

In (6), from Tidore, a West Papuan language spoken in Halmahera in eastern Indonesia, the noun phrase consists of three words that otherwise occur as modifiers of nouns, a third plural pronoun functioning as a definite article, an adjective, and a numeral.

- (6) ona jang malofu
 3PL beautiful two
 ‘the two beautiful ones’ (Van Staden 2000: 194)

In (7), from Koyra Chiini, a Songhay language spoken in Mali, is a noun phrase consisting of a postpositional phrase expressing a possessor followed by a definite article, but no noun. Furthermore, the postpositional phrase itself contains a noun phrase (indicated by the inner square brackets) which also lacks a noun, consisting of a demonstrative, a definite article, and a plural word, all three of which are words that otherwise occur as modifiers of nouns.

- (7) [[woo di yo] wan] di
 [[DEM DEF PLUR] of] DEF
 ‘the one [=wage] of those [workers]’
 (literally: ‘the of those’) (Heath 1999)

Similarly, many languages allow noun phrases that contain relative clauses but no nouns. For example, (8a) from Miya, a Chadic language spoken in Nigeria, is a noun phrase consisting of just a relative clause, with exactly the same form as the relative clause modifying the noun in (8b).

- (8) a. má rábaza
 REL.FEM.SG wet
 ‘the one [feminine, singular] that is wet’ (Schuh 1998: 266)
- b. kàba [má rábaza]
 gown [REL.FEM.SG wet]
 ‘the gown that is wet’ (Schuh 1998: 263)

Spanish allows noun phrases consisting of an article plus a relative clause, as in (10).

- (9) el [que pasa]
 the.MASC [REL pass]
 ‘the one who is passing’ (Luis Paris, p.c.)

And Latin allowed noun phrases consisting of participial phrases, as in (10), which otherwise function as relative clauses modifying nouns.

- (10) [puer-ōs voca-nt-em] vide-o
 boy-ACC.PL call-PRES.PTCPL-ACC.SG see.PRES-1SG
 ‘I see the one who is calling the boys’

English allows various sorts of noun phrases that consist of words that otherwise occur as modifiers of nouns. For example, English allows noun phrases consisting of just numerals, as in (11a), or of a demonstrative plus a numeral, as in (11b), or of a determiner plus a numeral plus a relative clause, as in (11c).

- (11) a. I want four.
 b. I want these four.
 c. I want the three that you are holding.

The example in (12) (brought to my attention by David Gil) involves noun phrases with an article, an adjective and a numeral, but no noun; it might be used when someone is choosing three red envelopes over three green ones.

(12) I want the red three, not the green three.

(These examples are unusual in that the adjective precedes the numeral.)

English also allows noun phrases consisting of possessor phrases without nouns, as in (13).

(13) I saw John's.

And such possessors can occur with numerals, but again without a noun, as in (14).

(14) I would prefer to have John's three rather than your four.

English also allows headless or free relative clauses, but their form is not the same as that of relative clauses that modify nouns, at least with nonhuman referents.

(15) a. What/*that/*which I am reading is good.
b. The book that/which/*what I am reading is good.

It is worth considering in this context noun phrases that are traditionally analysed as involving demonstrative pronouns, as in (16).

(16) I want those.

Is there a good reason for analysing these as involving demonstrative pronouns rather than as demonstrative determiners with a noun that is missing? Given the extensive possibilities in other languages of noun phrases containing what are otherwise modifiers of nouns without a noun and the other more limited possibilities in English (see (11), (13), and (14) above), there seems little reason to analyse examples like (16) as involving demonstrative pronouns rather than as demonstrative determiners in a noun phrase without a noun.

