Genericity in event semantics: A look at Yoruba generic sentences[1]

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Abstract. I propose a theory of genericity that is grounded in neo-Davidsonian event semantics (Parsons 1990, 2000; Higginbotham, 2000; etc.). 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 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. When this framework is applied to genericity in Yoruba, it is shown first that Kimian states (Maienborn, 2007) in Yoruba have an E-position that the generic predicate (the imperfective) *máa-ń* targets (contrary to expectation), and second that in some constructions *máa-ń* is best treated as an overt realization of the operator Gen.

1 Introduction

My major concern in this paper is to propose a theory of genericity based on neo-Davidsonian event semantics (advanced in such works as Parsons (1990, 2000)), and to account for generic sentences in Yoruba. The main motivation for this proposal is based on 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), generic sentences express regularities. Both entities (individuals) and eventualities (syntactically realized as VPs and their adjunctions) can be regular or generic in a generic sentence (where generic sentences are taken to include habituals and reference to kind). Generic entities and eventualities can occur together as in (1a) and independently as in (1b-d).

Assuming that the distinctions made in (1) are accurate, this paper argues for two sources of genericity in the syntax which can both be combined in a single clause as well as function independently as shown in (1). 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-

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driven genericity. This distinction is close to Krifka et al's. (1995) distinction between characterizing statements and reference to kind but differs in a number of ways that become clear below. Languages differ in what sorts of NPs and 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 below.

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.

2 Three ontological types of individuals

The many theories of NP/DP referencing in generic sentences 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 (Farkas 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) Fodor and Sag (1982) and Enç (1991). A common distinction between the two relates to the scope of the NP. NPs with narrow scope are generally taken to be nonspecific (*a student* in (2c)) while those with 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.

Proceedings of TripleA 4, 48-64
Edited by Elizabeth Bogal-Allbritten and Elizabeth Coppock

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 they 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, then, be subdivided into different categories to account for the differences among (2b), (2c) and (3a). Consider the following examples of the three kinds of ontological individuals established so far:

(4) a. **Dogs** are everywhere. [kind indiv.] b. **A dog** barks. [generic indiv.]
c. **A dog** is barking. [concrete indiv.] d. Everyone brought **a dog** each.[concrete indiv.]
e. **The dog** is barking. [concrete indiv.] f. **Jack** barks at night. [concrete indiv.]

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. [concrete **specific** individual]
b. Everyone brought **a dog** each. [concrete **non-specific** individual]

Proceedings of TripleA 4, 48-64
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c. **The dog** is barking. [concrete **definite** individual]
d. **Jack** barks at night. [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: ∃x [dog(x) ∧ barks(x)]. We can appeal to scope position to distinguish (5b) from (5a). 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 bound by existential closure as in (5a-c). What seems to be common to each is binding by existential closure.

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).

(6) a. Dinosaurs are extinct. b. extinct (dinosaurs)
c. ∃x [dinosaur_k (x) ∧ extinct (x)] (after Krifka et al 1995)
d. ∃x [↑dinosaur (x) ∧ extinct (x)] (after Link 1995:382)
e. ∃x [$^{\cup\cap}$dinosaur (x) ∧ extinct (x)] (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. 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) → bark (x)].

3 Eventualities

Davidsonian events semantics (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

Proceedings of TripleA 4, 48-64
Edited by Elizabeth Bogal-Allbritten and Elizabeth Coppock

Higginbotham, 1985:555). 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 reasons of space, I do not address this distinction between eventives and Kimian states or what Moltmann (2013) calls 'abstract states' here but see Section 6 for the consequences of the proposal here for Kimian states. In the theoretical framework that I lay out shortly, I assume that all predicates have an E-position. I also assume (following Parsons, 1990) that there are three sorts of things that predicates generally encode: events, states, and processes, which I collectively refer to as 'eventualities' (Bach, 1986). 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 as *is hungry* is shorter in duration than a state like *is intelligent*, 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 e_1, e_2, 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

Proceedings of TripleA 4, 48-64
Edited by Elizabeth Bogal-Allbritten and Elizabeth Coppock

them, Montague distinguished between generic events (e.g. *sun rises*) and particular events (e.g. *sun rose yesterday*). 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/concrete 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/concrete events with countable instances
b. Generic events with uncountable instances

I define particular events 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 palm wine*, 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 that is either concrete (10a) or generic (10b).

