stage-level states and ind-l (s) for individual-level states. But for the sake of space, these predicates, and the 'con (e)' predicate are not indicated in the notations in subsequent sections. The predicate 'gen (s)' for generic state and 'gen (e)', however, are indicated, since they are the focus of the paper. To make the distinction between the four types of state identified above clearer, consider the following examples:

```
(13) a. Dinosaurs are extinct
b. ∃s [being_extinct (s) ∧ kind-l (s) ∧ th (s, ↑dinosaurs)] kind-level state
(14) a. John is hungry.
b. ∃s [being hungry (s) ∧ stage-l (s) ∧ th (s, john)] stage-level
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(15) a. John is clever.
b. ∃s [being_clever (s) ∧ ind-l (s) ∧ th (s, john)] individual-level
(16) a. John is always hungry.
b. ∃s [being_hungry (s) ∧ gen (s) ∧ th (s, john)] generic
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The reader might find it unusual that the adverb of quantification *always* in (16a) has been reduced to a predicate in (16b), given that it is often treated as an operator. In the next section, I show that Yoruba treats both generic state and event the same, so that (16a) is expressed with the same grammatical means that generic events are expressed with. In the next section, I provide an account of how the various types of eventualities I have identified above are realized in Yoruba, with a focus on generic events and states.

4. Generic eventualities in Yoruba

Let us start with non-generic eventualities. These eventualities have the common characteristic that they are realized in the syntax with simple predication. No additional particle or marker is needed to express them. Generic events and states, on the other hand, are explicitly marked in the language. A generic eventuality is generally marked with the imperfective marker $m\acute{a}a-\acute{n}$. This marker has the function of taking particular events and turning them to events with indefinite instances. This is exactly what the **gen** predicate (proposed in the previous section) do. Let us give the logical form of (17a) as in (17b) and the logical form of $m\acute{a}a-\acute{n}$ as in (18). If (18) is applied to (17b) as in (19b), the result is (19c).

```
(17) a. Bǫlá je ewé
Bǫlá eat leaf
'Bǫlá ate leaves.'
b. ∃e [eating (e) ∧ ag (e, bǫlá) ∧ th (e, leaf)]
(18) [[máa-ń]] = [[generic]] ⟨v,et⟩ = [λPλe [P (e) ∧ gen (e)]]
(19) a. Bǫlá máa-ń je ewé ('Bǫlá eats leaves (habitually'))
b. [λPλe [P (e) ∧ gen (e)]] (∃e [eating (e) ∧ ag (e, b) ∧ th (e, leaf)])
c. ∃e [eating (e) ∧ gen (e) ∧ ag (e, bǫlá) ∧ th (e, leaf)]
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While (17b) states that there is a particular one-instance event of eating leaves that has Bólá as an agent, (19c) states that there is an indefinite multiple-instance event of eating leaves that has Bólá as an agent. The implication of (18) therefore is that the category of events that was identified as generic event in the previous section not only has an ontological support but also a linguistic support in Yoruba. Next, let us consider the case of generic state.

Linguistic support for the category of generic state is not readily available in English since what corresponds to $m\acute{a}a-\acute{n}$ is not phonologically available. But this support is found in Yoruba. Generic states, just like generic events, are constructed from particular states (stage-level states in most cases) by using $m\acute{a}a-\acute{n}$ (the generic predicate). Consider the following:

```
(20) a. Bólá
                  wà
                         ní
                                 ilé
                                        otí
       Bólá
                  exist
                                house alcohol
                         in
       'Bólá is/was at the bar.'
    b. Bólá
                         máa-ń wà
                                        ní
                                               ilé
                                                       otí
       Bólá
                         gen
                                exist in
                                               house alcohol
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'Bólá is/was at the bar in multiple indefinite instances (habitually).' c. ∃s [being-in-the-bar (s) ∧ gen (s) ∧ th (s, bólá)]
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(20c) which is the logical form of (20b) states that there is a generic state of being at the bar whose theme is $b\phi l\dot{a}$. Note that the generic state in (20b) can also be expressed in English as 'Bola is always at the bar'. But this cannot give the accurate information that is expressed in this sentence, because (20b) does not contain anything that corresponds to adverb of quantification. It only states that there are multiple occasions of Bola being at the bar, and does not specify whether this is usually, seldom or always. To do that, prepositional constructions that correspond to English adverb of quantification (e.g. $ni \dot{e}\dot{e}k\dot{o}\dot{o}kan$ 'sometimes/seldom', $ni \dot{o}p\dot{o}\dot{i}gb\dot{a}$ 'often/usually/ in most cases', etc.) will have to be used. The consequent intuition, therefore, is that $m\dot{a}a-\dot{n}$ is a true generic predicate that modifies an eventuality variable to give it the property of having multiple instances whose exact number is not specified. Let us note here that our generic predicate can reduce to a clitic in some constructions. Some examples of this are presented as follows:

```
(21) a. Bólá
                  kìí
                                mu
                                       otí
      Bólá
                 NEG.gen
                                drink bear
       'Bólá doesn't drink bear (habitually).'
    b. Gbígbó
                  ni
                         aiáá
                                       gbó
       barking
                  FOC
                         dog.gen
                                       bark
       'BARKING is what dogs do (generically/habitually)'
    c. Ewúré
                  kìí
                                gbó
       Goat
                  NEG.gen
                                bark
       'Goats don't bark.'
    d. Ajá
                  níí
                                gbó
      dog
                  FOC.gen
                                bark
      'DOGS bark generically/ It is dogs that bark generically/ habitually.'
```

In all of the examples above, the generic predicate $m\acute{a}a-\acute{n}$ reduces to a clitic $\acute{\iota}$, whose surface representation is determined by phonological processes that I do not address here. In the next section, I consider how the different categories of eventuality that we have identified and exemplified interact with different kinds of individuals in Yoruba.

5. Concrete, generic and kind individuals in Yoruba

There are only two forms of NP in Yoruba that make reference to kind individuals and generic individuals. These are what I refer to in this paper as Bare NPs (BNPs) like *ajá* 'dog', *ewúré* 'goat', etc., and Plural NPs (PNPs) such as *àwon ajá* 'dogs', *àwon ewúré* 'goats', etc. These two forms can also make reference to the different kinds of concrete individuals identified in Section 2. The starting point then is to assume that these two forms are ambiguous between reference to kind, generic and concrete individuals. What determines which individuals they refer to is the type of eventuality in which they are serving as argument and the nature of the second argument in the eventuality. Let us start with the kind individual. The two forms are interpreted as kind individuals when they serve as a theme of a kind-level state (henceforth, K-state) as shown in (22Aa). But only the BNP yields kind interpretation with individual-level sate (henceforth, I-state) as in (22Ba); PNP is odd in this context. Also, when both forms are a theme of an I-state with an experiencer (see footnote 2), kind interpretation is obtained as in (22Ca). Generic interpretation of BNP is also obtained in deontic modality even when the eventuality is a particular event as shown in (22Da).

In this latter case, it is assumed that the deontic modality turns a concrete event into a state (property) which can be predicated of a kind as shown in (22Db). This property can then be inherited by members of the kind in appropriate worlds.

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(22) A. BNP/PNP as theme of K-state \rightarrow kind individual
                                       káàkiri
       a. (Awon) Ajá
                              wà
            (PL) Dog
                              be
                                       everywhere
           'Dogs are everywhere.'
       b. \exists s [being-everywhere (s) \land th (s, \uparrowdog)]
    B. BNP as theme of I-state \rightarrow kind individual
        a. Ewúré ní
                              èjè
           Goat
                     have
                              blood
            'Goats have blood.'
        b. \exists s [having-blood (s) \land th (s, \uparrow goat)]
    C. BNP/PNP as theme of K-state with an experiencer<sup>2</sup> \rightarrow kind individual
        a. Bólá
                     féràn (àwon) omodé
           Bólá
                     like
                              (PL)
                                       child
           'Bólá loves children.'
        b. \exists s [loving (s) \land exp (s, bolá) \land th (s, \uparrow child)]
    D. BNP as an agent of particular event in deontic modality \rightarrow kind individual
        a. Ayékòótó
                              1è
                                       korin
           Parrot
                              can
                                       sing
           'A parrot can sing'
        b. \lambda w \exists e [singing (e) \land \exists s [able-to-be-agent-of-'e' (s) \land th (s, \uparrow parrot) \land in (s, w)]]
```