This paper addresses a number of questions about noun phrases without nouns: what is the best way to view or analyse such noun phrases? And what theoretical implications do such noun phrases have? I will consider a number of different hypotheses, some of which may fit some but not all of the examples mentioned above and other types of examples discussed below. I will suggest that the number of different sorts of noun phrases without nouns raise questions about whether it is correct to view nouns (or any other constituent, like determiners) as heads of noun phrases, that in many cases, nouns should just be considered one of many constituents of noun phrases, without a privileged status as heads, and with a status no different from various other constituents which are traditionally considered modifiers of the noun. And if there are languages in which noun phrases are headless, even when a noun is present, this raises questions as to whether a similar analysis might be applied to languages in which nouns are obligatory. And although I will continue to call these phrases *noun phrases*, this label is misleading if nouns have no privileged status within them. In so far as there is a special relationship between nouns and noun phrases, it is only at the level of usage: in most languages, the vast majority of so-called noun phrases in usage contain nouns (or pronouns). In some languages, this has been grammaticized into a requirement that noun phrases must contain nouns, but such requirements should best be viewed in terms of grammaticizing a high

frequency pattern rather than in terms of the notion of ‘head’. Although I will argue that the label “noun phrase” is a misnomer, I have not been able to find a good alternative label (despite years of trying to find one) and I will thus stick with the traditional label, with the understanding that it should not be taken as implying a special grammatical relationship between nouns and noun phrases. In fact, for a number of the constructions I will discuss below and apply the expression “noun phrase” to, there are good reasons to doubt that this is an appropriate label. Throughout this paper, I use this expression as a convenient descriptive label, without intended theoretical significance, and without intending any claim that these should be analysed as noun phrases. Rather, I simply use it as a label for constituents in different languages which can be translated into English noun phrases and which can function in ways that are typical of noun phrases, such as arguments of verbs, objects of adpositions, and possessive modifiers of nouns.

In referring to noun phrases without nouns, I intend noun phrases lacking a noun which denotes the kind of thing that the referent of the noun phrase belongs to, in other words a noun that would generally be considered the head of the noun phrase rather than as a modifier. In (17), the noun phrase *the cat’s* contains a noun, *cat*, but this noun does not denote a kind that the referent of the noun phrase belongs to (since the referent is dishes, not cats), nor is it a noun that would be considered head of the larger noun phrase *the cat’s* (although it would normally be considered head of the embedded noun phrase *the cat*).

(17) The dog’s dishes are here and *the cat’s* are over there.

Hence, *the cat’s* will be treated here as an instance of a noun phrase without a noun.

Apart from the sorts of examples illustrated above, there are other constructions in English that can be analysed as noun phrases without nouns, including *that*-clauses, as in (18a), and gerundial phrases, as in (18b).

- (18) a. *That Mary had left suddenly* was very upsetting.
 b. *Mary’s leaving suddenly* was very upsetting.

These elements can be analysed as noun phrases, not in the sense of having the internal structure of noun phrases but in having the external distributional properties of noun phrases, for example in occurring in subject position. They differ from canonical noun phrases in that they cannot denote concrete objects, but only abstract objects, namely propositions or events. The noun phrases without nouns that this paper focuses on are ones that denote (or can denote) concrete objects, and in many cases, they have, at least to some extent, the internal properties of canonical noun phrases in the languages in question. By canonical noun phrases, I intend noun phrases with a noun plus possibly words that are traditionally considered modifiers of the noun, or noun phrases that have this form except that a noun is missing, such as those in (1) to (14) above. Although such canonical noun phrases can denote abstract objects, as in (19), they can also denote concrete objects while those in (18) necessarily denote abstract objects..

(19) the things that I believe

Furthermore, the noun phrases without nouns in (1) to (14) can be easily converted to noun phrases with nouns by adding a noun; this is not the case for the constructions in (18).

There are a number of different hypotheses that one might adopt to account for noun phrases without nouns:

(I) Such noun phrases involve ellipsis. In other words, these noun phrases do contain nouns, but they are just not expressed phonologically.

(II) Such noun phrases do contain nouns; some words that otherwise occur as modifiers of nouns are actually nouns in such noun phrases.

(III) Such noun phrases do not contain nouns, but one of the words that is not a noun is nevertheless the head of the noun phrase, so that while they may lack nouns, they do not lack a head.

(IV) So-called noun phrases are really determiner phrases, and the determiner, not the noun, is the head.

(V) Such noun phrases are headless, unlike noun phrases with nouns (or pronouns), which are headed. The constituents that do occur in such noun phrases are all modifiers, although there is no head that they are modifying.