(10) a. $[[\text{concrete}]]_{\langle v,et\rangle} = \lambda P \lambda e\, [P(e) \wedge \textbf{con}(e)]$ b. $[[\text{generic}]]_{\langle v,et\rangle} = \lambda P \lambda e\, [P(e) \wedge \textbf{gen}(e)]$

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.

(11) a. $[\lambda P \lambda e\, [P(e) \wedge \textbf{con}(e)]]\ (\exists e\, [\textbf{smoke}(e) \wedge \textbf{ag}(e, \textbf{mary}) \wedge \textbf{at\_the\_party}(e)]) =$
$\exists e\, [\textbf{smoke}(e) \wedge \textbf{con}(e) \wedge \textbf{ag}(e, \textbf{mary}) \wedge \textbf{at\_the\_party}(e)]$
b. $[\lambda P \lambda e\, [P(e) \wedge \textbf{gen}(e)]]\ (\exists e\, [\textbf{smoke}(e) \wedge \textbf{ag}(e, \textbf{mary}) \wedge \textbf{after\_dinner}(e)]) =$
$\exists e\, [\textbf{smoke}(e) \wedge \textbf{gen}(e) \wedge \textbf{ag}(e, \textbf{mary}) \wedge \textbf{after\_dinner}(e)]$

This derivation defers from the standard treatment of events only with the introduction of the generic/concrete 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):

Proceedings of TripleA 4, 48-64
Edited by Elizabeth Bogal-Allbritten and Elizabeth Coppock

(12) Four ontological kinds of states can be identified:
a. kind-level state b. stage-level state
c. individual-level state d. 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. The following examples illustrate the four types of state identified above:

(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

(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

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.

4 Generic eventualities in Yoruba

In this 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. 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.

Proceedings of TripleA 4, 48-64
Edited by Elizabeth Bogal-Allbritten and Elizabeth Coppock

Generic events and states, on the other hand, are explicitly marked in the language. A generic eventuality is generally marked with the imperfective marker *máa-ń*. 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 above does. Let us give the logical form of (17a) as in (17b) and the denotation of *máa-ń* as in (18). (19& 20) show application of (18) to (17b).

(17) a. Bọ́lá jẹ ewé
Bọ́lá eat leaf
'Bọ́lá ate leaves.'
b. ∃e [**eating** (e) ∧ **ag** (e, bọ́lá) ∧ **th** (e, leaf)]

(18) [[máa-ń]] = [[generic]] $_{\langle v,et\rangle}$ = [λPλe [P (e) ∧ **gen** (e)]]

(19) Bọ́lá **máa-ń** jẹ ewé ('Bọ́lá eats leaves (habitually')

(20) a. [λPλe [P (e) ∧ **gen** (e)]] (∃e [**eating** (e) ∧ **ag** (e, b) ∧ **th** (e, leaf)])
b. ∃e [**eating** (e) ∧ **gen** (e) ∧ **ag** (e, **bọ́lá**) ∧ **th** (e, **leaf**)]

While (17b) states that there is a particular one-instance event of eating leaves that has Bọ́lá as an agent, (20b) states that there is an indefinite multiple-instance event of eating leaves that has Bọ́lá 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 *máa-ń* 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 *máa-ń* (the generic predicate). Consider the following:

(21) a. Bọ́lá wà ní ilé ọtí
Bọ́lá exist in house alcohol
'Bọ́lá is/was at the bar.'
b. Bọ́lá **máa-ń** wà ní ilé ọtí
Bọ́lá **gen** exist in house alcohol
'Bọ́lá is/was at the bar in multiple indefinite instances (habitually).'
c. ∃s [**being-in-the-bar** (s) ∧ **gen** (s) ∧ **th** (s, bọ́lá)]

(21c) which is the logical form of (21b) states that there is a generic state of being at the bar whose theme is *bọ́lá*. Note that the generic state in (21b) can also be expressed in English as 'Bọ́lá is always at the bar'. But this cannot give the accurate information that is expressed in this sentence, because (21b) does not contain anything that corresponds to adverb of quantification. It only states that there are multiple occasions of Bọ́lá being at the bar, and does not specify whether this is usually, seldom or always. To do that, prepositional constructions that are similar to English adverb of quantification (e.g. *ní èèkọ̀ọ̀kan* 'sometimes/seldom', *ní ọ̀pọ̀ ìgbà* 'often/usually/ in most cases', etc.) will have to be used. The consequent intuition, therefore, is

