Property Concepts in the Cariban family:

Adjectives, Adverbs, and/or Nouns?

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1   Introduction[1]

It has been a staple of typology since Dixon (1977, 1982) that the adjective class is not

universal, with "property concepts" (semantic adjectives) sometimes found in a lexical class of

adjectives, but sometimes in other word classes, especially verbs and nouns. Much of the

descriptive typological discussion since has focused on the question of whether a "missing"

adjective class is a subcategory of nouns or a subcategory of verbs. The theoretical discussion,

too, has focused on the ways in which adjectives are midway between nouns and verbs, e.g.

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[1] Data sources for this work: Hixkaryana: Derbyshire (1965, 1979, 1985); Makushi: Abbott (1991), Amodio and Pira (1996), Raposo (1997); Tiriyó: Meira (1999), field notes, Carlin (2003); Akawaio: Gildea (2005), Fox (2003). Abbreviations used in this work: 1 = first person; 1+2 = first person dual inclusive; 1+3 = first person plural exclusive; 2 = second person; 3 = third person; 3ANA = third person anaphoric; 3R = third-person reflexive possessive (coreferential with subject); A = subject of transitive verb; ADJ = adjective; ADV = adverb; AGT = agent; AN = animate; ATTR = attributivizer (essive marker); AZR = adverbializer; C.NZR = circumstance nominalizer; COL = collective (number); COP = copula; DETR = detransitivizer; DIR = directional; EMPH = emphatic; ERG = ergative; FRUST = frustrative; HAVE = 'having' (predicative possession) marker; HRSY = hearsay; IMMED = immediate; IMPER = imperative; INSTR = instrumental; INTNS = intensity marker; LK = linker or relator prefix; LOC = locative; NEG = negation; NEW = new information marker; NZR = nominalizer; O = object of transitive verb; O.NZR = object nominalizer; POS = possessed form, possession marker; POT = potential adverbializer ('good for V-ing'); PRES = present; PRPS = purpose; PST = past; PTC = particle; QNT = quantity; RECP = reciprocal; REDUP = reduplication; REIT = reiterative; S = subject of intransitive verb.

Givón's (2001) suggestion that adjectives semantically fall between the time stability of nouns and the time instability of verbs; cf. also Croft's (2002.87ff) more in-depth discussion of *properties* as midway between *objects* and *actions* also in terms of relationality, stativity, and gradability. However, beginning with Derbyshire (1979, 1985), most modern descriptions of Cariban languages have argued that there is no category "adjective," but rather that property concepts are divided between the lexical categories of "noun" and "adverb" (e.g. Koehn and Koehn 1986 for Apalaí, Abbott 1991 for Makushi, Hawkins 1998 for Waiwai, Meira 1999 and Carlin 2004 for Tiriyó/Trio, Tavares 2005 for Wayana). One purpose of this paper is to provide a clear statement of the data and argumentation for this analysis.

In his introductory article to a more recent book on this topic, Dixon (2006) reverses course, asserting that a structural word class "adjective" actually should be identifiable in every language. Of relevance to the Cariban family is his claims in §8 that what has been called the "adverb" class in Hixkaryana and Tiriyó (and by extension, other northern Cariban languages) is better labeled an adjective class, and in §9 that Abbott's Makushi analysis misses two classes of adjectives, one which Abbott calls adverbs and the other descriptive nouns. A second purpose of this paper is to demonstrate that Dixon's arguments for this position are unconvincing, but that nonetheless, a more careful look at the Cariban data yields a clear syntactic distinction between two subsets of the adverb class, one of which contains exclusively adjectival concepts. This finding leads us to consider more closely the theoretical criteria by which we might decide whether to call this latter category a subcategory of adverbs or an independent lexical category of adjectives.

We begin with a brief synopsis of open word classes in northern Cariban languages (section 2), after which we offer a somewhat detailed discussion of the syntactic constructions via which property concepts are attributed to or predicated of nouns (section 3). Following this first pass at the morphosyntactic facts, we next turn to the details of the argumentation for identifying a category of adjective hiding within either the previously identified category of nouns or of adverbs (section 4). We conclude (section 5) with a call for further research on the typologically interesting question of word classes and property concepts in other Cariban languages, and in under-documented languages more generally.

2   Morphosyntactic properties of word classes in Northern Cariban languages

The Cariban languages so far described have presented morphologically and syntactically defined categories of verb, noun, postposition, and a host of particles and ideophones. Noun and verb are large open classes, with large numbers of underived roots and extremely productive derivational morphology. Alongside these classes is one more lexical category containing semantic adverbs and adjectives; this is a relatively small basic lexical category that becomes an open class through productive derivational morphology. Postpositions, particles, and ideophones, on the other hand, are relatively large closed classes that are not augmented by productive derivational morphology. In section 2.1, we lay out the fundamental inflectional morphology and syntactic behavior that distinguishes between the three open word classes; in section 2.2, we summarize the derivational morphology that enables stems of one class to become stems in the other two.

2.1   The morphosyntax of the main word classes

2.1.1   Verbs

The category of **verbs** is identifiable in all Cariban languages by its morphological properties: there usually is a number of affixes that are characteristic only of verbs. The number of affixes may vary from language to language, but it includes at least imperative markers (usually including, besides a static, also a dynamic or 'go do it' imperative, plus a few unique person-marking prefixes) and class-changing affixes (adverbializers: the supine or 'purpose of motion' form; participant nominalizers refering to A, O, S, and to a general circumstance/instrument).

Gildea (1998) reconstructs (among others) the aforementioned nominalizers, which can be consistently used to identify (via their reflexes) the category of verbal root. Gildea further identifies seven different clause types across the Cariban family; one of these has a unique set of person-marking prefixes and tense-aspect-mood-number suffixes, but the other six clause types share their inflectional morphology with nouns and adverbials (postpositions). Although Gildea did not discuss imperatives, we assert that the imperative clause type is cognate in all Cariban languages described to date, and therefore it can always be used to distinguish the category of verbs from other lexical categories. Because the category of verbs is not at issue in the adjectives debate, we leave this as an assertion to be demonstrated in future work. Given that the unity has been called into question for both the noun and adjective classes in Northern Cariban, we offer somewhat more detail for each of these.

2.1.2   Nouns

Nouns have specific morphological properties, such as markers of possession (both of possessed state and of the person of the possessor; see Table 1), number (traditionally called

'collective') as well as a certain number of meaning-changing elements (suffixes or particles, depending on the language) marking features such as past ('ex-N'), diminutive ('small N'), etc. (see Table 2). There are also class-changing affixes that convert nouns into verbs or adverbs, many of which are exclusive to nouns and can thus identify them (not illustrated here). The possessive prefixes are mostly shared with other word classes (they also occur on postpositions and certain verb forms); the meaning-changing elements are mostly exclusive to nouns, though this varies from language to language for specific elements; for each language, the ones exclusive to nouns can be used to define the category.

TABLE 1. Examples of possessive morphology

	TIRIYÓ	HIXKARYANA	MAKUSHI
	maja 'knife'	kanawa 'canoe'	ewɨʔ 'house'
1	ji-maja(-ɾɨ)	ro-kanawa-ɾɨ	uj-ewɨʔ
2	ə-maja(-ɾɨ)	a-kanawa-ɾɨ	aj-ewɨʔ
3	i-maja(-ɾɨ)	ɨ-kanawa-ɾɨ	it-ewɨʔ
1+2	kɨ-maja(-ɾɨ)	kɨ-kanawa-ɾɨ	uj-ewɨʔ-kon
3R	tɨ-maja(-ɾɨ)	t-kanawa-ɾɨ	t-ewɨʔ

TABLE 2. Examples of nouns with some meaning-changing elements (including number).
S = suffix; P = particle; N = exclusive to nouns; — = non-existant.

ELEMENT	TIRIYÓ	HIXKARYANA	MAKUSHI
number (collective)	-kon (S, N) i-majaː-kon 'their knive(s)'	komo (P) wewe komo 'trees'	-kon (S, N) penaɾon-kon 'ancient ones'
past / devalued	-mpə (S, N) maja-mpə 'old, ex-knife'	tho (P/S, N)[2] hoɾʲkomo tho '(dead) old man'	-ɾɨʔpɨ (S, N) u-je-ɾɨʔpɨ 'my former tooth'
diminutive	-pisi(kə) (S, N) oto-pisi 'a little animal'	tʃko (P) kana tʃko 'small fish'	mɨɾɨkkɨ (P, N) (no examples)

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[2] Derbyshire distinguishes two **tho**'s in Hixkaryana: a suffix and a particle (1985.245). Both are exclusive to nouns.

Nouns also have specific syntactic features. They can function as subjects and objects of transitive and intransitive verbs. They can also occur as arguments of postpositions (including the adverbializing particle and/or postposition **pe/me**, part of the copular construction described in section 3.1.2). All nouns can occur in the possessor slot of a possessive phrase, and most can also be the possessum, as illustrated in the second row of Table 3 (note the linking element **j-** which occurs in certain languages, like Makushi and Hixkaryana, but not in others, like Tiriyó).

TABLE 3. Examples of nouns (NPs) as objects of postpositions and in possessive phrases.