(VI) Such noun phrases are headless, but so are noun phrases with nouns. The notion of 'head' is not applicable to noun phrases, so that noun phrases are exocentric constructions. So-called noun phrases contain a number of different constituents, and nouns are just one of those constituents, without the special status of being heads.

It should be clear that it would be reasonable to claim that not all the cases I discuss are covered by a single answer from the above list; one might apply one answer to certain cases and other answers to other cases. However, I will suggest that in many cases, the best answer is the last of these seven views. I do not pretend to have overwhelming arguments for this view, but will argue that possible arguments for alternate views are not convincing.

Many of these views have been proposed or assumed for particular phenomena in particular languages. However, in by far the majority of cases, a particular answer is implicitly assumed, without any consideration of alternative possibilities and without any argument for this assumption. Furthermore, it is generally not clear exactly what position is being taken. For these reasons, I have decided not to cite instances or apparent instances in which these positions have been taken. And the different hypotheses are of interest quite independently of whether others have taken these positions.

The discussion below addresses questions about what if anything is the head of various sorts of noun phrases without nouns. There is an extensive literature on the notion of *head* (most notably papers in Corbett et al, eds. (1993) and references cited in that volume), and it is beyond the scope of this paper to do justice to this literature. In so far as some of the arguments here involve questions as to what might be head in a given construction, the discussion here will be admittedly rather informal. It also ignores somewhat different conceptions of heads in the literature, though I think differences of opinion regarding heads more often revolve around the same general conception of head, with competing views as to what element fits that conception. However, the crucial question addressed in the discussion below is whether noun phrases are headed at all, or more generally, whether the notion of head is needed by syntactic theory. Most of the literature on heads presupposes that there are heads, and there is surprisingly little argument in the literature that I am aware of for the need for heads. I will return to these issues below.

1. Hypothesis I: Noun phrases without nouns involve ellipsis of the head noun

Descriptions of noun phrases without nouns often seem to implicitly suggest that ellipsis of the noun is involved. Under this view, there are not really noun phrases without nouns, just noun phrases without overtly expressed nouns, and all that needs to be said about such noun phrases are the conditions under which the nouns can be left out.

There are two arguments that might be offered for this view. The first argument is that whenever a noun phrase without a noun is used, the speaker could have supplied an appropriate noun, and the noun is recoverable to the hearer. For example, McGregor (1990: 254) argues for ellipsis of nouns in Gooniyandi, since noun phrases without nouns usually occur when there is an occurrence of the relevant noun in the preceding text. In response to the argument that the speaker could have provided the noun, it is important to observe that there is little question that in many if not most instances in which noun phrases without nouns are used, the speaker can provide an appropriate noun, but that this may simply reflect the fact that it is almost always the case that when people refer to things, they can identify an appropriate noun for the thing they are referring to. This is a general fact about communication. It partly reflects the fact that the primary pragmatic function of nouns in general is that they form a classificatory system of things in the world that we use in referring to things. Furthermore, when people use pronouns, they normally can provide a noun that they could have used to refer to the thing the pronoun denotes, but it hardly follows from this that whenever people use pronouns, there is ellipsis of a noun. Of course, the reason that nobody would claim such is that most languages do not allow pronouns to combine with nouns, so that an ellipsis account makes little sense grammatically. The point, however, is that the fact that when noun phrases without nouns are used, there is a noun that the speaker could have provided simply reflects a general property of all noun phrases, whether they involve pronouns, nouns, or neither. There is thus nothing special about noun phrases without nouns that would lead to an argument for ellipsis. Of course, nothing here argues against an ellipsis analysis (apart, perhaps, from Occam's Razor, but since I think Occam's Razor arguments are abused in linguistics, I am reluctant to use such an argument here). However, it does show that the ability to provide a noun is not sufficient to justify an ellipsis analysis.

It is important to ask, of any instance of a noun phrase without an overt noun, whether it is *always* the case that the speaker could have supplied an appropriate noun, or whether this is just *usually* the case. If the former obtains, and if in situations where the speaker could not have provided an appropriate noun, they could not have used the noun phrase construction without a noun, in other words, if there is a grammatical constraint on the use of a construction involving a noun phrase without an overt noun that the speaker must be able to provide an appropriate noun, then an analysis in terms of ellipsis seems appropriate. On the other hand, if it is possible to use a noun phrase without an overt noun even in situations (which may not arise very often) in which the speaker could not provide a noun, then an analysis in terms of ellipsis is not viable.

