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The adjective class in Deni (Arawá)*

ABSTRACT: In the last three decades, adjectives have played an important role in the typology of parts-of-speech systems in terms of which meanings are cross-linguistically expressed by members of this class, and whether all languages in the world have an adjective class at all. In this paper, the focus is on the property-concept words in Deni, an Arawá language spoken by about 1,600 people who live in ten villages in Southern Amazonia, Amazonas State, Brazil. The analysis of property-concept lexical items in Deni has led me to assign them to a part-of-speech class which is distinct from those of verbs and nouns. The assignment has followed the Deni-specific criteria for recognizing the verb, noun, and adjective classes.

KEYWORDS: Adjectives; Deni language; parts of speech.

RESUMO: Nas últimas três décadas, adjetivos desempenharam um papel importante na tipologia de sistemas de partes do discurso em termos de quais significados são expressos translinguisticamente por membros dessa classe, e se todas as línguas do mundo têm uma classe de adjetivos. Neste artigo, o foco é nas palavras que expressam conceito de propriedade em Deni, uma língua Arawá falada por aproximadamente 1.600 pessoas que vivem em dez aldeias no sul da Amazônia, no estado do Amazonas, Brasil. A análise dos itens lexicais que expressam conceito de propriedade conduziu-me a atribuí-las a uma parte do discurso que é distinta daquela de verbos e nomes. A atribuição seguiu os critérios específicos da língua Deni para reconhecer as classes de verbo, nome e adjetivo.

PALAVRAS CHAVE: Adjetivos; língua Deni; Partes do discurso.

1. Introduction

In the last three decades, adjectives have played an important role in the typology of parts-of-speech systems in terms of which meanings are cross-linguistically expressed by members of this class, and whether all languages in the world have an adjective class at all. In this paper, the focus is on the property-concept words in Deni, an Arawá language spoken by about 1,600 people who live in ten villages in Southern Amazonia, Amazonas

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State, Brazil. The Arawá family includes Kulina (which is closely related to Deni), Madi (consisting of three dialects: Jarawara, Jamamadi, Banawá), Sorowahá and Paumarí. The Arawá language, which gave its name to the family, has been extinct since 1877 and is known from an 1869 word list.[1] Arawá languages are spoken in the Juruá-Purus interfluve, in the Brazilian State of Amazonas, except for Kulina which is spoken in the Acre State and in Peru.

Dixon (1999: 294) provides a Table which shows the genetic relationship of Arawá languages:

<p align="center">**Table 1**: Genetic relationship between the Arawá languages (Dixon 1999: 294)</p>

1 Paumarí (c. 600, only c. 200 speak the language)
2 Madi, spoken by three tribes, each with its own dialect:
        Jarawara (c. 150)
        Jamamadi (c. 190)
        Banawá (c. 80)
3 Sorowahá (c. 100)

Dení-Kulina subgroup
        4 Dení (c. 1,000)
        5 Kulina (or Madiha or Madija) (c. 2,500)
6 Arawá (extinct since about 1880)

Dienst (2014: 163) pointed out that in Kulina most words denoting properties are stative verbs, but this language includes a small closed class of adjectives whose members fulfill the typical function of such a word class. In Jarawara (a dialect of Madi), Dixon (2004b: 335-337, 2004c:186-189) has identified a small closed class of adjectives that comprises fourteen members, to which may be added a small number of derived adjectives which results from a semi-productive process in which –*bote* is attached to an intransitive stative verb. With regard to Paumarí, Chapman and Derbyshire (1991: 259) claim that a noun modifier may be either an adjective or a verb. "Adjectives occur as noun modifier in their basic forms. They can occur as verb with the addition of a verbalizer affix" which is -*ki* 'DESC' and attaches to intransitive, adjectival-type verbs. For Deni, which is the focus in this paper, Koop and Koop (1985: 37) include a list with seventeen adjectives which they consider not be inflected like verbs.

The main aim of this paper is to investigate the grammatical status of property-concept lexical items on a Deni-specific basis, in order to assign them to a part-of-speech class. Associated with that, the paper also seeks to be integrated in the debate of parts-of-speech typology in both discussing theoretical aspects of word-classes typology and providing an

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[1] For a classification of Arawá languages, see Dixon (1999, 2004b, 2006); a summary is provided by Aikhenvald (2012: 56) and Carvalho (2013a: 91). Additional sources include Everett (1995), Dienst (2008), and Carvalho (2013b). A comprehensive list of older sources is in Dixon (2006).

account of a particular language. Such accounts have contributed to the improvement of the typological theory and understanding of the human language.

To begin, I offer in §2 an overview of the clause structure in Deni, illustrating the constituent order and the clause types. In §3 I discuss the criteria for assigning lexical items into parts-of-speech classes in the world's languages, showing the reasons to keep using the traditional terms 'noun', 'verb' and 'adjective' for a language such as Deni. Following and based on that, I provide the overall characteristics of verbs in §4 and nouns in §5 in Deni. I then turn to property-concept words in §6 in order to provide their grammatical characteristics, which allow us to categorize them as belonging to a different word class from those of verbs and nouns. §6.1 shows that, on a morphological basis, the adjective class is divided in two subclasses: subclass I adjectives, which are dealt with in §6.1.1, and subclass II adjectives, which are discussed in §6.1.2. The tiny fraction of flexible lexical items is addressed in §6.2. Finally, the conclusions reached in this paper are given in §7, in addition to some comparisons with related languages.[2]

2. Constituent order and clause structure in Deni

The constituent order within a clause in Deni is flexible and pragmatically determined. Although the preferred order being AOV/SV (see Dixon 1994), it is not uncommon to find transitive clauses in which the object precedes the subject. To providing examples of the different types of clauses in Deni, I offer instances in (1a-d) where the syntactic function of each argument and the predicate is given in parenthesis after each constituent in the first line.[3]

(1a)   Mavahari (S)   Ø–vad–ari (IP)
         Mavahari:M   3–sleep–NFUT:M
         'Mavahari slept.'

(1b)   tsura (A)   tsipari (O)   Ø –kadapi–ari (TP)
         monkey   banana   3–eat–NFUT:M
         'The monkey ate a banana.'

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[3] Deni phonological system includes fifteen consonants and four vowels (cf. Carvalho 2013b) for which I employ a version of the practical orthography in examples in this paper as follows: p = /p/; b = /b/; t = /t/; d = /d/; k = /k/; ph = /pʰ/; th = /tʰ/; kh = /kʰ/; v = /v/; h = /h/; m = /m/; n = /n/; r = /ɾ/; ts = /ts/; dz = /dz/; a = /a/; e = /ɛ/; i = /i/; u = /u/. The following abbreviations are used: 1, 2, 3 = first, second, third person; A = subject of a transitive clause; ADJ = adjectivizer; CC = copula complement; CONDIT = conditional; CP = copula predicate; CS = copula subject; DESC = descontinutive; F = feminine; FOC = focus; FUT = future tense; GEN = genitive; IMP = imperative; INTENS = intensifier; IP = intransitive predicate; ITER = iterative; LOC = locative; M = masculine; MULTFUNC = multifunctional; NCA = noun class agreement; NFUT = non-future tense; NP = noun phrase; NPOL = non-polite; O = object; OPA = optional peripheral argument; P = predicate; PFV = perfective; PL = plural; POL = polite; POS = possessed; Q = question; S = subject of an intransitive clause; SG = singular; TP = transitive predicate; VCM = verbal class marking.

(1c)   Mavahari (S)   pui–dza (opa)   Ø –vad–ari (ip)
         Mavahari:m   hammock–MULTFUNC   3–sleep–NFUT:m
         'Mavahari slept in the hammock.'

(1d)   Itshiruha (a) Naphanani–kha   udza (o)   Ø–ka–navatu–tuvi (tp)
         Itsiruha:m   Naphanani:f-GEN   house   3–NCA–build–FUT
         'Itsiruha will build Naphanani's house.'

Example (1a) includes an intransitive clause in which the proper name *Mavahari* functions as subject of the intransitive verb *–vad* 'to sleep'. (1b) exemplifies a transitive clause in which both *tsura* 'monkey' and *tsipari* 'banana' are arguments of the transitive verb *–kadapi* 'to eat'; such arguments, however, have different functions in that *tsura* 'monkey' functions as subject and *tsipari* 'banana' is the object. The verb *–vad* 'to sleep' is given in both (1a) and (1c); whereas in the former example it has only one argument, in the latter it has two arguments of which one is not obligatorily required by the verb. This is common in the clauses in Deni and is referred to as optional peripheral argument – opa here. The opas in Deni are typically marked by Case in Deni, as illustrated in (1c) and others in the present paper. Finally, (1d) illustrates an occurrence of the transitive verb *–navatu* 'to build' in a sentence in which the argument in the O function is overt in the clause; it is noteworthy to mention that this argument could not be overt, but recoverable from the context of conversation.

With respect to transitivity, Deni includes basically two types of verbs: intransitive verbs and transitive verbs. The first type includes the intransitive verbs, which may occur only in intransitive clauses having only one obligatory argument, the subject (s). Clauses in which intransitive verbs occur may have an optional peripheral argument that is typically marked by Case, as mentioned above (cf. (1c)). Examples of intransitive verbs in Deni are *–kidza* 'to defecate', *hupa–* 'to run'. The second type encompasses the transitive verbs, which may occur only in transitive clauses with two obligatory arguments, the subject of transitive clauses (a) and the object (o). Clauses containing transitive verbs may have an optional peripheral argument which is typically marked by Case. Examples of transitive verbs are *te–* 'to shoot', and *–atika* 'to want'. Some transitive verbs such as da– 'to give' and ima– 'to talk' can receive a peripheral argument that is marked by the Case.

