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## Unaccusativity and the Adjective/Verb Distinction: Edo Evidence\*

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### 1. Introduction

Verbs and adjectives are usually taken to be two fundamentally different lexical categories. However, both categories can be predicated of a subject in much the same way and may even be used to describe the same eventualities. Thus, (1a) and (1b) in English have similar structures and mean almost exactly the same thing, even though one contains an adjective and the other a stative verb.

- (1)     a. John hungers.                                     STATIVE VERB  
       b. John is hungry.                                 ADJECTIVE

(2) shows a similar minimal pair from Edo, a Kwa language spoken in Nigeria (Agheyisi 1990; Omoruyi 1986).<sup>1</sup>

- (2)     a. Èmèrì m̀òsè.                                     EDO  
       Mary be.beautiful(V)  
       'Mary is beautiful.'  
       b. Èmèrì \*(yé) m̀òsè  
       Mary be beautiful(A)  
       'Mary is beautiful.'

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<sup>1</sup>Edo examples are written in the standard orthography for the language, except that we have marked tone on the vowels (´ high; ` low) and mid lax vowels are represented by underlying rather than underdots for typographical convenience. Abbreviations in the glosses include: INCEP, inceptive; nom, nominalizer; RV, past perfective (Edo) or factitive (Igbó); PL, plural; FOC, focus marker.

Indeed, the Edo pair is particularly interesting, because the stative verb and adjective stand in a systematic derivational relationship to each other. They share the same root *mose*; the difference is that the verbal form has no inherent tones, the Low-High tone pattern indicating present tense, whereas, the adjectival form has a fixed level tone pattern—Low-Low in this case. In Edo as in English the adjective differs from the verb in the fine points of syntactic distribution; nevertheless, the two can be used in parallel ways to describe essentially the same state. Thus, it is a challenge for the correct theory of syntactic categories to do justice to both the similarities between adjectives and verbs and their differences.

In fact, most contemporary theories are more concerned with capturing the similarities (see (3) for an outline).

- (3) a. Generative syntax: A is [+N, +V]; V is [-N, +V]  
 b. Formal Semantics: A and V are both one place predicates.  
 c. Structuralist tradition: A and V differ in inflectional morphology.  
 d. Functionalist approaches: As refer to a simple property; Vs refer to a dynamic event. The primary function of As is to modify Ns. (Bhat 1994)

In particular, X-bar theory clearly has this intention, as does the formal semantic practice of treating both intransitive verbs and adjectives as one-place predicates, denoting sets. Nevertheless, in this paper, we argue that there are important syntactic differences between verbs and adjectives that go beyond X-bar theory, and that these syntactic differences are grounded in a basic semantic difference. The key syntactic difference centers around unaccusativity phenomena: adjectives typically act as unergative predicates, whereas comparable verbs act like unaccusative predicates. We propose to explain this fact by attributing very different argument structures to adjectives and stative verbs, drawing on Chierchia's (1985) theory of properties. Then in the second part of the paper we present three syntactic differences between stative verbs and adjectives in the Edo language, which confirm our basic hypothesis. One of these differences shows up in English too, while the others are hidden for accidental reasons.

## 2. Unaccusativity

We begin then with the basic difference in unaccusativity. It is well-known that the derived subject of a passive clause in Italian acts like a direct object in a number of ways. For example, its head can be cliticized to the verb in the form of the partitive clitic *ne*, as shown in (4b).

- (4) a. Molte vittime sarebbero riconosciute dalle famiglie. ITALIAN  
 'Many victims would be recognized by their families.' (Verbal Passive)  
 b. Ne sarebbero riconosciute molti.  
 of-them would be recognized many  
 'Many of them would be recognized.'

Now adjectival passives often look very much like ordinary verbal passives; thus (5a) is exactly like (4a), except that the participle bears an adjectival prefix. In spite of this similarity in form, Burzio and Cinque observe that *ne*-cliticization does *not* apply to the subject of the adjectival passive; hence (5b) is ungrammatical.

- (5) a. Molte vittime sarebbero sconosciute alle autorità. ITALIAN  
 'Many victims would be unknown to the families.' (Adjectival Passive)

- b. \*Ne sarebbero sconosciute molti.  
 of-them would.be unknown many  
 'Many of them would be unknown.'