Let me illustrate this test in a different context, that of adjectives. Consider the utterance in (20).

(20) He is very.

This would be appropriate as a response to, for example, a question "Is John angry?". In this context, it is clear that the speaker could have supplied the missing adjective. But is this *always* true of (20)? It is not easy to think of a context where a speaker might want to use a degree word without using an adjective with it, but consider the sentence in (21).

(21) John is very something, though I'm not sure what that something is.

Sentence (21) might be used in a context in which the speaker has a concept in mind but cannot find the appropriate adjective, or in a context in which the speaker doesn't have a clear concept in mind, but only a vague idea. Significantly, it does not seem possible to use (20) in such contexts. In other words, it seems to be a grammatical restriction on the construction in (20) that it can only be used if the speaker can provide an appropriate adjective, in fact only if the hearer can be expected to be capable, in the discourse context, of reconstructing what adjective is intended. This provides an argument that (20) does involve ellipsis of an adjective.

This example illustrates a diagnostic for whether a construction involves ellipsis. The fact that the speaker could have provided the word that is claimed to have been ellipsed is not in itself sufficient to show that ellipsis took place. To show that a construction involves ellipsis, one must be able to show that there are logically possible contexts where the speaker could not provide an appropriate word, and where the construction in question cannot be used, as I have done for adjectives with the construction in (20).

To see how this diagnostic would apply to nouns, we need to imagine situations in which the speaker could not provide a specific noun. For example, suppose we imagine a context where one looks into a large dark room and sees two objects at the end of the room which one cannot identify because of the dark, and saying "I see two things. There's something large on the lefthand side and something smaller to the right of it. The large thing is over ten feet tall and looks like it may be white. ...". In at least some languages that freely allow noun phrases to contain adjectives without nouns, it is natural to use such noun phrases in this context. For example, in Hebrew and Indonesian, one would use the forms give in (22).

(22) a. Hebrew (David Gil, p.c.)

ha-gadol
DEF-large.SG.MASC
'the large one'

b. Indonesian (David Gil, p.c.)

yang besar
REL large
'the large one'

Because the speaker could not provide an appropriate noun in the context describes, these are apparently good cases where an ellipsis analysis is not tenable. Unfortunately, for most languages that allow noun phrases without nouns, it is not clear if they could be used in such contexts. But an example of a construction that cannot be used in such contexts is the one illustrated by *el blanco* in Spanish in (5) above. In such contexts, one must use instead *lo blanco*. On the one hand, this provides an argument that the Spanish construction illustrated by *el blanco* does involve ellipsis. On the other hand, the construction with *lo blanco* provides an example of another construction that involves a noun phrase without a noun that cannot be treated as involving ellipsis of a noun. Not only can this construction be used when the speaker does not know an appropriate noun, but an ellipsis analysis is not grammatically viable, since it is not possible to add a noun to *lo blanco*.

Or consider again, noun phrases in English containing just a demonstrative, as in (17) above. As I mention above, it is unclear, once one observes the multiple instances of noun phrases without nouns, why these should be analysed as simply involving a demonstrative pronoun rather than as noun phrases with a determiner but no noun. But if we take the second view, could this be analysed as ellipsis of the noun? The answer is no: a sentence like (17) would be quite appropriate if the speaker did not know of an appropriate noun.

One might argue that nouns with meanings like ‘thing’ or ‘person’ are appropriate in the sort of context illustrated above, where the speaker cannot provide a more specific noun. But then the ellipsis claim would seem to be vacuous. We need to distinguish cases where a construction cannot be used when a specific noun cannot be provided from cases where a construction can always be used regardless of whether a specific noun can be provided. For the former cases, the fact that the construction cannot be used when a specific noun cannot be provided forms the basis of a good argument that ellipsis is involved. In the latter case, one might still claim that ellipsis is involved, perhaps only with nouns with meanings like ‘thing’ or ‘person’, but there is little argument for an ellipsis analysis. Admittedly, this does provide much of an argument against an ellipsis analysis in these cases, but it does show that there is little argument for an ellipsis analysis.