Besides these types of verbs, Deni has a copula verb *–ha* 'to be' which occurs with two core arguments, copula subject (cs) and copula complement (cc), but its morphological possibilities are much more restricted than for main verbs, taking only person and tense markings. As we shall see in §4, all verbs receive person marking in Deni. Then, the CS may be elliptical in copula clauses at first and second person, and also at third person if the subject is known by people involved in the conversation. Copula verb *–ha* 'to be' is only obligatory with the two subclass I adjectives *mahu* 'married' and *hau* 'tired'. All other adjectives show a zero copula when they occur in the predicate position, as we will see in §6.

Types of clauses in Deni are closely related to the transitivity classes of verbs in this language. With respect to transitivity, Deni includes two basic types of clauses: intransitive and transitive. Intransitive clauses require only one obligatory argument, which is the subject (s), as illustrated in (1a), whereas transitive clauses require two

obligatory arguments, which are the subject (A) and the object (O), as in (1b). Both types of clauses may have optional peripheral arguments that are typically marked by case, but not necessarily. Typically, an optional peripheral argument occurs in the beginning of the clause; but eventually it does occur in other positions within the clause (cf. (1c)).

As we shall see in §4, all verbs in Deni take the person marking. Then, the subject of both transitive and intransitive clauses may be omitted in the clause, but is marked on the verb. In most cases, each verb agrees in gender with its subject (A/S). However, there are some cases in the database in which the object triggers the gender agreement on the verb. This seems to be related to the A constructions and O-constructions mentioned by Dixon (2004b: 417-443) for Jarawara language. More study is required to explain this sort of variation.

Having pointed out this overview on constituent order and transitivity types in regard to verbs and clauses, I turn now to the theoretical discussion of parts-of-speech system, showing the analytical position taken in this paper.

3. Categorizing parts of speech: Theoretical issues

As argued by van Lier and Rijkhoff (2013), to categorize is a fundamental trait of human cognition which consists of grouping entities according to shared characteristics. In this sense, language – as a human activity – is not exempt from categorization. Similarly, to concrete entities such as people and things, abstracts entities such as words are also grouped into classes according to features, they have in common. In the literature, the terms 'parts-of-speech system' and 'word classes' are currently used interchangeably. However, it is not difficult to find a subtle terminological difference between them in the literature: whereas the term 'parts-of-speech' was mostly used referring to the major word classes (usually verb, noun and adjective) in a specific language, the term 'word classes' refers to all word classes. Both terms – save for the small differences just pointed out – are used for grouping lexical items into parts or classes in the world's languages according with their shared grammatical characteristics.

It seems to be a widely-accepted methodology by the typologically-oriented linguists that the parts of speech must be identified according with the language-internal criteria. This perspective is also adopted here in characterizing verbs, nouns, and adjectives based on Deni-internal grammatical criteria. Although the languages of the world include different ways for defining the membership of a lexical item into a part of speech, there are cross-linguistically recurrent patterns that were attested in decades of typological research based on descriptions of a wide and diverse range of languages of the world that show us some trends which parts of speech are amenable to follow, as we shall see below. Dixon's (1982) seminal work, for instance, points to a recurrent semantic domain for adjectives that languages of the world tend to share, which is plainly broader than in one specific language. I will turn to Dixon's work in §6.

Assigning an element into a category is an activity that can take place at different levels of the grammatical structure. The relevant levels of the categorization of units with lexical meaning offered by Lehman (2010: 45) are in Table 2 (which is adapted here).

Table 2: Levels of grammatical categorization

Level	
4	Phrase
3	Word form
2	Stem
1	Root

In this paper I will mainly focus on level 4 on Table 2 for assigning lexical items into parts of speech. The lower levels are eventually referred in this paper (such as level 1 when discussing the subclass I adjectives in §6.1.1, since these roots may be used, at level 4, as both intransitive stative verbs and adjectives, depending of the morphological markings they take. Hence, the pre-categorization is not possible for such roots). Given that the final categorization of lexical items is made here at the highest level – when the lexical items are being used in speech – it is plainly appropriate to refer to the parts (or classes) for which the lexical items are assigned to as 'parts of speech'.

I also believe it is appropriate to refer to the three major parts of speech using the traditional names 'verb', 'noun' and 'adjective'. Typological studies have provided good grounds for retaining these traditional terms, since they can make analogies between systems that, while not identical, share enough traits to be reasonably referred to with the same descriptive terms (even if they are understood to have different, overlapping meanings when applied to different languages), as we shall see below in this section. Moreover, although opaque names such as "the –*de*-form" or "class 21" may be theoretically justified, they are by no means practical, as Haspelmath (2007) mentioned.

Croft (1991, 2000, 2003) recognizes that reference, predication and modification are in fact pragmatic (communicative) functions which are the foundation for the distinction of the three traditional major parts of speech. This perspective points to typological prototypes for parts-of-speech systems which can be set out as follows:
(A1) The propositional operation of a noun is to make reference to an entity;
(A2) The propositional operation of a verb is to make predication of an action;
(A3) The propositional operation of an adjective is to make modification by a property.
The prototypical syntactic functions of the three major parts of speech can be plainly associated with the pragmatic functions – that is, the propositional operation that the parts of speech are used in. Compare the assertions in (A1-3) with the assertions in (B1-3).
(B1) A noun is a lexical item which is unmarked as head of NP that is the argument of a predicate;
(B2) A verb is a lexical item which is unmarked as head of a predicate;
(B3) An adjective is a lexical item which is unmarked as a noun modifier.

Prototypical functions associated with propositional acts are relevant when considering the 'splitting' related to the three major parts of speech. For instance, some of the lexical items that are classified as verbs in Deni include differences with respect to their morphological, syntactical and semantic behavior. Firstly, intransitive stative verbs do not take imperative marking, what other verbs such as action verbs do; secondly, transitive verbs require a mandatory argument in the O function, which is not allowed for

intransitive verbs; thirdly, some verbs express actions, others express state and even others express natural phenomena.

Are these lexical items members of different parts of speech or do they belong to the same part of speech? Depending on the criterion adopted, one could split them into different parts, such as intransitive stative words or transitive action words or even natural phenomena words. This attitude, however, would be overlooking a wide range of features shared by these words, as we shall see in §4. Moreover, the assignment of such lexical items into different parts of speech would also overlook the propositional acts for which such items are used in communication.

Although these lexical items include different characteristics, they share enough traits to be assigned to the same part of speech. Then, all of these supposed different classes are, in an in-depth analysis, members of the same part of speech. The morpho-syntactic shared features are, hence, the reason to assign all the (transitive, intransitive, stative, actions) verbs to the same part of speech. These morpho-syntactic characteristics are dealt with in more detail in §4.

Croft (2003: 185) argues that the examination of combinations of semantic classes and propositional acts provides the cross-linguistic evidence for typological prototypes of three major parts of speech. Besides the typological prototypes of combinations of parts of speech and propositional acts given above, Croft's table (Table 3) includes the traditional names of constructions overtly coding non-prototypical combinations of parts of speech and propositional act.

Table 3: Overtly marked structural coding constructions for parts of speech (cf. Croft, 2003: 185)

	Reference	Modification	Predication
Objects	**Unmarked nouns**	genitive, adjectivization, PPs on nouns	Predicate nominals, copulas
Properties	deadjectival nouns	**Unmarked adjectives**	Predicate adjectives, copulas
Actions	action nominals, complements, infinitives, gerunds	particles, relative clauses	**Unmarked verbs**

Notice that markedness is a key term for thinking both prototypical propositional operations and prototypical syntactic functions of parts of speech. This occurs because, as mentioned above, the syntactic function of a lexical item is determined by the propositional operation that is performed on it. Undoubtedly, other combinations than those unmarked ones of parts of speech and propositional operations are possible. However, these other combinations are marked. Genitive constructions, for instance, typically stablish a relation between two nouns of which one plays a role of noun modifier in indicating the possessor. In this non-prototypical function, the noun that is playing the role of modifier is marked. Cross-linguistically, this marking is expressed in different ways, such as by the attachment of a morpheme or the position of the nouns within the NP.

In Deni, possessive constructions involving two free (alienable) nouns mark the possessor with =*kha* (cf. Schemes 3 and 4). This non-prototypical function of a noun is,

hence, morphologically marked in Deni, as in *Taphiurunikha udza* 'Taphiuruni's house'. Notice that the possessor is the morphologically marked noun in a possessive noun phrase in Deni.

Based on Givón's (1995) list, Beck (2002) provides an interesting discussion of three criteria for markedness, which are (a) structural complexity, (b) frequency distribution, and (3) cognitive complexity. Beck mentions that the structural complexity is the least controversial and the most universally acceptable. A marked lexical item is more complex morphologically, syntactically or semantically than other lexical item which belongs to the same part of speech. Turning back to the example in (2), in possessive constructions involving two free (alienable) nouns, the marked noun is the one which takes the genitive =*kha*. This occurs because it is used in a non-prototypical syntactic function (see (B1-3)), which is the reflex of a non-prototypical combination between parts of speech and pragmatic functions (see (A1-3)). As alluded to by Beck, criteria for markedness are formulated in terms of contrast. Then, the unmarked combinations between parts of speech and prototypical functions are the base-point for establishing the contrast.