	TIRIYÓ	HIXKARYANA	MAKUSHI
Postpositional phrases	sikoɾo pona school to 'to the school'	ɾo-mɨn j-aka 1-house.POS LK-to 'to my house'	waikin pɨkɨɾɨ deer after 'following the deer'
Possessive phrases	pahko i-pata 1.father 3-village 'my father's village'	bɨɾʲekomo j-oknɨ boy LK-pet 'the boy's pet'	i-san-tonon j-ewɨʔ 3-mother-COL LK-house 'their mother's house'

Nouns identified in Cariban languages by using the above properties are mostly semantically consistent with the expected time-stable referents. It is, however, not very difficult to encounter meanings typically translatable into Indo-European languages with adjectives.

TABLE 4. Examples of nouns with property ("adjectival") meanings.

TIRIYÓ	HIXKARYANA	MAKUSHI
aene 'alive (one)'	aweʃenɨ 'wrong (one)'	aimutun 'white (one)'
akɨpɨɾɨ 'hard (one)'	eɲhoɾu 'goodness, good'	anneʔ 'stingy (one)'
iwape(tɨ) 'deep (place)'	eɲʃemnɨ 'not alive (one)'	aʔkiʔku 'sweet (one)'
mono 'big (one)'	hoɾʲe 'big (one)'	inon 'big (one)'
tɨpɨɨ 'thick (one)'	(i)khana 'deep (place)'	moɾɨ 'good (one)'

This group of 'property nouns' has not yet been studied in detail in any Cariban language. As far as the available data goes, there does not seem to be any important morphosyntactic difference between them and other semantic groups of nouns: besides having typically nominal roles such as subject and object, they can, as is shown in Table 5, also bear possessive morphology, co-occur with meaning-changing elements, and be arguments of postpositions.

TABLE 5. Typically nominal behavior of 'property nouns'.

	TIRIYÓ	HIXKARYANA	MAKUSHI
possessive morph.	**i:-mono** 3-big:POS 'its size'	**koso j-amusu-nu** deer.sp LK-heavy-POS 'the deer's weight'	
meaning-changing elements	**mono-pisi** 'a little big' **mono-mpə** 'no longer big' **mono-ton** 'big ones'	**horʲe-tho** 'no longer big'	**inon-kon** 'big ones' **moɾi-kon** 'good ones'
with postpositions	**mono pə** big.one on 'on the big one (tree)'	**ekeh hona** sick.one to(ward) 'to(ward) the sick (one)'	**aʔneʔ jaʔ** hot.one into 'into the hot one (water)'

Note that these property nouns also need the essive **pe/me** particle when they occur as copular complements (1a; see section 3.1.2) in those languages where this particle is obligatory (e.g. Makushi), and also when they occur as manner modifiers of verbal predicates (1b).

MAK

(1a) **aʔneʔ   pe   u-puʔpai   man**   (1b) **a-pon   ekaʔmaʔ-kɨ   kaʔneʔ   pe**

　　　hot.one ATTR 1-head   3.COP   2-clothes put.on-IMPER fast.one ATTR

　　　'My head is <u>hot</u>.'   'Put on your clothes <u>fast</u>.'

2.1.3 Adverbs

Unlike nouns and verbs, **adverbs** in Cariban languages do not present inflectional morphology: no person-, number- or tense-aspect-marking affixes are attested. Their only morphological possibility is nominalization (described in section 2.2 below). Syntactically, adverbs typically have the same distribution as postpositional phrases, serving as complements of the copula or as modifiers of verbal predicates.

TIR

(2a) <u>kure</u> ti-rə-e   i-:ja   (2b) <u>təremine</u>   wïtoto nï-tən

good   PST-make-PST 3-AGT   with.song   person   3S-go.PST

'He made it (= a blanket) <u>well</u>.'   'The person went/walked <u>singing</u>.'

HIX

(3a) <u>karʲhe</u>   ɾmahaʃa   n-te-he   (3b) <u>asako</u> ɾo   nï-nïh-tʃownï

fast/strong CONTRAST 3S-go-PRES   two   totally 3S-sleep-PST

'This one goes/walks very <u>fast</u>.'   'He slept <u>twice</u> (= two nights).'

MAK

(4) j-arï-ʔpï-i-ja   <u>aminke</u> tuna kata pïʔ,   pïranna   j-aɾakkita   pïʔ

3O-carry-PST-3A-ERG far   water DIR   about sea   LK-middle   about

'He (= frog) carried him (= man) <u>far</u> into the water, to the middle of the ocean.'

When looking at the members of the adverb class in Cariban languages, one is struck by discovering many meanings typically translatable into Indo-European languages with

adjectives: size (Tiriyó **pija** 'small'), shape (Hixkaryana **tamnoɲe** 'round'), other basic physical properties (Makushi **saʔme** 'hard'), color (Tiriyó **sikinme** 'black'), speed (Hixkaryana **kɨrhɨraro** 'slow'), and even human propensities and feelings (Hixkaryana **tukhorʲe** 'gentle, polite').[3] The same class also includes more typically adverbial meanings: time (Tiriyó **kokoro** 'tomorrow'), location (Hixkaryana **tano** 'here'), direction (Makushi **miarɨ** 'hither'), manner (Hixkaryana **huɾuhuɾhe** 'floating', Makushi **amaʔpe** 'stealthily'), quantity (Makushi **tamɨʔnawɨrɨ** 'all', Tiriyó **tapɨime** 'many', Hixkaryana **asako** 'two'). All of these share the morphological property that they can be nominlized, a proprty we turn to in the next section.

2.2   Category-changing processes: adverbs from nouns and nouns from adverbs

All members of the three open classes of words in northern Cariban languages can shift categories to each of the others via productive derivational morphology. Verbs can directly become nouns or adverbs, nouns can directly become verbs or adverbs, and adverbs can directly become nouns, whereupon they can then take advantage of nominal verbalizing morphology to become verbs. Once again, we leave aside illustration of the derivational processes involving verbs, limiting our exposition to the processes that derive nouns from adverbs and adverbs from nouns.

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[3] Given the derivational relation found between adjectives and (usually manner) adverbs in most European languages (e.g. English *happy* → *happily*, etc.; in German, an undeclined adjective like *gut* 'good' can also be an adverb, meaning 'well'), a fact duly pointed out in traditional grammars, the connection between adverbs and adjectives in Cariban languages is perhaps not so surprising. Most theoretical work on word classes, however, does not seem to consider it important: adjectives are mostly treated as intermediate between nouns and verbs, both in the functionalist-typological literature – e.g. Givón's (2001) time-stability continuum – and in generative/formalist approaches – e.g. with syntactic features like +V, +N (Haegeman 1994, or, in a more nuanced way, Baker 2003), and adverbs as a heterogenous 'default' category. The Cariban case described in this paper shows, we hope, that the relation between adjectives and adverbs deserves more attention.

First, we discuss how nouns become adverbs. There are basically two processes, one based on a prefix **t-** plus a range of similar and probably historically related suffixes (**-ke**, **-ne**, **-re**, **-je**, **-e**...) forming synchronic circumfixes, and the other on a suffix and/or particle (the essive **pe/me**).[4] A full semantic description of these morphemes is beyond the scope of this paper (see Carlin 2004.470ff); it seems clear, however, that they define morphological subclasses of adverbs.

TABLE 6. A few adverbialized nouns.

TIRIYÓ		HIXKARYANA		MAKUSHI	
ti-maja-ke	'having a knife' (**maja** 'knife')	**t-ot-ke**	'having meat food' (**oti** 'meat food')		
ti-pana-ke	'having an ear' (**pana** 'ear')	**t-amta-ke**	'wide' (**amta** 'width')	**it-ewiʔ-ke**	'having a house' (**ewiʔ** 'house')
ti-pana-e	'able to hear'	**ti-rwo-ɲe**	'talking, able to talk' (**rwo** 'talk, language')	**nora pe**	'dirty' (**nora** 'dirt')
ti-pi-je	'married, wifed' (**pi** 'wife')	**t-ahoʃe-rʲe**	'strong' (**ahoʃe** 'strength')	**mori pe**	'good' (**mori** 'good one')
ti-kati-ne	'fat, fatty' (**i-kati** 'fat')	**ti-hro-je**	'by, on foot' (**hro** 'foot')	**siriri pe**	'now, today' (**siriri** 'this one')
ti-pəmu-re	'blossoming' (**ipəmu** 'flower')	**ekeh me**	'sick, ill' (**ekehi** 'ill, dead one')		
wəri me	'feminine, female' (**wəri** 'woman')	**toto me**	'human, like a human' (**toto** 'human being')		
tipii me	'thick' (**tipii** 'thickness')	**hawana me**	'as visitors, visiting' (**hawana** 'visitor')		
kumu me	'brownish' (**kumu** 'palm sp.')				

The syntactic origin of these processes is evident: **pe/me** is still a particle or postposition (depending on the specific language, or even the specific noun in a specific language) that can adverbialize full noun phrases in all Cariban languages so far described. The **t- -ke** circumfix is clearly relatable to the third-person reflexive possessive prefix **t-** and the instrumental postposi-

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[4] Further adverbializing processes can be found in negation: negative suffixes (depending on the language, **-hra**, **-mra**, **-ːra**, **-pra**, **-mna**, **-nna**, etc.) also create negative adverbs; these can also be nominalized. Since their specificities are not relevant for the topic at hand, derived negative adverbs will not be further discussed in this paper.

tion **ke** ('with the subject's own N'); the other suffixes would have come from interactions between stem-final consonants and a single adverbializing suffix, possibly **-je** (also attested as a perlative marker on postpositions).