In this respect, the subject of the adjective does not act like a direct object, but rather like the subject of an agentive clause. In other words, the verbal passive acts like an unaccusative predicate, whereas the adjectival passives acts like an unergative predicate. Moreover, this configuration of facts proves to be quite general: It is also found in adjectives derived from intransitive verbs in Italian, and in adjectives derived by affixes cognate to *-able* (Cinque 1990). Borer and Grodzinsky 1986 replicates this contrast between verbal passives and adjectival passives in Hebrew with pairs like (6), where the test for unaccusativity is whether a dative clitic can be understood as the possessor of the subject or not.

- (6) a. ha-matana hunxa (li) betox kufsa HEBREW  
 the-present place-PASS to.me inside a.box (Verbal Passive)  
 'The (my) present was placed inside a box.' (p. 192)
- b. ha-matana hayta munaxat (\*li) betox kufsa HEBREW  
 the-present was placed(A) to.me inside a.box (Adjectival Passive)  
 'The (\*my) present was placed inside a box.' (p. 193-4)

Cinque (1990) and Borer (1991) also point out that these contrasts present an important problem for the Lexicalist Hypothesis and the idea that theta roles are always assigned in the same structural position.

Significantly, the same contrast between verbs and adjectives can be seen by comparing morphologically simple words across languages. Cinque 1990 shows that most simple adjectives in Italian act like unergative predicates as well, as shown in (7).

- (7) a. \*Ne<sub>i</sub> sono buoni [pochi e<sub>i</sub>] (dei suoi articoli). ITALIAN  
 of-them are good few (of his articles) (simple adjectives)  
 'Few of them (his articles) are good.'
- b. \*Ne sono maggiorenni pochi, qui.  
 of-them are of.age few here  
 'Few of them are of age here.'
- c. \*Ne sono infelici molti.  
 of-them are unhappy many  
 'Many of them are unhappy here.'

The same is true of most simple adjectives in Hebrew (Borer, personal communication). However, Mohawk works differently. This language is traditionally said not to have adjectives, based on the fact that all predicates take essentially the same tense and agreement morphology as verbs. Correlated with this is the fact that predicates like 'be good' and 'be dirty' act like unaccusatives by several tests (Baker 1996b). For example, (8) shows that the subject of these predicates may undergo noun incorporation, which is otherwise possible only with unaccusative verbs in Mohawk (Baker 1996a).<sup>2</sup>

<sup>2</sup> Abbreviations used in the glosses of these Mohawk examples are: NsI, neuter singular series I agreement; NsII, neuter singular series II agreement; dup, duplicative morpheme (here selected by V root); nom, nominalizer; Ø, epenthetic joiner vowel.

- (8) a. ka-wiŋ-íyo [ thkv e<sub>i</sub> ] MOHAWK  
 NsI-baby-be.good that (stative verbs)  
 'The baby is good.'
- b. Te-yo-[a]'shar-á-'tsu.  
 dup-NsII-knife-Ø-be.dirty  
 'The knife is dirty.'
- c. Yo-[a]tya'tawi-tsher-a-ná(na)wA.  
 NsII-dress-nom-Ø-be.wet  
 'The dress is wet.'

Thus, we see that whether a given predicate is a verb or an adjective is not simply a trivial matter of inflectional morphology, but instead has rather deep syntactic consequences. Indeed, we conjecture that this difference in unaccusativity is a clue to the fundamental question of what it means to be an adjective as opposed to a verb.

### 3. The Proposal

How can one give a theory of these facts that is consistent with basic assumptions about how theta roles are assigned to syntactic positions? Descriptively speaking, the theme argument of a verb is an internal argument, whereas the theme argument of an adjective is an external argument. However, the very notion of "external argument" is a suspicious one in current theory. Since the advent of the VP-internal subject hypothesis, it is standard to analyze many external arguments as internal arguments that have been raised by NP-movement. Another class of so-called external arguments can be analyzed as not being arguments of the head at all. Marantz (1984) and Kratzer (1996) take this view of agent NPs: the reason agents are found outside the VP is that they are not, strictly speaking, arguments of the verb. Rather (in Kratzer's version) they are attached to the clause by a higher functional category.

Our basic thesis is that the same thing is true of theme arguments with respect to adjectives. The theme is not, strictly speaking, the external argument of an adjective; rather it is not an argument of the adjective at all. Therefore if it appears anywhere it must be outside the maximal projection of the adjective. In contrast, the theme is an argument of the verb; hence it must be an internal argument, because all arguments are. Thus, simple argument structures are as shown in (9).