It is cross-linguistically well-attested that some lexical items are used in more than one syntactic function. Derivation, for instance, is quite a common process across languages. However, the most problematic cases that have caused discussion in the recent literature are those in which there is no overt formal marking attested. This process has been referred to as 'conversion' and, according to Bauer (2008), relates two words which are formally identical but categorially distinct.

The scholars have taken different positions in interpreting conversion in order to explain this phenomenon in specific languages. (A fuller account of the different positions on the term 'conversion' goes beyond the scope of this paper; an overview is in van Lier and Rijkhoff (2013)). Croft (2000: 96) points to a cross-linguistic universal involving systematic semantic shift towards the part of speech prototypically associated with the propositional operation. This is plainly the case for the lexical items such as *makhi* 'man', *dzuvatu* 'single woman', *bedeni* 'his daughter' which are used as nouns functioning as head of an NP, but also as adjectives modifying a referent (prototypically a noun) within an NP meaning 'male', 'single', and 'small', respectively. I will deal with it in more detail in §6.2, explaining the systematic semantic shifts undertaken by these lexical items according with the propositional operation that they are used in.

As I have pointed out some theoretical issues related to categorization of lexical items into parts of speech, I turn now to the criteria for recognizing lexical items as verbs in Deni.

4. Recognizing verbs in Deni

Deni is a highly synthetic language with rich verbal morphology. Syntactically, the verbs function as predicates in the sense that they predicate the involvement of a referent (prototypically a noun) in a state-of-affairs (an overview of the verbal transitivity classes was addressed in §2). Semantically, verbs can express actions, states and natural phenomena. In the present paper I will focus on those verbal categories which are fundamentally important for the assignment of a lexical item into the verb class in Deni.

A detailed analysis of the Deni verb structure goes beyond the scope here; a full account of the verb in Deni is in Carvalho (2017). Every verb in Deni is obligatorily marked for person of its subject (A/S). The person marker may be a prefix, as shown in (2a), or a suffix, as in (2b).

(2a)   metha   Labrea–dza   **u**–vad–aru
             yesterday   Lábrea– MULTFUNC   **1**SG–sleep–NFUT:F
             'Yesterday, I slept in Lábrea.'

(2b)   dzumahi   putaha–ri   te–**u**–na–mita–ru
             jaguar   big–M   shoot–**1**SG–VCM–ITER–NFUT:F
             'I shot a big jaguar again.'

Morphologically, verbs in Deni fall into two subclasses: subclass I covers verbs whose person marking precedes the verbal root; subclass II covers verbs whose person marking follows the verbal root. Schemes 1 and 2 present the structure of verbs that fall into subclasses I and II respectively.

Scheme 1: Subclass I verb structure

Slot 1	Slot 2	Slot 3	Slot 4	Slot 5	Slot 6	Slot 7
Person	NCA	Root	Negation	Multifunctional Conditional Modality Imperative	Aspect Tense	Interrogative

Scheme 2: Subclass II verb structure

Slot 1	Slot 2	Slot 3	Slot 4	Slot 5	Slot 6	Slot 7	Slot 8
Root	Person	NCA	VCM	Negation	Multifunctional Conditional Modality Imperative	Aspect Tense	Interrogative

The criterion for the assignment of verbs into one of the two subclasses is purely morphologically based here. As alluded to in §2, subclasses of verbs could also be postulated according to the transitivity types. Starting the discussion by the subclass I (Scheme 1), all verbs that belong to it have obligatorily filled the slots 1 and 2. However, to form the smallest verbal word of the subclass I, besides slots 1 and 3 at least one category of either slot 5 or 6 must be filled. Slot 2 is only filled when the NP-head of an argument in A/S or O function belongs to the *ka*-subclass (the *ka*-nouns in Deni are dealt with in §5). Slot 4 is optional and only (obviously) filled in negative constructions. Categories assigned to slot 5 cannot co-occur in the verbal word, and also constrain the occurrence of categories in slots 6 and 7. Although some categories in slot 6 and 7 can co-occur in the verbal word, such as iterative aspect and non-future tense, others cannot, such as perfect

aspect and any other tense marking. Deni includes a large number of aspectual markers; it is not my purpose to deal with them here. A fuller discussion is in Carvalho (2017).

With respect to the members of the subclass II (Scheme 2), such verbs have obligatorily filled the slots 1 and 2, and at least one of the categories inserted in slots 6 and 7. Slot 3 is only filled when the NP-head of an argument in A/S or O function belongs to the *ka*-subclass. Slot 4 is typically filled, except when the verbal word takes the future tense. The VCM is involved in a morpho-phonological process with the second person; what in the surface level is *–ta*, in the underlying level is *–ti* plus *–na* (see Carvalho 2013b: 89-92). Slot 5 is optional and only (obviously) filled in negative constructions. Categories in slot 6 cannot co-occur in the verbal word, and also constrain the occurrence of categories in slots 7 and 8. Whereas some categories in slots 7 and 8 can co-occur in the verbal word, such as iterative aspect and non-future tense, others cannot, such as perfect aspect and any other tense marking. Further detail of combinability of morphemes on verbs in Deni is in Carvalho (2017).

As mentioned, the position of the person marking (which is obligatory for all verbs in Deni) is the criterion for assigning the membership into either the verb subclass I or the verb subclass II. Person markings on verbs in Deni are given on Table 4. It is noteworthy to mention that most verbs in the database are assigned to subclass II, that is, the person is marked by suffix.

Table 4: Person markings on verbs

Person	Regular		Directed	
	Singular	*Plural*	*Singular*	*Plural*
1	u	i	A	e
2	ti	ti	te	te
3F	Ø/tu/ni	Ø/tu/ni	ka/ta	ka/ta
3M	Ø/tu/ni	Ø/tu/ni	ka/ta	ka/ta

Regular forms are rather more frequent in the database than directed forms. There is quite a few number of verbs that may take any of the regular or directed forms, with a semantic difference. The verb *–kha*, for instance, means 'to go' with a regular person marking, whereas it means 'to bring, to take' when it takes a directed person marking. The majority of verbs take either regular or directed forms.

The third person of regular forms includes three different forms. Of these, the morpheme *–Ø* is more often used to indicate third person in Deni. However, *–tu* has been attested as a person marker in about eight verbs in Deni (six belonging to the subclass II ('to hunt', 'to run', 'to bite', 'to take down', 'to bubble', 'to see') and two belonging to the subclass I ('to be' and 'to walk')). Something similar is found in Jarawara, but in that language *to–* occurs as prefix (Dixon 2004b: 102-105). Furthermore, Dixon points out that in Jarawara *to–* has two distinct but related senses: (a) movement away from a place; (b) change of state, change away from a certain state. These meanings are very close to those in Deni, since most of the verbs in which *–tu* or *tu–* occurs indicate motion. Besides these two forms, *–ni* is also attested marking third person on verbs belonging to the subclass II

in the future tense. The only occurrence of *ni–* in a verb that belongs to subclass I in the database was with *–ha* 'to be', in which it is also used in the non-future tense.

Similarly to Jarawara (cf. Dixon 2004b: 286), first and second person forms typically require feminine gender agreement. The subject typically triggers gender agreement on the verb. However, there are occurrences in the database in which the object triggers the agreement instead. This seems to be related to the A-constructions and O-constructions mentioned by Dixon (2004b: 417-443) for Jarawara language. More study is required to explain this sort of variation. Anyway, first and second person (and personal pronouns) predominantly trigger feminine gender agreement in the occurrences in the database. Thus, the feminine gender can be considered the 'default' choice in Deni, regardless the speaker's (in case of first person) and addressee's (in case of second person) sex.

As a synthetic language, members of the verb class in Deni may be marked by different categories for which the person marking – besides the verb root, of course – is obligatory, as included in Schemes 1 and 2 above. Thus, morphologically, members of the verb class include a particular behavior in that many morphemes may be attached to them. Syntactically verbs function as prototypical (unmarked) head of predicate which can be intransitive or transitive, as mentioned in §2. From a semantic viewpoint, verbs express actions, states and natural phenomena.

Although different criteria could support the splitting of the verb class (such as transitivity characteristics, morphological characteristics, semantic characteristics), members assigned to the verb class are unmarked (and prototypically) functioning as predicate. In that function, they notably predicate the involvement of a referent (prototypically a noun) in a state-of-affairs, as included in the assertion in A2 above. Thus, even they do include some differences, they also include morphological, syntactic and semantic commonalities which support the assignment of these lexical items (verbs) into the same part-of-speech class.

5. Recognizing nouns in Deni

Unlike verbs – which have a very rich morphology – nouns in Deni may receive only a few morphological markings. Similarly to other Arawá languages (Dixon 1995, 1999), nouns are divided into two subclasses as concerns the morphology: whilst subclass I covers inalienably possessed nouns, subclass II encompasses free (or alienable) nouns. Inalienably possessed nouns include basically body parts, parts of plants and kinship terms. Free nouns refer to a wide variety of animate and inanimate entities. They also include proper names and place names. Schemes 3 and 4 include the structure of inalienably possessed and free nouns in Deni, respectively.

