

The syntax, semantics, and typology of adjectives in Upper Necaxa Totonac

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Abstract

Individual members of the Totonacan family – a group of at least four languages spoken in East Central Mexico – have been claimed to either lack adjectives or to have only a restricted, closed class of adjectives, words expressing property concepts belonging to the class of noun. The basis for this claim stems from the lack of inflectional distinctions between nouns and words denoting property concepts, as well as a certain degree of overlap in their distribution, most notably the use of property concepts as syntactic actants. An investigation of the syntactic behaviour of property-concept words in Upper Necaxa Totonac, however, reveals that while these share a number of important grammatical properties with nouns, they are clearly differentiable from nouns on a number of morphosyntactic grounds related to their semantically predicative nature.

Keywords: adjective, iconicity, markedness, modification, noun, parts of speech, predicate, property concepts, Totonac, word class

1. Adjectives in Upper Necaxa Totonac

Of the major, open parts of speech (nouns, verbs, adverbs, and adjectives), adjectives are well-known to be crosslinguistically variable both in terms of which meanings in a given language belong to the class of adjective and as to whether a given language has a class of adjective at all. While the classes of noun and verb seem to be essentially linguistic universals, languages without adjectives or in which adjectives form a reduced or closed lexical class are a typological commonplace. Individual members of the Totonacan family have been analyzed as belonging to this language-type in that they apparently either lack adjectives altogether (Sierra – McQuown 1990; Misantla – MacKay 1999) or have only a restricted, closed class of underived adjectives (Papantla – Levy 1992); under these analyses, words expressing property concepts – the proto-

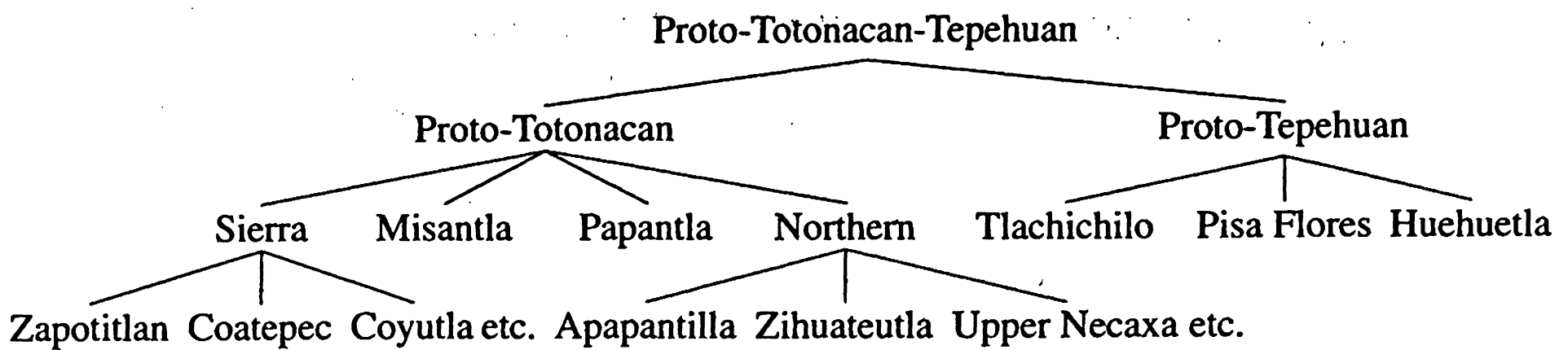


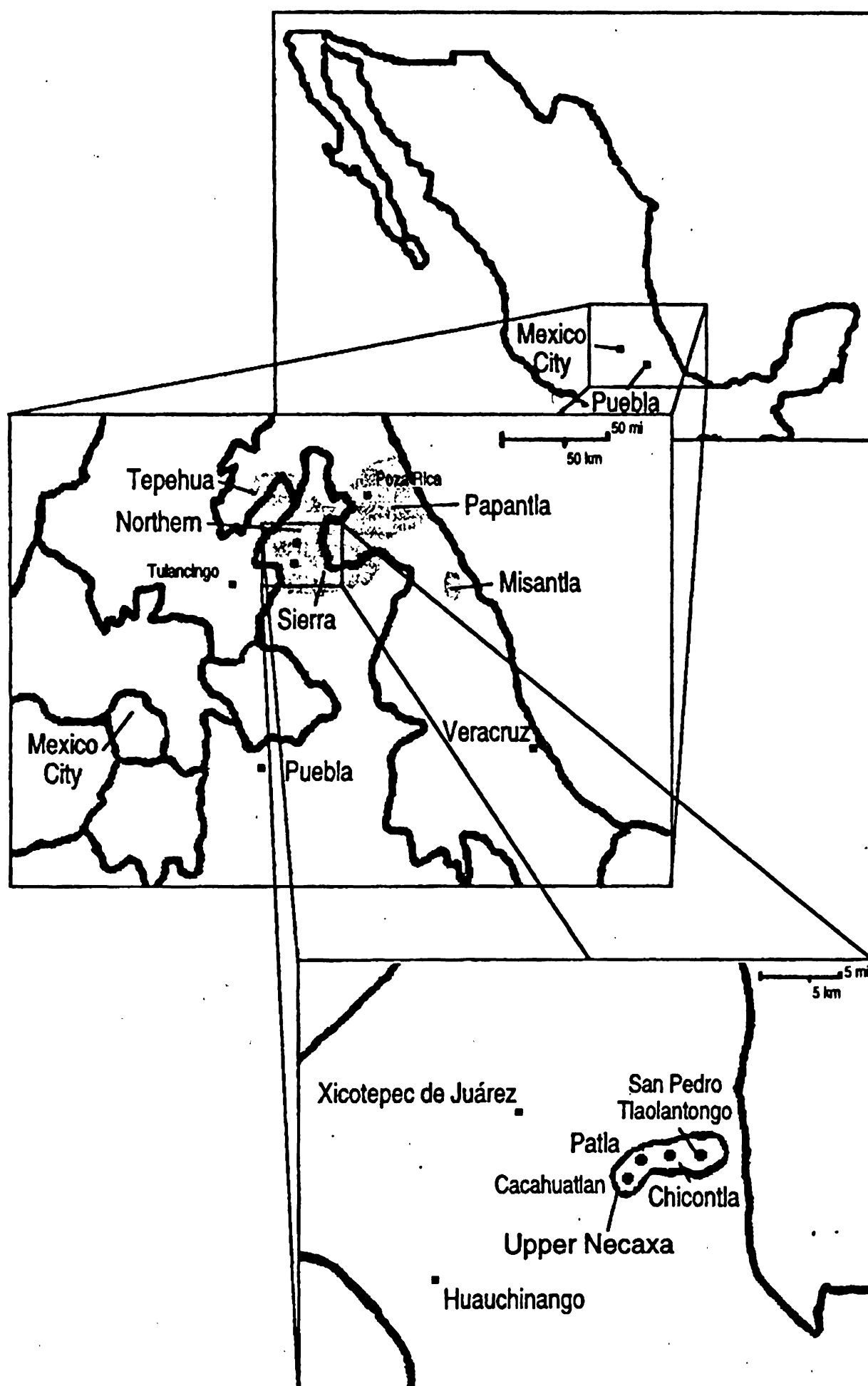
Figure 1. *The Totonacan-Tepehuan language family*

typical semantic domain of the adjective (Thompson 1988) – are said to belong to the class of noun. The basis for this claim stems from the lack of inflectional distinctions between nouns and words denoting property concepts, and from a certain degree of overlap in their distribution, most notably the use of property concepts as syntactic actants. An investigation of the syntactic behaviour of property-concept words in Upper Necaxa Totonac, however, reveals that while these share a number of important grammatical properties with nouns, they are clearly differentiable from them on a number of morphosyntactic grounds related to their semantically predicative nature.

Totonacan-Tepehuan languages – spoken in the Sierra Norte of Puebla State, Mexico, and in adjacent areas of Hidalgo and Veracruz (see Map 1) – constitute a genetic isolate with no known affiliations to other languages of Mesoamerica. As shown in Figure 1, the Totonac branch of the family consists of at least four distinct languages – Northern, Sierra, Papantla, and Misantla Totonac – which differ from one another at least to the same degree as do individual Romance languages. It seems quite likely that these four divisions – particularly Sierra and Northern – are further subdivisible on the basis of mutual intelligibility, although the issue is clouded by the familiarity of speakers with each other's speech patterns as well as sociological and ideological questions of ethnicity and socio-political identity.

Upper Necaxa Totonac (a.k.a. Patla or Patla-Chicontla) is spoken by around 3,000 people in the Necaxa River Valley in the Sierra Norte of Puebla State, Mexico (see Map 1), and is generally classified as a highly divergent dialect of Northern Totonac, one of whose variants, Apapantilla, is described in Reid & Bishop (1974) and Reid (1991). Because Upper Necaxa is previously undescribed in the literature, the exposition here will be somewhat more detailed than strictly necessary to establish my main descriptive point (i.e., that there are adjectives in this language). Instead I will approach the issue of the existence of adjectives in this language from scratch, as it were, without assuming anything about the lexical inventory or the grammatical organization of the language.

To begin, I will introduce and seek to motivate certain types of discovery procedures and diagnostics for adjectivehood based on the notions of proto-



Map 1. *Totonacan-Tepehuan language area*

typicality and markedness (Section 2). Next, à la Levy (1992), I identify the words in Upper Necaxa corresponding to the words offered by Dixon (1982) as being crosslinguistically typical of adjectives in other languages. Following that, I describe the results obtained when a series of diagnostics are applied to these words in order to clarify their syntactic behaviour and their lexical class affiliation (Section 3). In Section 3.1 I present some diagnostic tests differentiating between the behaviour of verbs, nouns, and property-concept words in syntactic predicate position, establishing that there are clear grounds to distinguish a class of verbs from the other two types of word in the lexicon. The following section (3.2) then seeks to motivate a distinction between nouns and

property-concept words by contrasting the behaviour of the two in the role of syntactic actant; Section 3.3 further differentiates the two classes by demonstrating that nouns are not unmarked modifiers, whereas the expressions of property concepts are, thereby qualifying as adjectives. In Section 3.4 I examine two secondary diagnostics for the noun–adjective distinction in Upper Necaxa, one syntactic and the other morphological. While not criterial in and of themselves, these diagnostics can give us some insight into the organization of the lexicon and, once the lexical divisions have been established by more reliable means, may serve as quick way of identifying the parts-of-speech affiliations of individual lexical items. Finally, Section 3.5 outlines two subclasses of property-concept words in Upper Necaxa – words denoting HUMAN CHARACTERISTICS and DIMENSION – whose syntactic behaviour has some interesting ramifications for the crosslinguistic identification and characterization of the class of adjective.