- (9) a. *mòsè*, 'beautiful' Adjective <>  
 b. *mòsé*, 'be beautiful' Verb <Theme, event>

The conceptual background to this proposal can be filled in in the following way. The standard semantic view is that both intransitive verbs and adjectives are one-place predicates. This fits naturally with the syntactic view that both verbs and adjectives head small clauses, with the subject being generated as the specifier of the small clause (Stowell 1983), as shown in (10).

- (10) a. [ e TENSE [<sub>VP</sub> John [<sub>V</sub> hunger ]]]  
 b. [ e be+TENSE ... [ <sub>AP</sub> John [ <sub>A</sub> hungry ]]]

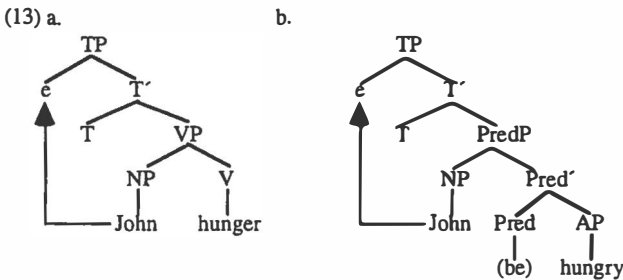
However, Chierchia and Turner (1988) suggest an alternative. They hold that all lexical categories correspond semantically to a special kind of individual. As such, they take no arguments, but are inherently saturated. The individuals that they refer to do, however,

correspond to propositional functions in a systematic way. Thus, they can be transformed into normal predicates by an operator that Chierchia symbolizes as  $\cup$ . Bowers 1993 takes this proposal into the syntax, arguing that this  $\cup$  function is expressed by a functional category "Pred". For Bowers, then, the subjects of both verbs and adjectives are generated outside the maximal projection of the head, as the specifier of PredP; this is shown in (11).

- (11) a. [ e TENSE [PredP John  $\emptyset$ Pred [VP hunger ]]  
 b. [ e be+TENSE ... [PredP John  $\emptyset$ Pred [AP hungry ]]

- (12)  $\emptyset$ Pred' =  $\cup$  (Chierchia's mapping from individuals to propositional functions)

Now our proposal is simply this: that the standard view is correct for verbs, and the Chierchia/Bowers proposal is correct for adjectives. This is shown in (13).



This proposal is summarized in the conjectures in (14), where BE is another expression of the abstract element that Bowers calls Pred. (14a) follows from the definition of  $\cup$ ; (14b) is a syntacticized implementation of the equivalence, which we do not pursue here (see Baker 1996b for some evidence for this claim from Mohawk).

- (14) a. Stative verbs are semantically equivalent to adjectives plus BE.  
 b. Stative verbs are derived by the conflation of an adjective into BE.

This proposal provides a simple basis for explaining the minimal contrast between Italian and Mohawk shown in (7) and (8) along the lines sketched in (15).

- (15) a. \*[ e ne<sub>i</sub>+BE+TENSE ... [PredP [few t<sub>i</sub>]  $\emptyset$ Pred [AP good ]]] ITALIAN (7a)  
 b. [ e TENSE [VP [that t<sub>i</sub>] child<sub>i</sub>+be.good ]] MOHAWK (8a)

Both *ne*-cliticization and Noun Incorporation involve movement of a head-like item, the trace of which must be lexically governed in order to satisfy the ECP in (16) or its Minimalist successor.

- (16) *The Empty Category Principle (ECP)*  
 Traces must be "governed by" (in the minimal domain of) a lexical head.

Since 'good' is a verb in Mohawk, its subject originates in the specifier of VP, a properly governed position. However, 'good' in Italian is an adjective. Therefore its subject originates outside the AP, in the specifier of PredP. "Pred" is an uninflected functional

category; thus, traces left in its specifier are not properly governed. Therefore, the representation in (15a) violates the ECP, while (15b) does not. At the same time, the semantic equivalence of clauses built around stative verbs and those built around adjectives is ensured by the definition of Chierchia's  $\cup$  operator. In this way, we can do justice to the syntactic differences between adjectives and verbs, and still capture the similarities.

It is very tempting to find immediate support for our proposal from the distribution of copular verbs. As already mentioned, copular verbs are needed with adjectival predication in matrix clauses but not with verbal predication, in English, Edo, and many other languages. This is shown again in (17) and (18).

- (17) a. John hungers. ENGLISH  
 b. John \*(is) hungry.
- (18) a. Èmèrí m̀̀dsé. EDO  
 'Mary beautifuls(V).'
- b. Èmèrí \*(yé) m̀̀dsè  
 'Mary is beautiful(A).'