Next, I consider how concrete individual interpretation is obtained from both forms. Both are interpreted as concrete individuals when they are either an agent or a theme of a particular event (henceforth, P-event) as in (23Aa). They are also interpreted as concrete individuals when they are an agent (23Ba) or a theme (23Ca) of a generic event (henceforth, G-event) that has a concrete individual argument.

```
(23) A. BNP/PNP as an agent or theme of P-event \rightarrow concrete individual
```

```
a. (Awon) ajá je egungun
(PL) dog eat bone
```

'A/the dog/ the dogs ate a piece (some pieces) of bone.'

b. $\exists e [eating (e) \land ag (e, dog) \land th (e, bone)]$

B. BNP/PNP as an agent of G-event with concrete individual theme \rightarrow concrete individual

```
a. (Àwọn) ajá maa-n lé Bộlá
(PL) dog gen chase Bólá
```

'A certain dog or some certain dogs chase Bolá in indefinite occasions'

b. $\exists e [chasing (e) \land gen (e) \land ag (e, dog) \land th (e, bola)]$

C. BNP/PNP as a theme of G-event with concrete individual agent → concrete individual

```
a. Bólá maa-n lé (àwon) ajá
Bólá gen chase (PL) dog
```

² I use the term 'experiencer' to refer to the individual who is aware of a stimulus (following Hilpert, 2014:27). The term is used here to distinguish between the arguments of verbs like *love*. For example, in *Jane loves dogs*, *Jane* is the experiencer and *dogs* is the theme. I use the notation 'exp' to signify the term 'experiencer' in logical forms.

```
'Bólá chases a certain dog or some certain dogs in indefinite occasions'
b. ∃e [chasing (e) ∧ gen (e) ∧ ag (e, bólá) ∧ th (e, dog)]
```

Concrete individual interpretation is also obtained when BNPs and PNPs serve as the theme of a stage-level state (henceforth, S-state) as in (24Aa) and as the experiencer of an I-state with concrete individual theme as in (24Ba). They are also interpreted as concrete individuals when they are an experiencer in a generic state (henceforth, G-state) that has a concrete individual argument as in (24Ca) or when they are a theme of a G-state with a concrete individual experiencer as in (24Da).

```
(24) A. BNP/PNP as a theme of S-state → concrete individual
```

```
a. (Awon) ajá dáké
```

(PL) dog be.silent

'The dog(s) are silent or the dog(s) became silent.'

- b. $\exists s [being-silent(s) \land th(s, dog)]$
- B. BNP/PNP as an experiencer of S-state with concrete individual theme \rightarrow concrete individual

```
a. (Àwon) ajá féràn mi
```

(PL) dog like 1SG

'The dog(s) like me.'

- b. $\exists s [$ **liking** (s) \land **exp** (s, dog) \land **th** (s, **me**)]
- C. BNP/PNP as an experiencer of G-state with concrete individual theme \rightarrow concrete individual
 - a. (Àwọn) ajá máa-ń féràn mi
 - (PL) dog gen like 1SG
 - 'A dog/ some dogs like me in indefinite number of occasions'
 - b. $\exists s [liking (s) \land gen (s) \land exp (s, dog) \land th (s, me)]$
- D. BNP/PNP as a theme of G-state with concrete individual experiencer \rightarrow concrete individual
 - a. Mo máa-ń féràn (àwọn) ajá pupa 1SG **gen** like (PL) dog red
 - 'I like red dog(s) in indefinite number of occasions'
 - b. $\exists s [liking (s) \land gen (s) \land exp (s, I) \land th (s, dog)]$

A generalization that can be observed with regard to the interpretation of BNPs and PNPs as concrete individuals is that they require an aspect of a proposition to be concrete or to be located in time and/or place. That is, they require that either the eventuality is particular or that there be a second argument that is particular (concrete). For instance, we see in (23) and (24), that concrete-individual interpretation is tied to P-events (23Aa), S-state (24Aa), and the requirement that the second argument has a concrete-individual interpretation (23Ba, 23Ca, 24Ba, 24Ca and 24Da). It should be noted as well that there are different types of concrete individual in (23) and (24). For instance, *ajá* 'dog' and *egungun* bone in (23Aa) refer to concrete specific individuals, *ajá* 'dog' and *àwọn ajá* 'dogs' in (23Ba, 23Ca, 24Ca and 24Da) refer to non-specific individual, *ajá* 'dog' and *àwọn ajá* 'dogs' in (24Aa) and (24Ba) refer to concrete definite individual, while *Bólá* in (23Ba) refers to a concrete proper individual. Next, consider how generic-individual interpretation is obtained.