2. Diagnostics for adjectivehood

Establishing and motivating diagnostics for adjectivehood necessarily presupposes certain assumptions about the nature of parts-of-speech systems and the organizing principles underlying them. For the purposes of this discussion, parts of speech will be treated as a feature of the lexicon that serve primarily as input to the rules used for building syntactic structure (cf. Jespersen 1924). Parts-of-speech classifications (minimally) determine a word's unmarked syntactic distribution, each lexical class having its own unmarked role as well as a range of extended or marked distributions, and these can be used as the basis for diagnostic procedures to identify the parts-of-speech affiliations of individual words. While lexical class membership is fundamentally non-arbitrary in that it finds its basis in the semantic characteristics of lexical items, the semantics of a word, particularly in the case of adjectives, is a conditioning rather than a determining factor in its parts-of-speech classification. As we shall see in the discussion below, the semantic structure of a word – particularly its semantic predicativity – plays a crucial role in determining its unmarked syntactic distribution, but is not enough in and of itself to predict that distribution.

Under most analyses, parts of speech are amenable to the following syntactic characterizations (cf. the definitions offered by Hengeveld 1992a, 1992b):

- (i) VERB – a lexical item which can be used as an unmarked syntactic predicate;
- (ii) NOUN – a lexical item which can be used as an unmarked actant of a syntactic predicate;
- (iii) ADJECTIVE – a lexical item which can be used as an unmarked modifier of a noun;

- (iv) ADVERB – a lexical item which can be used as an unmarked modifier of a verb.

Semantically, prototypical members of each lexical class fall into crosslinguistically typical semantic domains, meanings peripheral to these domains showing a great deal of variability in their classification. Prototypical nouns, for instance, express things (Langacker 1987: 183), kinds (Wierzbicka 1986), objects (Croft 1991: 55), and discourse-manipulable entities (Hopper & Thompson 1984); prototypical verbs, on the other hand, express actions (Croft 1991: 55), events (Hopper & Thompson 1984), and processes or relations (Langacker 1987: 244). Meanings which have characteristics of both the semantic domains of nouns and verbs, or are not prototypical of either domain, vary from language to language in terms of their parts-of-speech classification. Meteorological phenomena like 'rain', for example, have the temporal profile of events or states (duration, intensity, etc.) but also have a concrete physical manifestation (albeit one without discrete boundaries or locality), and so they manifest themselves across languages as nouns (Russian *dožd* 'rain'), verbs (Spanish *llover* 'to rain'), or expressions of "animated" elements (Upper Necaxa *min ška:n* 'it's raining, lit. water comes').

As noted above, of the major open lexical classes, the class of adjective is the most variable both in terms of its existence (many languages do not have it) and in terms of what meanings are expressed by words of this class. While adjectives can be said to be prototypically words expressing property concepts (Thompson 1988, drawing on Dixon 1982), not all words that express property concepts in all languages are eligible to be modifiers of nouns. Thus, when coming to terms with a new language, it is not enough to merely single out those words expressing property concepts and declare these to be adjectives: instead, it is incumbent on the linguist to establish that some (or all, or none) of the words expressing property concepts in that language are, in fact, accorded special status in the grammar as unmarked modifiers of nouns. This requires the linguist to put forward certain diagnostic procedures for establishing the (un)markedness of these words in various syntactic roles, which in turn requires some clear ideas about what does (and does not) constitute a valid measure of markedness.

Markedness is one of the most widely, and wildly, used terms in linguistics, and its senses range from a very narrow, structure-based notion of relative complexity to an extremely open sense of "unusual" or "unnatural". This discussion will make use of the following three criteria for judging the relative markedness of two linguistic signs:¹

- (i) STRUCTURAL COMPLEXITY: A sign X is marked with respect to another sign Y if X is more complex, morphologically or syntactically, than Y;
- (ii) CONTEXTUAL MARKEDNESS: An environment E is a marked one for

a sign X if E is not a member of the largest subset of environments of X where X shares the greatest number of common properties with other instances of X (hence, the appearance of X in this environment can be said to be marked or an extended use);

- (iii) COGNITIVE COMPLEXITY: An element X is marked with respect to another element Y if the representation of X is a less direct expression of X's meaning than the representation of Y is of Y's meaning.

Of these three criteria, (i) is the least controversial and the most universally accepted: given the contrast between two (comparable) signs A and B, the more complex of the two is the marked one. A relevant example is the use of English nouns and adjectives as syntactic predicates, which is a structurally-marked use in that it requires the presence of a copula. This criterion will be used to differentiate nouns and adjectives from verbs in Section 3.1 below.

The second criterion given above is actually a combination of two measures of morphosyntactic markedness that have gained some currency in the literature (e.g., Hopper & Thompson 1984, Bhat 1994) – DECATEGORY and RECATEGORY. The former can be characterized as follows: say that, in a particular language, words belonging to the lexical class X appear in six structural environments $\{E_1, E_2, \dots, E_6\}$. In three of the six environments, X displays a set of properties $\{P_1, P_2, \dots, P_7\}$ (e.g., inflectional categories, referential meaning, etc.), but in E_3 and E_5 X displays a reduced set of these properties $\{P_1, P_3, P_7\}$ and in E_6 it has only one of these $\{P_2\}$. Environments E_3 , E_5 , and E_6 , then, can be considered as marked structural configurations for X with respect to the remainder of environments $\{E_1, E_2, E_4\}$ in which X displays the greatest range and most consistent set of properties. The markedness of a given environment, then, can be determined by a reduction in number of typical properties of X, which are those which X displays in the largest number of environments. When English nouns are used attributively, for instance, they show signs of decategorization in that they lose the referential properties they have in their other, more typical uses as actants. As noted by Hengeveld (1992a), the noun *London* appears to be an unmarked modifier in a phrase like *the London detective*. Note, however, that whereas in its other uses (e.g., *the detective from London*), *London* serves a referential function identifying a specific location, as an attributive the interpretation of *London* is much more context-dependent. It does not focus the listener's attention so much on a specific geographic location as it does on some pragmatically plausible relationship between the nominal head and that location. Thus, in *London detective*, *London* could serve to identify the detective's home or point of origin ('detective from London'), his current location ('one of a set of South African detectives dispatched to London – the others having gone to Paris and Rome'), or (a bit fancifully) his current assignment ('the detective assigned the task of finding London'). By the same token, *London* takes on completely

different readings when associated with other types of noun: *London double-decker* 'a two-level bus of the style used in London (but not necessarily from or located there)', *London Bridge* 'a particular bridge, one of many in London', *the London train* 'a train whose origin/destination is London', and so on. In this respect, the noun *London* has taken on a feature of the class of adjectives in that adjectives take their specific meaning based on characteristics of their nominal head (e.g., a *hot oven* is likely to be hotter than a *hot day*, etc.).

Contextual markedness can also be signalled by the acquisition of a new property P_8 in one or more of the environments open to X , provided that either (i) the number of environments in which X has the set of properties $\{P_1, P_2, \dots, P_7\}$ is greater than the number of environments where X has the set of properties $\{P_1, P_2, \dots, P_8\}$ or (ii) X has, in addition to P_8 , only a restricted subset of the other properties $\{P_1, P_2, \dots, P_7\}$ in the marked environment. On its own, this type of markedness is trickier to establish, particularly for lexical items that have a very limited number of syntactic roles. Generally, it is only invoked in cases where P_8 is felt to be marked in its application to X for other reasons (that is, that P_8 is typical of another lexical class Y or the association of P_8 with X results in increased structural complexity with respect to some other environment in which X appears). This type of process is referred to by Bhat (1994) as recategorization. Crosslinguistically, one of the best-studied gradients of recategorization is that shown by adjectives in predicate position (Wetzer 1992, 1996; Hengeveld 1992a, 1992b; Stassen 1992). In languages like English, predicate adjectives require a copula (*that dog is big*) and show no signs of recategorization in that they seem to take on no verbal properties when used in this way. In the Samoyedic language Nenets (Yurak), however, adjectival (and nominal) predicates take some of the person- and tense-markers of verbs:

- (1) Nenets (Samoyedic, Uralic)
- a. *mań jilē-m*
1SG live-1SG
'I live.' (Hajdú 1963: 68)
 - b. *mań sawo-dm*
1SG good-1SG
'I am good.' (Castrén 1966: 226)
 - c. *jilē-Ø-ś*
live-3SG-PST
'He lived.'
 - d. *sawo-Ø-ś*
good-3SG-PST
'He was good.' (Hajdú 1963: 68)

Adjectival predicates in this language, however, do not have all the conjugations of verbs and cannot appear in tenses other than the indicative non-past and past, nor can they take mood markers or appear in negative sentences without the use of a copula (Wetzer 1992). This means that, while predicate adjectives undergo a greater degree of recategorization in Nenets than in English, they are still contextually marked relative to verbs in terms of the inflectional possibilities open to them in predicate position.

Our third criterion, cognitive complexity, is also somewhat problematic, although if used judiciously it turns out to be a useful one. Cognitive complexity is often described by terms such as “mental effort, attention demands or processing time” (Givón 1995: 28), which are frequently used in a hand-waving fashion without regard to the fact that – as real-world, neurological events – they are subject to empirical verification. Failing psycholinguistic measurement of complexity, then, it is important to be very clear what we mean by “cognitive complexity” and to provide plausible reasons to think that this complexity would indeed correspond to increased effort, attention, or processing time. To this end, I wish to propose one, specific type of cognitive complexity that will play a role in the discussion below, something that I will refer to as NON-ICONICITY (Beck 1999). According to this criterion, a linguistic sign *a* ⟨‘a’, A⟩ (that is, the sign *a* having the signified ‘a’ and the signifier A) is more marked than a sign *b* ⟨‘b’, B⟩ if A is a less direct reflection of ‘a’ than B is of ‘b’. This relationship (and, in turn, its relation to markedness) can be expressed thus:

PRINCIPLE OF WEAK ICONICITY

In the unmarked case, syntactic structure will be isomorphic with, or a direct reflection of, its underlying semantic structure.