Thus, it is tempting to identify the copular verb in these languages with the Pred head that is present in (13b) but not (13a). Unfortunately the distribution of the copula is a bit more complicated than this, and we believe that this simple view is correct for Edo but not English. This then brings us to the second part of the paper: providing detailed evidence from Edo that supports our hypothesis.

#### 4. Small clause complements

The first piece of evidence comes from verbs that take small clause complements. (19) from English shows that some such verbs can select either a verb-headed small clause or an adjective-headed small clause.

- (19) a. The hot sun made [<sub>VP</sub> John hunger]. ENGLISH  
 b. The hot sun made [<sub>AP</sub>? John hungry].

In this case, the two categories seem to be perfectly parallel. In particular, (19b) seems to provide a strong reason for not attributing an important semantic role to the copula in English, since essentially the same predication is possible without the copula.

Edo is instructively different in this respect, however. It has a causative verb *ya* that appears to take a small clause complement, parallel to English. (20) shows this that this causative element can combine with verbs of different argument structures, whether transitive ((20a)), unergative ((20b)), or unaccusative ((20c)).

- (20) a. Íyé mwèn ú yá mwèn lé èvbàré nè írán.  
 mother my she make me.ACC cook food for them  
 'It's my mother that made me cook food for them.'
- b. Òwú Òzó yá èvbò gó.  
 death Ozo make people wail  
 'Ozo's death made the people wail.'

- c. Òzó yá ikó zàghá.  
 Ozo make crowd scatter  
 'Ozo made the crowd scatter.'

In (21a), the subject of the embedded verb is the accusative Case form of the first person singular pronoun; this suggests that the embedded subject is Case-marked by the higher causative verb and not by an embedded Infl.

- (21) a. Íyè mwèn ò yà mwén lé èvbàré nè írán.  
 mother my she make.HAB me cook food for them  
 'It's my mother that makes me cook for them.'
- b. Èbè òré Úyi yá Èsósá tí'è(\*-rè).  
 book FOC Uyi make.PAST Esosa read(-PAST/PERF)  
 'It's a book that Uyi made Esosa read.'

Moreover the sentences in (21) show that the embedded verb does not vary in its tense inflection; it fails to show either low-tone present/habitual morphology (compare (21a) with (20a)) or the past perfective suffix consisting of /t/ plus a harmonizing vowel. In all these respects, the *ya* construction in Edo is very similar to *make* causatives in English, suggesting that *ya* too selects a small clause with no Infl-type functional structure.

Consider then what happens when the *ya* causative construction combines with stative verbs and adjectives. Here a very sharp contrast appears. The complement of *ya* can perfectly well be headed by a stative verb, as shown in (22).

- (22) a. Ò yá [vp Èmèrí mòsé]  
 it made Mary be.beautiful(V)  
 'It made Mary be beautiful.'
- b. Òzó yá ènà síkán.  
 Ozo made yam be.sticky  
 'Ozo made the yam pudding be sticky.'
- c. Úyi yá èmátòn pèrhé.  
 Uyi make metal be.flat  
 'Uyi made the metal be flat.'
- d. Ò yá òwá bàá.  
 it make house be.red  
 'It made the house be red.'

However, (23) shows that the examples become completely ungrammatical when a comparable adjective is substituted for the stative verb. Moreover, (23d) shows that this is not merely some kind of morphological blocking effect: the adjective *wòrò* 'long' happens not to be morphologically related to any verb, but it is just as impossible as the complement of *ya* as adjectives that are related to verbs.

- (23) a. \*Ò yá [AP Èmèrí mòsé]  
 it made Mary beautiful(A)  
 'It made Mary beautiful.'



- b. \*Òzó yá èmiówò sikànsikàn.  
Ozo made meat sticky  
'Ozo made the meat sticky.'
- c. \*Úyì yá èmátòn pèrhè.  
Uyi make metal flat  
'Uyi made the metal flat.'
- d. \*Ò yá éggógó wòrò.  
it make bell long  
'It made the bell long.'

This contrast follows immediately from our proposal, on the assumption that there is no covert functional structure in the small clause complement. Our claim is that adjectives correspond to properties in their guise of inherently saturated individuals. As such, they have no theta-role to assign to a specifier position. Therefore, the postverbal NPs in (23) are left untheta-marked, and the sentences are ruled out by the Theta Criterion. In contrast, the stative verbs in (22) correspond to propositional functions by hypothesis; hence, they do have a thematic role to assign to the subject. Therefore, while the difference between verbs and adjectives seems to disappear in small clause complements in English, it is accentuated in Edo.