Let us start by observing that, generally, only BNPs are naturally interpreted as generic individual; PNPs either yield existential interpretation or are generally odd. One peculiar characteristic of interpreting BNPs as generic individuals is that they occur in generic eventualities. However, it should be noted that things are not as quite straightforward with this observation, as there are some of these eventualities that superficially appear as generic but are best analyzed as non-generic. The starting point then is to make the distinction between true generic eventualities in this regard and superficial generic eventualities and then see how the BNPs figure. Examples of true generic eventualities that yield generic interpretation of BNPs is given in (25). (25Aa) shows how BNPs are interpreted as generic in G-event with no theme while (25Ba) shows how they are interpreted as generic in G-event with concrete non-specific theme.

```
(25) A. BNP as an agent of G-event with no theme \rightarrow generic individual
          a. Ajá
                          máa-ń gbó
             Dog
                          gen
                                    bark
              'Dogs bark.'
           b. Gen x \lceil \mathbf{dog}(x) \rightarrow \exists e \lceil \mathbf{barking}(e) \land \mathbf{gen}(e) \land \mathbf{ag}(e, x) \rceil \rceil
      B. BNP as an agent of G-event with concrete non-specific theme \rightarrow generic individual
          a. Ajá
                          máa-ń je
                                               egungun
             Dog
                                               bone
                          gen
                                    eat
              'Dogs eat bones.'
          b. Gen x [\mathbf{dog}(x) \rightarrow \exists e [\mathbf{eating}(e) \land \mathbf{gen}(e) \land \mathbf{ag}(e, x) \land \mathbf{th}(e, \mathbf{bone})]]
```

What (25) basically shows is that when BNPs occur in generic eventualities, they are interpreted generically. The source of their generic interpretation can then be located in those generic eventualities. However, note that (25Ab) and (35Bb) defers from the standard Gen approach in two respects: first, the verbal predicate is interpreted as event and this event is taken to be generic; second, the generic interpretation of the NP is said to be tied to the genericity of the eventuality. As such, (25Ab) states that generally for dogs there is some generic event of barking that they do, while (25Bb) states that generally for dogs there is some generic event of eating concrete (non-specific individual) bones that they do. Next, consider the superficial generic eventualities that also yield generic interpretation for BNPs:

```
(26) A. BNP as an experiencer of superficial G-state with kind theme \rightarrow generic individual
       a. Ajá
                  máa-ń féràn egungun
         Dog
                  gen
                          like
                                 bone
          'Dogs eat bone.'
     B. BNP as an experiencer of superficial G-state with concrete non-specific theme \rightarrow
   generic individual
       a. Ewúré máa-ń ní
                                 ìwo
                          have
                                 horn
         Goat
                  gen
          'Goats have horn'
   C. BNP as a theme of superficial G-state \rightarrow generic individual
       a. Mààlû
                  máa-ń tóbi
         Cow
                          be.big
                  gen
```

We can go ahead and give (26Aa, Ba and Ca) the same kind of treatment as before, so that their logical forms are as in (27a-c) respectively. But this will be counter-intuitive as argued below.

'Cows are big.'

```
(27) a. Gen x [dog (x) \rightarrow \exists s [liking (s) \land gen (s) \land exp (s, x) \land th (s, bone)]]
b. Gen x [goat (x) \rightarrow \exists s [having (s) \land gen (s) \land exp (s, x) \land th (s, horn)]]
c. Gen x [cow (x) \rightarrow \exists s [being-big (s) \land gen (s) \land th (s, x)]]
```

(27) states, wrongly, that some generic individuals undergo an I-state in an indefinite number of occasion. For instance, (27c) states that generally for cows, there is some state of being big that each of them experiences in an indefinite number of occasions. This is contrary to the meaning of (26Ca) which only says that there is an indefinite number of occasions where each given cow is big. To resolve this mismatch, we have to do away with the generic predicate in (27) and treat the eventualities therein as I-states rather than G-states constructed from I-states. The implication of this then is that the source of generic interpretation for the BNPs in the examples in (26) cannot be located within the eventualities but must be from a different source in those sentences.