While appeal to ellipsis of general nouns with meanings like ‘thing’ may be possible in some cases, it is not clear that all languages have a general noun for ‘thing’ that can be used not only for concrete things but for any abstract thing as well. For example, the examples in (23) involve constructions I will discuss below from Kutenai, a language isolate spoken in western Canada and the United States (all Kutenai data cited in this paper come from my own work or from data shared with me by Larry Morgan).

- (23) a. $\text{ɕin hu qatwiy-ni xma k=iik-tiʔ}$
 only 1 think-INDIC HYPOTH SUBORD=mean-PASSIVE
 ‘I’m only guessing *what might have been meant*’
- b. ni? k=u=ɕ qaki
 DEF SUBORD=1=FUT say
 ‘what I was going to say’
- c. k=i?tkin
 SUBORD=do
 ‘what they do’

The italicized noun phrase in (23a) and the two noun phrases in (23b) and (23c) can all be paraphrased in English with the noun *thing* (*the thing that might have been meant*, *the thing I was going to say*, *the thing that they do*), but I am not sure whether this is possible in Kutenai, where the noun *qapsin* ‘thing’ normally denotes concrete objects. Appeal to the possibility of using a noun meaning ‘thing’ will only work if it can be shown that the word can be used for these sorts of abstract things.

A second possible argument for ellipsis is that in languages with gender / noun class, it is often possible to use noun phrases without nouns, where the gender or noun class of the modifying word reflects the gender or noun class of the noun that would be used if a noun were used, as in Spanish *el blanco*. Thus an ellipsis account provides a good account of the gender with such modifiers: the gender reflects the same gender agreement that occurs when a noun is present, and all that is different is that the noun with which the modifier is agreeing has been left out. However, it is also generally the case that in such languages, pronouns can be used which also reflect the gender of the noun that

would be used if a noun were used. But, as noted above, it is not generally plausible to argue that pronouns involve ellipsis of a noun. The phenomenon with pronouns shows that something other than grammatical agreement is necessary to account for their gender, that there must be some grammatical mechanism whereby the choice of gender for the pronoun is determined by the gender of the noun that could have been used, but isn't, and this mechanism is distinct from agreement. But however one formulates this mechanism, this same mechanism can equally be used to account for the gender in noun phrases without nouns: the gender is assigned to the noun phrase, and this gender is reflected by the gender either of the pronoun or of words that otherwise occur as modifiers of nouns.

One might counter this by arguing that quite apart from noun phrases with an adjective but not a noun, we need some mechanism to account for the gender of pronouns and we need some mechanism to account for agreement when both an adjective and a noun are present. If we then ask which of these two mechanisms it would be better to use to account for the gender of adjectives when there is no noun present, one might argue that it is more straightforward to use the agreement mechanism plus ellipsis, that using the mechanism that is used for pronouns would require some elaboration of the mechanism. However, this argument presupposes that we need separate mechanisms for pronouns and for agreement. If one considers gender as something assigned to noun phrases, with the additional proviso that the gender of the noun phrase must match the inherent gender of the noun, if there is one, then one can handle the gender of the adjective in terms of agreement with the noun phrase, rather than with the noun, regardless of whether or not there is a noun present.

In short, the argument for ellipsis based on gender agreement does not seem especially convincing. Of course, that provides no argument against an ellipsis analysis in these cases. However, I suspect that in many of the cases involving gender agreement, the construction cannot be used unless a missing noun could be provided. In other words, I suspect that in many of these cases, there is independent motivation for an ellipsis analysis. This is the case, for example, with the Spanish construction illustrated by *el blanco*.

I have argued that an ellipsis analysis is only viable if a construction can only be used when the speaker could provide an appropriate noun. However, another requirement is that it must be the case that the construction in question grammatically allows the addition of a noun. In cases where this requirement is not met, an ellipsis analysis is clearly not viable. I have cited above the Spanish construction illustrated by *lo blanco* as an example of this. But there are various other sorts of constructions in other languages that share this property and for which an ellipsis analysis is not viable.