In particular, these facts are compatible with saying that the copular element *ye* in Edo really is a Pred, and thus plays an essential role in making adjectives predicative:

- (24) EDO: *yé* is Pred (or a semantically equivalent verb).

In English, on the other hand, *be* apparently does not play a semantic role; rather it is some kind of thematically inert auxiliary, while Pred happens to be phonologically null, as in Bower's original proposal. This gives the basic structures in (25).

- (25) a. [ e TENSE [be [PredP John Ø<sub>Pred</sub> [AP hungry ]]]] ENGLISH  
b. [ e TENSE [vp it make [PredP John Ø<sub>Pred</sub> [AP hungry ]]]]

Further evidence for this difference between English *be* and Edo *ye* comes from the greater distribution of the two copular elements: English *be* appears with predicates of every syntactic category, as shown in (26); in contrast, Edo *ye* appears only with adjective phrases, as shown in (27).

- (26) a. John is hungry. ENGLISH  
b. John is shouting.  
c. John is a chief.  
d. John is in the house.

- (27) a. Òzó yé mòsè. EDO  
'Ozo is attractive'
- b. \*Òzó yé sò (OK with no *yé*)  
Ozo is shout(ing)  
'Ozo is shouting.'
- c. \*Òzó yé òkhaèmwèn. (OK with *rè* instead of *yé*)  
Ozo is chief  
'Ozo is a chief.'

- d. \*Òzó yé vbè òwá. (OK is: Òzorré òwá.)  
 Ozo is at house  
 'Ozo is in the house.'

This is what one would expect if *be* is a mere auxiliary, whereas *ye* plays an important semantic function tailored to the particular needs of adjectives as a syntactic category.

In conclusion, then, it is the existence of a null Pred head in the grammar of English that blurs the difference between verbs and adjectives in contexts like (19). However, the fact that Pred happens to be null is presumably an accident of English and related languages. Thus in Edo, the true difference between the two categories shows up more clearly.

We note in passing that this theory predicts that the Edo examples in (23) should improve if the copular element *yé* is added to the structure. With *yé* present, the structure would be equivalent to (19b)/(25b) in English, with the sole difference that the Pred head is overt at PF. In fact, such sentences are marginally possible, as shown in (28).

- (28) Úyi yá [PredP èmátòn ?(dòó) yé [AP pèhè ]]  
 Uyi make metal INCEP be flat  
 'Uyi made the metal to be flat.'

However, (28) is only fully grammatical if the inceptive particle *dòó* is present as well, and we have not investigated the syntax and semantics of this element carefully.

5. Nominalization Patterns.

The next domain in which the difference between verbs and adjectives shows up in Edo is derived nominalizations. Edo has several nominalization patterns, but we focus on the two illustrated in the table in (29).

(29) Nominalization Patterns

	stative verb (LH)	adjective (HH or LL)	nominal-1 (ù-HH-mwèn)	nominal-2 (e/i/o + A)
'small'	khèrhé	khérhé	ùkhèrhémwèn	ékhérhé
'beautiful'	mòsè	mòsè(mòsè)	ù-mòsè-mwèn	ìmòsè
'tough, stringy'	sìkàn	sìkàn(sìkàn)	ùsìkànmwèn	ìsìkàn
'little'	tùnién	tùnién	ùtùniénmwèn	étùnién
'foolish'	zùrù	zùrù	ùzùrùmwèn	òzùrù
'big'	kpóló	—	ùkpólómwèn	—
'tall'	tán	—	ùtánmwèn	—
'long'	—	wòrù	—	(—)

Recall that verbs have no inherent tones, but the tone pattern indicates the tense: for example, Low-High for the simple present of stative verbs. Adjectives, on the other hand, do have inherent tones: they are idiosyncratically all High or all Low, depending on the example. Now notice that the forms we have called "nominal-2" in the last column appear to be derived from the adjectival forms by the simple prefixing of a vowel. In particular, the idiosyncratic tones of the adjectives are maintained in the nominal-2 forms. In contrast, the nominal-1 forms in the third column show no lexical tone variations: they uniformly have high tones on the root, together with a low tone prefix *ù-* and suffix *-mwèn*. This suggests that the nominal-1 is derived most directly from the underlyingly toneless verb form of the root.