The rationale for this criterion is simply that a non-iconic sign will be harder to process than an iconic sign, and hence is cognitively more complex. Straying from the field of linguistics, an illustration of this might be the mental effort required to recognize a picture of a familiar object (a direct representation matched to visual information) versus recognizing it from a description (which requires lexical access and linguistic processing). In terms of writing systems, an ideographic system is more difficult to learn in that the representations of words contain no information about their phonological shape, whereas an alphabetic system allows learners to match written representations directly to spoken words. This last example probably gives us as good a formulation of the notion of “direct representation” as we are going to get: the more direct a representation is (that is, the more iconic it is) the more information it contains about the underlying meaning it represents. Thus, if the signifier B contains more information about ‘b’ than A does about ‘a’, *b* can be said to be

less marked (and more iconic) than *a*. Non-iconicity will play a crucial role in our discussion of the use of adjectives as actants in Section 3.2 below.

3. Property-concept words in Upper Necaxa

The first step in the search for adjectives in a new language is the identification of those words that, based on crosslinguistic comparison, are most likely to be adjectival (property concepts), and the application of a series of diagnostics to these to see if they meet the criterial definition of adjective. For the purposes of this paper, these diagnostics were applied to the Upper Necaxa counterparts to the words in six of Dixon's (1982) list of crosslinguistically typical adjectival categories (the seventh category, SPEED, is expressed in Upper Necaxa through the use of adverbs and will not be dealt with here). Those words listed in (2) were found to fit the definition of adjective (note that I have excluded forms such as *másni* 'rotten', which are participles derived from verbs):²

(2) Upper Necaxa adjectives

PROPERTIES: *páŋa* 'hard', *catáta* 'soft', *séʔsi* 'sweet', *škúta* 'sour', *šú:ni* 'bitter', *waŋíŋi* 'rough', *slipénʔe* 'smooth', *čiči* 'hot', *ʔewíwi* 'cold', *táʔša* 'wet', *lu:mánʔa* 'sticky', *le:ktá* 'cheap', *tapala:šlax* 'expensive', *ŋkáka* 'spicy'

DIMENSION: *s'áta* 'small', *ʔáŋa* 'big', *ŋtululu* 'thick', *castináx* 'thin'

AGE: *sá:sti* 'new', *calána* 'young (plant, animal)', *maʔán* 'old (thing)'

VALUE: *cex* 'good', *káni* 'delicious', *li:awaxnít* 'ugly' (Patla), *cewaní* 'pretty', *wa:ʔ* 'pure'

COLOURS: *kapéxwa* 'brown', *cucóʔo* 'red', *pucénʔe* 'black', *skayá:wa* 'green, blue', *smukúku* 'yellow, orange', *la:šášwa* 'orange', *smantáxwa* 'purple', *smatáʔa* 'blue, lavender', *snapápa* 'white'

HUMAN PROPENSITIES: *awáxwa* 'horrible' (Patla), *li:ŋka:xní* 'horrible' (Chicontla), *lú:ku:* 'fierce, brave', *s'aláŋ* 'intelligent'

Some of the individual meanings on Dixon's list, however, turn out not to be adjectives in Upper Necaxa. In the class of PROPERTIES, for instance, *lonʔ* 'cold (weather, atmosphere)' is an abstract noun which has a near-synonym in the adjective *ʔewíwi* 'cold', but patterns with nouns in all of the diagnostic tests given below.

There are a number of more systematic departures from the lexical patterns illustrated by Dixon's list as well. The majority of HUMAN PROPENSITIES in Upper Necaxa are realized as intransitive verbs (e.g., *si:cí* 'get angry, jealous'), a finding which runs counter to Dixon's (1982) observation that HUMAN PROPENSITIES tend to vary crosslinguistically between the classes of adjective

and noun. There is, however, a large group of HUMAN PROPENSITY words which do follow Dixon's pattern in that they are basically adjectives in languages like English but are nouns in Upper Necaxa. This is the group denoting HUMAN CHARACTERISTICS discussed in Section 3.5.1. These are words such as *blind*, *lame*, *deaf*, and *lazy*, which are adjectives in English but whose nearest equivalents in Totonac are nouns – specifically, nouns referring to classes of people. Similarly, of Dixon's AGE-words, only those that refer to the ages of non-human referents consistently pattern with the adjectives; those words which refer to the ages of humans show many of the properties of nouns and also belong to the class of HUMAN CHARACTERISTICS. Another distinctive feature of property-concept words in Upper Necaxa is the extensive size of the DIMENSION class, which will be taken up in Section 3.5.2. Before turning to these issues, however, I will present my evidence for classifying the words in (2) as adjectives in the first place, beginning in Section 3.1 by showing that adjectives and nouns can be differentiated from verbs by their structural markedness in syntactic predicate position. Following this, I will show that, by non-iconicity, adjectives are not unmarked actants of verbs (Section 3.2) and that nouns are not unmarked modifiers of nouns (Section 3.3). Finally, Section 3.4 discusses some further diagnostics that are of use for identifying adjectives in Upper Necaxa Totonac and some of the pitfalls inherent in their indiscriminate application.

3.1. *Adjectives and nouns as syntactic predicates*

In Upper Necaxa both nouns and adjectives can be easily differentiated from verbs when they appear in syntactic predicate position: nouns and adjectives require a copula in this role, whereas intransitive verbs bear inflection for subject agreement, tense, and aspect. The data in (3) illustrate two present completive forms of the verb *piš-* 'sing':³

- (3) a. (kit) *ik-piš-l̄*
 I 1SG-sing-CMP
 'I sang.'
- b. *piš-l̄ camá: čiškú*
 sing-CMP that man
 'The man sang.'

Verbs never appear without overt inflection, with the exception of certain stems which take the zero allomorph of the imperfective marker. In these cases, the 3rd person singular present imperfective form of the verb is homophonous with the uninflected stem (e.g., \emptyset - \emptyset -*taštú*- \emptyset PRESENT-3SG-leave-IMPF), although even in these cases the relevant categories are considered to be present as the values for each inflectional category (the 3rd person singular, the present tense,

and the imperfective aspect) are paradigmatic zeros (that is, the absence of an overt marker has contrastive value, allowing for a default interpretation).

The pre-predicate position of pronominal subjects shown in (3a) is one of the few rigid features of verb-actant order in Upper Necaxa. In general, in intransitive clauses NP subjects immediately follow the verb, and in transitive (non-copular) clauses the object tends to do so. NP subjects of transitive clauses tend to be "peripheral" in the sense that they are either clause-initial or clause-final; there is some indication (mainly from intonational contours) that clause-initial subjects may be left-dislocations (possibly topicalizations), but further investigation is needed before making any firm pronouncements on the unmarked word-order of Upper Necaxa sentences.

The pattern for intransitive verbal predicates shown in (3) contrasts with the treatment of nominal predicates, which require a copula in non-present tenses, as shown by the comparison of (4a) with (4b-c):

- (4)
- | | | | |
|----|------------|------------------------|------------------------|
| a. | <i>kit</i> | <i>ma:ʔełtawaʔe:ní</i> | |
| | 1SG | teacher | |
| | | | 'I am a teacher.' |
| b. | <i>kit</i> | <i>ma:ʔełtawaʔe:ní</i> | <i>ša-k-wan-í:</i> |
| | 1SG | teacher | PST-1SG-become-PERF |
| | | | 'I was a teacher.' |
| c. | <i>kit</i> | <i>ma:ʔełtawaʔe:ní</i> | <i>na-k-wán</i> |
| | 1SG | teacher | FUT-1SG-become |
| | | | 'I will be a teacher.' |

The overt copula in (4b-c) is based on the verb *wan* 'become' and bears normal verbal inflection for person, tense, and aspect (although when used as a copula *wan* cannot appear in the completive, past imperfective, present perfect, or any of the progressive tense-aspect combinations). Given that it is the ABSENCE of a copula in (4a) which conveys the information that the sentence is in the present tense, the contrast between the sentences in (4) requires us to posit a paradigmatic zero copula in (4a). An accurate semantic representation of this sentence must include some meaning-bearing element whose expression is phonologically empty, and the presence of this zero element in the syntactic representation is motivated by, and only by, the contrast between sentences such as (4a) and sentences like those in (4b-c).

Adjectival predicates show the same pattern, taking a zero copula in the present tense and an overt copula in the past and future. Example (5) illustrates this pattern with a nominal subject:

- (5)
- | | | |
|----|---------------|---------------------|
| a. | <i>lú:kux</i> | <i>čiškú</i> |
| | brave | man |
| | | 'The man is brave.' |

- b. *lú:kux ša-Ø-wan-í:* *čiškú*
 brave PST-3SG-become-PERF man
 'The man was brave.'
- c. *lú:kux na-Ø-wán* *čiškú*
 brave FUT-3SG-become man
 'The man will be brave.'

(6) shows adjectival predicates with a pronominal subject:

- (6) a. *kit lú:kux*
 1SG brave
 'I am brave.'
- b. *kit lú:kux ša-k-wan-í:*
 1SG brave PST-1SG-become-PERF
 'I was brave.'
- c. *kit lú:kux na-k-wán*
 1SG brave FUT-1SG-become
 'I will be brave.'

Again, such sentences can be analyzed as having a zero present-tense copula which contrasts paradigmatically with a non-zero in the past and future tenses.

All of the words shown in (2) follow the patterns illustrated in (5) and (6), taking a copula when in syntactic predicate position. Consider the examples here in (7):

- (7) a. *kit s'alál ša-k-wan-í:*
 I intelligent PST-1SG-become-PERF
 'I was intelligent.'
- b. *kit čiči ša-k-wan-í:*
 I hot PST-1SG-become-PERF
 'I was hot.'
- c. *pála iš-Ø-wan-í:* *kinít*
 hard PST-3SG-become-PERF meat
 'The meat was hard.'
- d. *cucó?o iš-Ø-wan-í:* *kinít*
 red PST-3SG-become-PERF meat
 'The meat was red.'
- e. *lú:kux iš-Ø-wan-í:* *čiškú*
 brave PST-3SG-become-PERF man
 'The man was brave.'
- f. *cex iš-Ø-wan-í:* *čiškú*
 good PST-3SG-become-PERF man
 'The man was good.'

- g. *ʔáʔa iš-Ø-wan-í: cumaxát*
 big PST-3SG-become-PERF girl
 'The girl was big.'
- h. *ša-sá:sti iš-Ø-wan-í: líbru*
 DET-new PST-3SG-become-PERF book
 'The book was new.'