The synchronic differences between these sources and their constructions are, however, significant enough to warrant a different treatment. For instance, the source elements **t-** '3R' and **ke** 'INSTR' can still co-occur with their source meaning ('with/using the subject's own N'), contrasting with the meaning of **t- -ke** ('having N'), as seen in the Tiriyó and Hixkaryana examples below. Note that the **t-** '3R' prefix occurs on a possessed stem in the source construction, as the suffix **-ri** 'POS' makes clear in Hixkaryana; and even in Tiriyó we can still observe a reflex of this prefix in the form of vowel length (**tɨ-maja-ke** and **tɨ-majaː=ke** form a minimal pair).

TIR

(5a) **tɨ-maja-ke**   nai   (5b) **tɨ-majaː=ke**   n-ahkəː-jan

      AZR-knife-HAVE   3.COP   3R-knife.POS=INSTR   3A-cut-PRES

      'S/He has a knife.'   'S/He is cutting it with his/her own knife.'

HIX

(6a) **t-amo-ke**   (6b) **t-amo-rɨ**   ke   rma   n-ekarʲme-konɨ   heno

      AZR-hand-HAVE   3R-hand-POS   INSTR   PTC   3A-tell-PST   PTC

      'having a hand'   'He said it with his own hands (without speaking).'

For **pe/me**, one observes a continuum ranging from cases with predictable meaning (**pe/me** = 'as', 'like'; Tiriyó **tarəno me** 'as, like a Tiriyó', from **tarəno** 'Tiriyó (person)') via cases with

more specific meanings becoming frequent (see Tiriyó **kumu me** 'brownish' from Table 6

above, a color, not simply 'as, like a certain species of palm tree', though the latter meaning

still remains possible) to cases in which there is only one specific meaning, the source word

often being no longer synchronically available (Tiriyó **wapəme** 'bluish', **sikinme** 'black'; ***wapə**

and ***sikin** are not attested as nouns).

Just as all nouns can be adverbialized, all adverbs can also become nouns. This is usually done

with several different prefixes that define morphological subclasses (e.g. Tiriyó **-no, -to, -mɨ**;

Hixkaryana **-no, -mɨ**; Makushi **-n, -nan**). Interestingly, the sublcass defined by the suffix **-mɨ**

contains only adverbs derived with the prefix **t-** and its various possible co-suffixes (**-ke, -je,**

-ne, -nje, -ɾe, -se, -e, -so, etc.).

TABLE 7. A few nominalized forms.

TIRIYÓ	HIXKARYANA	MAKUSHI
kuɾe 'good' → kuɾa-no	ohʃe 'good' → ohʃa-no	kuɾeʔne 'big' → kuɾeʔna-n
pija 'small' → pija-n	kaɾʲhe 'strong' → kaɾʲhe-no	tiwin 'one' → tiwin-nan
əːkənə 'two' → əːkənə-n	asako 'two' → asako-no	
pəeɾa 'stupid' → pəeɾa-to	omeɾoɾo 'all' → omeɾoɾo-no	teereʼmase 'visible' →
əːseːnə 'ill' → əːseːnə-to	oɾoke 'yesterday' → oɾoke-no	teereʼmase-n 'one that can be
əiɾe 'wild' → əiɾa-to	jake 'many' → jake-no	seen'
taːmiːɾe 'red' → taːmiːɾe-n[5]	tutʃuɾʲe 'red' → tutʃuɾʲe-mɨ	
təːnakəe 'liar' → təːnakəe-n	tɨhje 'married' → tɨhje-mɨ	
tɨɾetɨke 'horned' → tɨɾetɨke-n	tonoso 'edible' → tonoso-mɨ	

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[5] In Tiriyó, and perhaps also Makushi, the nominalizing suffixes **-mɨ** and **-no** tend to reduce to **-n** word-finally. If CCV-initial suffixes or clitics follow the word, the difference between these two nominalizers is maintained. With the nominal past suffix **-mpə**, for instance, **pijan** 'small one' and **taːmiːren** 'red one' become **pijano-mpə** 'the one which was small' and **taːmiːɾemɨ-mpə** 'the one which was red'. Note also that **-mɨ**, unlike **-no**, does not cause a stem-final **e** to change to **a**.

The meaning of the resulting nominalizations is ambiguous between that of an entity having that property (usually when not possessed: 7a), or the property itself (when possessed: 7b-c).

TIR

(7a) iɾə   mao   tɨw-əe-se   <u>kawə-no-ton</u>, ma, soni,   watəikə,   akaraman...

that   at.time PST-come-PST high-NZR-COL   NEW vulture.sp vulture.sp vulture.sp

'At that moment came all <u>the high ones</u> (= the ones who live up high), the *soni* vulture,

the *watəikə* vulture, the *akaraman* vulture...'

(7b) eːkaːɾə   nai,   <u>kanawaimə   i-kawə-no</u>   nono   pəe?

how   3.COP   airplane   3-high-NZR   ground from

'How high from the ground is (that) airplaine flying?'

(Lit. How is that <u>airplane's height</u> from the ground?)

(7c) kananama-n,   <u>i-siririma-no</u>

yellow-NZR   3-blue-NZR

'It is yellowish blue.' (Lit. <u>Its blue</u> is yellow.)

HIX

(8a) <u>karʲhe-no</u>   kaʃe   mak tɨ   n-eh-ʃakonɨ   ha

strong-NZR   because PTC   HRSY 3S-COP-PST   INTNS

'It was because (he was a) <u>strong</u> (man).'

(8b) ɨ-matkɨ-ɾɨ kaw n-a-ha,   un metru me n-a-ha,   <u>ɨ-matkɨ-ɾɨ kawo-no-nɨ</u>

3-tail-POS long 3S-COP-PRES one meter ATTR 3S-COP-PRES 3-tail-POS   long-NZR-POS

'Its tail is long, it is one meter, <u>its tail's length</u>.'

Given that each word class can transition to the other via derivational morphology, the logical possibility arises that a single root could make the transition more than once, e.g., that a noun could be adverbialized, then renominalized (see 9-11 below), and perhaps then even re-adverbialized (not yet attested).

TIR

(9)   ma, irə mao   tɨw-əe-se   ikɨː-jamo   ma-n   ton

        NEW this TEMP PST-come-PST   3:y.br-COL ATTR-NZR COL

        'Well, then came those who are her younger brothers.'

HIX

(10)   onokna   komo   i-mʃek-rɨ   me-no-hnɨ   jak   mokɾo   ha

        creature COL   3-child-POS ATTR-NZR-NEG PTC   that.one PTC

        'That one (the causer of our problems) is not just the offspring of animals.'

MAK

(11)   ajawɨ   pa-n   mɨːkɨɾi

        madness ATTR-NZR that.one

        'That one is a madman.'

Finally, we identify the property of reduplication in Tiriyó (and possibly also in the neighboring languages Apalaí and Wayana, but apparently not in any other member of the Cariban family) that distinguishes adverbs and verbs (and their nominalizations) as distinct from underived nouns. The reduplicated adverbials add the meaning 'all around', 'all over the

place', 'to all' (13a-b); the reduplicated nominalized forms usually have the meaning of 'many entities of the same kind (scattered all around)' (12, 13c).

TIR[6]

(12)   **kuɾe** 'good' → **kuɾa-no** 'good one' → **kuɾa-kuɾa-no** 'many good things'

    kawə 'high, tall' → **kawə-no** 'tall one' → **kawə-kawə-no** 'many tall people/things'

    tɨkoɾoːje 'white' → **tɨkoɾoːje-n** 'white one' → **tɨko-tɨkoɾoːje-n** 'many white things'

TIR

(13a) **aɾe-aɾehtə**   **nai**   (13b) **epo-epo-ne**   **ɾəken**

       REDUP-3.on.top   3.COP   REDUP-enough-COL only

       '(the roots) are all linked to each other'   'It will be enough for everybody.'

       (lit. on top of each other)

(13c) **təinken pa**   **nai**   **ərinə,**   **tɨpa-tɨpanake-n**

       once   again 3.COP   clay.pot   REDUP-having.ears-NZR

       'Again there is a clay pot, one with several 'ears' (= handles).'

In sum, the lexical categories of noun and adverb are robust: nouns present inflectional morphology whereas adverbs do not, the syntactic distribution of the two classes do not overlap, and rich derivational morphology allows for free passage of stems between the two categories.

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[6] The change of final vowel caused by nominalization in **ku☐e** → **kuɾa-no** is also present in the reduplicant, which shows that reduplication logically follows nominalization. In general, reduplication is a widespread post-lexical process in Tiriyó, affecting e.g. fully inflected verbs, with the reduplicant including both inflectional prefixes and part of the verb stem (e.g. **w-ekaɾama** 'I gave it', **weka-w-ekaɾama** 'I gave it (many times, or to many people)'; for details, see Meira 2000).