The most available intuition is that, if the generic interpretation of the BNPs cannot be due to the eventualities in those sentences, then it must be due to the imperfective marker $m\acute{a}a-\acute{n}$, which has been argued above to be the generic predicate that takes particular eventualities and turns them to generic ones. The case of the examples in (26) is different. As it has just been argued, $m\acute{a}a-\acute{n}$ does not turn the eventualities in those sentences to generic eventualities; what it does rather is to ensure that the BNPs in those sentences are interpreted generically. In other words, the generic interpretation of those BNPs is due to $m\acute{a}a-\acute{n}$. If this observation is in the right direction, then $m\acute{a}a-\acute{n}$ does not serve as the generic predicate in those sentences, but as an operator that binds the variables supplied by the BNPs. From this viewpoint, $m\acute{a}a-\acute{n}$ in (26), therefore, has a semantics that is very close to or the same as that given to the generic operator, Gen. We can then posit that $m\acute{a}a-\acute{n}$ has two denotations (logical forms), one where it is a predicate (18 repeated in 28a) and the other where it is an operator (28b):

```
(28) a. [[máa-ń]] = [[generic]] \langle v, et \rangle = [\lambda P \lambda e [P (e) \wedge \mathbf{gen} (e)]]
b. [[máa-ń]] = [[Gen]] \langle e, t \rangle = \lambda P \lambda Q \text{ Gen } x [P (x) \rightarrow \exists e/s [Q(e/s) \wedge \mathbf{ag/th} (e/s, x)]]
```

Let us demonstrate (28b) with the example in (26Ba) given as (29b) below. Recall that BNPs that serve as a theme/experiencer of an I-state are interpreted as kind individuals (see 22B). Without the imperfective marker $m\acute{a}a-\acute{n}$, the BNP in (36Ba) is interpreted as a kind individual as in (29a). Consider the following:

```
(29) a. Ewúré ní ìwo = ∃s [having-horn (s) ∧ exp (s, ↑goat)] = kind individual b. Ewúré máa-ń ní ìwo=
c. Máa-ń<sub>x</sub> [Ewúré<sub>x</sub> ní ìwo] =
d. Gen<sub>x</sub> [Ewúré<sub>x</sub> ní ìwo] =
e. Gen x [ ewúré (x) → ∃s [ níní (s) ∧ exp (s, x) ∧ th (s, ìwo)]] =
f. Gen x [ goat (x) → ∃s [ having (s) ∧ exp (s, x) ∧ th (s, horn)]]
```

(29 b-f) demonstrates the compositional derivation for $m\acute{a}a-\acute{n}$ as an operator. (29c) demonstrates that $m\acute{a}a-\acute{n}$ specifically targets a variable that is supplied by the BNP. The other examples in (26) has to be given the same logical form in (29f) where there is no generic predicate, but rather a generic operator that is phonologically available.

If (28b) is correct and the derivation for $m\acute{a}a-\acute{n}$ in (29 b-f) is accurate, then it follows that the so-called silent operator Gen, may not be silent in some languages and some contexts after all. The

discussion above has shown that, while it is silent in some constructions as in the examples in (25) where its presence is due to the nature of the eventuality, it has a pronounced counterpart in other constructions, as demonstrated by the examples in (26). The implication, therefore, is that Yoruba provides an empirical support for the so-called Gen operator.

A generalization that can be taken from the discussion so far is that BNPs are naturally interpreted as abstract individual (kind or generic) while PNPs naturally have an existential interpretation of concrete individuals. It was shown that PNPs are possible as kind individuals but this is rather far restricted. The fact that PNPs are generally odd as generic individuals also suggest that PNPs are naturally existential and that their interpretation as kind individual is rather due to a type-shifting operation whose source can be located in the eventuality. Existential interpretation of BNPs can also be explained away by a type-shifting operation that is occasioned by the eventuality. This type-shifting operation might be reminiscent of Carson's theory, but I am not committed to that theory. I have only employed this conceptualization ad hoc to put the general distribution of these two forms of Yoruba NPs in proper perspective.