Thus, neither nouns nor the words singled out by Dixon's list of adjectives are – by structural complexity – unmarked predicates, as both require the use of a copula. This puts Totonac squarely into the camp of Wetzer's (1996) class of nouny adjectival languages, where predicate adjectives and predicate nominals are treated alike as opposed to intransitive verbs. This gives us a clear and robust means of distinguishing between verbs, which are unmarked syntactic predicates, and the other two types of word, nouns and adjectives, which require a copula in predicate position.

3.2. Adjectives as actants

While the data in the preceding section show that nouns and adjectives pattern together in opposition to verbs in syntactic predicate position, the same is not true in other syntactic roles. Nouns, for instance, are unmarked subjects or objects of verbs, as shown in (8):

- (8) a. *mi-maʔ-cá čičí*
 come-PRG-now dog
 'The dog is coming.'
- b. *ik-laʔcí-ʔ čičí*
 1SG-see-CMP dog
 'I saw the dog.'

The same, however, is not true of adjectives, which are rejected in isolated sentences such as those in (9):

- (9) a. **mi-maʔ-cá s'aláʔ*
 come-PRG-now intelligent
 'The smart one is coming.', 'Intelligence is coming.'
- b. **ik-laʔcí-ʔ s'aláʔ*
 1SG-see-CMP intelligent
 'I saw the smart one.', 'I saw intelligence.'

Sentences with the first intended glosses of (9a) are only possible in frames such as (10), a headless relative clause introduced by the human/animate relative pronoun *ti:*. In these constructions, the adjective takes the phrasal prefix *ša-* which I will gloss here as "determiner" (DET):

- (10) *ik-laʔcí-ʔ ti: ša-s'aláʔ*
 1SG-see-CMP HREL DET-intelligent
 'I saw the intelligent one, lit. I saw the one that is intelligent.'

All adjectives belonging to the categories of HUMAN PROPENSITIES, PROPERTIES, COLOURS, DIMENSIONS, VALUES, and AGES can appear in this frame. When the referent of the relative clause is inanimate or non-human, the relative pronoun *ti:* (11a) is replaced by *tu:* (11b–f):

- (11) a. *ik-laʔcí-ʔ ti: ša-lú:ku:*
 1SG-see-CMP HREL DET-brave
 'I saw the brave one (person).'
- b. *ik-laʔcí-ʔ tu: ša-páʔa*
 1SG-see-CMP NREL DET-hard
 'I saw the hard one (thing).'
- c. *ik-laʔcí-ʔ tu: ša-smukúku*
 1SG-see-CMP NREL DET-yellow
 'I saw the yellow one (thing).'
- d. *ik-laʔcí-ʔ tu: ša-ʔáʔa*
 1SG-see-CMP NREL DET-big
 'I saw the big one (thing).'
- e. *ik-laʔcí-ʔ tu: ša-ká:ni*
 1SG-see-CMP NREL DET-delicious
 'I saw the delicious one (thing).'
- f. *ik-laʔcí-ʔ tu: ša-sá:sti*
 1SG-see-CMP NREL DET-new
 'I saw the new one (thing).'

All nouns, on the other hand, are ungrammatical in such frames:

- (12) a. **ik-laʔcí-ʔ tu: ša-čičí*
 1SG-see-CMP NREL DET-dog
 'I saw the one that is a dog.'
- b. *ik-laʔcí-ʔ ša-čičí*
 1SG-see-CMP DET-dog
 'I saw that dog.'

According to Levy's (no date) analysis of *ša-*, the equivalent sentence to (12b) in Papantla would also correspond to the intended English gloss 'I saw the one that is a dog'; although I have not elicited examples in contexts that would confirm this for Upper Necaxa, the semantics of *ša-* is similar enough in the two languages that I would expect this to be the case here as well.

While adjectives appearing as actants in decontextualized sentences like those in (9) are rejected by consultants, it appears that within specific discourse

contexts adjectives can be used as syntactic actants. In the context of a discussion of horses, for instance, sentences such as (13a–b) were accepted by consultants:

- (13) a. *k-laʔatí ša-sá:st̃i*
 1SG-like DET-new
 ‘I like the new one.’
 b. *k-laʔatí ša-kapéxwa*
 1SG-like DET-brown
 ‘I like the brown one.’

Clearly, these are elliptical expressions which function anaphorically, making reference to an understood nominal entity that has been previously introduced in discourse. In addition to their obvious structural markedness with respect to bare nouns used as actants (they require the adjective to be prefixed with the determinative *ša-*), the adjectives in (13) denote more than just the properties they are ordinarily used to express. In each of these sentences, the expression containing the adjective – or, more accurately, the *ša-ADJ* construction – has an additional “layer” of meaning and refers unequivocally to a specific type of object, in this case *kawayú:x* ‘horse’. The fact that, in another circumstance, *šasá:st̃i* ‘the new one’ might refer to some other object such as a handbag or a hat indicates that the identity of that object must be included in a complete semantic representation of the sentence. The grammatical rules of Totonac (and Spanish and many other languages) allow for the elision of the expression of this object from the surface form of the sentence, where its identity is recoverable from discourse. The result is an expression which is non-iconic (not a direct reflection of its meaning) and, hence, a marked one (with respect to a nominal actant, which does express its meaning directly). Because of this non-iconicity, the elliptical use of the adjective is marked, and so *sá:st̃i* in (13a) cannot be considered a noun on either semantic or syntactic grounds.⁴

As might be expected, the fact that adjectives are not the expressions of semantic NAMES – and, therefore, not nouns – has additional morphosyntactic consequences that can be used as diagnostics of a noun–adjective distinction. Consider (14), which shows that the occurrence of possessive markers such as *kin-* ‘my’ (*ki-* before affricates and fricatives) with adjectives and *ša-ADJ* constructions is ungrammatical:⁵

- (14) a. **ki-sá:st̃i*
 1.PO-new
 ‘my new one’, ‘my newness’
 b. **ša-ki-sá:st̃i*
 DET-1.PO-new
 ‘my new one’, ‘my newness’

Nouns, of course, appear freely with these affixes (15a–b), although they cannot take both a possessive prefix and *ša-* (15c–d):

- (15) a. *ki-čičí*
1.PO-dog
'my dog'
- b. *ša-čičí*
DET-dog
'the dog'
- c. **ša-ki-čičí*
DET-1.PO-dog
- d. **ki-ša-čičí*
1.PO-DET-dog

Adjectives also cannot modify (or be modified by) other adjectives:

- (16) a. **ʔáʔa sá:stí*
big new
'big new', 'big new one'
- b. **cewaní cucóʔo*
pretty red
'pretty red', 'pretty red one'

Similarly, *ša*-ADJ constructions resist modification:

- (17) a. **ʔáʔa ša-sá:stí*
big DET-new
'big new one'
- b. **cewaní ša-cucóʔo*
pretty DET-red
'pretty red one'
- c. **ša-ʔáʔa sá:stí*
DET-big new
'big new one'
- d. **ša-cewaní cucóʔo*
DET-pretty red
'pretty red one'

Nouns, on the other hand, can be freely modified by adjectives, with and without *ša-*, as seen in various examples above and in (18):

- (18) a. *ʔiwíki čiškú*
strong man
'strong man'

- b. *ʔkákə p̄in*
 spicy chili
 'hot chili pepper'
- c. *ša-cucóʔo šanát*
 DET-red flower
 'the red flower'
- d. *ša-čiči káʔtu*
 DET-hot broth
 'the hot soup'

The difference in meaning between constructions like (18a–b) and those in (18c–d) with *ša-* seems to be one of qualificative versus restrictive modification, the last two types of NP being glossed by Levy (no date) in Papantla as “of the Ns, the Adj one”. These restrictions on the use of adjectives – the inability to use adjectives with possessives or to modify other adjectives – apply equally to contexts where an anaphoric nominal might potentially be reconstructed from context (that is, **šaʔáʔa sá:sti* or **ʔáʔa šasá:sti* ‘the big new one’ even in the context of the discussion of a big new car). The latter restriction seems to parallel a similar constraint against having more than a single adjective modifying a nominal head: such constructions are extremely difficult to elicit in both Papantla (Levy 1992) and Upper Necaxa, and may in fact only occur under field-worker induced coercion.

These properties of adjectives, then, confirm our findings from the behaviour of plain adjectives in subject and object position of clauses: adjectives can be clearly separated from nouns. In Upper Necaxa, speakers voluntarily and consistently reject adjectives used as actants, with and without *ša-*, in elicitation of isolated sentences and offer them only in specific contexts where the identity of an anaphoric, elided noun is recoverable from discourse. This is strong evidence that adjectives are not unmarked actants of verbs and that the Upper Necaxa lexicon – which we saw in Section 3.1 to distinguish between verbs and noun–adjectives – is further subdivided between those words which are unmarked actants of verbs (nouns) and those which are not (adjectives).

3.3. Nouns as modifiers

Another reason that nouns and adjectives might seem to form a single class in Totonac is the apparent ability of nouns to act as modifiers of other nouns.

- (19) *kuyúx* ‘armadillo’ – *kíw̄i* ‘tree’ > *kuyux kíw̄i* ‘type of tree’
kapsnáp ‘paper’ – *kíw̄i* ‘tree’ > *kapsnap kíw̄i* ‘tree (for paper)’
sipéx ‘hill, bush’ – *čiči* ‘dog’ > *sipex čiči* ‘coyote’
sipéx ‘hill, bush’ – *spu:n* ‘bird’ > *sipex spu:n* ‘currasow (wildfowl)’
li:štóʔo ‘needle’ – *táʔo* ‘old lady’ > *li:štóʔo táʔo* ‘type of spiny plant’

Closer examination of this phenomenon, however, shows that, like the actantial use of adjectives, it is more apparent than real: in Upper Necaxa at any rate, noun–noun structures are compounds and undergo a number of phonological processes that are diagnostic of the compounding of words. One of these is the insertion of a (retrogressively harmonic) high vowel to break up a potentially inadmissible consonant cluster, as in (20):

- (20) *štɔʔón* ‘needle’ – *lú:wə* ‘snake’ > *štɔʔonulú:wə* ‘parasitic maggot’
ška:n ‘water’ – *lú:wə* ‘snake’ > *ška:nilú:wə* ‘watersnake’
smaxán ‘weasel’ – *lú:wə* ‘snake’ > *smaxanilú:wə* ‘type of snake’
p̄in ‘chili’ – *kúč̄u* ‘medicine’ > *p̄ini:kúč̄u* ‘ginger’
p̄in ‘chili’ – *kíw̄i* ‘tree’ > *p̄ini:kíw̄i* ‘chili-pepper tree’

Other processes include the shortening of the final vowel of the first element in the compound and the loss of laryngealization (as in the last examples in (20)). This latter process often applies to all of the vowels in the first stem, as in (21):

- (21) *kíw̄i* ‘tree’ – *páš̄ni* ‘pig’ > *kiwipáš̄ni* ‘peccary’
kíw̄i ‘tree’ – *ʔo:lú* ‘old man’ > *kiwiʔo:lú* ‘old man of the forest’⁶

In at least one case in my data, compounding also results in phonological changes in the final segments of the first noun, as in (22):

- (22) *tasíux* ‘fibre’ – *lú:wə* ‘snake’ > [tasiϕlú:wə] ‘vine snake’

There are also a few (apparently idiosyncratic) cases of the insertion of an epenthetic -š- or -iš- as a linking element between the two nouns; this pattern is also seen in verb–verb compounds and in a process used to derive words for inhabitants from the names of places as in *kə:lítanká:* ‘Patla’ > *lítanká:-š-t̄i* ‘person from (-t̄i) Patla’ (*kə:-* is a prefix meaning ‘place of’ and disappears in these derivations). This may be a remnant of an older, more productive process. In all cases, with and without epenthesis, the first element of a compound either loses its stress or is marked only with a secondary stress; adjectives, on the other hand, keep their original stress pattern when used as modifiers and may, in fact, bear primary phrasal stress in appropriate circumstances.