3 The grammar of property predication and modification

Property concepts modify participants in two different ways: as predicates ('the man is big') and as attributive modifiers ('the big man'), typically inside the NP headed by the modified noun. Given that property concepts are divided between the lexical categories of noun and adverb, one might guess that each word class plays a somewhat different role in nominal modification. This is the case: typically, predicate modification is carried out by means of adverbs and attributive modification by nouns. Since the semantic makeup of lexical categories in Cariban languages has not so far been studied in detail, we cannot fully determine if there are family-wide patterns in which certain semantic subcategories of property concepts align with the syntactic categories of noun or adverb (but see section 5 for some tendencies). Note, however, that which lexical category a given root falls into is relatively unimportant: as we have already seen, all adverb root can readily become noun stems and all noun roots can readily become either adverb stems or arguments of postpositional phrases which are syntactically indistinguishable from adverbs.

In section 3.1, we explore the grammar of nonverbal predicates, and in section 3.2, the grammar of attributive modification. In section 3.3, we turn our attention to another typical use of adjectives: comparative constructions ('the man is bigger than the breadbox').

3.1 Nonverbal predicates

Nonverbal predicates in most Cariban languages have not been thoroughly described in terms of either grammar or semantics. Most grammars include examples of different nonverbal

predicate constructions without further details about the semantic difference between these constructions or the classes of predicates that might (or might not) be compatible with each construction. Payne (1997) identified six major functions of nonverbal predication: equative, proper inclusion, attributive, locative, existential, and possession. All six have been illustrated from the Akawaio language (Gildea 2005), coded via two different constructions: nonverbal predicates nonverbal predicates without a copula do the first three functions plus possession, whereas those with a copula do all six functions. Both constructions may be used to predicate property concepts of a subject, the former requiring a nominal predicate (14a) and the latter an adverbial predicate (14b). In other words, the Akawaio copular construction has only adverbial complements, whereas the non-copular construction has only nominal complements.

(14a) **juwaŋ kɨɾə-ɾə**   (14b) **juwaŋ be   maŋ**

    hunger 3AN-EMPH   hunger ATTR 3.COP.IMMED

    'He's hungry (always).'   'He's hungry (now; a fact).'

The semantic difference between these examples (as indicated in the glosses) is consistent with Pustet's (2003) finding that the absence of the copula correlates with stability (essence, permanence), whereas its presence suggests instability (temporariness, contingence).

Note that the property concept 'hungry' is a noun in Akawaio, so in order to occur in a copular predicate, it must be marked with an adverbializing morpheme, in this case, the attributive or essive marker **be** (14b). In contrast, the Akawaio color term **aimu'ne** 'white' is an adverb and shows the opposite pattern: it occurs in its basic form in the copular predicate (15a), but must be nominalized to serve as the noncopular predicate (15b). A similar pattern is found with

Akawaio derived adverbials like **tuzubaraige** 'having a cutlass': the adverbial form occurs in the copular predicate (15d) and a re-nominalized form in the noncopular predicate (15c).

(15a) **aimuʔne Ø-eʔ-tai**

white   1S-COP-PST

'I was white...'

(15b) **taːne serəbe taːne juweːi Ø-eʒi**

but   now   but   red   1S-COP.PRES

'...but now, I am red.'

(15c) **tu-zubaɾa-ige-naŋ   kɨɾə-ɾə**

AZR-cutlass-HAVE-NZR 3AN-EMPH

'He owns a cutlass.'

(Lit. 'He is a cutlassed one';

 it makes him who he is)

(15d) **tu-zubaɾa-ige   Ø-eʔ-aik**

AZR-cutlass-HAVE 1S-COP-PRES

'I have a cutlass.'

In sections 3.1.1 to 3.1.3, we examine examples of these constructions from the three Cariban languages mentioned by Dixon: Tiriyó, Hixkaryana, and Makushi. We first look at the non-copular construction with nominal complements (3.1.1) and then at the copular construction with adverbial complements (3.1.2). In the final subsection, we discuss the "mixed" constructions found in Tiriyó and Hixkaryana (but not in Akawaio or in Makushi), in which nouns occur in copular predicates and adverbs in noncopular predicates (3.1.3).

3.1.1 The non-copular construction

In all three languages, we find a non-copular construction parallel to that seen in Akawaio, with nouns or nominalizations serving as the predicate. Text examples were not difficult to find in all three languages, usually showing the semantics of stability expected for this construction, as can be seen below (the non-copular constructions are underlined):

TIR

(16a) atɨtoːme ɨrə apo n-ka-n   ji-pɨ,   kuɾa-no   ji-pɨ   i-jomi,   tɨː-ka-e

why   this like 3S-say-PRES 1-wife good-NZR 1-wife 3-language PST-say-PST

' "Why is my wife talking like this? (Usually) her language is good (= has no accent),"

 (he) said.'

(16b) owa,   mono,   tɨː-ka-e,   mono   jaɾawaɾe

NEG   big.one PST-say-PST big.one Yaɾaware

'No, he is big,' (he) said, 'Yaɾaware is big.'

HIX

(17a) mojoɾo-no   mokjamo ha,   woɾɨskomo heno ha,   Ø-ke-konɨ hatɨ,   ʃaɾʲemna ha

elsewhere-NZR those.AN INTNS woman   QNT INTNS 3S-say-PST HRSY otter   INTNS

' "They are the ones far away, the women," said the otter.'

(17b) ɨto-no-tho   uɾo

there-NZR-PST   1

'I am the one who was, used to be there.'

MAK

(18a) miaɾɨ toʔ   wanɨ-ʔpɨ,   it-un   saʔne enkaɾuʔna-n

thither 3COL COP-PST   3-father PITY   blind-NZR

'They were there, (and) his father was blind.'

(18b) mɨːkɨɾɨ   teseuɾɨno   tusawa

that.AN   third.one   chief

'That one was the third chief.' (Part of a list of all past chiefs of a certain village.)

3.1.2 The copular construction

In all three languages we find a copular construction that takes as its predicate an adverbial complement, whether a simple or derived adverb or another type of adverbial, such as a postpositional phrase (including here also nominals marked with the attributivizer or essive morpheme, **be** in Akawaio, **pe** in Makushi, **me** in Hixkaryana and Tiriyó). And again, it is a simple matter to find examples like the following in texts.

TIR

(19a) <u>moːraimə nai,   mono   me</u>

armadillo 3.COP big.one ATTR

'The armadillo is big.'

(19b) <u>moːraimə marə ɾe kaːɾi me t-ee-se</u>

armadillo also FRUST force ATTR PST-COP-PST

'The armadillo is also strong, but in vain.'

(19c) <u>ma, kuɾe nai   seɾə, uɾu-tə   nai,</u> wət-uɾu-to   apo ɾo   pa   nai

NEW good 3.COP this   advise-POT 3.COP DETR-advise-NZR like EMPH REIT 3.COP

'Well, this is good, this is good for advising, it is just like advising (＝good education).'

(An old man talking about a recently published book of traditional stories in Tiriyó.)

HIX

(20a) <u>ohʃe w-eh-ʃaha</u>

good 1S-COP-PRES

'I am well.'

(20b) <u>t-ono-so   n-a-ha   kjokjo</u>

AZR-eat-AZR 3S-COP-PRES parrot

'Parrot can be eaten.'

(Lit. 'Parrot is edible.')

(20c) <u>toto me   n-eh-ʃakonɨ amɲehɾa haka,   kuɾumu</u>

person ATTR 3S-COP-PST long.ago then   buzzard

'The buzzard used to be a man at that time, long ago.'

MAK

(21a) **tiwin wei <u>toʔ wanɨ-ʔpɨ emiʔne</u>**

    one   day 3COL COP-PST hungry

    'One day <u>they were hungry</u>.'

(21b) **innaperɨ <u>kaʔneʔ pe   nai</u>**

    really   fast.one ATTR 2.COP

    'It is really true, <u>you are fast</u>.'

(21c) **<u>kusan pe   i-puʔpai siʔpo wanɨ-ʔpɨ</u>**

    length ATTR 3-head   hair   COP-PST

    'His head hair was very long.'

3.1.3 "Mixed" constructions

Having illustrated the constructions common to all four languages, let us now look at "mixed" patterns which are not found in all these languages and are less frequent even in the languages in which they are found. At this time, we cannot speculate about the meaning differences associated with these mixed, and possibly innovative, constructions (see section 4.3). Cases of a predicate adverbial occurring in the non-copular construction have been found in Tiriyó, where they are actually not infrequent:

TIR

(22a) **<u>pahko   kuɾe,</u> tɨː-ka-e**

    1:father   good   PST-say-PST

    ' "<u>My father is well</u>," (he) said.'

(22b) **ma,   <u>anja i-moitɨ   əːseːnə,</u> wəɾi   nəɾə,   winihpë eka,   mɨnome**

    NEW   1＋3 3-relative ill   woman 3ANA   Winihpë 3.name   pregnant

    'Well, <u>our relative is sick</u>, she is a woman, her name is Winihpë, she is pregnant.'