These conclusions are confirmed by the last three examples in table (29). *kpòlò* 'big' and *tán* 'tall' are stative verbs that do not have a corresponding adjective form; as expected, one can derive nominal-1s from them, but not nominal-2s. Conversely, *wòrò* 'long' is an adjective that does not have a corresponding stative verb form; therefore it cannot form the basis of a nominal-1. (*Wòrò* also happens to lack a nominal-2 form, but we take this to be an accidental gap, attributable to the fact that nominalization-2—unlike nominalization-1—is not a fully productive process.)

The interest of these nominalizations for our purposes shows up when one tries to include NP arguments in the derived nominal. When the head noun is a nominal-1, this is possible, as shown in (30).

- (30) a. ù-túnién-mwè̀n    óghé èrhán nà  
 nom-small-nom    of    tree    this  
 'the smallness of this tree'
- b. ù-mósé-mwè̀n    óghé Èmèrí  
 nom-beautiful-nom of    Mary  
 'Mary's beautifulness'
- c. ù-síkán-mwè̀n    óghé èmió'wó nà  
 nom-tough-nom    of    meat    this  
 'the toughness of this meat'
- d. ù-khèrhé-mwè̀n    óghé ágá nà  
 nom-small-nom    of    chair    this  
 'the smallness of this chair'

In these examples, the subject argument of the verb shows up as an NP following the nominalization and Case-marked by the particle *óghé*. However, these same arguments are systematically impossible when the head of the NP is a nominal-2, as shown in (31).

- (31) a. é-túnién    (\*óghé èrhán nà)  
 nom-small(A) of    tree    this  
 'the smallness of this tree'
- b. ì-mòsè    (\*óghé Èmèrí)  
 nom-beautiful of    Mary  
 'Mary's beautifulness'
- c. ì-síkán    (#óghé èmió'wó nà)  
 nom-tough of    meat    this  
 'the toughness of this meat'
- d. é-khèrhé    (\*óghé ágá nà)  
 nom-small of    chair    this  
 'the smallness of the chair'

Again, this contrast is exactly what one would expect, given our proposal. The claim is that verbs express propositional functions that take an individual as an argument, whereas adjectives are themselves argumentless individuals. Now the standard assumption is that, all things being equal, nominalizations preserve the argument-taking properties of the base they are derived from. Thus, it makes sense that a nominal derived

from the verbal form of a root should take arguments, whereas a nominal derived from the adjectival form should not, as shown in (32).

- (32) a. *mòsè* <sub>A</sub> <> -----> *ìmòsè* <sub>N</sub> <>  
 b. *mosev* <Theme, event> -----> *ìmósémwè̀n* <Theme, event>

An apparent problem for our analysis comes from nominals like (33) in English, which are clearly derived from adjectival roots, but nevertheless take an NP argument.

- (33) a. the smallness of the chair  
 b. the gravity of the situation

However, this problem is not serious. The only thing we have to say is that *-ness* and *-ity* include Chierchia's  $\cup$  operator as part of their meaning. Intuitively speaking, we claim that *-ness* and *-ity* semantically "verbalize" the roots they attach to before nominalizing them. There is nothing impossible about this; at most we predict that this kind of nominalization might be somewhat marked from a crosslinguistic perspective. However, the fact that *-ness* and *-ity* happen to have this property in English is another reason why the true nature of the adjective/verb distinction is not as clear in English as it is in Edo.

## 6. Serial Verb Constructions vs. Resultative APs

In contrast, the third difference between adjectives and verbs shows up more clearly in English than in Edo. This involves resultative secondary predicates. It is well-known that adjectives but not verbs can be used as resultative secondary predicates in English, as shown in (34).

- (34) a. Every day, John and Mary walk their dogs hungry.  
 b. \*Every day, John and Mary walk their dogs hunger.

Edo also allows AP resultative secondary predicates, as in (35a). However, equivalent sentences seem to be possible with a stative verb substituted for the adjective, as in (35b).

- (35) a. *Úyì kòkò Àdèsúwà mòsèmòsè.*  
*Uyi raise Adesuwa beautiful(A)*  
 'Uyi raised Adesuwa to be beautiful.'  
 b. *Úyì kòkò Àdèsúwà mòsé.*  
*Uyi raise Adesuwa be.beautiful(V)*  
 'Uyi raised Adesuwa to be beautiful.'

(35b) is one particular instance of the so-called Serial Verb Construction, which West African languages are famous for.

Nevertheless, a closer look at the data shows that the contrast between As and Vs does show in Edo in a more subtle way. Whereas both adjectival and verbal resultative predicates are acceptable in simple past tense clauses, only the adjectival predicate is possible when the main verb bears past perfective tense, as shown in (36a). When the resultative predicate is a stative verb, the first verb cannot be in the past perfective form, regardless of whether past perfective morphology also appears on the second verb, as shown in (36b). (The direct objects are clefted in these examples because the past perfective affix elides before overt NPs as a result of fairly normal phonological rules (Aghyisi 1990)).