Syntactic evidence for compounding, while scarce, can be found in the distribution of the possessive prefixes. Compare, for example, the compound *xu:kilú:wə* ‘boa constrictor’ (composed of *xú:ki* ‘deer’ and *lú:wə* ‘snake’) with an adjective–noun construction, *cewaní cumaxát* ‘pretty girl’. Syntactically, the two differ in the distribution of the possessive affix, as shown in (23):

- (23) a. *cewaní ki-cumaxát*
pretty 1.PO-girl
‘my pretty girl’ or ‘my pretty daughter’

- b. **ki-cewaní cumaxát*
 1.PO-pretty girl
 'my pretty girl'
- c. *ki-xú:ki-lú:wā*
 1.PO-deer-snake
 'my boa constrictor'
- d. **xú:ki kin-lú:wā*
 deer 1.PO-snake
 'my boa constrictor'

In (23a), we see the possessive prefix *kin-* 'my' in its normal position affixed to the nominal head of the NP 'my pretty girl', whereas (23b) illustrates the ungrammaticality of the possessive in phrase-initial position, affixed to the adjective *cewaní* 'pretty'. In (23c), however, *kin-* appears on *xú:ki* 'deer', rather than on *lú:wā* 'snake', the latter configuration – shown to be ungrammatical in (23d) – being the one we might expect if the two words were syntactically separate elements and the possessive affix were free to adjoin to what would then be the head of the NP.

Semantically, nominal compounds also show decategorization from the expression of a semantic thing or object to that of a semantically-bleached attributive element, a property which is typical of compounding and noun incorporation in many languages (Mithun 1984). The case in (23a) represents an extreme instance of this in that the noun *xú:ki* 'deer' loses its primary referential meaning – that of referring to a class of hoofed animal (sometimes eaten by boas) – and simply becomes part of a single, phraseologized lexical item denoting a subpart of the class of animals (snakes) designated by the head of the compound. In other instances, the noun retains more of its meaning, as in the case of *š'oyutlú:wā* 'carbonero (type of snake)' where the initial word *š'oyút* 'coal' reflects the animal's colour (as does its Spanish name) or *ška:nilúwā* 'watersnake', where the noun *ška:n* 'water' describes the animal's habitat. In neither case do the compounded nouns have their prototypical meaning referring to specific instances of 'coal' or 'water'. Generally, nominal compounds are highly-phraseologized and require their own lexicographic definitions; the process does seem to be productive, but (as in English) new coinages require context to clarify their precise meanings. Indeed, complete semantic analysis of noun-noun compounding and attributive constructions requires the postulation in semantic representation of an underlying semantic predicate specifying the semantic relation that holds between the two nouns (Beck 1999): this predicate is elided in the surface form of such constructions, making them cognitively complex.

Another, less conventionalized, type of construction that involves the relation of two nouns in the syntax is formed with the determiner *ša-* and an at-

tributive noun. These structures, however, are left-headed and it is the head noun that takes *ša-*, giving us examples such as those in (24):

- (24) a. *ša-ʔtukíta kúšj*
 DET-atole corn
 'corn atole'
 b. *ša-ʔó:š'a wa:káš*
 DET-skin cow
 'cowhide, leather'
 c. *ša-kíwĭ la:šás*
 DET-tree orange
 'orange tree'

In such contexts, this prefix is glossed by McQuown (1990: 105) for Sierra Totonac as "inherent possessor", based on the parallelism between (24) and (25):

- (25) *iš-tá:tĭ Manuel*
 3.PO-father Manuel
 'Manuel's father'

Given that, as shown in (25), Totonac is a possessive head-marking language in the sense of Nichols (1986), structures such as that in (24b) might be amenable to a literal gloss along the lines of 'the skin of cows'. In other uses, however, McQuown tends to gloss this (or a homophonous prefix) as "definitizer" (Spanish *definitivador*) in that it lends a certain specificity to complex noun phrases (cf., Upper Necaxa *čičĭ káĭtu* 'hot soup' vs. *šačičĭ káĭtu* 'the HOT soup' or 'of the soups, the one that is hot'). Whether or not there are two separate morphemes involved here or a single highly abstract one is, fortunately, somewhat beyond the scope of the present discussion. Ultimately, the meaning of *ša-* in Upper Necaxa is likely to straddle the realms of restrictive modification and nominal attribution, but for the moment it is enough to note that *ša-* is a further morphosyntactic measure which, along with nominal compounding, is invoked by Totonac to allow two nouns to stand in an attributive relation.

The fact that either *ša-* or a lexical process of nominal compounding is required for two nouns to stand in a modifier-like relation, then, shows that nouns in Upper Necaxa are clearly not unmarked modifiers. Only adjectives can appear as modifiers in NPs like those in (18a–b), allowing us to differentiate between adjectives (unmarked modifiers) and nouns (elements of compounds or attributives with *ša-*) in this role. Access to this lexical information is essential for the correct application of rules for building syntactic structure. This completes our proof that Upper Necaxa Totonac distinguishes a class of unmarked modifiers expressing property concepts from a class of unmarked syntactic actants and, therefore, makes a distinction between adjectives and nouns.

3.4. *Secondary diagnostics: Quantification and pluralization*

Most of the evidence that has been presented up to now for parts-of-speech distinctions has been limited to those tests that illustrate the (un)markedness of nouns, verbs, and adjectives in particular syntactic roles. Even the most cursory glance at the literature, however, reveals that there are a wide variety of other diagnostics that have been used to make parts-of-speech distinctions. For the most part, these diagnostics rely on morphological patterns and, when motivated by proper semantic and syntactic considerations, can be useful tools in establishing the lexical class affiliation of individual words. In and of themselves, however, morphological diagnostics can be perilous and may give misleading results (Lyons 1977, Beck 1999), as can certain types of syntactic tests based on patterns of lexical co-occurrence in a particular syntactic configuration. In this section, I will examine two additional diagnostics, one syntactic and the other morphological, for adjectives in Upper Necaxa Totonac and show both why it is that these diagnostics are useful and in what ways they can, if applied indiscriminately, lead the investigator astray.

The first diagnostic is syntactic and has to do with the quantification of adjectival predicates. Predicate adjectives can often be differentiated from predicate nouns by the addition of an adverbial quantifier. In Upper Necaxa, we can make use of *tunká* 'very' for this purpose:

- (26) a. *kit ša-s'álał tunká ša-k-wan-í:*
 1SG DET-intelligent very PST-1SG-become-PERF
 'I was very intelligent.'
- b. *páła tunká iš-Ø-wan-í: kinít*
 hard very PST-3SG-become-PERF meat
 'The meat was very hard.'
- c. **šla ma:ʔełtawaʔe:ní tunká iš-Ø-wan-í:*
 he teacher very PST-3SG-become-PERF
 'He was very teacher.'

While all the adjectives in (2) act like those in (26a–b), nouns invariably behave like the words in (26c) (with the exception of *čiškú* 'man', which appears in an idiomatic expression, *čiškú tunká* 'very macho'). In this respect, adjectives pattern not with nouns but with intransitive verbs designating states, which may also appear with *tunká*, as in (27):

- (27) a. *ʔe:nú tunká*
 to.one.side very
 '[It is] way off to one side.'
- b. *mašanán tunká*
 ashamed very
 '[He is] really ashamed.'

Plurals of nouns referring to humans are frequently irregular (e.g., *čiškú* ‘men’ > *čiškuwín* ‘men’; *cumaxát* ‘woman’ > *cumaxán* ‘women’), but otherwise – like certain animal names and many bodyparts – seem to follow an older pattern still found in Apapantilla (Reid 1991) which uses the suffix /-nin/:

- (29) *kimakán* ‘my hand’ > *kimakanín* ‘my hands’
kilákni ‘my lower leg’ > *kilakninín* ‘my lower legs’⁷
kuču:nún ‘doctor’ > *kuču:nunín* ‘doctors’
pušnún ‘picker’ > *pušnunín* ‘pickers’
ma:ʔełtawaʔe:ní ‘teacher’ > *ma:ʔełtawaʔe:ninín* ‘teachers’
luntún ‘lame person’ > *luntunín* ‘lame people’

The words referring to people that are pluralized according to the pattern shown in (29) by and large seem to belong to two groups, the first being nouns derived from verbs (*kuču:nún* ‘doctor’ < *kučú:* ‘heal’) and the second being nouns with very nearly predicative meaning denoting HUMAN CHARACTERISTICS (*luntún* ‘lame person’), also likely to have deverbal historical origins.

Adjectives, on the other hand, are marked for plural agreement by an optional prefix, *lak-*, as shown in the predicate adjective frames in (30):⁸

- (30) a. *camá: páła š-ta-wan-í:*
this hard PST-3PL-become-PERF
‘These were hard.’
b. *camá: lak-páła š-ta-wan-í:*
this PL-hard PST-3PL-become-PERF
‘These were hard.’