Less frequent, but still attested (in Tiriyó, Hixkaryana, and Makushi), are cases of copular constructions with non-adverbial complements, e.g. a nominal without the adverbializer:

TIR

(23) tɨ-ːma-ke,   kura-no   n-ai,   i-ːman me,   irə-npə pəe   tɨwərən

ADV-flute-PROP beautiful-NZR 3.COP   3-flute ATTR   this-PST from   other

'There were flutes (in the show), <u>it was beautiful</u>, like flutes, and then there was another

 (type of flute).'

HIX

(24a) <u>ohʃa-no</u>   harha   mokjamo   n-eh-tʃownɨ ha

good-NZR   back.again those.AN   3S-COP-PST   INTNS

'Those people became good people again.'

(24b) <u>moro-no</u>   mokro n-ah-ko   ro-hetʃe,   Ø-ke-konɨ   hatɨ

there-NZR   that.AN 3S-COP-PST   1-wife   3S-say-PST   HRSY

' "The one who is over there, <u>that one has become my wife</u>," (he) said.'

MAK

(25) <u>toʔ saːkɨrɨro-no   a-wanɨ-ʔpɨ ʒeronimu</u>

3COL four-NZR   3S-COP-PST Jeronimo

'The fourth one (chief) was Jeronimo.'

This quick overview of attributive predicates in three Cariban languages shows that the two most frequent constructions present a clear semantic difference (stability/instability), coupled

with distributional differences between nouns and adverbs (the copular construction requires adverbial complements, the non-copular construction nominal ones). This clarity is, however, called into question by the existence of "mixed" cases, in which nominals and adverbials each occur in the construction characteristic of the other, with unclear semantic consequences (but see section 4.3). We now turn to attributive modification, which uses only nouns.

3.2   Nominal modification

In the area of attributive nominal modification (*the big man*), the property concept must be a noun, which occurs in a construction that is not clearly grammaticalized like the noun phrases in more familiar languages: in some languages (e.g., Tiriyó), property nouns may precede the modified (26a), follow the modified (26c-d), or even be non-contiguous (26b);[7] in other languages (Hixkaryana), a pause always seems to occur between modified and modifier (27a-b). In yet others, ordering constraints seem to be emerging (note that, in the Makushi examples 28a-b, modifier nouns precede the modified noun, though, as far as we know, there are no further phonological or morphosyntactic properties of a phrasal constituent). We follow Payne (1993) in interpreting this flexibility, when present, as evidence for a more 'appositional' strategy, with juxtaposed nominals (including possible property nominals) pragmatically assumed to refer to the same real-world entity without necessarily being joined in a single syntactic constituent.

TIR

(26a) oːni po nai, kuɾa-no epeɾu, əmɨja-n epeɾu maɾə, tɨː-ka-e

that LOC 3.COP good-NZR fruit   soft-NZR fruit   too   PST-say-PST

' "Over there (there) are good fruits, soft fruits too," (he) said.'

---

[7] We assume the observed order variation reflects some pragmatic distinction.

(26b) kuɾe iɾə j-ekeima-to ə-:ja, kuɾa-no w-ekeima ə-emi

good this 1-do.evil-C.NZR 2-AGT good-NZR 1A-do.evil.PST 2-daughter

'It is OK that you want to do evil to me, (for) I have done evil to <u>your good daughter</u>.'

(26c) konopo mono n-ee-jan (26d) seɾə po nai piː mono, tiː-ka-e

rain big.one 3S-come-PRES   this LOC 3.COP mount big.one PST-say-PST

'<u>Big (= a lot of) rain</u> is coming.'   ' "Here there's a <u>big mountain</u>," (he) said.'

<u>HIX</u>

(27a) Ø-to-tʃowɨ bɨɾʲekomo komo, asako-n komo

3S-go-PST boy COL two-NZR COL

'Two boys went.' Also: 'Two of the boys went.' (Lit. <u>The boys</u> went, <u>the two</u>.)

(27b) hiː... ka-je hatɨ, wajamo, wosɨ

all.right say-PST HRSY turtle woman

' "All right..." said <u>the turtle, the woman/female</u> (turtle).'

<u>MAK</u>

(28a) kaiwan kuɾeʔna-n moɾi paːka

fat.one big-NZR good.one cow

'<u>A good cow</u> is big and fat.'

(28b) ȝezus-ja uj-aɾi-toʔpe-nɨkon kaʔ pona, moɾi pata ja, moɾi tɨ-n-konaka-ʔpɨ ja

Jesus-ERG 1O-take-PRPS-COL sky DIR good place DIR good 3R-O.NZR-make-PST DIR

'Jesus will take us all to heaven, to the <u>good place</u>, to the <u>good (place) that he made</u>.'

In contrast to the case of predication, where both Hixkaryana and Tiriyó presented multiple exceptions to the restriction of nouns in noncopular predicates and adverbs in copular predicates, we have encountered only one exceptional case of an adverb modifying a noun attributively in any of the Cariban languages we have worked on: Abbott (1990.89) illustrates the claim that sometimes in Makushi, numbers can directly modify nouns with the example in (29).

MAK

(29)   **t-ekɨn-kon**   **jaɾɨ-ʔpɨ-i-ja**   **asakɨʔne**   **maikan-yamɨ**

    3R-pet-COLL   take-PAST-3-ERG   two   foxes-PL

    'He took his own animals, <u>two foxes</u>.'

To summarize, the grammar of nominal modification does not fit the expected prototype of a dependent modifier internal to a noun phrase headed by the modified noun. The lack of clear evidence for a NP constituent is common in the family, especially evidence for a syntactic connection to mirror the semantic connection between the modifying and modified nouns. The next section shows a similar lack of evidence for an entrenched construction.

3.3   Comparative constructions

Comparative constructions, when available, are an important tool for identifying and defining an adjectival class. In the case of Cariban languages, there usually are no grammaticalized comparative constructions, but simply specific morphemes (normally postpositions) with meanings such as 'more than', 'stronger/bigger than', 'superior to', 'too much for', etc. These postpositions often still retain a locative meaning in other contexts (e.g. Hixkaryana **oho**, also 'above'). The examples below illustrate the use of such morphemes in a more typically comparative context (with a property as the term of comparison: 29a, 30a, 31a-b), as well as in other contexts

(occurring by themselves: 29b, 30b-c; or with an inflected or nominalized verb as the term of comparison: 29c, 31c). Note that examples with a term of comparison are much less frequent than examples without them – simply 'I am more than you', with the pertinent property either inferable from context or irrelevant. Even when a term of comparison is present, the pauses (marked as commas) between it and the 'comparative' postposition stress the looseness of their syntactic bond. This supports the claim that there are no really grammaticalized comparative constructions (just as there was no really grammaticalized construction for nominal modification; see previous section): the 'comparative postpositional phrases' are perhaps better seen as simple adjuncts, similar to other postpositional phrases (and maybe only a metaphorical step removed from locative postpositional phrases). Comparative sentences expressing equality (*as good as*) are even less frequent than their superiority/inferiority counterparts, but they also seem to support this claim: the examples found in the corpus use an adverbial or particle meaning 'equally' or 'the same' (also found elsewhere with the same meaning) without any construction-specificfeatures (29d).

TIR

(29a) kuɾe nai   məe, tɨ:-ka-e,   aipɨ me, [aⁿja i-wae], kɨ-wae-ne,   tɨ:-ka-e
       well 3.COP this.AN PST-say-PST speed ATTR 1+3 3-more 1+2more-COL PST-say-PST
       ' "This one is good,", (they) said, "he is faster than us," (they) said.

(29b) ji-wae manae,   iwa,   ji-wae   manae,   tɨ:-ka-e,   tɨw-əəsina-e
       1-more 2.COP   iguana 1-more   2.COP   PST-say-PST PST-cry-PST
       ' "You're more than me, iguana, you're more than me," (= stronger, more powerful)
       (he = jaguar) said, (he) cried.'

— 26 —

(29c) menjaːrə m-əːs-apəkəma-e   ji-wae,   tɨː-ka-e

now   2S-DETR-suffer-PRES 1-more   PST-say-PST

' "Now you are suffering more than me," (he) said.'

(= You had made me suffer before, I am now taking my revenge.)

(29d) pai,   pənjeke,   əis-apo   ɾo   kuɾe,   k-otɨ   me

tapir   peccary   RECP-like EMPH good,   1+2-meat/game ATTR

'Tapir is as good meat/game as peccary.'

(Lit. 'Tapir, peccary, like each other they are good, as our meat/game.')

HIX

(30a) [kajkusu j-oho]   n-a-ha,   ɨ-hoɾʲme-no-nɨ,   ɾokmo

dog   LK-more   3S-COP-PRES 3-big-NZR-POS   wolf

'He is bigger than a dog, the wolf.'

(30b) oj-oho   n-a-ha ha,   (30c) [ɾo-muɾu j-osnaka] n-a-ha,   o-muɾu

2-more-NZR that.IN INTNS   1-son   LK-less   3S-COP-PRES 2-son

'That (is) too much for you.'   'Your son is smaller than mine.'

                                (also: less important than mine)

(30d) kaɾʲhe [o-to-nɨ-ɾ   j-oho],   kaɾʲhe ɨ-te-he

fast   2-go-NZR-POS LK-more fast   1S-go-PRES

'I will run faster than you.' (Lit. 'Fast, more than your going, I will go fast.')