- (36) a. Àdèsúwà òré Úyi kòkó(-rò) mòsèmòsè.  
Adesuwa FOC Úyi raise-RV beautiful(A)  
'It's Adesuwa that Úyi raised to be beautiful.'
- b. Àdèsúwà òré Úyi kòkó(\*-rò) mòsé(\*-rè).  
Adesuwa FOC Úyi raise-RV be.beautiful(V)  
'It's Adesuwa that Úyi raised to be beautiful.'

(37) is a second example illustrating the same contrast.

- (37) a. Àkhé òré Òzó má(-è) wòrò  
pot FOC Ozo mold-RV long(A)  
'It's the pot that Ozo molded (to be) long.'
- b. Òwè Òzó òré Úyi má(\*-è) wó.  
leg Ozo FOC Úyi mold-RV be.hard(V)  
'It's Ozo's leg that Úyi molded (to be) hard.'

What is special about the past perfective of Edo? The table in (38) gives at least part of the answer: the past perfective is the only tense/aspect category in Edo that is realized as an inflectional affix with segmental content. In particular, it is a suffix consisting of the approximant /r/ and a low-tone vowel that harmonizes with the last vowel of the stem. All the other tense/aspect categories in Edo are indicated either by tonal morphemes, such as the simple past and present, or by independent auxiliary particles, such as the future *ghá* (Agheyisi 1990).

(38) Edo tense paradigms (partial):

	<u>one syllable verb (cry)</u>	<u>two syllable verb (cry-PL)</u>
simple past	só	sòlò
present (habitual)	sò	sòlò
simple future	ghá sò	ghá sòlò
past perfective	só-(r)ò	sòlò-rò

Thus, (36) and (37) can be interpreted as showing that the serial verb construction in Edo is incompatible with overt inflectional morphology, whereas the adjectival predicate construction is not.

When described in this way, the Edo facts call to mind certain facts about the come/go-plus-bare-infinitive construction of American English, discussed by Jaeggli and Hyams 1993 and Pollock 1991 within an early version of Chomsky's Economy framework, among others. Some basic data concerning this construction is given in (39).

- (39) a. Come talk to me today.  
b. He will come talk to me today.  
c. They come talk to me every day.  
d. \*He comes talk(s) to me every day.  
e. \*He came talk(ed) to me every day.  
f. \*He has gone talk(ed) to her more than once.

This construction is fine if Infl is realized by a null morpheme, as in imperatives or present tense non-3rd person singular sentences; it is also fine if Infl is realized as an independent morpheme such as the future. However, the construction is sharply ungrammatical if the first verb bears any nontrivial inflectional affix, regardless of how

the second verb is inflected. Thus, the contrast between (39a-c) and (39d-f) in English is strikingly like the contrast between (35b) and (36b) in Edo.

The same effect can be seen on a larger scale by considering comparative Kwa syntax, following Déchaine 1993. Déchaine points out that the Yoruba language is very rich in Serial Verb Constructions, (40b) being a simple example. At the same time, Yoruba is extremely poor in inflectional morphology: it reportedly has no inflectional affixes at all, tense and aspect being indicated by preverbal auxiliaries, by adverbs, or not at all (see (40a)).

- (40) a.  $l\acute{o}$  'went' OR 'is going' YORUBA (Déchaine 1993:247)
- b.  $J\acute{í}m\acute{o}$   $\acute{o}$   $ra$   $\acute{e}w\acute{u}$   $b\acute{u}n$   $m\acute{i}$ . (p. 201)  
 Jimo AGR buy garment present me  
 'Jimo bought me a garment.'

On the other hand, Igbo stands out among the Kwa languages by the fact that it does not have the most typical kinds of SVCs; thus, (41b) is ungrammatical in Igbo, its functional role being taken by V-V compounds (see (42)). Déchaine observes that Igbo also stands out in the Kwa family as having exceptionally rich inflectional morphology; indeed, every verb must bear an inflectional suffix, as shown in (41a).