6. Some preliminary advantages

The most important advantage of the theoretical framework proposed in this paper is the freedom it allows for one to look at genericity in a language like Yoruba that has not been robustly researched in this area. I was able to account for genericity in Yoruba without having to commit to any specific theory of genericity whose limitations could have hindered exploratory pursuits. The framework also has cross-linguistic applicability. For languages whose generic sentences have not be researched before, the framework provides a guideline that can be adapted variously to account for generic sentences. This is possible because of the various ontological predictions that the framework makes. This includes that there are three ontological individuals that natural language distinguishes and that eventualities can be concrete (particular) and generic (non-particular). It would be expected that, to make these ontological distinctions, a language might have cross-linguistically available means or means peculiar to its grammar.

The framework is also able to account for not only subject arguments but also object arguments in terms of generic-kind-existential interpretation. Most theories of genericity concentrate on subject arguments (see Mari et al., 2013:2), but it seems that we need to be able to account for object arguments as well to have a more elaborate understanding of the nature of genericity in natural language. The fact that this framework is able to account for both subject and object arguments makes it possible, for instance, to account for grammatically conditioned genericity in Yoruba which can be found in the syntactic account of Ajiboye (2005). As we have seen in the previous sections, sometimes, generic-kind-existential interpretation of an NP may be conditioned by the nature of the second argument. Using events semantics makes it possible to account for this fact.

This framework also avoids recourse to pragmatics, as is often the case in the standard Gen approach, where a situation variable is said to be bound in the restriction of Gen for some sentences that do not readily conform to the logical form of Gen. For instance, (1d) repeated in (30a) will be given a logical form like that in (30b). According to the proposals of this framework, a more elegant way of stating the logical form of (30a) will be (30c).

(30) a. It rains at night in Lagos

```
b. Gen s [s is a situation appropriate for raining in Lagos \rightarrow it rains] c. \existse [raining (e) \land gen (e) \land at (e, night) \land in (e, lagos)]
```

(30c) does not specify more than what is present compositionally in (30a). Since there is no generic individual in (30a), there is no need for the Gen operator. This is consistent with the assumption of the framework that only generic individuals are bound by the Gen operator.

Another significance of this framework is in the fact that it makes some predictions that may have bearing on current issues in event semantics. Maienborn's theory of statives and copula + adjectives (Maienborn, 2004, 2005 and 2007) states that statives and copula + adjective are Kimian states that lack Davidsonian event argument. If this assumption were true for Yoruba, then there would be nothing we can refer to as generic state. But as the discussion above has shown there is indeed a generic state in the language. Let us consider this here again:

```
(31) a. Ade bínú b. Adé máa-ń bínú
Ade be.angry Ade gen be.angry
'Ade was angry.' 'Ade is generically angry.'
```

First, note that (31b) is not available in English. The closest we can get in English is 'Ade is usually angry', but as I have mentioned earlier, this does not accurately represent the meaning of sentences like (31b) in that it does not contain any prepositional phrase that are equivalent to English adverb of quantification. (31b) only states that Ade is angry in multiple number of occasions that is not definite just as 'Mary smokes' indicates that Mary smokes in an indefinite number of occasions. According to Maienborn's theory, (31b) should not be possible since binú 'be.angry' would lack a Davidsonian event argument. Our generic predicate máa-ń would therefore have no event argument to turn to generic. My argument here is that since Yoruba treats both regular events and Kimian states (like the one in (31)) the same by using $m\acute{a}a-\acute{n}$ (the generic predicate) to turn them from particular eventualities to generic eventualities, generic states have an ontological as well as an empirical basis. This fact therefore suggests that there may be languages where it can be shown that Kimian states do have a hidden event argument. If my assumptions are correct, Yoruba will be one of those languages. Adopting this framework also led to a situation where the only viable logical form that can be given to $m\acute{a}a-\acute{n}$ is the same as the logical form of the Gen operator (see (29) above), thereby suggesting ambitiously that the Gen operator is indeed pronounced in some constructions in Yoruba.