Scheme 3: Structure of inalienably possessed nouns

Slot 1		Slot 2	Slot 3	Slot 4	Slot 5
Possessor	marking	Noun root	Gender	Case	Focus
1SG	*u–*		*–ni* F	*=kha* GEN	*–pe* FOC:F

Scheme 3: To be continued

2	*ti*–		–*Ø* M	–*dza* MULTIFUNC	–*pa* FOC:M
3	*Ø*–				
1PL	*i*–				

Scheme 4: Structure of free nouns

Slot 1	Slot 2	Slot 3	Slot 4
Noun root	Case	*Focus*	Conditional
	=*kha* GEN	–*pe* FOC:F	–*dzapa* CONDIT.F
	–*dza* MULTIFUNC	–*pa* FOC:M	–*dzapa* CONDIT.M

In both (free and inalienably possessed nouns), the slot of root is obligatorily filled. Regarding the inalienably possessed nouns (Scheme 3), slots 1 and 3 are also obligatorily filled, whereas slot 3 is only filled in the third person in order to mark gender. Slots 4 and 5 are optionally filled. In Scheme 4 (free nouns), slot 1 is the only one obligatorily filled, that is, the root is the only required obligatory slot. Slots 2, 3 and 4 are optionally filled in the structure of free (alienable) nouns. Given that possession markers are important for a fraction of members assigned to the noun class, Table 5 includes bound and free forms of possession markers.

Table 5: Bound and free forms of possession markers

Person	Bound forms	Free forms
1SG	u–	ukha
2	ti–	tikha
3F	Ø –	punikha
3M	Ø –	pukha
1PL	i–	arikha

Examples included in (3a-c) show allomorphs of the bound forms of possession markers such as uv– '1SG.POS', tiv– '2POS' in (3a) and (3b), respectively.

(3a) metha   uv–inu   Ø–kuma–ru   vapiha–ru
      yesterday   1SG.POS–tooth   3–hurt–NFUT:F   very–F
      'Yesterday, my tooth hurt a lot.'

(3b) tiv–ene   Ø–ama–Ø   Ø–puha–ri
      2.POS–nose   3–blood–M   3–have–NFUT:M
      'Your nose is bleeding.' (lit. your nose has blood)

(3c) Ø–dzaha–ni   putaha–ru
      3.POS–belly–F   big–NFUT:F
      'Her belly is big.'

The allomorphs are the result of a morpho-phonological process which occurs with inalienably possessed nouns beginning with a vowel. In such nouns, this process involves the insertion of an epenthetic consonant [v] between the person marking u– '1sg', *ti*– '2' or *i*– '1pl' and the initial vowel of the inalienably possessed noun (see (3a) and (3b)). The allomorphs uv– '1sg.pos', tiv– '2.pos' and iv– '1pl.pos' arise as result of this process, which is also employed in verbs that fall into subclass I and whose root begins with a vowel, such as –atika 'to want'. This process does not occur in third person singular, since it is marked by Ø–A fuller account of this morpho-phonological process is in Carvalho (2013b).

In Deni, the category of case is morphologically marked by a suffix on the noun, but also by a postposition which has its own stress. The case markings seem to be in a grammaticalization (morphologization) process in Deni. The multifunctional case –*dza* is already a suffix that takes the stress when attached to a noun. Examples in (4a-e) offer occurrences of case markings attaching to both inalienably possessed nouns (4e) and free nouns (4a-d). Free nouns that may receive case markings include proper names, place names and names of objects.

(4a)   Pidzevi=kha   tsiru   ahavi
            Pidzevi:m=gen   perfume   give.me
            'Give me Pidzevi's perfume.'

(4b)   kariva–dza   aba   da–ta–ba
            non.Indian–multfunc   fish   give–2–pol:imp
            'Give fish to non-Indian person.'

(4c)   Tapaua–dza   bakhu–i–na–ni
            Tapaua–multfunc   arrive–1pl–vcm–pfv
            'We (just) arrived in Tapauá.'

(4d)   huhuka–dza   aba   viri–u–na–ru
            knife–multfunc   fish   cut–1sg–vcm–nfut:f
            'I cut (superficially) the fish with a knife.'

(4e)   u–tati–dza   toka–ta
            1sg.pos–head–multfunc   kick–npol.imp
            'Kick (the ball) in my head.'

I call –*dza* multifunctional since, as in Jarawara (cf. Dixon 2004b: 488-492), it has a wide range of meaning, as illustrated in (4b, c, d). Besides these, the multifunctional –*dza* may also occur attached to inalienably possessed nouns, as in (4e). The genitive =*kha* is a clitic which does not take the stress and has been attested with nouns referring to animate (see (4a)) and inanimate entities. Multifunctional case marker –*dza* is also employed as a clause-linking device in Deni attaching to the verbal root of the first clause in the sentence, as in (5).

(5) amunehe deni bakhu–Ø–na–miti–dza   aba   Ø–puhi–dzape
     woman   PL   arrive–3–VCM–ITER–MULTFUNC fish   3–have–CONDIT
     makhi   deni viri–ni–tuvi
     man   PL   cut–3–FUT
     'When women come back (to village) again, if they got fish, the men will cut them
     up.'

As a clause-linkage device, –*dza* has a temporal meaning which relates two clauses in a sentence (see example in (5)). Kulina, a closely related language, also has this feature (see Tiss 2004: 313, Dienst 2014: 255-258). Undoubtedly, this is not an idiosyncratic feature of the Arawá languages. Aikhenvald (2008) provides an in-depth study showing how versatile the cases are, and how their usage as clause-linkage are widely spread in the world's language.

Every noun in Deni is either masculine or feminine, similarly to other Arawá languages (see Dixon 1999, Tiss 2004, Aikhenvald 2009). Dixon (1995, 1999: 298) argues that all possessed nouns in Proto-Arawá had overt gender marking which was –ni for feminine and *–*ne* for masculine; the Arawá languages kept the feminine –*ni* and have lost the masculine –*ne*. In Deni, gender is covert; namely there is no gender marking on nouns themselves, except for inalienably possessed nouns at third person, in which the feminine gender is marked by –*ni* and the masculine gender is marked by –Ø, as included in Scheme 3. Gender is realized through agreement within noun phrases and clauses, involving members of different classes, such as verbs, interrogatives, quantifiers. The gender choice is not fully transparent and may be partly considered culturally motivated. An interesting case is the word *matsi* 'vagina', which is the only body part that is not inalienably possessed; this free noun, although a women's body part, has the masculine gender in Deni (not overtly marked, but inherent to the noun and covert).

Besides inalienably possessed and free noun subclasses, there is a *ka*–subclass of nouns in Deni which triggers agreement involving nouns which belong to it and its modifier (adjective (see (6a)) and quantifier (see (6b)), and also the verb of the clause that such noun occurs in, as illustrated in (6c). This subclass has also been postulated for Paumarí (see Chapman and Derbyshire 1991: 254-259) and Kulina (see Dienst 2014: 85-91), both Arawá languages. Morphologically, *ka*–nouns include the same structure with free nouns.

(6a) kahiru   ka–hirari–de   uva–dza   pua
      fishhook   NCA–small–ADJ   1SG– MULTFUNC 3M
      da–tu–ka–na–ri
      give–3–NCA–VCM–NFUT:M
      'He gave me the small fishhook.'

(6b) kudze   ka–pama–ru
      spoon   NCA–two–F
      'Two spoons.'

(6c)   varami   u–ka–navatu–tuvi
           paddle   1SG–NCA–build–FUT
           'I will make a paddle.'

In examples (6a-c), the *ka*–nouns *kahiru* 'fishhook', *kudze* 'spoon' and *varami* 'paddle' trigger the agreement which consists of the attachment of the prefix *ka*– on the adjective *hirari*– 'small' in (6a), quantifier *pama*– 'two' in (6b), and verb –*navatu* 'to build' in (6c). On verbs, the *ka*– occurs between person marking and the verb root to verbs which fall into subclass I (see (6c)), and between the person marking and verb class marking to verbs which fall into subclass II (cf. Schemes 1 and 2, respectively).

It has been stated that the noun *kahiru* 'fishhook' belongs to the *ka*–subclass. However, if a flexible lexical item is used in the function of modification, it does not receive the *ka*–. It is hard to postulate a semantic base for the *ka*–subclass in Arawá languages. In Deni, it seems to be related to flat entities, animate and inanimate. However, this subject requires more study in Deni and also in Arawá languages by adopting a comparative perspective.

Chapman and Derbyshire (1991: 255) pointed out that in Paumarí "out of 45 animals, 2 are *ka*–, out of 80 birds, 8 are *ka*–, out of 46 reptiles and insects, 10 are *ka*–, and out of 84 fish none are *ka*–". In Kulina, Dienst (2014: 86-88) claimed that *ka*–nouns can be grouped in small clusters: a) running waters; b) thin, straight objects; c) objects which shine in the dark; d) artefacts, except those made of clay; e) mammals; f) birds; g) fish; h) body parts. The *ka*–class is also small in Kulina; it is only a small number of birds, or fish, or body parts, which belong to the *ka*–subclass in this language.

The *ka*– subclass has a high inconsistency related to the use of *ka*– in Kulina and in Deni. Dienst (2014: 88) advocates that in Kulina the *ka*–subclass may synchronically be losing ground. Dienst's statement may also be applied to the Deni language. Undoubtedly, the *ka*–subclass in Deni (and in other Arawá languages such as Paumarí and Kulina) requires more study. As the adjectives are my focus here and *ka*– nouns trigger agreement on adjectives subclass I, I have mentioned some characteristics of this subclass.

As claimed for verbs, different criteria could support the splitting of members assigned to the noun class in different classes, such as inalienably-possessed lexical items, alienable lexical items, and proper-name lexical items. Although members assigned to the noun class include some differences between them, they also share commonalities, such as taking case marking and being the NP-head. Therefore, words that are assigned to the noun class in Deni are those which are unmarked when playing the function of noun.