Proceedings of TripleA 4, 48-64
Edited by Elizabeth Bogal-Allbritten and Elizabeth Coppock

that *máa-ń* is a true generic predicate that modifies an eventuality variable to give it the property of having multiple instances of unspecified number.[2]

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', *ewúrẹ́* 'goat', etc., and Plural NPs (PNPs) such as *àwọn ajá* 'dogs', *àwọn ewúrẹ́* '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 (22ai). But only the BNP yields kind interpretation with individual-level sate (henceforth, I-state) as in (22bi); 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 (22ci). Generic interpretation of BNP is also obtained in deontic modality even when the eventuality is a particular event as shown in (22di). 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 (22dii). This property can then be inherited by members of the kind in appropriate worlds.

(22) a. BNP/PNP as theme of K-state → kind individual
i. (Awọn) Ajá wà káàkiri
(PL) dog be everywhere
'Dogs are everywhere.'
ii. ∃s [**being-everywhere** (s) ∧ **th** (s, ↑dog)]
b. BNP as theme of I-state → kind individual
i. Ewúrẹ́ ní ẹ̀jẹ̀
goat have blood
'Goats have blood.'
ii. ∃s [**having-blood** (s) ∧ **th** (s, ↑goat)]

[2] In some constructions, the generic predicate reduces to a clitic *í*, whose surface representation is determined by phonological processes not addressed here.

(i) a. Bọ́lá kìí mu ọtí
Bọ́lá NEG.**gen** drink beer
'Bọ́lá doesn't drink beer (habitually).'
b. Gbígbó ni ajáá gbó
barking FOC dog.**gen** bark
'BARKING is what dogs do (generically/habitually)'
c. Ewúrékìí gbó
goat NEG.**gen** bark
'Goats don't bark.'
d. Ajá níí gbó
dog FOC.**gen** bark
'DOGS bark generically/ habitually.'

Proceedings of TripleA 4, 48-64
Edited by Elizabeth Bogal-Allbritten and Elizabeth Coppock

c. BNP/PNP as theme of K-state with an experiencer[3] → kind individual
   i. Bọ́lá fẹ́ràn (àwọn) ọmọdé
      Bọ́lá like (PL) child
      'Bọ́lá loves children.'
   ii. ∃s [**loving** (s) ∧ **exp** (s, bọ́lá) ∧ **th** (s, ↑child)]
d. BNP as an agent of particular event in deontic modality → kind individual
   i. Ayékòótọ́ lè kọrin
      parrot can sing
      'A parrot can sing'
   ii. λw ∃e [singing (e) ∧ ∃s [able-to-be-agent-of-'e' (s) ∧ th (s, ↑parrot) ∧ in (s, w)]]

Let us next consider the concrete individual. The two forms are interpreted as concrete individuals when they are an agent or a theme of a particular event (henceforth, P-event) as in (23ai). They are interpreted as concrete individuals when they are an agent (23bi) or a theme (23ci) of a generic event (henceforth, G-event) with a concrete individual argument.

(23) a. BNP/PNP as an agent or theme of P-event → concrete individual
   i. (Àwọn) ajá jẹ egungun
      (PL) dog eat bone
      'A/the dog/ the dogs ate a piece (some pieces) of bone.'
   ii. ∃e [**eating** (e) ∧ **ag** (e, **dog**) ∧ **th** (e, **bone**)]
b. BNP/PNP as an agent of G-event with concrete individual theme→ concrete individual
   i. (Àwọn) ajá maa-n lé Bọ́lá
      (PL) dog **gen** chase Bọ́lá
      'A certain dog or some certain dogs chase Bọ́lá in indefinite occasions'
   ii. ∃e [**chasing** (e) ∧ **gen** (e) ∧ **ag** (e, **dog**) ∧ **th** (e, **bọ́lá**)]
c. BNP/PNP as a theme of G-event with concrete individual agent → concrete individual
   i. Bọ́lá maa-n lé (àwọn) ajá
      Bọ́lá **gen** chase (PL) dog
      'Bọ́lá chases a certain dog or some certain dogs in indefinite occasions'
   ii. ∃e [**chasing** (e) ∧ **gen** (e) ∧ **ag** (e, **bọ́lá**) ∧ **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) (24ai) and as the experiencer of an I-state with concrete individual theme (24bi). 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 (24ci) or when they are a theme of a G-state with a concrete individual experiencer (24di).