Finally, the framework is able to handle issues relating to focus and ambiguity. Both individuals and eventualities can be put in focus. The mechanism developed here can be implemented variously to account for each case. (21b) repeated below as (32a) and (21d) repeated below as (33a), demonstrate respectively how Yoruba grammatically puts generic eventualities and individuals in focus. Both sentences express the same idea; the difference is in what is put in focus. This difference is reflected in the logical forms in (42b) and (43b).

```
(32) a. Gbígbó
                    ni
                            ajáá
                                            gbó
                   FOC
                           dog.gen
                                            bark
       barking
        'BARKING is what dogs do (generically/habitually)'
     b. \exists e [barking (e) \land gen (e) \land Gen x [dog (x) \rightarrow ag (e, x)]]
(33) a. Ajá
                    níí
                                    gbó
       dog
                   FOC.gen
                                    bark
```

```
'DOGS bark generically/ It is dogs that bark generically or habitually.' b. Gen x [\mathbf{dog}(x) \land \exists e [\mathbf{barking}(e) \land \mathbf{gen}(e) \rightarrow \mathbf{ag}(e, x)]])
```

We can illustrate how the framework handles ambiguity with the popular example 'Typhoons arise in this part of the Pacific'. The two popular readings associated with this sentence can be given as follows:

```
(34) a. Gen x [typhoon (x) → ∃e [arising (e) ∧ gen (e) ∧ ag (e, x) ∧ in (e, this_part of_the_pacific]]
b. ∃x [this_part of_the_pacific (x) ∧ ∃e [arising (e) ∧ gen (e) ∧ ∃y [typhoon (y) ∧ ag (e, y)] ∧ in (e, x)]])
```

The basic difference between the logical forms in (34) is that one contains both generic individual and generic eventuality (34a) while the other contains generic eventuality and concrete individual. (34a) states that the generic individual 'typhoons' is such that it generically occurs in this part of the pacific, while (34b) states that this part of the pacific is such that some generic event of arising whose agent is concrete individual 'typhoons' occurs in it. Again, since (34b) does not contain a generic individual, Gen is not necessary. This also supports the idea that only generic individuals require the binding of the Gen operator. Summarily, to account for the ambiguity of 'Typhoons arise in this part of the pacific', we can simply say that it has a reading which contains both generic individual and generic eventuality and another reading which contains only generic eventuality and additionally a concrete individual.

7. Conclusion

The overarching claim of this paper has been that in the kind of sentence that we regard as generic, two different sorts of things have generic interpretation. These are individuals and eventualities. This was demonstrated by pointing out that a sentence may contain both generic individual and generic eventuality but that both can occur without the other, thereby suggesting that this distinction is ontologically grounded. In other words, an ontologically grounded distinction was made between individual (entity)-driven genericity and eventuality-driven genericity. The classification of individuals into different categories in the system resolves the conflict of terminology that revolves around specific and non-specific NPs. But perhaps the most notable proposal in this part of the system is that there is a generic individual which is distinct from kind individual and concrete (normal) individual. The distinction made between particular (concrete) and generic eventualities also appears to be conceptually and empirically supported. It was shown that Yoruba makes this clear distinction and that this distinction determines how noun phrases in the language are interpreted. Using this framework that is grounded in neo-Davidsonian event semantics to describe Yoruba generic sentences led to two major issues that border on current theories of genericity and event semantics. First, it was suggested that there is evidence in Yoruba that Kimian states do have the E-position which the generic predicate máa-ń applies to. Second, it was shown that the most intuitive treatment of $m\acute{a}a-\acute{n}$ in certain constructions in the language is to give it the semantics of the Gen operator, thereby suggesting that Gen is not silent in all contexts in Yoruba after all. Adopting the framework also provides the opportunity to avoid recourse to pragmatics and an avenue to account for not only the subject argument of generic sentences but also the object ones. The general prediction that the theoretical framework in this paper makes is that the different kinds of individuals and eventualities that are identified are present crosslinguistically and that each language may have its own grammatical ways (which may be crosslinguistic) of expressing them. Further research will do well to test some of the predictions and refine the system advanced here accordingly.

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