In both of these sentences, the plurality of the subject – the proximal demonstrative *camá:* ‘this’ (which has no plural form) – is shown by the prefix *ta-* on the copula. In (30a), however, the predicate adjective remains unmarked for plurality, while in (30b) it bears the adjectival plural prefix, *lak-*; the two sentences in (30) appear to be synonymous. *lak-* can also appear on adjectives used as modifiers of plural nouns, although again this is not obligatory:

- (31) a. *ik-ka:-laʔcí-ł* *lú:kux čišku-wín*
1 SG-PL.OBJ-see-CMP brave man-PL
‘I see the brave men.’
b. *ik-ka:-laʔcí-ł* *lak-lú:kux čišku-wín*
1 SG-PL.OBJ-see-CMP PL-brave man-PL
‘I see the brave men.’
c. *ik-ka:-laʔcí-ł* *lak-lú:kux čiškú*
1 SG-PL.OBJ-see-CMP PL-brave man
‘I see the brave men.’

- d. *ik-ka:-laʔcí-ʔ* *lú:kux* *čiškú*
 1 SG-PL.OBJ-see-CMP brave man
 'I see the brave men.'

Again, all of these sentences are essentially synonymous, although speakers report that the plural-marking of the NP emphasizes the plurality of the direct object. Of the four, the pattern in (31d) is the most common, plural marking for nouns in NPs being dispreferred over the marking of plurality on the verb. Note, however, that it is obligatory to mark a predicate nominal as plural if it appears in a sentence with a plural copula, as in (32):

- (32) a. *camá: čišku-wín š-ta-wan-í:*
 this man-PL PST-3PL-become-PERF
 'These were men.'
- b. **camá: čiškú š-ta-wan-í:*
 this man PST-3PL-become-PERF
 'These were men.'

As we saw in (30), this is not the case for adjectival predicates, which only optionally show plural agreement with their subjects. This distinction holds for all of the adjectives listed in (2), showing quite clearly that morphological processes expressing plurality in Upper Necaxa Totonac make reference to the class membership of words in the lexicon, distinguishing between those that are nouns and those that are adjectives and applying different rules of plural formation and plural agreement to the members of the two lexical classes.

However, while the plural diagnostic works for all of the Upper Necaxa adjectives in (2), it fails for two words denoting HUMAN CHARACTERISTICS, *ʔawáča* 'young' and *ʔo:lú* 'old' which, as we will see in Section 3.5.1 below, are nouns. These two nouns have irregular plural forms with the adjectival plural prefix *lak-*:

- (33) a. *camá: la-ʔawačá-n š-ta-wan-í:*
 this PL-young-PL PST-3PL-become-PERF
 'These were young folks.'
- b. *camá: la-ʔo:lú-n š-ta-wan-í:*
 this PL-old-PL PST-3PL-become-PERF
 'These were old folks.'

Note also that, in addition to *lak-*, the plurals of *ʔawáča* 'young' and *ʔo:lú* 'old' make use of the nominal plural suffix *-n(V)*, which is occasionally observed with adjectives modifying nouns in plural NPs, as in (34):

- (34) *ša-lak-pašwá-na* *čiškú*
 DET-PL-happy-PL man
 'the happy men'

In my data to date, the use of the nominal plural suffix with adjectives is only attested in NPs where the prefix *ša-* appears on the pluralized adjective. Given that *ša-* seems to afford a certain degree of nominalization to the adjectives with which it appears, it is probable that the appearance of the nominal plural suffix is a mark of partial recategorization of the adjective as a noun (or as a more noun-like element). Historically, it seems likely that this is the source of the plurals of *?awáča* 'young' and *?o:lú* 'old', which themselves may once have been adjectives but have become grammaticized as nouns, shifting from the adjectival class into the nominal class of HUMAN CHARACTERISTICS. The fact that this shift in lexical classification from adjective to noun was not accompanied by a change in inflectional pattern is, of course, a prime example of the type of dangers inherent in morphological diagnostics for lexical class membership.

On the whole, inflectional evidence from pluralization does give us congruous results to those given by the other diagnostics outlined in the previous sections. In and of itself such a diagnostic is not enough to establish the existence of a true parts-of-speech distinction – that is, the two plural inflections might only serve to differentiate two declensions of what syntactic rules treat as a single part of speech. However, when used in conjunction with semantic and distributional evidence, the difference in plural markings can be treated as a reflection of an underlying division in the lexical inventory. Once established by other means, this division then can be shown to have significance for the rules of the morphological component of the grammar, which treats nouns and adjectives differently in the formation of plurals. In Upper Necaxa Totonac, adjectives can be distinguished from nouns in that they are not unmarked actants of verbs but they are unmarked modifiers of nouns. Nouns, on the other hand, are unmarked actants and are not unmarked modifiers. Secondary diagnostics such as *tunká*-quantification and plural inflection also help to differentiate these two lexical classes. While I am not familiar enough with the other Totonac languages to make any definitive statement on the subject, I suspect that the application of many of the diagnostics developed here will give similar results and will show that Totonacan languages in general do indeed have an identifiable class of adjectives.

3.5. *Special classes of property-concept word*

As the preceding discussion shows, Upper Necaxa Totonac does have a class of adjectives and these adjectives conform by and large to the semantic classes cited as being crosslinguistically typical of the adjectival category by Dixon (1982). There are, however, two categories of words which depart from the standard crosslinguistic patterns. One of these, the category of HUMAN CHARACTERISTICS (Section 3.5.1), departs from Dixon's characterizations in that,

in Upper Necaxa, they seem quite clearly to be nouns, although, as in many languages, as a class they possess certain properties that mark them as an intermediate or non-prototypical subclass of nouns. This is of some typological interest in that it illustrates both the influence that the semantics of lexical items has on their lexical classification and the validity of the prototype approach to defining lexical classes: the fact that HUMAN CHARACTERISTICS are peripheral meanings which share semantic properties prototypical of both nouns and adjectives accounts nicely for the variability (both intra- and crosslinguistic) in their lexical class membership. The second class of words (Section 3.5.2) corresponds to Dixon's DIMENSION category, but is remarkable for its productivity, most words of this class being formed by the combination of a set of bound roots and a rather large class of classificatory and numeral prefixes. The fact that such an open-ended and productive process exists for the creation of new adjectives in a language that might have otherwise been supposed to have had a closed or reduced adjectival class raises some interesting questions about what it is that is meant by "closed class" and how useful this term is in the context of a major word class like adjective.

3.5.1. *Human characteristics.* HUMAN CHARACTERISTICS are words which refer to inherent, definitive qualities or kinds of human beings such as age (*old, young*), disability (*blind, lame*), or some other characteristic which is felt to single out an individual as a member of an identifiable class of people. Such words seem frequently to oscillate – both within and across languages – between the classes of noun and adjective. In English, words like *old* and *blind* are clearly adjectival, although in the plural they allow some recategorization and may refer to the class of people to whom that particular characteristic belongs (*the old, the blind*). Spanish HUMAN CHARACTERISTICS such as *viejo* 'old' or *cojo* 'lame', on the other hand, are amenable to similar treatment in the singular and become fully recategorized as nouns referring to individuals possessing the property in question.⁹ Such expressions allow the full range of nominal inflectional and derivational possibilities, including pluralization (*el viejo > los viejos*) and derivation to show sex (*el viejo : la vieja*). The syntactic possibilities open to HUMAN CHARACTERISTICS include use as actants and heads of modified NPs (*el viejo choco* 'the senile old man', *la vieja chocha* 'the senile old woman'). These words are also unmarked modifiers of nouns themselves (*el maestro viejo* 'the old teacher'), show agreement for gender and number with their nominal heads (*las maestras viejas* 'the old female teachers'), and can enter into comparative constructions (*ella es más vieja que yo* 'she is older than me'). Indeed, HUMAN CHARACTERISTIC terms in Spanish show such thorough recategorization that it is difficult to ascertain which of the two uses of *viejo* is more basic or least marked – or if in fact there are two lexemes, *viejo*_{ADJ} and *viejo*_N, neither of which is more basic than the other.

There are, however, two features of Spanish HUMAN CHARACTERISTICS that do seem to suggest that these are still basically adjectives that have been re-categorized as nouns. The first is the reluctance of such words to appear in possessive constructions: with the exception of *mi viejo* 'my old man' (i.e., 'my husband'), constructions such as *?mi cojo* 'my lame person' or *?mi ciego* 'my blind person' are acceptable only in extremely limited contexts (e.g., when used as vocatives). Additionally, when used as modifiers, HUMAN CHARACTERISTICS are not restricted to attributing properties to humans – *el carro viejo* 'the old car', *fe ciega* 'blind faith' – and may be used to modify any noun which is semantically amenable to possessing the property in question. Used as nouns, on the other hand, such words refer uniquely and consistently to human beings, which suggests that these uses are the result of a process of lexical conversion that adds the notion of 'person' to the semantic representation of the adjective.

The opposite type of recategorization applies in Upper Necaxa Totonac, where HUMAN CHARACTERISTICS seem basically to be nouns referring to people. These words allow partial recategorization as adjectives in order to modify nouns that refer to people and animals, but may not be used to modify inanimate objects. The Upper Necaxa HUMAN AGE terms *?awáča* 'young person' and *?o:lú* 'old person' and words referring to human deficiencies or physical handicaps such as *á?atá:p* 'deaf person', *?ó?o* 'mute person', and *łkitít* 'lazy person' are syntactically and semantically prototypical nouns in that they are unmarked actants of verbs and they express semantic objects or kinds. In terms of pluralization, use as actants, and modifiability, words belonging to this semantic class behave like nouns referring to humans with the characteristics they denote. This is seen in (35), which shows the HUMAN CHARACTERISTIC *łkitít* 'lazy person' in a number of the diagnostic frames used above which differentiate it from the true adjective *?áła* 'big':

- (35)
- | | | | |
|----|--------------------|-----|--------------------------|
| a. | <i>łkitit-nín</i> | vs. | <i>*lak-łkitít</i> |
| | lazy-PL | | PL-lazy |
| | 'lazy people' | | 'lazy people' |
| b. | <i>*?áła-nín</i> | vs. | <i>lak-?áła čiškuwín</i> |
| | big-PL | | PL-big people |
| | 'big (ones)' | | 'big people' |
| c. | <i>ik-la?cí-ł</i> | | <i>łkitít</i> |
| | 1SG-see-CMP | | lazy |
| | | | 'I saw the lazy one.' |
| d. | <i>*ik-la?cí-ł</i> | | <i>?áła</i> |
| | 1SG-see-CMP | | big |
| | | | 'I saw the big one.' |

- e. *cex* *łkitít*
 good lazy
 'good lazy fellow'
- f. **cex* *ʔáła*
 good big
 'good big one'
- g. *ki-łkitít*
 1.PO-lazy
 'my lazy fellow'
- h. **kin-ʔáła*
 1.PO-big
 'my big one'

Especially important here is the fact that words like *łkitít* are unmarked as actants (35c), are modifiable (35e), and are possessable (35g), while adjectives like *ʔáła* 'big' are not (35d, e, h). While Upper Necaxa does, under certain circumstances, allow the extended anaphoric use of adjectives as actants, even in these cases true adjectives remain unmodifiable and cannot take possessive markers, whereas HUMAN CHARACTERISTICS are not so restricted.