(24) a. BNP/PNP as a theme of S-state → concrete individual
   i. (Àwọn) ajá dákẹ́
      (PL) dog be.silent

[3] 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.

Proceedings of TripleA 4, 48-64
Edited by Elizabeth Bogal-Allbritten and Elizabeth Coppock

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

ii. ∃s [**being-silent** (s) ∧ **th** (s, **dog**)]

b. BNP/PNP as an experiencer of S-state with concrete individual theme → concrete individual

i. (Àwọn) ajá fẹ́ràn mi
(PL) dog like 1SG
'The dog(s) like me.'

ii. ∃s [**liking** (s) ∧ **exp** (s, dog) ∧ **th** (s, **me**)]

c. BNP/PNP as an experiencer of G-state with concrete individual theme → concrete individual

i. (Àwọn) ajá máa-ń fẹ́ràn mi
(PL) dog **gen** like 1SG
'A dog/ some dogs like me in indefinite number of occasions'

ii. ∃s [**liking** (s) ∧ **gen** (s) ∧ **exp** (s, **dog**) ∧ **th** (s, **me**)]

d. BNP/PNP as a theme of G-state with concrete individual experiencer → concrete individual

i. Mo máa-ń fẹ́ràn (àwọn) ajá pupa
1SG **gen** like (PL) dog red
'I like red dog(s) in indefinite number of occasions'

ii. ∃s [**liking** (s) ∧ **gen** (s) ∧ **exp** (s, **I**) ∧ **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 (23ai), S-state (24ai), and the requirement that the second argument has a concrete-individual interpretation (23bi, 23ci, 24bi, 24ci and 24di). 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 (23ai) refer to concrete specific individuals, *ajá* 'dog' and its plural form *àwọn ajá* 'dogs' in (23bi, 23ci, 24ci and 24di) refer to non-specific individual, *ajá* 'dog' and *àwọn ajá* 'dogs' in (24ai) and (24bi) refer to concrete definite individual, while *Bọ́lá* in (23bi) refers to a concrete proper individual.

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). (25ai) shows how BNPs are interpreted as generic in G-event with no theme while (25bi) demonstrates generic intepretation in G-event with a concrete non-specific theme.

Proceedings of TripleA 4, 48-64
Edited by Elizabeth Bogal-Allbritten and Elizabeth Coppock

(25) a. BNP as an agent of G-event with no theme → generic individual
i. Ajá máa-ń gbó
dog **gen** bark
'Dogs bark.'
ii. Gen x [**dog** (x) → ∃e [**barking** (e) ∧ **gen** (e) ∧ **ag** (e, x)]]

b. BNP as an agent of G-event with concrete non-specific theme → generic individual
i. Ajá máa-ń jẹ egungun
dog **gen** eat bone
'Dogs eat bones.'
ii. Gen x [**dog** (x) → ∃e [**eating** (e) ∧ **gen** (e) ∧ **ag** (e, x) ∧ **th** (e, 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 (25aii) and (25bii) 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, (25aii) states that generally for dogs there is some generic event of barking that they do, while (25bii) 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 → generic individual
i. Ajá máa-ń fẹ́ràn egungun
dog **gen** like bone
'Dogs likes bone.'
b. BNP as an experiencer of superficial G-state with concrete non-specific theme → generic individual
i. Ewúrẹ́ máa-ń ní ìwo
goat **gen** have horn
'Goats have horn'
c. BNP as a theme of superficial G-state → generic individual
i. Mààlû máa-ń tóbi
cow **gen** be.big
'Cows are big.'

We can go ahead and give (26ai, bi and ci) 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.

(27) a. Gen x [**dog** (x) → ∃s [**liking** (s) ∧ **gen** (s) ∧ **exp** (s, x) ∧ **th** (s, **bone**)]]
b. Gen x [**goat** (x) → ∃s [**having** (s) ∧ **gen** (s) ∧ **exp** (s, x) ∧ **th** (s, **horn**)]]
c. Gen x [**cow** (x) → ∃s [**being-big** (s) ∧ **gen** (s) ∧ **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

Proceedings of TripleA 4, 48-64
Edited by Elizabeth Bogal-Allbritten and Elizabeth Coppock

that they experience in an indefinite number of occasions. This is contrary to the meaning of (26ci) which only says that there is an indefinite number of occasions where a 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 *máa-ń*, which has been argued above to be the generic predicate. The examples in (26) are different. *Máa-ń* does not turn the eventualities in those sentences to generic eventualities, but instead ensures that the BNPs in those sentences are interpreted generically. If this observation is in the right direction, then *máa-ń* 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, *máa-ń* 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 *máa-ń* has the two denotations shown below:

(28) a. [[máa-ń]] = [[generic]] $_{\langle v, et\rangle}$ = [λPλe [P (e) ∧ **gen** (e)]]
b. [[máa-ń]] = [[Gen]] $_{\langle e, t\rangle}$ = λPλQ Gen x [P (x) → ∃e/s [Q(e/s) ∧ **ag**/**th** (e/s, x)]]

Let us illustrate (28b) with the example in (26bi) 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 *máa-ń*, the BNP in (26bi) is interpreted as a kind individual as in (29a). Consider the following:

(29) a. Ewúrẹ́ ní ìwo = ∃s [**having-horn** (s) ∧ **exp** (s, ↑goat)] = kind individual
b. Ewúrẹ́ máa-ń ní ìwo =
c. Máa-ń$_x$ [Ewúrẹ́$_x$ ní ìwo] =
d. Gen$_x$ [Ewúrẹ́$_x$ ní ìwo] =
e. Gen x [**ewúrẹ́** (x) → ∃s [**níní** (s) ∧ **exp** (s, x) ∧ **th** (s, **ìwo**)]] =
f. Gen x [**goat** (x) → ∃s [**having** (s) ∧ **exp** (s, x) ∧ **th** (s, **horn**)]]

(29b-f) demonstrates the compositional derivation for *máa-ń* as an operator. (29c) demonstrates that *máa-ń* 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 *máa-ń* in (29b-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

Proceedings of TripleA 4, 48-64
Edited by Elizabeth Bogal-Allbritten and Elizabeth Coppock

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 been researched before, the framework provides a general adaptable analytic guideline that makes use of ontological distinctions in individuals and eventualities which may be distinguished in different ways cross-linguistically.

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. The ability of this framework to account for both subject and object arguments means we can account for grammatically conditioned genericity in Yoruba as found in the syntactic account of Ajiboye (2005). As we saw above, 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. For instance, (1d) repeated in (30a) will be given a logical form like that in (30b). According to this framework, the logical form of (30a) can be restated as in (30c).

(30) a. It rains at night in Lagos.
b. Gen s [s is a situation appropriate for raining in Lagos → it rains]
c. ∃e [**raining** (e) ∧ **gen** (e) ∧ **at** (e, **night**) ∧ **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:

Proceedings of TripleA 4, 48-64
Edited by Elizabeth Bogal-Allbritten and Elizabeth Coppock

(31) a. Ade bínú
Ade be.angry
'Ade was angry.'

b. Adé máa-ń bínú
Ade **gen** be.angry
'Ade is *generically* angry.'

First, note that (31b) is not available in English: the approximation 'Ade is usually angry' 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 *bínú* '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 *máa-ń* (the generic predicate) to turn them from particular eventualities to generic eventualities, generic states have an ontological as well as an empirical basis. This suggests that there may be languages where Kimian states can be shown to have a hidden event argument. If my assumptions are correct, Yoruba is one of those languages. This framework also led to the ambitious suggestion that *máa-ń* is an overt pronunciation of the Gen operator.

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. (32a) and (33a), both repeated from (i)b and (i)d respectively in Footnote 2, 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 (32b) and (33b).

(32) a. Gbígbó ni ajá**á** gbó
barking FOC dog.**gen** bark
'BARKING is what dogs do (generically/habitually)'
b. ∃e [**barking** (e) ∧ **gen** (e) ∧ Gen x [**dog** (x) → **ag** (e, x)]]

(33) a. Ajá ní**í** gbó
dog FOC.**gen** bark
'DOGS bark generically/ It is dogs that bark generically or habitually.'
b. Gen x [**dog** (x) ∧ ∃e [**barking** (e) ∧ **gen** (e) → **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 standard readings of this sentence are shown below:

(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)]])

While (34a) contains both a generic individual and generic eventuality, (34b) contains a 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

Proceedings of TripleA 4, 48-64
Edited by Elizabeth Bogal-Allbritten and Elizabeth Coppock

is such that some generic event of arising whose agent is concrete individual 'typhoons' occurs in it. 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.