MAK

(31a) kusan pe mɨːkɨɾɨ wanɨ, [tɨ-ɾui   j-entai]

tall.one ATTR that.AN COP   3-o.br.   LK-more

'He is taller than his older brother.' (Lit. 'He is tall, more than his older brother.')

(31b) meɾuntɨ   paːpa   [tamɨʔnawɨɾo-n-kon   j-entai-non]

strength   god   all-NZR-COL   LK-more-NLZR

'God is stronger than everyone.'

(31c) uj-eʔma-kɨ   [tiaɾon-kon   j-eʔma-Ø-ja   j-entai]

1O-pay-IMPER other-COL   LK-pay-3-ERG LK-more

'Pay me more than you paid the others.'

This concludes our presentation of the basic grammar of words coding property concepts, as seen through the eyes of the authors of the grammars of Hixkaryana, Makushi, and Tiriyó. We now turn to the question of whether a more perspicacious analysis of these patterns might not reveal an adjective category hiding in one or both of the categories of nouns and verbs.

4 Should we separate a class of adjectives from adverbs and/or nouns?

In the very first modern description of a Cariban language (Hoff 1968, on the Carib language of Suriname, or Kari'nja), the label "adjective" was used for the class analogous to what we have been calling adverbs in this paper. Hoff (to appear) further argues for the label 'verbal adjectives' to describe derived forms that the analyses above would consider a mix of nominalizations and derived adverbs; Courtz (2008), working on the same language as Hoff, also prefers to describe adjectives. Coming from a different perspective, Dixon (2006) considers all of what we have called "adverbs" to be better labeled "adjectives," and in Makushi, he further considers the seven property nouns listed in Abbott (1991.88) to constitute a small category that he calls adjective$_2$.

In this section, we first examine the reasoning behind the initial proposal to call this category "adverbs" (from Derbyshire 1979, 1985), and we consider how well this reasoning might extend to the cognate category in the other northern Cariban languages (4.1). We then consider Dixon's (2006) critique of this analysis, seeking to test the reliability and validity of his arguments for the alternative analysis (4.2). One crucial element in question will be the role of semantic evidence for category membership. Following this, we construct a more fine-grained analysis of the semantic, syntactic, and morphological sub-categories of the adverb class, showing that there is indeed a syntactic subclass of adverbs that contains only property concept meanings, and which might therefore be considered as a candidate for a distinct adjective category (4.3). We find no support for the hypothesis that a subset of nouns should constitute a distinct adjective category in any of the languages in question.

4.1   The adverb analysis

Derbyshire (1979) was the first to propose that there was no need for a category of adjectives in Hixkaryana; he recognized the existence of property concept nouns and adverbs, an analysis which was subsequently adopted in most of the descriptions that followed (Koehn & Koehn 1986 for Apalaí, Abbott 1990 for Makushi, Hawkins 1998 for Waiwai, Meira 1999 and Carlin 2004 for Tiriyó/Trio, and Tavares 2005 for Wayana). Derbyshire first demonstrated that each category had a number of morphsyntactic properties that united its membership in a single structural category. The noun category was sufficiently clear semantically as to require no further justification. However, the adverb category was truly heterogeneous semantically, containing adverbial and adjectival meanings. He then relied on two criteria to decide on the label adverb rather than adjective. First, he estimated that most words in this category

(especially most monormorphemic words) had clearly adverbial, not adjectival meanings: "all but a few members of this large class pertain to semantic types usually associated with adverbs" (1985:13). Second, he argued that the syntactic properties of the members of this category were closer to those of adverbs than to those of adjectives: "their syntactic properties correlate with (modifying or sentence) adverbials" (1985:14). These properties were basically the ones described in sections 2 and 3 above.

In considering the theoretical validity of these arguments, we begin with the unquestioned premise in descriptive linguistics that language-internal categories must be determined based on language-internal patterns. Without question, Derbyshire has followed this criterion in diagnosing his two categories.

The use of the argument of "semantic majority" for deciding to label a class, however, is criticizable, for several reasons: (a) the meanings in question may sometimes be difficult to distinguish (as is the case between "adverbial meanings" and "adjectival meanings;" e.g., *hard*, *fast*, etc.); (b) derived and underived members of the category may give different results (the majority of meanings of underived terms is adverbial, but the majority of the meanings of derived terms may not be, due to productive class-changing processes that could, e.g., derive new "adjectival" meanings from any given noun or verb); (c) there are different types of "majority" (should one count the number of "adjectival" vs. "adverbial" meanings in a given standard wordlist, or look at the occurrence of tokens of these meanings in a representative corpus of texts?). These same objections could be raised against the analyses proposed by Hoff

(1968, to appear) and Courtz (2008), in which the label "adjective" is used without any argumentation whatsoever, either against the adverb analysis or in favor of a competing adjective analysis. The analysis thus appears to be based entirely on semantics. Although we do consider semantics to be relevant to the task of naming any relatively homogeneous category identified through morphosyntactic tests, given the co-existence of the "adjectival" meanings with all the most frequent and most typical "adverbial" meanings (e.g., manner (*well*), place (*here*), time (*now*), etc.), we do not find it compelling in this case.

In contrast, we find the syntactic argument substantially more compelling: the category shares syntactic distributional properties with postpositional phrases, including (i) the ability to occur as the predicate of a copular clause, (ii) the ability to modify a verbal predicate, and (iii) the need to be nominalized in order to attributively modify nouns.

4.2 The proposed categories of adjective₁ and adjective₂

We turn now to Dixon's proposal, which basically states (2006.28-30) that the entire class of words here termed adverbs would be more felicitously analyzed as forming an adjective class with some members having adverbial meanings. His morphosyntactic arguments are (a) that "Eurocentrism" led Derbyshire and Meira to believe that "words which cannot function as modifier within an NP (except in the nominalized form) may appear un-adjective-like", and (b) that the label adverb "is scarcely appropriate; an adverb cannot normally occur as copula complement."

The first argument is actually a claim about the motives of the analysts, and one with which it is difficult to agree, given the amount of care and detail given to morphosyntactic arguments in their publications. Derbyshire, the first to use the "adverb" label, did not seem concerned by the lack of modifying uses for words of this category (a fact which he did not even explicitly mention), but rather by the syntactic roles typical of adverbials and postpositional phrases.

The second argument fares little better under even casual inspection, as Dixon himself observes further down the page: "It is perhaps not surprising that the Carib adjective class, which functions only as copula complement and as adverb, should include words of place and time which are typically coded as adverbs in other languages." And indeed, a quick review of the adverbs listed by Derbyshire (1985) reveals words that readily occur as complements of copulas in many well-known languages: e.g., English: *I am late; the game is today, she isn't here*; or French: *nous sommes ici, il n'est pas là, c'est trop*).

Left unmentioned are important patterns in Cariban languages that might argue against an adjectival analysis. For instance, adjectives do not typically occur modifying verbal predicates, whereas the Cariban class of adverbs typically does. In addition, adjectives do not usually pattern morphosyntactically with adpositional phrases. In the languages in question, however, adpositional phrases share with adverbs all the morphsyntactic properties mentioned in sections 2 and 3; both can be seen as members of a larger class of adverbials. In sum, the arguments against Dixon's category "adjective$_1$" appear more substantial than the arguments against the category of adverb.

Turning to the small category "adjective$_2$" in Makushi, this receives no argumentation at all, but is simply asserted based on the semantics of the seven-member illustrative list of "descriptive nouns" from Abbott 1991.88. As seen in sections 2-3, all Cariban languages described to date treat a substantial subset of property concepts as lexical nouns (there are many more than seven in Makushi as well). There do not seem to be differences in the morphosyntactic properties (as far as this has already been researched) that would distinguish descriptive nouns as a special subclass (see Table 5 in section 2.1.2 above); and, as far as a comparative construction can be assumed to exist, it does not seem to differentiate them from other nouns. In sum, at this point, Dixon joins Hoff in offering only semantic criteria to separate this "adjective" category from other nouns. If at all, they pattern together with the nominalized adverbs (e.g. the properties of Tiriyó **mono** 'big one', a synchronically underived descriptive noun, are the same as the properties of **kura-no** 'good one', from **kure** 'good'). If future research identifies morphosyntactic grounds for setting up a class of "adjectives$_2$" for these descriptive nouns in a Cariban language, a parallel analysis will likely hold for the cognates in the other languages; but for the time being there still seems to be no reason for that.

4.3 Towards an adjectival subclass of adverbs

From the discussion above, we conclude that renaming the entire adverb category "adjective" hides more than it reveals. However, an argument might be made for the identification of *subclasses* of adverbs, and then one might debate whether or not any subclasses are distinct enough to deserve the status of independent word classes, adverb and adjective. In this section,

we turn first to a finer-grained examination of the syntactic distribution of semantic subclasses of adverbs, next we attempt to correlate the syntactic subclasses with morphological properties, and then we end by discussing the implications of these semantico-syntactic subclasses.