One sort of construction is one found in a number of languages where a noun phrase can consist of a clause, possibly combining with an article of some sort. For example, in Cebuano (an Austronesian language of the Philippines), there is a set of articles that can combine with nouns to form noun phrases, but many of these articles can equally well combine with clauses, though these clauses are missing an element and are thus like relative clauses. (All Cebuano examples cited come from my own data.)

- (24) a. ang mi-palit sa saging sa tindahan
 TOPIC ACTOR.FOCUS-buy NONTOPIC bananas NONTOPIC store
 'the one who bought the bananas at the store'
- b. ang gi-palit sa babaye sa tindahan
 TOPIC GOAL.FOCUS-buy NONTOPIC woman NONTOPIC store
 'what the woman bought at the store'

- c. ang gi-palit-an sa babaye sa saging.
 TOPIC LOC.FOCUS-buy-LOC.FOCUS NONTOPIC woman NONTOPIC bananas
 ‘the thing that the woman bought the bananas at’

Each of these noun phrases consists of the topic article *ang* followed by a clause with a noun phrase missing from it that corresponds to the larger noun phrase. For example, the clause following the article in (24a) means ‘bought the bananas at the store’, and is missing an actor; the clause following the article in (24b) means ‘the woman bought at the store’, with the noun phrase denoting what she bought missing. The form of the verb varies because the focus form of the verb codes the role of the missing element in the clause. These clauses are like relative clauses in that a noun phrase is missing, but there is no head noun. Thus (24a) resembles the noun phrase in (25), where there is a head noun and a relativizer *nga*.

- (25) ang babaye nga mi-palit sa saging sa tindahan
 TOPIC woman LINK ACTOR.FOCUS-buy NONTOPIC bananas NONTOPIC store
 ‘the woman that bought the bananas at the store’

One might attempt to analyse the examples in (24) as elliptical versions of noun phrases like (25), with the noun left out. We would also have to say that the linking word *nga* is left out too, which is atypical of ellipsis. However, the noun phrases in (24) can be used when the speaker cannot provide an appropriate noun (except, perhaps, one meaning ‘person’ or ‘thing’), thus arguing against an ellipsis analysis.

But there is a more serious problem with trying to account for the examples in (24) in terms of ellipsis. There is in fact no way in which nouns are any different from any other class of words in their ability to occur in noun phrases in Cebuano. It appears to be the case that the general form of *all* noun phrases in Cebuano is simply that of an article plus a clause with a noun phrase missing from it, even noun phrases consisting of an article plus a noun. If the clause is a simple intransitive clause with a predicate and a subject, the missing noun phrase will be the subject and hence all that is left in the clause will be the predicate. Thus, if the predicate is an intransitive verb, we will get a simple noun phrase like that in (26), where the verb *midagan* ‘run’ is really a clause with its subject missing.

- (26) ang mi-dagan
 TOPIC ACTOR.FOCUS-run
 ‘the one that is running’

Nouns can serve as predicates in Cebuano, without any copula verb, as in (27); like verbal predicates they occur in clause-initial position.

- (27) babaye ang mi-dagan
 woman TOPIC ACTOR.FOCUS-run
 ‘the one who is running is a woman’

If we form a noun phrase consisting of an article plus a simple intransitive clause with a nominal predicate and its subject missing, what we will get is an article plus a noun, as in (28).

- (28) ang babaye
 TOPIC woman
 ‘the woman’

While (28) looks like an article plus a head noun, it really has exactly the same structure as (26), an article plus a clause with a noun phrase missing. In other words, the noun *babaye* ‘woman’ in (28) is not the head of the noun phrase but is the predicate of a clause with its subject missing, and (28), like the noun phrases in (24), is an article plus a clause, without a head noun. And since it would appear there are no noun phrases with head nouns in Cebuano, there is no structure for noun phrases like those in (24) to be elliptical versions of.

But one might ask: “What about (25)? It doesn’t consist of just an article plus a clause with a noun phrase missing. Doesn’t it contain a head noun?” The answer is that this noun phrase is more complex, containing two clauses with noun phrases missing. Consider the simpler example in (29).