6. Recognizing adjectives in Deni

In §4 and §5 I have provided an overview of assigning lexical items into the verb and noun classes, showing the morphological, syntactic and semantic features of each. In the present section I will turn to those words which denote property concepts in Deni, since they are more likely to be adjectives on the basis of cross-linguistic comparison. Dixon (2004a) points out seven semantic types which are typically associated with the adjectives cross-linguistically:

DIMENSION: 'big', 'small', 'tall', 'long', 'short', etc.
AGE: 'new', 'young', 'old', etc.
VALUE: 'good', 'bad', 'lovely', 'perfect', etc.
COLOUR: 'black', 'white', 'red', etc.
PHYSICAL PROPERTY: 'hard', 'soft', 'sour', 'wet', etc.
HUMAN PROPENSITY: 'happy', 'kind', 'jealous', 'clever', etc.
SPEED: 'fast', 'quick', 'slow', etc.

Dixon (2004a) claims that the semantic types of dimension, age, value and colour are associated with languages which include large and small adjective classes. Physical property, human propensity and speed semantic types are associated with languages with a medium-sized and large adjective class. Besides these seven semantic types given above, Dixon (idem) indicates others which are associated with languages that have a large class of adjectives:

DIFICULT: 'easy', 'difficult', 'tough', etc.
SIMILARITY: 'like', 'unlike', 'different', etc.
QUALIFICATION: 'definite', 'probable', 'true', 'possible', etc.
QUANTIFICATION: 'all', 'many', 'some', 'few', etc.
POSITION: 'high', 'far', 'near', 'right', etc.
CARDINAL NUMBER: 'first', 'last', etc.

The property-concept lexical items which have been attested in the database are given in (7a-h) according to Dixon's (2004a) list. Since the morphological (and syntactic) characteristics of these words are still to be discussed, they are not parsed in (7a-h):

(7a)   DIMENSION
        putahari   'big/tall'
        hiraride   'small'
        imeibute   'fat'

(7b)   VALUE
        amutside   'good'
        hirade   'bad'
        katuharide   'ugly'
        bahikanade   'pretty'

(7c)   COLOUR
        pakude   'white'
        makude   'red'
        kiride   'black'
        derepede   'green/blue/yellow'

(7d)   PHYSICAL PROPERTY
        kharade   'hard'
        bavide   'soft'
        merude   'smooth'
        abikade   'hot'

mimide	'cold'
atside	'stinky'
mahakude	'fragrant'
mahunade	'sweet'
tsitakade	'sour'
bidade	'bitter.'
hutsade	'salty'
tsikide	'shallow'
patuhade	'wet'
kukutunade	'dry'
tsivahade	'bright'
dzidzide	'dark'
napide	'thick'
huratsa	'old'
dzati	'new'

(7e)   HUMAN PROPENSITY

hadzirade	'jealous'
ati dzeari	'happy'
ibude	'lazy'
bukede	'angry'
hunerade	'miserly'
navatude	'intelligent'
hau	'tired'
mahu	'married'

(7f)   QUALIFICATION
        naniarini 'correct'

(7g)   POSITION

vahini	'far'
vahirade	'near'

(7h)   ORDINAL NUMBER

tatide	'first'
dzutude	'last'

Some of Dixon's age-words are flexible lexical items in Deni and may be used as both head of NP and noun modifier, as we shall see in §6.2. The speed-words are adverbs in Deni and will not be dealt with here.

To assign property-concept lexical items to a part-of-speech class in Deni, I will start our discussion based on the prototypical functions of parts-of-speech classes (see assertions in A1-3 and B1-3) which were given in §3. Since the function plays an

important role in the analysis, the NPs, CSs, CCs, Ps and CPs are given in brackets in examples (8a-e).

(8a)   [tutaputu   kiri–de] NP1   [puni] NP2   [tsabu–ni–tuvi–hi] P
         cloth   be.dirty–ADJ   3F   wash–3–FUT–Q
         'Will she wash the dirty cloth?'

(8b)   [Ukekeni] CS   [imeibute] CC   [tu–ha–ri] CP
         Ukekeni:M   fat   3–be–NFUT:M
         'Ukekeni is fat.'

(8c)   [panera   dzati] NP   [mita–u–tuvi] P
         pan   new   buy–1SG–FUT
         'I will buy new pan(s).'

(8d)   [tia] NP1   [amutsi–de] P   [pua] NP2   [hunera–de] P
         2   good–ADJ   3M   miserly–ADJ
         'You are good. He is miserly.'

(8e)   [ukha   tutaputu] NP   [huratsa] P
         1SG.POS   clothes   old
         'My clothes are old.'

Cross-linguistically, adjectives are those words whose prototypical function is to modify a referent (prototypically the noun) within the NP, as claimed in assertion B3. Adjectives can also be involved in the statement of a certain property of a referent; then this is coded: (a) by the adjective in the predicate position; and (b) by the adjective functioning as copula complement. Notice that in examples in (8) we find property-concept words: (i) modifying nouns within the NP, such as *kiri–de* (dirty– ADJ) 'dirty' in (8a) and *dzati* 'new' in (8c), (ii) predicating a property of a referent in the predicate position, such as *amutsi–de* (good– ADJ) 'good' and *hunera–de* (miserly– ADJ) 'miserly' in (8d) and *huratsa* 'old' in (8e); and (iii) also predicating a property of a referent but functioning as a copula complement, as *imeibute* 'fat' in (8b). All these functions are attested for adjectives cross-linguistically.

The typical construction involving a property-concept word in the predicate position in Deni includes no copula verb, as illustrated in (8d, e). Then, the property-concept lexical item functions as (an intransitive) predicate, and not as a copula complement – function which is undertaken by the property-concept word in a construction that includes the copula verb *–ha* 'to be', as shown in (8b). It was found in the database only two property-concept words for which the copula verb is obligatorily required: *mahu* 'married' and *hau* 'tired'. Besides them, the property-concept word *imebute* 'fat' may be used in a copula construction; then, the copula verb *–ha* 'to be' is the copula predicate and the property-concept word functions as a copula complement. The copula complement is only argument that can be filled by a single adjective.

Property-concept words have not been attested in the database in the NP-head function. In the conversation, both the noun that is modified by a property-concept word and the referent for which a property-concept word predicates a property may be elliptical in the NP since it has been previously introduced in the discourse or known by the physical or visible context of conversation. Examples in (9a-b), for instance, are in the field notes and represent clearly nominal ellipsis, since (9a) was produced when the speaker and I were eating mangos while travelling to the village, and (9b) was said by Mavahari when we were in a shop looking for clocks to bring to the village.

(9a)   mahuna–de
        sweet–ADJ
        '(The mango is) sweet.'

(9b)   dzati   tiv–atika–ru–hi
        new   2–want–NFUT:F–Q
        'Do you want the new one (clock)?

In both constructions in (9), nouns that property-concept words modify or predicates a property are elliptical but recoverable from the physical and visible context of conversation. In examples under discussion, the elliptical lexical items maga 'mango' and mahi 'clock' function as head of the NP and, hence, such syntactic role is not assigned to mahunade 'sweet' or dzati 'new'. Another evidence for this analysis is supported by the fact that even when elliptical, the noun in the NP-head function triggers gender agreement according to its covert gender.

Besides of playing a prototypical role of adjectives cross-linguistically – namely to modify a referent within the NP –, property-concept words can occur in the typical position of predicate in the clause, as illustrated in (8d, e) and in many languages across the world. However, they are by no means verbs in that they predicate a property of a referent, and not predicate the involvement of an entity (or entities) in a state-of-affairs. Unlike property-concept words, verbs cannot modify nouns in Deni within the NP nor can they predicate a property without an overt marking (cf. discussion on markedness in §3). Thus, the syntactic evidences lead us to postulate that the property-concept words belong to a different part-of-speech class (named adjective) from those verb and noun classes. As we shall see in §6.1.1 and §6.1.2, the morphological criterion also supports the postulation of an adjective class.

Likewise in other Arawá languages, adjectives in Deni occur in both position within the clause: (i) following the referent (typically a noun) they modify within an NP, as in (10a, c); and (ii) in the predicate position predicating a property of a referent (also typically a noun), as illustrated in (10b). In examples (10a-c) the NPs are given in brackets.

(10a)   [udza   ka–putaha–ri]   u–ka–navatu–aru
        house   NCA–big–M   1SG–NCA–build–NFUT:F
        'I built the big house.'

(10b) [a–ru   kanuva]   dzati
        that–F   canoe   new
        'That canoe is new.'

(10c) [akha–ru kariva   deni   bahikana–de]   bakhu–Ø–na–miti–tuvi
        those–F   non–Indian   PL   beautiful–ADJ   arrive–3–VCM–ITER–FUT
        'Those beautiful non-Indians (women) will come back (to the village) again.'

Nevertheless, if the plural word *deni* and an adjective occur together in the same NP modifying its head, then the adjective follows the plural word, as illustrated in (10c). This justifies the assignment of the adjective into slot 5 in Scheme 5 below, which contains the order of constituents within the noun phrase in the Deni language.