As with other nouns, plural agreement of HUMAN CHARACTERISTICS used as predicate with their subjects is obligatory:

- (36) a. *camá: la-ʔawačá-n š-ta-wan-í:*
 this PL-young-PL PST-3PL-become-PERF
 'These were young folks.'
- b. **camá: ʔawáča š-ta-wan-í:*
 this young PST-3PL-become-PERF
 'These were young folks.'
- c. *camá: la-ʔo:lú-n š-ta-wan-í:*
 this PL-old-PL PST-3PL-become-PERF
 'These were old folks.'
- d. **camá: ʔo:lú š-ta-wan-í:*
 this old PST-3PL-become-PERF
 'These were old folks.'

HUMAN CHARACTERISTICS also fail the *tunká*-diagnostic for semantic predicativity:

- (37) a. **ʔolú tunká iš-Ø-wan-í:* *čiškú*
 old very PST-3SG-become-PERF man
 'The man was very old.'
- b. **šla ʔo:lú tunká iš-Ø-wan-í:*
 he old very PST-3SG-become-PERF
 'He was very old.'

- c. *šla ʔawáča tunká iš-Ø-wan-í:
 he young very PST-3SG-become-PERF
 'He was very young.'

This seems to indicate that such words represent, rather than semantic predicates, semantic NAMES or kinds. Thus, it is unlikely that the examples of nominal uses of *ʔkitít* in (35) represent the recategorization of a word that is basically the expression of a semantic predicate and, hence, an adjective. Instead, HUMAN CHARACTERISTICS seem inherently to express semantic kinds – specifically, kinds of people possessing a specific characteristic. However, as human beings, these people also possess and can be attributed other characteristics (hence, their modifiability) and can be possessed.

One place where Upper Necaxa HUMAN CHARACTERISTICS do differ from ordinary nouns, however, is in their use as modifiers, where it seems that constructions such as the first three examples in (38) are commonplace:

- (38) a. *aʔatá:p* *čiškú*
 deaf man
 'deaf man'
- b. *ʔkitít* *puská:t*
 lazy woman
 'lazy woman'
- c. *ʔawáča* *čiškú*
 young man
 'young man'
- d. *cewaní* *cumaxát*
 pretty girl
 'pretty girl'
- e. **ʔtukíta* *kúšj*
 atole corn
 'corn atole'
- f. **kúšj* *ʔtukíta*
 corn atole
 'corn atole'

In (38a–c) words denoting HUMAN CHARACTERISTICS appear as modifiers of nouns, just as they might if they were adjectives like *cewaní* in (38d); ordinary nouns, however, are not eligible for this role, as shown in (38e–f). As unmarked modifiers of nouns, HUMAN CHARACTERISTICS seem to qualify as adjectives, just as they seem to qualify as nouns based on their behaviour as syntactic actants; however, given the fact that HUMAN CHARACTERISTICS have so many nominal morphosyntactic properties, it is more likely that their attributive uses shown in (38) are extended uses. This seems especially plausible in that HU-

MAN CHARACTERISTICS in Upper Necaxa, unlike the same class of words in Spanish, can be used only to modify humans and animals, indicating the persistence of the notion of “person” (or “personified being”) in their semantic make-up.

HUMAN CHARACTERISTICS thus appear basically to be nouns in that they identify a specific kind or type of person, although they do so on the basis of a single definitive property or characteristic. This is atypical for nouns, as Jespersen (1924: 75) points out, because in most cases,

... in the parlance of logicians, the extension of a substantive is less, and its intension is greater than that of an adjective. The adjective indicates and singles out one quality, one distinguishing mark, but each substantive suggests ... many distinguishing features by which [one] recognizes the person or thing in question.¹⁰

When used as actants in ordinary speech, then, HUMAN CHARACTERISTICS may identify a person on the basis of a single property, but at the same time a person denoted in Upper Necaxa as, for example, *?o:lú* ‘old person’ may be assumed to have other characteristics associated with advanced age. The term may well carry with it connotations of wisdom, possession of traditional knowledge, or lack of physical strength – or, depending on the person it is applied to, it may not. Because only a single property of such terms is necessarily applied to their inherent semantic argument, they are easily amenable to recategorization as one-place predicates with that property as their only meaning: when used as modifiers they tend to lose the additional properties attributed to their referent associated with their use as actants – that is, *?o:lú čiškú* ‘old man’ \neq *?o:lú* ‘old person, elder’. Such shifts involve a minimal change in meaning and so are frequently attested, both intra- and crosslinguistically. In Upper Necaxa, words such as ‘aged’, ‘lazy’, and ‘mute’ – properties typical of persons – are nouns in that they include the semantic notion of the person these properties are predicated of; in languages like English, on the other hand, the basic meanings of the words *deaf*, *lazy*, and *lame* are the properties themselves and do not include the individual the properties are attributed to. Therefore, these words belong to the class of adjectives. Note that in English the possibility of recategorizing many words denoting HUMAN CHARACTERISTICS exists where it does not for other adjectives – hence, we can speak of *the blind* or *the lame*, but not **the soft* or **the wet*. Thus, while English, Spanish, and Upper Necaxa differ slightly in the way words denoting HUMAN CHARACTERISTICS are classified in the lexicon, they agree as to their potential for recategorization, good evidence for the inherent variability of this category on the boundary between prototypical meanings of verbs/adjectives and nouns.

3.5.2. DIMENSION *words*. Another distinctive feature of property-concept words in Upper Necaxa is the extensive size of the DIMENSION class. Aside

from the four “generic” terms referring to the overall size of objects such as *s'áta* ‘small’ and *?á?á* ‘big’ listed in (2), dimensions in Upper Necaxa are expressed by words formed via the (not quite free) combination of *?á?á* ‘big’, *castináx* ‘thin’, or one of the bound roots *-?man* ‘long’, *-acún* ‘distributed in several small quantities’, *-čoncá* ‘large’, *-čunáx* ‘mid-sized’, and *-cunáx* ‘small’ with a set of classificatory prefixes (derived from the combining forms for bodyparts or numeral classifiers), given in (39):

(39) Upper Necaxa dimensional classifiers

<i>tan-</i>	‘dry measure’	<i>mak-</i>	‘bulk’
<i>ak-</i>	‘length (long axis)’	<i>pax-</i>	‘space between’
<i>pi-</i>	‘wide area’	<i>pu:-</i>	‘depth’
<i>?e-</i>	‘volume’	<i>ki?-</i>	‘circumference’
<i>la?-</i>	‘width (of strip)’	<i>pa:-</i>	‘piece, chunk’
<i>piš-</i>	‘bouquet, bunch’	<i>ta:-</i>	‘height (quadrupeds)’
<i>ča-</i>	‘height (person)’		

These words function in morphosyntactic terms as adjectives in the tests used above, most importantly in the role of unmarked modifier:

- (40)
- a. *ki?-?á?á ?amám* (Chicontla)
mouth-big clay.pot
‘a clay pot with a big mouth’
 - b. *mak-čunáx čiwĩš*
CLS(body)-mid.sized rock
‘a medium-sized rock’
 - c. *piš-cunáx šanát*
CLS(neck)-small flower
‘a small bunch of flowers’

As a result, the class of DIMENSION words in Upper Necaxa is unusually large and is augmented even more by the existence of a potentially infinite class of words denoting physical configurations formed by the combination of bodypart prefixes and numeral roots, as in:

- (41)
- a. *la?a-pu:-tá:ti*
face-interior.of.body-four
‘pyramidal’ or ‘having four visible planar surfaces’
 - b. *la?a-pu:-tu:tún*
face-interior.of.body-three
‘tetrahedral’ or ‘having three visible planar surfaces’

Like the ordinary DIMENSION words, these are also lexically adjectives, although some of them, like *la?apu:tá:ti* ‘pyramidal’, have frequent nominal uses

in the context of architecture (the Totonac having been pyramid-builders) and geometric forms (which Totonac children learn in school). The same bodypart prefixes and classifiers also combine with other types of adjectives to form a number of very specific terms for textures, shapes, and physical configurations:

- (42) a. *kiʔ-pa:-skikíli*
 mouth-belly-finely.serrated
 ‘finely serrated around the rim or one edge’
- b. *kiʔ-pa:-swaʔé̃li*
 mouth-belly-serrated
 ‘serrated or deeply grooved along one edge’
- c. *tantu:-swaʔé̃li*
 leg-serrated
 ‘having a stepped base’

Again, these words are, like their bases, ordinary adjectives according to all of the diagnostic tests that were applied. The result of such derivational processes is that the class of adjectival words in Upper Necaxa is, given the combinatorial potential of the various roots and affixes involved, potentially unlimited. Leaving aside the DIMENSION words, Upper Necaxa does seem to have relatively fewer underived adjectives than a language like English does (301 tokens in a lexical database of 2946 entries or 10 %, compared to the 12–15 % for English cited in Dixon 1982: 3), which might lead one to conclude that Upper Necaxa has a closed or reduced class as does Papantla (Levy 1992). However, the existence of derivational processes that create new members of closed classes is in itself something of a theoretical problem, given most current assumptions about the nature of closed lexical classes.

According to Trask (1993: 47), a closed class is a “lexical category, typically with a small membership, to which new members are added only rarely and with difficulty”. The second requirement here, that “new members are added only rarely and with difficulty” is frequently assumed to be a characteristic of closed classes because it is a salient property of the most typical closed classes such as adpositions and particles, but it is by no means clear that it is a property of reduced classes of adjectives. Papantla Totonac, for instance, which Levy (1992) has argued to have a closed class of adjectives, has (like all Totonacan languages) a highly productive process of participle formation which at the very least can be said to form unmarked modifiers of nouns. Ewe, an African language which has a very limited class of underived adjectives (five, excluding ideophones) is reported by Ameka (1991) to have a variety of derivational processes of adjective formation, as does Hausa (Smirnova 1982), which has only a dozen underived adjectival forms. Thus, if we want to maintain the open/closed class distinction (for adjectives, at any rate) it seems that we have to exempt the process of derivation from our restriction on the creation

of new members. Presumably, this means that our restriction on the creation of new adjectives is actually one against adding the expressions of new meanings to the closed class. This in turn implies that any new coinages introduced into the language that meet the semantic criteria for adjectives would be assumed by speakers not to belong to this class. This latter point is an assumption which has, to my knowledge, not been empirically tested. Psycholinguistic evidence for the "closedness" of the adjectival class in reduced-class languages would be extremely valuable in helping us to sort out whatever principles are involved in the regulation of the membership of these classes.