7 Conclusion

The overarching claim of this paper has been that in the kind of sentences that we regard as generic, both individuals and eventualities can have generic interpretations. 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. Application of this framework to Yoruba generic sentences touches on two major issues related to 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 *máa-ń* 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 both subject and object arguments of generic sentences. The general prediction is that the different kinds of individuals and eventualities identified here are present cross-linguistically and that languages may have their own ways of expressing them. Further research will test some of the predictions and refine the system advanced here accordingly.

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Proceedings of TripleA 4, 48-64
Edited by Elizabeth Bogal-Allbritten and Elizabeth Coppock

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Proceedings of TripleA 4, 48-64
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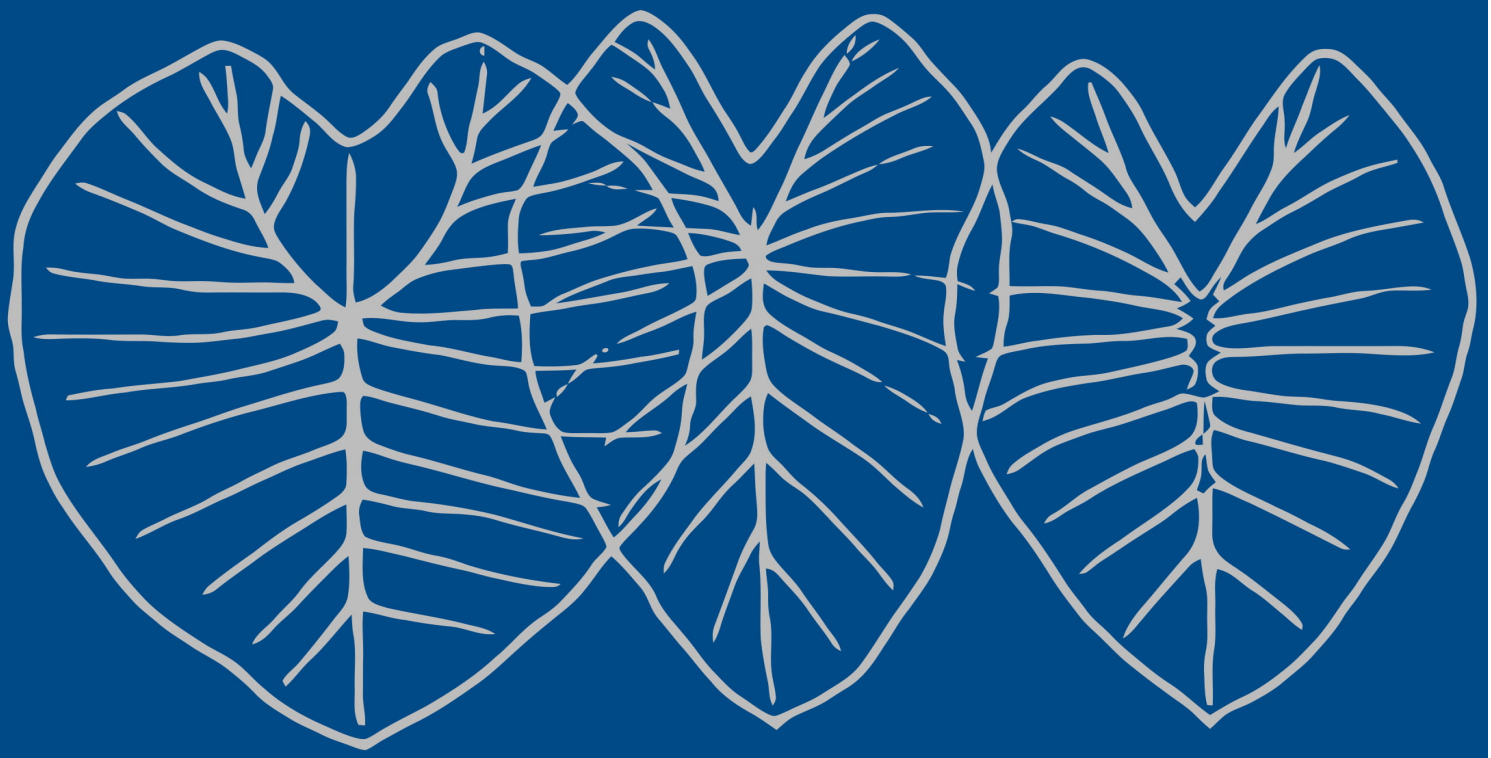

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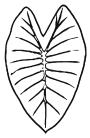
Table of Contents

African



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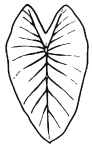

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