Scheme 5: Constituents order within the noun phrase in Deni

Slot 1	Slot 2	Slot 3	Slot 4	Slot 5	Slot 6
Modifier	*Modifier*	*Head*	*Modifier*	*Modifier*	*Modifier*
Demonstrative	Possessor	Noun	Plural word	Adjective	Postposition
Poss. Pronoun	(noun)	Pers. Pronoun	Quantifier		
		Locationals	Numeral		

In Scheme 5, slot 3 is the only one which must be obligatorily filled within the NP, even if the NP-head is elliptical. In possessive (inalienable or alienable) constructions, slots 2 and 3 are filled. Slot 1, 4, 5 and 6 may be filled, but they are not obligatory. In my database, demonstratives and possessive pronouns have not been found following nouns in an NP; they have been attested only preceding the NP head, which justifies their assignment to slot 1. Slots 4 and 5 are different because the items cooccur within the same NP. The postposition usually immediately follows the noun; however, if one of the constituents in slot 4 appears, the postposition follows it within the NP.

Categories included in the same slot in Scheme 5 have not been attested co-occurring in the same NP. For instance, demonstratives and possessive pronouns do not co-occur in the same NP; personal pronoun and (inalienably possessed) noun do not co-occur in the same NP. Categories in slot 4 are particularly interesting. All of them express quantity in different ways. The fact that they do not co-occur seems to be a logic matter in the Deni grammar.

Since the syntactic criterion has been focused so far on recognizing an adjective class in Deni, I will turn to the morphological criterion which also supports the statements made through the syntactic characteristics of this class in the language.

6.1. Subclasses of adjectives

The membership of a lexical item into a specific part of speech has been especially assigned according with the syntactic function that it may play, which is closely related to the propositional operation that the three major parts of speech are used for. Morphological

and semantic features also support the assignment of a lexical item into a part of speech in consonance with the Deni-specific criteria, as we have seen in §4 (verbs), §5 (nouns) and §6 (adjectives).

he morphological criterion was used on the assumption that members assigned to the same part-of-speech class include some differences. Verbs, for instance, have been grouped into two subclasses ass discussed in §4; equally, nouns have also been included into different subclasses, as in §5. Notice that in both cases (verbs and nouns), although members of a specific part-of-speech class include differences, there are a plenty of shared commonalities which are enough to assign them to the same part of speech.

Analysis offered here points out to an adjective class which includes different syntactic characteristics from those of verb and noun classes. The lexical items assigned to this part-of-speech class also have different morphological features. As I have done to verbs and nouns, the morphological criterion is adopted here for postulating two subclasses of adjectives in Deni, of which the subclass I encompasses those adjectives that do not take any morphological marking, and the subclass II comprises the adjectives that take the adjectivizer *–de*.

6.1.1. Subclass I

The subclass I adjectives comprises a few numbers of lexical items which are syntactically unmarked as noun modifiers and morphologically do not receive any marking (which is different from members of the subclass II adjectives, as we will see in §6.1.2). The seven adjectives that belong to the subclass I found in the database are *imeibute* 'fat', *hutatsa* 'old', *dzati* 'new', *vahini* 'far', *hau* 'tired', *mahu* 'married', and *naniarini* 'correct'. They are distributed into different semantic types (dimension, physical property, human propensity, position and qualification) according to Dixon's (2004a) list. Subclass I adjectives *hau* 'tired', *mahu* 'married', *imeibute* 'fat' and *vahini* 'far' have been attested occurring with the copula verb *–ha* 'to be' and then functioning as copula complement (see (11b, d, e)). Subclass I adjectives *dzati* 'new' and *huratsa* 'old' were found occurring in both functions within the NP and in the predicate position (see (11a, c)).

(11a) [udza   dzati] NP   [u–ka–navatu–tuvi] P
       house   new   1SG–NCA–build–FUT
       'I will build a new house.'

(11b) [Ukekeni] CS   [imeibute] CC   [tu–ha–ri] CP
       Ukekeni:M   fat   3M–be–NFUT:M
       'Ukekeni is fat.'

(11c) [ukha   tutaputu] NP1   [huratsa] P1   [tikha ____] NP2   [dzati] P2
       1SG.POS   clothes   old   2.POS   new
       'My clothes are old; your (clothes) are new.'

(11d) [(tia)] CS   [hau] CC   [ti–ha–tu] CP
       2   tired   2–be–NFUT:F
       'Are you tired?'

(11e)   [(uva)] CS   [mahu] CC   [u–ha–ru] CP
         1SG   married   1SG–be–NFUT:F
         'I am married.'

The adjectives *mahu* 'married' and *hau* 'tired' are always followed by the copula verb *–ha* 'to be'. Given that the copula verb *–ha* always takes the person marking – as do all verbs in Deni – the pronoun may be used or not, which justifies their insertion into parenthesis in (11d, e). Constructions in (11d, e) include copula clauses which require a copula subject and a copula complement, as mentioned in §2. The copula complement is either adjectives *mahu* 'married', *hau* 'tired', *imeibute* 'fat' or *vahini* 'far'. However, only the adjectives *mahu* 'married' and *hau* 'tired' are obligatorily followed by the copula verb and function as copula complement, as illustrated in (11d, e); the adjective *imeibute* 'fat' may function as both copula complement (cf. 11b) and then being followed by the copula verb and as a predicate and then with a zero copula. It is noteworthy to mention that this copula complement is the only argument that can be filled by a single adjective. Such characteristic has also been pointed out by Dixon (2004b: 378) for Jarawara.

Except for the adjectives that obligatorily require the copula verb *–ha*, all adjectives assigned to subclass I can occur both within the NP and in the predicate position. The adjective *dzati* 'new', for instance, occurs within the NP in (11a), whilst it occurs in the predicate position in (11c). An interesting matter in (11c) is that the NP-head *tutaputu* 'clothes' is elliptical in the NP2, but plainly recoverable from the context of conversation, since it was introduced in the previous clause. It is noteworthy that in (11c) *dzati* 'new' predicates a property of its referent (*tutaputu* 'clothes') in the example under discussion.

Morphologically, adjectives assigned to subclass I do not include any similarity with verbs. They include resemblance with free nouns in that both do not receive any obligatory marking. With respect to the possibilities of attachment of morphemes, free nouns may receive markers of dative, genitive and locative cases, which is not possible for adjectives. The semantic domains covered by subclass I adjectives are close to those that Dixon (2004a) mentioned to be more related to languages with small and medium-sized adjective class cross-linguistically.

6.1.2. Subclass II

It was mentioned in §6.1 that the two subclasses of adjectives have been postulated exclusively on the basis of their morphological characteristics. Both subclasses are assigned to the same part-of-speech class (adjective) since (i) they are syntactically used as noun modifier, the prototypical function of adjectives cross-linguistically, (ii) they can be easily distinguished from verbs and nouns according to Deni-specific morphological and syntactic criteria, as argued in §6. Unlike subclass I adjectives (which do not include any morphological marking), most of subclass II adjectives do include a morpheme which characterizes them.

In a very interesting study about categorization of roots and stems in a 6-languages sample, Lehmann (2010) argues that 'property' is a cognitive category which comprises both the adjective 'clever' and the noun 'cleverness'. He claims that "before a sign reaches

the level of the utterance, it may be categorized and recategorized several times" according to different levels given in Table 2, which is replaced below with its original number. Such levels point to the distinction between primary and final categorization of a sign.

Table 2: Levels of grammatical categorization

Level	
4	Phrase
3	Word form
2	Stem
1	Root

Property-concept roots[4] (level 1 in Table 2) may be categorized as (intransitive stative) verbs or (subclass II) adjectives in level 4 in Table 2 depending on the morphological, syntactical and semantic features they take, as we can see in (12a-d).

(12a) tia   ti–kiri–aru
      2   2–be.dirty–NFUT:F
      'You are dirty.'

(12b) tia   kiri–de
      2   dirty–ADJ
      'You are dirty.'

(12c) uva   uv–amutsi–aru
      1SG   1SG–be.good–NFUT:F
      'I am good.'

(12d) uva   amutsi–de
      1SG   good–ADJ
      'I am good.'

There are some roots in Deni which are not liable to pre-categorization. For instance, property-concept roots such as –*kiri*– 'dirty' and –*amutsi*– 'good' can receive different morphological markings according to which they can be categorized as both (intransitive stative) verbs and (subclass II) adjectives. Functioning as (intransitive stative) verbs, these roots (a) take a person prefix and a non-future tense suffix, (b) function as head of predicate, and (c) express state (see 12a, c). However, functioning as (subclass II) adjectives, they (a) take the adjectiviser –*de* and (b) modify a referent (noun or pronoun) within the NP, or attribute a property in the predicate position (see 12b, d). Therefore, the analytical

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[4] Property-concept roots are marked with a hyphen preceding and following the root since as intransitive stative verbs they are marked by a person prefix (which justifies the insertion of a hyphen preceding the root), and as subclass II adjectives they are marked by the suffix –*de* (which justifies the insertion of a hyphen following the root).

perspective undertaken here is that such roots are not pre-categorized as they can take different morphemes and then functioning as either verb or adjective.

Property-concept roots are, hence, part of a system which offers to the Deni language speaker two possibilities of adaptation according with his/her cognitive and communicative goals (Lehmann 2010). This adaptation in Deni is both formal and functional in the sense that the speaker chooses his/her means in consonance with his/her goals in producing a propositional operation. If the speaker's propositional operation is to predicate a state, the verbal (morphological, syntactical and semantic) characteristics will be taken from the shelf where the system stores its possibilities. However, if either modification or predication of a property is the aim of the communication, then the adjectival (morphological, syntactical and semantic) characteristics will be chosen by the speaker.

A noteworthy point concerns the high frequency of property-concept roots being used as verb compared to their use as adjective in the database. Moreover, whilst intransitive stative verbs in first and second person have a very low frequency (see 12a, c), in third person they have been found in the corpus (see 13a-d) in large numbers.