(29) ang babaye nga mi-dagan
 TOPIC woman LINK ACTOR.FOCUS-run
 ‘the woman who is running’

Although (29) looks like it has an article plus a noun plus a relative clause, it really consists of an article plus two clauses linked by the linking particle *nga*. And in fact the two clauses are interchangeable, as in (30).

(30) ang mi-dagan nga babaye
 TOPIC ACTOR.FOCUS-run LINK woman
 ‘the woman who is running’

There is no apparent basis that I am aware of for analysing either *midagan* or *babaye* as heads in either (29) or (30).

These properties of noun phrases in Cebuano are related to the fact that nouns and verbs are largely interchangeable in the language: there are morphological differences (for example, verbs occur with focus prefixes like *mi-* in many of the examples above, while nouns do not), but syntactically, they are not distinct: neither the rules for constructing clauses nor the rules for constructing noun phrases needs to refer to the distinction between nouns and verbs. Any attempt to analyse noun phrases in Cebuano as containing head nouns would be imposing onto the language properties of the English translations that are simply not motivated for Cebuano.

The fact that nouns have no privileged status within noun phrases in Cebuano is reason, of course, to analyse them as something other than noun phrases. One possibility, discussed in section 4 below, is that they should be analysed as determiner phrases. However, as mentioned in the introduction, I am using the expression “noun phrase” only as a convenient descriptive label for constituents which translate into English noun phrases and which can serve as arguments of verbs.

There are many other languages which allow noun phrases consisting of just an article plus a clause where there is little motivation for positing ellipsis of a head noun, even in languages where there is a clear noun-verb distinction. In Kutenai, there is a definite article that combines with nouns or with clauses with a noun phrase missing from them, much like those in Cebuano. In (31a), the definite article *niʔ* combines with a noun; in (31b) and (31c), the definite article combines with a verb (preceded by the subordinative proclitic) (see Dryer (1994, 1998) for discussion of the meaning of ‘OBV’ (obviative)).

- (31) a. *ła* *ɕinax-i* *niʔ* *niɕtahaɬ-nana*
 back go-INDIC DEF boy-DIMIN
 ‘*The little boy* went back’
- b. *ła* *ɕinax-i* *niʔ* *k=uqaka*
 back go-INDIC DEF SUBORD=win
 ‘*The one who won* went back’
- c. *ɕukat-i* *niʔ-s* *k=aɬxu* *xaʔɕin*
 take-INDIC DEF-OBV SUBORD=carry dog
 ‘Dog took *what she carried*’

The structures in (31b) and (31c) are simply instances of the more general possibility of the definite article combining with a clause. Other examples where the clause that the article combines with contains more than just a verb are given in (32); the relevant noun phrases are shown in italics.

- (32) a. *n=upx-ni* *niʔ* *k=inqaptik* *kiʔanqat-nana-s*
 INDIC=see-INDIC DEF SUBORD=become buck-DIMIN-OBV
 ‘Then *the one who had become a young buck* saw him.’
- b. *tax* *qala* *ki=ʔin* *niʔ* *k=iɬx-naps* *kɬawɬa-s*
 then who SUBORD=be DEF SUBORD=bite-INVERSE grizzly.bear-OBV
ʔa-kaqni-ʔis
 face-3SG.POSS
 ‘Then who was *the person that got bit on the face by a grizzly bear?*’

Each of the italicized noun phrases in (32) consists of a definite article plus a clause. There is no noun in these noun phrases that could be serving as head. Some of these noun phrases contain nouns, but the nouns are clearly not serving as heads, such as *kɬawɬas* ‘grizzly bear’ in (32a), which is functioning as agent of the inverse verb in the subordinate clause. Each of these noun phrases is a type of headless relative clause.