Even if reduced classes of adjectives do turn out to be closed in the synchronic, psycholinguistic sense, the numbers of adjectives in reduced classes are by no stretch of the imagination fixed in the diachronic sense (which, of course, implies that at some point or other adjectives must enter and/or leave the synchronic lexicon). In the Bantu family, for instance, languages such as Swahili, Bemba, Luganda, Ndbele, and Xhosa have a closed adjectival class with between ten and fifty members, yet only thirteen adjectival roots are reconstructable for Proto-Bantu (Dixon 1982), newer adjectives being derived historically from nominal roots (Givón 1984). Of course, Trask's definition does not say it is impossible to create new members, only that it is difficult. How precisely we are to measure this difficulty, however, is unclear – perhaps in terms of the number of new coinages per unit time, the rate of adjective formation being compared to some standard based on the coinage of new nouns or verbs, if such a standard exists. Again, this is a diachronic factor open to influences from any number of sociolinguistic, sociological, and historical circumstances and seems of little use for us if we want to characterize the synchronic parts-of-speech system of an undocumented language.

Thus, closedness in the sense of exclusivity does not seem to be a relevant factor for reduced classes of adjective. This leaves us with the relative size of the class. The problems with this sort of characterization, as least for use in a taxonomic sense, should be immediately obvious. How big is "a small membership"? How do we determine the number of adjectives a reduced class can have before it is considered closed or not? What happens if a language adds one or two adjectives over the theoretical limit – does that imply a wholesale reorganization of the lexical inventory? Clearly, at best closedness becomes a gradient category, essentially a synonym for "small" or "easily countable". In any case, given the approach we are developing here, it is not clear that the closed/open distinction is a particularly useful one – a closed class would be defined in the same terms as an open class. The degree to which the class of adjective can be said to be closed (i.e., reduced in number) might then best be taken as a gradient measure of idiosyncrasy, in that the smaller the class is, the less easy it is to predict which meanings of the set of property concepts are classified as unmarked modifiers in the lexicon of a given language. Whether

or not this characterization of closedness is applicable to the use of the term with other classes such as prepositions, conjunctions, and particles will have to remain an open question, pending investigation of their crosslinguistic variability and the degree to which their membership is semantically predictable.

4. Conclusions

The results of the foregoing investigation into the syntactic behaviour of property-concept words in Upper Necaxa Totonac show that these words do indeed constitute a separate class of words in the lexicon conforming to the definition of "adjective". Property-concept words in Upper Necaxa are marked in the syntactic roles of predicate and actant, and are unmarked modifiers of nouns. In addition, most of the words belonging to the class of adjective can be correctly identified by the secondary diagnostics of *tunká*-quantification and by a special process of morphological pluralization. Upper Necaxa also illustrates nicely the crosslinguistic variability in the lexical classification of words expressing HUMAN CHARACTERISTICS, a semantic domain with properties prototypical of verbs and nouns; this confirms a prediction of prototype theory that semantic domains peripheral to the core meanings of the major parts of speech should be the loci of crosslinguistic variation. Finally, the openness of the DIMENSION class of adjectives led us to take a closer look at the concept of "closed class" and its applicability to a major class of "content" word such as adjectives.

Perhaps the most interesting result of this study is the fact that it illustrates quite clearly the importance of both semantic and syntactic factors in the organization of parts-of-speech systems in the world's languages. Although syntactic factors are the ultimate source of diagnostic procedures for the identification of lexical class membership, the semantics of words plays a crucial role in constraining their syntactic behaviour. This is most obvious in the case of adjectives used as syntactic actants. In Upper Necaxa, when adjectives (the expressions of semantic predicates) appear in actant position they are given an elliptical reading – that of a semantic thing or object corresponding to their arguments in semantic representation but elided in the syntactic structure (making the construction non-iconic and, therefore, a marked one). The fact that adjectives are semantically predicative entails the existence of this argument, which is reconstructed from discourse. In the absence of a recoverable antecedent, adjectives in actantial position are considered to be ungrammatical. Similarly, the semantics of the adjectival class is the source of the *tunká*-diagnostic (which also applies to other gradable semantic predicates), just as the semantics of the prototypical noun (the expression of a semantic thing or object) accounts for the impossibility of using these as modifiers outside of marked (decategorized) noun–noun compounding and *ša*-constructions. Semantics can thus be taken to be a constraining factor on parts-of-speech systems which establishes

the core divisions of the lexical inventory around which parts of speech are defined; cross- and intralinguistic variation can then be predicted to occur in areas outside these core domains. Given the stability and (probable) universality of the verb–noun distinction, it seems likely that the basic organization of the lexical inventory in human language arranges the meanings of lexical items around two opposed semantic poles – semantic predicates or relations and semantic things or objects, recognized by the syntax as unmarked semantic predicates and unmarked semantic actants, respectively. When words which are classified, on a language-specific basis, as falling outside the core areas of these domains show distinctive syntactic behaviour, they constitute additional lexical classes. The class of adjective, in that is it semantically predicative, represents a further subdivision of the semantic domain of verbs (cf. Lakoff 1965, Chafe 1970: 96, Langacker 1987: 214); this is confirmed by the typological prevalence of languages which do not have a class of adjective but instead express property-concepts as verbs. While there are also claims for the opposite type of language in the literature (e.g., Schachter 1985, Bhat 1994), closer investigation of some of these languages (e.g., Quechua, see Beck 1999) reveals the same type of situation found in Upper Necaxa: the conflation of nouns and adjectives is the result of reliance on lack of inflectional differences and the misanalysis of adjectives in elliptical constructions as being unmarked actants. This makes it seem likely that languages that do conflate adjectives and nouns are a typological rarity, if not an impossibility, although any definite conclusions on the issue will have to await further inductive investigation across languages.

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Notes

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1. Frequency is also a very commonly cited criterion for markedness (e.g., Givón 1995: 28), due largely to the intuitive feeling that the unmarked is the most usual

or standard form. While this may often be the case, it is not always so, and Trubetskoy (1969: 262–266) argues explicitly against frequency as a reliable indicator of markedness, offering a number of examples of phonological segments which are marked (in terms of their complexity, etc.) but are statistically more frequent than their unmarked counterparts. In our own domain of lexical classes, it turns out that in English the predicative use of adjectives is textually more frequent than the attributive use (Thompson 1988) – yet clearly, judged in terms of structural complexity (adjectival predicates require a copula), the former is the more marked of the two constructions. Thus, while frequency in a textual sense may tend to correlate with markedness, it is neither a necessary nor a sufficient criterion for it and will not be used in the course of our discussion.

2. The consonantal inventory of Upper Necaxa is /p, t, k, ʔ, c, č, s, š, ʎ, x, s', š', ʎ', m, n, l, w, y/. The transcription system used here is a standard Americanist IPA where /c/ is a voiceless alveolar affricate. Upper Necaxa vowels are /i, e, u, a/, and show distinctions for length (:) and laryngealization (̤). [o] seems only to appear in the context of a glottal stop (historically a uvular stop) or an ejective fricative (historically a fricative–uvular stop sequence) and so may be phonemically /u/. The glottal stop and the ejective fricatives also have a lowering effect on /i/, which is the source of most – but not all – of the examples of [e]. A velar (or possibly uvular) allophone of /n/ is also associated with /ʔ/. In a few examples cited in this paper, there are lexical differences between the variants of Upper Necaxa spoken in the two principal centres of this dialect, Patla and Chicontla. When they occur, such differences are noted in parentheses.
3. There are three tenses and four aspects in Upper Necaxa which are not freely combinable. The tenses are marked by prefixes – *na-* 'FUTURE' (only possible in the imperfective aspect) and *iš-* 'PAST', the default (zero-marked) tense being the present. The aspects are completive (only possible in the present tense), perfective, imperfective (/–*ya*/, whose most frequent allomorph is [Ø]), and progressive, each marked by a more complicated paradigm of suffixes. The abbreviations used here are: 1, 2, 3 1st, 2nd, and 3rd person, CMP completive, CLS classifier, DET determiner, HREL human relative pronoun, IMPF imperfective, NREL non-human relative pronoun, OBJ object, PERF perfective, PL plural, PO possessive, PRG progressive, SG singular.
4. McQuown (1990: 124) cites an example from Sierra Totonac of an adjective in actantial position without the determinative *ša-*. Compare (13a–b) – potentially answers to the question *Which horse do you like?* – with the question and answer frame in (i):

- (i) Sierra Totonac
ša-tu: kawa:yúx lakaskin-á?
 DET-NREL horse want-IMPF.2SG
 'what kind of horse do you want?'
k-lakaskín-ø snapápa
 1SG-want-IMPF white
 'I want a white one'

I have so far not been able to elicit such sentences in Upper Necaxa, but even if they were to appear, the gist of the argument made above remains intact, given that

- snápápa* 'white' in (i) represents an elided form of 'white horse', the semantic name 'horse' being required in the sentence's semantic representation.
5. MacKay (1999: 347) reports such constructions to be grammatical in Misantla Totonac.
 6. Note that in this last example the glottal stop (historically a uvular) does not trigger lowering of the preceding high vowel, indicating that the internal boundary of compounds has slightly different properties than affixal boundaries, which do not block lowering (for most speakers).
 7. Being inherently possessed, bodyparts are only offered by consultants in conjunction with one of the possessive prefixes, in this case *kin-* 'my'.
 8. It may be the case that *lak-* is, at least historically, a distributive prefix, as it is in certain fossilized verb forms (e.g., *lakcílí sé?nā* '3SG fries (*cílí*) plantain (slices)' versus *cílí kīnít* 'fry meat'); however, I have no synchronic evidence that favours a distributive over a simple plural meaning for adjectives.
 9. These are distinct from elliptical constructions such as *el rojo* 'the red one', which – as discussed in Section 3.2 above – presuppose some nominal element whose identity is recoverable from discourse.
 10. Similar points are made by Lyons (1977: 447) and Wierzbicka (1988: 468): "a noun indicates a categorization; an adjective, on the other hand, indicates a mere description".

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