(13a) Diivi   Ø–panadi   Ø–hadzira–ru
      Diivi.M   3POS–wife   3–be.jealous–NFUT:F
      'Diivi's wife is jealous.'

(13b) patsu   Ø–mimi–aru
      water   3–be.cold–NFUT:F
      'The water is cold (or 'the water, it is cold').'

(13c) Matiu=kha   dzama   Ø–patuha–ru
      Mateus:M=GEN   stuff   3–be.wet–NFUT:F
      'Mateus' stuff is wet.'

(13d) dzuvatu   deni   Ø–bahikana–ru
      single.woman   PL   3–be.beatiful–NFUT:F
      'The single women are beautiful.'

As has been discussed so far, the majority of subclass II adjectives are derived from property-concept roots which may also be categorized as intransitive stative verbs in level 4 of Table 2. The subclass II adjectives *tati–de* (his/her.head– ADJ) 'first' and *dzutu–de* (his/her.anus– ADJ) 'last' are the only ones in the database that come from inalienably possessed nouns, as illustrated in (14a-d).

(14a) Ø–tati–Ø
       3.POS–head–M
       'his head'

(14b) tati–de
       head–ADJ
       'first'

(14c)   Ø–dzutu–Ø
         3.POS–anus–M
         'his anus'

(14d)   dzutu–de
         anus–ADJ
         'last'

The comparison of (14a) with (14b), and (14c) with (14d) show us that the adjectivization involves loss of morphological characteristics of inalienably possessed nouns, since the subclass II adjectives no longer contain markers of possessor and possessor's gender. These examples are reminiscent of a cross-linguistically well-attested process whereby, in Heine's (2014: 13) words, "the use of a term for a body part is extended to also express concepts belonging to other domains of human experience", as illustrated in (15).

(15a)   uva   tati–de tia   dzutu–de
         1SG   head–ADJ 2   anus–ADJ
         'I (will be) the first. You (will be) the last.' (lit. I first, you last)

(15b)   pukha   udza   tati–de
         3M:POS   house   head–ADJ
         'His house is the first one (going up river).'

Besides the morphological differences pointed out above, such adjectives also include syntactic differences with regard to inalienably possessed nouns in that the former cannot function as head of NP anymore, which is the typical function of the latter. Thus, in consonance with criteria that assign a lexical item into a part-of-speech class outlined in §3, the words *tati–de* (head– ADJ) 'first' and *dzutu–de* (anus– ADJ) 'last' are recategorized as (subclass II) adjectives in examples (15a-b), since they are syntactically used to predicate a property of a referent in the predicate position.

Other interesting cases of derivation is in regard to adjectives *tsiki–de* (be.shallow–ADJ) 'shallow' and *tsivaha*–de (be.clear– ADJ) 'clear', since they include two possibilities of interpretation depending on their sources.

(16a)   tsiki   Ø–abika–ri
         sand   3–be.hot–NFUT:M
         'The sand is hot.'

(16b)   patsu   Ø–tsiki–aru
         river   3–be.shallow–NFUT:F
         'The river is shallow (in the river's beach).'

(16c)   edza   patsu   tsiki–de
         here   river   be.shallow–ADJ
         'Here the river is shallow.'

(16d) Cidadezinha–dza   tsivaha   Ø–phira–ru
       Cidadezinha–LOC   light   3–do.not.have–NFUT:F
       'There is no light (electricity) at Cidadezinha (village).'

(16e) hibanamutha   vada   Ø–tsivaha–ri
       today   day   3–be.clear–NFUT:M
       'Today the day is clear.'

(16f) dzume   tsivaha–de
       night   be.clear–ADJ
       'The night is clear.'

The source of *tsiki*–de 'shallow' in (16c) might be attributed to the free noun *tsiki* 'sand' (see (16a)), which has a relatively predictable meaning, since at the river's beaches (where the river is shallow) one can see the sand on the river's bottom; on the other hand its source might be associated with a property-concept root –*tsiki*– 'be shallow' which is also the source for the intransitive stative verb –*tsiki* 'be shallow' (see (16b)). In respect to *tsivaha*–de 'clear' in (16f), its source might be related to the free (alienable) noun tsivaha 'light of the day', which also has a relatively predictable meaning. Equally, its source might be attributed to the property-concept root –*tsivaha*– 'be clear' that is also the source for the intransitive stative verb –*tsivaha* 'be clear' (see (16e)). Given that adjectivization is a highly productive process involving property-concept roots, and no subclass II adjective has been found in the database with a free noun as source, it seems to be more plausible to attribute the source of these adjectives to property-concept roots –*tsiki*– 'be shallow' and –*tsivaha*– 'be clear'.

Turning the discussion back to the morphological differences between intransitive stative verbs and subclass II adjectives, we can see the difference in the predicative and attributive use of property-concept roots in examples (17a-f).

(17a) mahi   Ø–abika–ria–ri
       sun   3–be.hot–INTENS–NFUT:M
       'The sun is very hot.' (*or* the sun, it is very hot)

(17b) mahi   abika–de
       sun   3–be.hot–ADJ
       'The sun is hot.' (*or* the hot sun)

(17c) *mahi   abika–ria–de
       sun   be.hot–INTENS–ADJ
       'The sun is very hot.'

(17d) ehebue   Ø–hutsa–ria–ru
       food   3–be.salty–INTENS–NFUT:F
       'The food is very salty.' (*or* the food, it is very salty)

(17e)   ehebue   hutsa–de
        food   be.salty–ADJ
        'The food is salty.' (*or* the salty food)

(17f)   *ehebue   hutsa–ria–de
        food   be.salty–INTENS–ADJ
        'The food is very salty.'

Notice that in the verbal usage, the property-concept roots can receive the intensifier *–ria*, as in examples (17a, d). However, predicating a property, such roots cannot receive the intensifier, as can be seen in (17c, f). In other words, intransitive stative verbs can be intensified by the intensifier *–ria* whilst subclass II adjectives cannot.

From property-concept words given in (7a-h) – except those seven which are classified as subclass I adjectives and have been dealt with in §6.1.1 –, only two have not been attested receiving the adjectivizer *–de*: *putaha–ri* (be.big–M) 'big' and *ati dze–ari* (3 happy– NFUT:M) 'happy'. Whereas the latter has been attested only in the predicate function taking always verbal markings, the former was attested both modifying nouns within the NP, as illustrated in (18a), and in the predicate position, as in (18b); in both cases, it does not receive the adjectivizer *–de*.

(18a)   [uva] *NP1*   [tsipari   putaha–ri] *NP2*   [u–kadapi–aru] *P*
        1SG   banana   big–M   1SG–eat.fruit–NFUT:F
        'I ate the big banana.'

(18b)   [pua] *NP*   [putaha-ri] *P*
        3SG   big–M
        'He is big.'

In (18b), the property-concept word does not receive person marking and the –ri marks only the masculine gender, and not non-future tense as it does in verbs. Whereas in (18a) *putaha–ri* (big.M) 'big' is agreeing in gender with *tsipari* 'banana' in NP2 that functions as O, the verb agrees with *uva* 'I' which is in the A function. As mentioned in §2, the subject predominantly triggers the gender agreement on the verb. In (18b) *putaha–ri* (big.M) occurs in the predicate position predicating a property to the referent (pronoun) in the NP function.

So far, we have seen in this section that the lexical items which are assigned to the adjective class include some differences which concern the morphology. Such differences allow us to postulate two subclasses of adjectives, but they also include morpho-syntactic commonalities which are enough to assign them to the same part-of-speech class. Now I will turn to the tiny fraction of lexical items which may be fulfill two functions without morpho-syntactic adaptations.

6.2. Flexible lexical items

Deni includes a very small number of lexical items that may be used in the prototypical function of noun as head of NP and also in the prototypical function of adjectives as noun modifier. These flexible lexical items are, hence, used in two different propositional operations: (i) reference and (ii) modification. As I argued in §6.1.2, some of the property-concept roots may be used in level 4 of Table 2 as adjective and verb. Nevertheless, the syntactic function they are used in determine the morphological markings they take, such as adjectivizer –*de* for adjectives, and person marking and other morphemes for verbs.

Differently, flexible lexical items do not take any overt formal marking as a consequence of their syntactic function. This phenomenon is quite common cross-linguistically and has been hotly debated in the recent literature. As mentioned in §3, the scholars have taken different positions in dealing with this phenomenon that is frequently referred to as 'conversion'. (A fuller account of the different positions on conversion is in van Lier and Rijkhoff 2013; specific-language accounts are also included in the volume edited by them.)

Before starting the discussion on flexible lexical items in Deni, I offer the conversive pairs of lexical items identified in the database in Table 6.

Table 6: Conversive pairs

Lexical items	Syntactic function	Propositional operation	Meaning
Makhi	NP-head	Reference	'Man'
Makhi	Noun modifier	Modification	'Male'
Amunehe	NP-head	Reference	'Woman'
Amunehe	Noun modifier	Modification	'Female'
Dzuvatu	NP-head	Reference	'Single woman'
dzuvatu	Noun modifier	Modification	'Single'
Dzabitsu	NP-head	Reference	'Single man'
Dzabitsu	Noun modifier	Modification	'Single'
Bedeni	NP-head	Reference	'Her/his daughter'
Bedeni	Noun modifier	Modification	'Small'
Bedi	NP-head	Reference	'Her/his son'
Bedi	Noun modifier	Modification	'Small'
Kharavi	NP-head	Reference	'Old man'
Kharavi	Noun modifier	Modification	'Old'
Kharani	NP-head	Reference	'Old woman'
Kharani	Noun modifier	Modification	'Old'

Croft (2000: 96) points out a cross-linguistic universal regarding the semantic shifts in which members of a conversive pair are involved, mentioning that such semantic shifts are always towards the part-of-speech class prototypically associated with the propositional

operation in which they are used. Examples in (19a-d) include uses of flexible lexical items *makhi* 'man/male', *bedeni* 'his/her daughter/small', *dzuvatu* '(single) woman/single' and *kharavi* '(old)man/old' in the propositional operation of modification – that is, functioning as noun modifier.