We begin with the observation that claims about the syntactic behavior of word classes in Cariban are typically somewhat coarse-grained, with a few examples being presented and their behavior then asserted to hold true over the entire category. But adverb classes are notoriously heterogenous; most researchers, e.g., Schachter & Shopen 2007.19-20, see them as a default category for words that do not fit in other, more orderly, classes. In Cariban languages, the adverb class would appear to be even "messier" semantically, as it includes words with the aforementioned adjectival meanings. In order to examine any possible patterns, we separate the adverbs into the following subclasses: typical adverb meanings (including time, place, and manner), and typical adjective meanings (including dimension/size, physical properties, color/pattern, quantity/order, age, speed, and human propensities). Having made such divisions in our lists of adverbs, we scoured our corpora for examples of each semantic subclass presenting as many as possible of the syntactic behaviors discussed in section 3 as typical of the entire class.

As seen in Table 8, members of every subclass were found in nominalized form as attributive modifiers of other nouns; similarly, members of every subclass were found as complements of the copula (a YES means that at least one member of the category in question was found in at least one example of the construction in question). However, for four of the meaning subclasses – all semantic adjectives – we were unable to encounter any examples of a member modifying

a verbal predicate as a verbal adjunct. Clearly, members of every subclass were found as copular complements and, in nominalized form, as attributive modifiers of other nouns. However, for four of the meaning subclasses – all falling within the area of what we would call "adjectival meanings" – we were unable to encounter any examples of a member modifying a verbal predicate as verbal adjuncts.[8]

TABLE 8. Syntactic distribution of various semantic subclasses of Cariban adverbs

SEMANTIC SUBCLASS	"QUASI-MODIFICATION" WHEN NOMINALIZED (N N)	COMPLEMENT IN THE COPULAR CONSTRUCTION	ADJUNCT/MODIFIER OF A VERB
Time (*now, later, long ago...*)	YES	YES	YES
Place and Direction (*here, thither, hence...*)	YES	YES	YES
Manner (*well,...*)	YES	YES	YES
Speed (*fast, slow...*)	YES	YES	YES
Human Propensity (*sad, angry, sleepy...*)	YES	YES	YES
Quantity and Order (*much, few, two...*)	YES	YES	YES
Dimension/Size (*big, small, long...*)	YES	YES	NO
Physical Property (*hard, sharp, thin...*)	YES	YES	NO
Color and Pattern (*red, blue, striped...*)	YES	YES	NO
Age (*new, old, ...*)	YES	YES	NO

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[8] Interestingly, the same distinction was found among certain postpositional phrases (yet another feature that joins postpositions and adverbs as adverbials): certain postpositions apparently occur only as copular complements and never as verbal adjuncts. These prepositions would tend to fall in the "mental state" or "human propensity" ("experiencer") semantic area: e.g., Tiriyó **se** 'wanting, desirous of', **pïːnə** 'caring, protective toward', **ino** 'afraid of', **waːrə** 'knowing', **eire** 'angry at', **jeːnə** 'afflicted with (disease)', etc. In fact, one could say that the postpositional class in the Cariban languages in question is as "strange" or unexpected as its adverbial class, since it includes typically adjectival/verbal meanings such as the above. Meira (2004) treated these postpositions in detail and suggested that they are derived from more complex constructions, in a way that parallels the history of adverbs as developed at the end of this section.

This distributional property immediately suggests a division of the larger adverb category into two syntactic subclasses, one which remains heterogeneous (a mix of adverb and adjective meanings), the other of which contains purely adjective meanings. A search through the morphological subcategories of adverbs (mentioned in Sec. 2.1 above) reveals that the **t-**adverbs are mostly found in the four subclasses that do not modify verbal predicates (though there are exceptions, like **tǝremine** in ex. 2b, in section 2.1.3 above), so we cannot reinforce the division with clear morphological properties. Against this analysis is the caution that must always be exercised when arguing from the small corpora we are able to assimilate on these languages: absence of evidence cannot be taken as evidence of absence. In fact, we would not be surprised to find members of these other categories modifying verbal predicates when semantically or idiomatically appropriate, similar to English *smile thinly/widely, speak sharply/softly, talk much, behave maturely,* etc.

So we can now weigh the evidence: two positive morphosyntactic properties continue to unify the category, whereas one negative property divides it. If one's goal is to seek out differences that allow a category of "adjective" to be identified, then the one negative property is well-situated to help meet that goal—the most clearly "adverb-like" trait is modification of verbal predicates, and the group of "adverbs" that lack this trait all translate felicitously as adjectives. If one's goal is to seek out empirical validity for a category—that is, to privilege categories that are identified by more than one property—then the two positive properties provide the necessary criteria: ability to nominalize via one of the two nominalizing suffixes and ability to

serve as the complement of a copula. One is therefore left with an age-old problem in linguistics: when is a property sufficient to identify an independent word class, as opposed to a subclass of a larger class? In this case, two properties versus one might be sufficient for us to propose a single lexical category (adverbs) with a small subclass (adjectival adverbs). Or we might even prefer to dismiss the negative property as reflecting semantically-based variation in behavior: we could propose that, given an appropriate verbal predicate, there is no *grammatical* reason why any of these 'adjectival' adverbs could not be used to modify a verbal predicate — if a plausible story or metaphor could be found that makes sense of the meaning, as in the English examples above (*speak softly*, etc.).

One could indeed debate this issue, and never conclusively resolve it, just as one is hit by various waves of polemics concerning the existence of a noun-verb distinction in certain languages of the US Pacific coast (especially Nootka). It is not clear to us that the labeling issue is important for the languages themselves. In fact, after immersing outselves in this problem, what strikes us as important is not the label game, or whether we have subclasses versus separate classes, but rather the question of why this interesting system of lexical items and constructions takes the form that it does. Let us explore some "why" questions.

We begin with the question of why the Cariban category of adverbs should include so many "adjectival" (property/quality) meanings. Clearly, the answer must be historical, since patterns of lexicalization are not amenable to synchronic analysis—speakers do not choose the part of speech to use with a given concept, they inherit the form-meaning pairing and their identifying

properties from their ancestors. A necessary preliminary to a historical explanation would be a reconstruction of how this state of affairs came into being. In order to generate hypotheses about the historical evolution of word classes, we need to understand better the comparative distribution of property concepts into the noun and adverb classes, and also to look for evidence of older morphological complexity in each class.

A quick look at the three languages examined in this paper shows that the respective categories differ in size: in Tiriyó and Hixkaryana, most of the "adjectival" meanings occur as adverb roots, which can then be nominalized, whereas in Makushi, many more occur as noun roots, which can then be derived into adverbs. And in fact, a number of apparently monomorphemic adverbs in the other two languages correspond to Makushi Noun + **pe** constructions: e.g., Tiriyó **kuɾe**, Hixkaryana **ohʃe**, Makushi **mori pe** 'good'; **mori** 'good one' being a noun that corresponds semantically to the Tiriyó and Hixkaryana nominalizations **kura-no** and **ohʃa-no**. Examining the apparently monomorphemic property concepts in all three languages, there is another asymmetry: a high number of synchronically monomorphemic adverbs in Tiriyó and Hixkaryana contain what look like former derivational morphemes. For example, many end in **me**, like **saːsaːme** 'happy, satisfied'; in the absence of a corresponding noun root *saːsaː 'happy one', this adverb must be considered monomorphemic, but it does not take a leap of faith to imagine that it was once derived. Similarly, several other adverbs have an identifiable—though synchronically no longer productive—derivational element, like the **-a(ka)** ending in **amɨma(ka)** 'heavy,' **atuma(ka)** 'warm, hot', **kutuma(ka)** 'painful, bitter', etc.

This situation suggests a preliminary hypothesis: some Cariban languages apparently developed a considerable number of adverb roots from earlier property nouns. Many of these nouns have been lost in some languages, such that the now-basic adverbs must be nominalized in order to modify other nouns. This process is perhaps more advanced in Hixkaryana and Tiriyó than in Makushi, but its effects can be seen in all three languages. The older property concept nouns were used frequently in adverbial constructions, either with adverbializing morphology or as arguments of postpositions, and over time the original nominal roots fell out of use.[9]

This then raises the question of why property concepts should occur so frequently in adverbial constructions, to which the obvious answer is that attributive predicates in copular constructions are primarily (or exclusively, in Makushi and Akawaio) adverbials. This, then, raises its own question: why do some northern Cariban languages allow only predicate adverbs to serve as complements of the copula, and why are predicate adverbials more frequent even in those languages that allow nominal complements with a copula? This appears to be a typologically unusual configuration (Dixon 2006 even used it as an argument against applying the label adverb to the category), and so again one might ask how this situation came to be.

Some of our data point towards an interesting hypothesis. As is typologically common, the predicate locative construction in Cariban contains an intransitive locative verb, reconstructed as ***eti** 'dwell' (the reflex of the nominalized form ***w-eti-topo** is still attested as 'dwelling

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[9] Makushi, with a lower number of synchronically underived adverbs, may be closer to the earlier state of affairs, which, in Proto- and/or Pre-Proto-Cariban times, one might speculatively reconstruct as having *no* synchronically underived adverbs, but only property or quality nouns, postpositions, and adverbializing constructions.

place' in several modern languages, e.g. Kari'nya **weitopo** 'dwelling place', Hoff 1968.141).