- (41) a.  $j\acute{e}$ -\*( $r\acute{e}$ ) 'went' IGBO (Déchaine 1993:248)
- b. \* $\acute{O}$   $b\acute{i}$ - $ri$   $\acute{a}kw\acute{a}$   $ny\acute{e}$   $\acute{A}d\acute{h}a$ . (p. 242)  
 3s borrow-RV cloth give Adha  
 'S/he lent Adha (some) cloth.'
- (42)  $\acute{O}$   $b\acute{i}$ - $nye$ - $ri$   $\acute{A}d\acute{h}a$   $\acute{a}kw\acute{a}$ . (p. 242)  
 3s borrow-give-RV Adha cloth  
 'S/he lent Adha (some) cloth.'

The Edoid languages are halfway between Yoruba and Igbo geographically and socially; this seems also to be true structurally, with part of the verb paradigm like Igbo and part like Yoruba, with implications for the licensing of SVCs.

On a still larger scale, SVCs are also found in Khmer and various other South East Asian languages, which (like Yoruba) lack any overt tense/aspect inflection (Schiller 1990). On the other hand, serial-like V-V compounding is common in New Guinean languages like Yimas and Alambak, which (like Igbo) have rich systems of verbal inflection (Foley and Olsen 1985). Thus, there seems to be a strong negative correlation between the presence of overt inflectional morphology and the possibility of serial verb-like constructions. However, the type of inflectional morphology has no direct impact on the existence of resultative AP constructions, at least in English and Edo.

Unfortunately, there is still no fully satisfying theoretical account of the paradigm in (39) within the Principles and Parameters literature. Two main ideas have been explored. Jaeggli and Hyams (1993) observe that both *come* and *talk* assign some kind of agent role to the subject position in (39a-c); they claim that this nonstandard theta-role assignment impedes verb raising, making it impossible for the verb to check its inflectional morphology, as stated roughly in (43).

- (43) A head cannot raise to T to check its inflectional morphology if it assigns an adjunct theta-role (takes part in  $\theta$ -identification) (Jaeggli and Hyams 1993)

In contrast, Pollock (1991) focuses on the licensing relationship that must hold between the single tense and the two verbs in these constructions. His leading idea is that the event arguments of both verbs must be bound by tense, and this becomes impossible if the tense ends up affixed to one of them for morphological reasons, because it then fails to c-command the second verb (compare also Déchaine 1993).

- (44) The event position of a predicate must be c-commanded and governed by T.  
This fails if T ends up as a suffix on one of two parallel heads.

Both of these leading ideas have some attraction, but both end up requiring some stipulations that do not have good independent motivation, and we do not know how to choose between them.

The good news is that for the purposes of this paper, we do not really have to choose. Our main goal is to motivate empirically the basic difference between adjectives and verbs. According to our view, stative verbs have both a theme argument and an eventuality argument, whereas adjectives by themselves have neither (see (9)). Now, the theme argument of the stative verb must somehow be identified with the theme argument of the first verb in a sentence like (36b); perhaps this prevents verb raising, as in Jaeggli and Hyam 1993. Moreover, the eventuality argument of the stative verb must be bound by the sole tense in (36b); perhaps this binding relationship fails once the tense affixes to the first verb, as in Pollock 1991 and Déchaine 1993. Either way, the crucial point is that corresponding adjective in (36a) does not have a theme role to be shared, nor an eventuality role to be bound; hence neither kind of constraint rules out (36a) in Edo, or (34a) in English. Hence, our theory of the adjective/verb distinction figures to play a central role in the explanation of these facts, whatever the details of how SVCs and resultative APs are ultimately licensed.

## 7. Conclusion

In this paper, we have shown that there is a fundamental difference between the argument structures of adjectives and comparable verbs: verbs take theme (and event) arguments, whereas adjectives apart from a Pred head do not. This proposal accounts for the long-standing puzzle of why adjectives behave like unergative predicates, whereas almost synonymous verbs pattern as unaccusatives. The proposal also finds relatively direct support from at least three facts about Edo: adjectives can be seen not to head small clauses, adjectives do not form argument-taking nominalizations, and adjectives do not unite with the verb to inhibit the realization of inflectional morphology in resultative constructions. In all these ways, adjectives differ minimally and predictably from verbs.<sup>3</sup>

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<sup>3</sup>Another clear syntactic difference between stative verbs and similar adjectives is that only adjectives can directly modify nouns in a distinctive attributive construction, whereas stative verbs can modify nouns only if they become participles or relative clauses. Thus in English one has *the hungry man*, *the man that hungers*, and *the hungering man*, but not *\*the hunger man*; and the same holds true in Edo (except that Edo has no participial morphology). See Baker 1996b for a tentative analysis of these facts within this same framework of assumptions.

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