(19a)   [dzumahi   makhi]NP   [tei–ta–ru–hi]P
        jaguar   male   shoot–2–NFUT:F–Q
        'Did you shoot the male jaguar?'

(19b)   [kahiru   bedeni]NP   [mita–u–ka–na–ru]P
        fishhook   small   buy–1SG–NCA–VCM–NFUT:F
        'I bought the small fishhook.' (lit. I bought the fishhook's daughter)

(19c)   [Hakedzani]NP   [dzuvatu]P
        Hakedzani:F   single
        'Hakedzani is a single.'

(19d)   [pua]NP   [kharavi]P
        3M   old
        'He is old.'

The meaning of the flexible lexical items *makhi* 'male', *bedeni* 'small', *dzuvatu* 'single' and *kharavi* 'old' in (19a-d) are a consequence of the syntactic function and the propositional operation in which they are used. The meaning of the flexible lexical item *makhi* is 'male' in (19a) and 'man' in (5); similarly, *dzuvatu* means 'single' in (19c) and 'single women' in (13d). The flexible lexical item *makhi* is used in the propositional operation of modification functioning as noun modifier in (19a) meaning 'male'; on the other hand, *dzuvatu* is used predicating a property of a referent in (19c) meaning 'single'. As illustrated elsewhere in this paper, adjectives in Deni can function (a) as noun modifier within an NP, as illustrated by *makhi* in (19a) and (b) predicating a property of a referent in the predicate position, as shown by *dzuvatu* in (19c). These lexical items are classified as flexible in Deni – besides others mentioned in this paper – since they are also used in the propositional operation of reference functioning as NP-head.

In the propositional operation of reference, these lexical items are used in the NP-head function and can be modified by the plural word *deni*, which is only allowed for nouns that make reference to human beings (cf. Carvalho 2017). Adjectives cannot be followed by the plural word *deni*. Hence, functioning as adjectives, flexible lexical items cannot be modified by the plural word *deni*.

The semantic shifts involving the flexible lexical items in Deni are systematic and relatively predictable. For instance, *makhi* being used in the NP-head function includes the semantic features 'human', 'male', 'adult'. As noun modifier, *makhi* includes only the semantic feature 'male'; as illustrated in (19a), it can be used modifying non-human nouns. The meaning of *makhi* being used as an adjective is predictable in the sense that one could expect that if a lexical item containing these semantic features in the propositional

operation of reference ('human', 'male', 'adult') were used in the propositional operation of modification, its meaning would rather be 'male' than any other.

The flexible lexical item *bedeni*, although it has not been parsed in the glosses in (19b), is an inalienably possessed noun which is always used in reference to the possessor in the propositional operation of reference.[5] Its semantic features include 'human', 'female', 'be someone's daughter'. In the Deni culture, a possible interpretation for *Mavahari bedeni* 'Mavahari's daughter' (and its masculine correspondent *bedi* 'his/her son') is 'that one which has arisen from Mavahari' or 'that one which is a small version of Mavahari'. In this sense, to be daughter (or son) is to be a small version of someone. The semantic feature 'small' is the meaning of *bedeni* in the propositional operation of modification. Related to gender, the feminine form (*bedeni*) has been chosen in (19b) since the noun *kahiru* which is modified has the inherent feminine gender.

Semantic features included by *dzuvatu* in the propositional operation of reference are 'human', 'woman', 'single'. When used as adjective, this lexical item means 'single, unmarried'. The semantic features 'human' and 'woman' are carried by the noun that it modifies, such as feminine proper name Hakedzani in (19c). Likewise, semantic features included by *kharavi* in the propositional operation of reference (NP-head function) are 'human', 'male', 'old'. As an adjective, *kharavi* means 'old'; the head of NP that is modified carries the semantic features of 'human' and 'male', as in (19d).

Based on the meanings of the conversive pairs listed in the last column in Table 6, flexible lexical items in Deni trend to undertake semantic shifts towards the part-of-speech class prototypically associated with the propositional operation in which they are used, which is consonant with Croft's (2000: 96) assertion. Flexible lexical items in Deni are, hence, pairs of separate, homonymous words which are semantically related, but different in consequence of the syntactic function they are used in.

An integrating point is the use of flexible lexical items modifying *ka*–noun which is the NP-head. As mentioned in §5, Deni includes a *ka*– subclass of nouns that triggers noun class agreement in its modifiers within the NP (adjectives, numerals) and also on the predicate of the clause that it occurs in. Nevertheless, the flexible lexical items used as adjectives do not take the *ka*–marking of noun class agreement, while the adjectives do take it (cf. examples in (6a) and (10a)).

Flexible lexical items include different status in regard to the syntactic function and propositional operation in which they are used. Being used in the NP-head function, they take all the morpho-syntactic possibilities available for nouns, including modification by the plural word *deni*. However, although flexible lexical items are syntactically and semantically used as adjectives, they are not able to undertake this morphological possibility available for adjectives.

This feature is the basis for postulating the adjectival use of flexible lexical items as the output of the derivational process, rather than the frequency criterion (the use of flexible lexical items in the propositional operation of reference is hugely bigger than their use in the propositional operation of modification). Flexible lexical items are interpreted here, hence, as the result of a derivational process in which the input forms are nouns and

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[5] Inalienably possessed nouns in Deni include high morphological irregularity in regard to possession. A fuller discussion of this issue is in Carvalho (2017).

the output forms are adjectives. For instance, to express the property concept 'male' the language chose the semantically related noun *makhi* 'man' to perform the derivational process of which the result is the adjective *makhi* 'male'. The semantic of the input form is highly important; its choice is by no means arbitrary.

Although the result of this derivational process in Deni is two separate, homonymous lexical items, and even although the output forms are syntactically and semantically accommodated in the modification function and predicating a property, the output forms are not entirely engaged in all morphological possibilities available for adjective class. This seems to be a relic of the input forms in the derivational process of conversion into the output forms.

7. Conclusions

The analysis of property-concept lexical items in Deni has led me to assign them to a part-of-speech class which is distinct from those of verbs and nouns. The assignment has followed the Deni-specific criteria for recognizing the verb, noun, and adjective classes. The starting point for our discussion on the assignment of the property-concept lexical items into a part-of-speech class in Deni was based on the morpho-syntactic features of the language. Since the morpho-syntactic features of property-concept words given in (7a-h) are different of those of nouns and verbs in the language, they have been claimed to belong to a different part-of-speech class: adjective. Associated with that, I used Dixon's (1982, 2004a) seminal study on the recurrent semantic domains covered by adjectives across languages.

The adjectivehood postulated by the syntactic and semantic criteria for the property-concept lexical items is also supported by the morphological criterion, which allows us to recognize a split within the adjective class: (a) subclass I adjectives, whose members do not include any morphological marking; and (b) subclass II adjectives, whose members take the adjectivizer –*de* when modifying a referent (prototypically a noun) within the NP or predicating a property to a referent (also prototypically a noun) in the predicate position. Morphologically, an intransitive stative verb is different from a subclass II adjective in that the former takes person marking and non-future tense and the latter takes only the adjectivizer –*de*. Subclass I adjectives have no morphological similarities with intransitive stative verbs; they are similar to free nouns in that none receive any obligatory morphological marking. However, case markings (dative, locative, genitive, instrumental) may be attached to free nouns, but not to subclass I adjectives.

The adjective class in Deni is small with forty three property-concept words in the database of which thirty four are subclass II adjectives, seven are subclass I adjectives, one, *putahari* 'big', was attested as adjective but without taking the adjectivizer –*de*, and another, *ati dzeari* 'be happy', was attested only being used as (stative intransitive) verb. According to semantic types typically covered by adjectives across languages which have been pointed out by Dixon (2004a), adjectives in Deni include (a) dimension, (b) value, (c) colour, (d) physical property, (e) human propensity, (f) qualification, (g) position, (h) ordinal number. Although adjectives have been found for all eight different semantic types, they are mostly concentrated in the semantic types of physical property (nineteen)

and human propensity (eight), which comprise almost two third of adjectives found in the database.

A similarity between Arawá languages is that property may be expressed by intransitive stative verbs, and adjectives always follow nouns. Deni and Paumarí include a morphological process involving the use of property-concept roots as either an adjective or a verb. In Jarawara, there is a semi-productive process involving -*bote* and intransitive stative verbs in the creation of derived adjectives. In respect to the side of adjective classes in Arawá languages, the conclusions presented in this paper are in consonance with Dixon's comparative study, which argues that these languages include typically a small closed class of adjectives. In contrast to Dixon's comparative study, adjectives cannot only modify a noun within an NP, but also predicate a property of a referent (prototypically a noun) in the predicate position mostly with a zero copula, except the two subclass I adjectives *mahu* 'married' and *hau* 'tired' which obligatorily require the copula verb –*ha* 'to be'.

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