The reason adverbs function as complements of the copula would be that, etymologically, copular complements were not true complements, but adverbial modifiers of the locative verb: 'he dwells over there' > 'he is over there'. With the further evolution of *eti towards being a copula, the locative construction extended into other nonverbal predicate functions: 'he dwells happily' > 'he is happy$_{ADV}$'; 'He dwells as a hunter' > 'he is [a hunter]$_{ADV}$'; and 'he dwells as my father' > 'he is [my father]$_{ADV}$'; etc. In addition to expanding its functional domain, in at least Hixkaryana and Tiriyó, modern reflexes of *eti have moved closer to being a true copula in that they can now take nominal complements (although they are still less frequent, and the semantic distinction contributed by this new construction remains unclear).

To sum up our historical hypotheses, we posit that property concepts were formerly a subset of nouns, with adverbs being limited to more traditional concepts like place, time, and manner. When the innovative copular locative construction began to be used for attributive predication, the nominal property concepts had to become derived adverbs in order to occur in these predicates. All property concepts that could be predicated occurred in this construction, and therefore even those that did not modify other sorts of verbal predicates required (and began to occur in) an adverbial form. Attributive predicates have become more frequent than nominal modification, and so the higher-frequency adverbial form of the property concepts began to be seen as more basic, which in some cases has led to attrition of the original nominal roots. This scenario makes sense of the synchronic Cariban facts, and allows us now to return to the question of categorization. Under this scenario, the adjective analysis is historically meaning-

less; synchronically, adjectives are at best a nascent category. If the hypothesis proposed here is correct, it is more insightful to seek meaningful unity in the historical process whereby property nouns became adverbials in order to function as copular complements than to discuss whether or not one is dealing with one class with a smaller subclass, or with two classes.

5 Implications and Questions

At the end of our paper, we have reached little by way of final conclusions. Rather than reiterate our analysis, we prefer to consider some implications of our hypotheses and to explore descriptive questions that for future fieldwork with these (and other Cariban) languages.

First, a typological implication. Given that the semantic denotations of adverbs and adjectives can co-exist so comfortably in a single word class, we are moved to ask whether the two perhaps share more properties functionally than is usually assumed. We might see the semantic fields of adjectives and adverbs as all being property concepts of one kind or another, and therefore all as plausibly modifying NPs, modifying verbal predicates, or serving as nonverbal predicates. The question, then, is how the grammar of individual languages will code these functions. One could imagine that all three would be done with the same word class, as it is for the English time, place and (some) manner adverbs, e.g., *this man here*, *he put it here*, and *he's here* (cf. the first three rows of columns 2-5 in Table 10). Elsewhere in English, we have the well-known dichotomy between adjectives in the first two functions and adverbs in the third (the green cells; the further isolation of quantifiers from adjectives is also shown). We could contrast English with a language where all three would be done with different word classes,

e.g., where property concepts are verbs (rather than copular complements) for predication, deverbal adjectives/nouns for nominal modification, and deverbal adverbs when needed to modify another verbal predicate. From this perspective, an obvious logical possibility is the Cariban case, where a single word class modifies verbal predicates and also serves as the complement of the copula, in opposition to the nominal word class that can 'modify' nouns (the final three columns of Table 10). We wonder how many permutations of such patterns might be observed if the adjectival and adverbial concepts of more languages were to be sorted into such tables.

TABLE 10. Mapping functions into modifying structures:

adverbs and adjectives in English and Cariban.

SEMANTIC SUBCLASS	English			Cariban		
	NOUN MODIF	COPULAR COMPLEMENT	VERB MODIF	NOUN MODIF	COPULAR COMPLEMENT	VERB MODIF
Time (*now, later, long ago...*)	N ADV	COP ADV	ADV	N/ADV-NZR	ADV/N-AZR	ADV
Place and Direction (*here, thither, hence...*)	N ADV	COP ADV	ADV	N/ADV-NZR	ADV/N-AZR	ADV
Manner (*well,...*)	?N ADV	COP ADV	ADV	N/ADV-NZR	ADV/N-AZR	ADV
Quantity and Order (*much, few, two...*)	QUANT N	COP QUANT	QUANT-AZR	N/ADV-NZR	ADV/N-AZR	ADV
Speed (*fast, slow...*)	ADJ N	COP ADJ	ADJ-AZR	N/ADV-NZR	ADV/N-AZR	ADV
Human Propensity (*sad, angry, sleepy...*)	ADJ N	COP ADJ	ADJ-AZR	N/ADV-NZR	ADV/N-AZR	ADV
Dimension/Size (*big, small, long...*)	ADJ N	COP ADJ	(ADJ-AZR)	N/ADV-NZR	ADV/N-AZR	?ADV
Physical Property (*hard, sharp, thin...*)	ADJ N	COP ADJ	(ADJ-AZR)	N/ADV-NZR	ADV/N-AZR	?ADV
Color and Pattern (*red, blue, striped...*)	ADJ N	COP ADJ	(ADJ-AZR)	N/ADV-NZR	ADV/N-AZR	?ADV
Age (*new, old,...*)	ADJ N	COP ADJ	(ADJ-AZR)	N/ADV-NZR	ADV/N-AZR	?ADV

A second (theoretical) implication concerns the theory of part of speech systems. Word classes are traditionally identified with the help of morphosyntactic properties. As historical syntax teaches us, morphosyntactic properties – constructions, morphemes, position constraints, etc. – are the result of diachronic evolution, with the specific diachronic paths being important to explain the specific details of each given morphosyntactic property. This implies that word classes themselves also have a diachronic dimension, which can also be relevant, or even crucial, for understanding their synchronic situation. If the hypothesis put forth here is correct, the Cariban class of adverbs owes its very existence to the lexicalization of adverbial constructions based on (property) nouns – a phenomenon reminiscent of how a class of auxiliaries comes into existence (English auxiliaries like *be, have*, inasmuch as one wants to see them as forming a class, exist because of the reanalysis of constructions in which they occurred with their etymological functions – copula, possessive predicate – but which evolved further into progressive and perfect constructions: *is a-going > is going, has a book written > has written a book*). We wonder if famous word class problems like the verb-noun distinction in Nootka and other languages in the North-Western United States and Canada would not become more treatable with a similar diachronic perspective that would consider the *historical* development of the properties proposed to identify nouns and verbs in these languages, and therefore also the historical development of the (emerging) classes themselves.[10]

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[10] One might imagine, for instance, that even if there are languages without a noun-verb distinction, these languages should be *diachronically unstable*: the typological prototypes of 'nouns' and 'verbs' (see Croft 2001.63) that would tend to cause certain meanings ('bear', 'house', ...; 'go', 'break', 'build', ...) to align with certain syntactic behaviors (being subjects and objects; being predicates) would lead over time to the birth of syntactic categories that one might felicitiously name nons and verbs. It is probably the case that, even in the absence of a clear syntactic distinction, there would already be a statistical correlation: words with 'nominal' meanings are probably more often used as subjects and objects, the reverse being probably true for words with 'verbal' meanings, even if both kinds of words could in principle perform all these functions.

A third implication is more inward-looking, at the pre-history of South America. To the extent that our hypothesis survives a more concentrated analysis of more extensive lexical data, we may be able to reconstruct a stage in pre-Proto-Carib in which property concepts are lexical nouns rather than adverbs or adjectives. In two nearby language families, Tupían and Jê, recent years have seen multiple papers on the status of attributive predicates and NP-internal modifiers (cf. Queixalós 2001 for Tupí-Guaranían; Meira 2006 for Sataré-Mawé, with notes on the Tupían family; Oliveira (2003) for a review of the literature in Jê). These papers argue over whether the property predicates are headed by descriptive/stative verbs or by property-concept nouns in nonverbal predicates. While the synchronic debate is far from over, it is worth pointing out that both Tupían and Jê could end up with property concepts reconstructed exclusively to nouns, which could provide another tenuous step in the direction of relating the three into a superfamily, TuKaJê (Rodrigues 1996, Drude and Meira to appear).

We conclude this paper with the observation that there are few full grammars of Cariban languages, and even the best of these do not examine the subclasses of nouns and adverbs in much detail. We propose that such an examination might yield interesting discoveries in future descriptive work on Cariban languages, and that certain questions might lead in the direction of those interesting discoveries. First, in checking through a list of property concepts, (i) What proportion are nouns and what proportion adverbs, and which concepts are which? (ii) What morphology is used to move each root to the other class? And (iii) For apparently monomor-phemic roots, can a "deeper", perhaps archaic, root be identified inside synchronically un-

productive derivational morphology? Second, in checking through the constructions involving property concepts, (i) How many possible types of nonverbal predicates are there? We predict every language will have NP NP and COP ADV constructions, but we do not know how widespread the NP ADV and NP COP NP constructions might be. (ii) How does nominal modification work, and in particular, (a) can adverbs modify nouns directly, and (b) is there evidence for order or contiguity restrictions? (iii) What is the grammar that accomplishes the comparative function, and in particular, can nouns, verbs, and adverbs participate equally, regardless of semantic value? Finally, (iv), are there restrictions on whether individual property concept adverbs can modify verbal predicates, and if so, is there any evidence for semantic coherence among those that cannot?

We look forward to joining the fieldworkers who will take the opportunity to ask such questions in the years to come.

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