Unlike the situation in Cebuano, we cannot analyse noun phrases consisting of an article plus a noun as instances of article plus clause: in Kutenai, predicate nouns must occur with a copula verb, and hence the noun in a noun phrase consisting of an article plus a noun cannot be considered a noun in predicate position. However, there are other reasons why we cannot analyse the examples in (31b), (31c), and (32) as involving ellipsis of a head noun. It is possible to add a noun that corresponds to the denotation of the entire noun phrase, but this noun will occur *inside* the relative clause, because relative clauses in Kutenai are so-called internally-headed relative clauses. The expression “internally-headed” is actually a misnomer, since the noun that is internal to the relative clause is not really the head of the relative clause; the expression only reflects the fact that this noun inside the relative clause corresponds to what is the head in the English translations. For example, in (33), the noun *kqaxaxaʔɕin-s* ‘horse’ corresponds to the head noun in the English translations, but in this example in Kutenai, it is inside the relative clause, functioning as object of the verb *wammaɬ* ‘bring’, so that the noun phrase consists simply of a definite article plus a clause.

- (33) *ɕinɬa.katiʔ-s-i* *niʔ-s* *k=wammaɬ* *kqaxaxaʔɕin-s*
 beautiful-OBV-INDIC DEF-OBV SUBORD=bring horse-OBV
 ‘*The horse he brought* is beautiful.’

In fact, so-called internally-headed relative clauses in any language are good examples of noun phrases without nouns. The examples in (34) from Mesa Grande Diegueño also illustrate this.

- (34) a. [^ʔehatt gaat akewii]=ve=ch chepam
 [dog cat chase]=DEF=SUBJ get.away
 ‘the cat that the dog chased got away’ (Couro & Langdon 1975: 187)
- b. [^ʔehatt gaat kw-akewii]=ve=ch nye-chuukuw
 [dog cat REL.SUBJ-chase]=DEF=SUBJ IOBJ-bite
 ‘the dog that chased the cat bit me’ (Couro & Langdon 1975: 186)

That these noun phrases do not involve a noun modified by the relative clause is especially clear in (34a), where the noun corresponding to the head in the English translations, *gaat* ‘cat’, is inside the relative clause, since it is preceded by the subject of the clause ^ʔehatt ‘dog’ and followed by the verb *akewii* ‘chase’. One might try to analyse ^ʔehatt ... kw-akewii as a discontinuous constituent modifying *gaat* ‘cat’; however, such an analysis has no motivation internal to Mesa Grande Diegueño, and would clearly be motivated solely by the English translation. The position of *gaat* ‘cat’ within the relative clause simply reflects the fact that it is the object and the clausal word order in the language is SOV, just as the position of ^ʔehatt ‘dog’ in (34a) at the beginning of the clause simply reflects the fact that it is a subject, and subjects occur at the beginning of clauses. Any attempt to analyse (34b) as involving a discontinuous relative clause modifying *gaat* ‘cat’ would be missing these generalizations about word order. One might also try to analyse them as involving a constituent which is a daughter of two separate nodes, as proposed by Sampson (1975) for certain constructions in English, including relative clauses. But while I think that there are constructions for which this is a good analysis, such an analysis is still completely unmotivated for Mesa Grande Diegueño, since it involves a construction involving a noun phrase plus a clause, a construction that otherwise does not occur in the language. Again, only the structure of the English translations might tempt one to posit such an analysis for Mesa Grande Diegueño.

The only thing that distinguishes the noun phrase that serves as head in the English translations from the other noun phrase in the relative clause is that it is the noun that is coreferential to the larger noun phrase containing it, ^ʔehatt *gaat akewiivech* ‘the cat that the dog chased’. In other words, in (34a), the noun phrase *gaat* ‘cat’ is coreferential to the larger noun phrase containing it, ^ʔehatt *gaat akewiivech* ‘the cat that the dog chased’, while in (34b), it is the noun phrase ^ʔehatt ‘dog’ that is coreferential to the larger noun phrase containing it, ^ʔehatt *gaat kwakewiivech* ‘the dog that chased the cat’. So-called internally-headed relative clauses are more accurately a type of headless relative clause, and thus instances of noun phrases without nouns that cannot be analysed in terms of ellipsis of a head noun.

It is worth noting that some languages with so-called internally-headed relative clauses provide additional evidence that the noun inside the relative clause is not simply a noun in the main clause that is modified by a discontinuous relative clause. Namely, in some languages, the case marking of the noun reflects its case inside the relative clause and not its case outside the relative clause. For example, in the example in (35) from Muɻinypatha (a language isolate spoken in northern Australia), the fact that *mutyɻnga* ‘woman’ is inside the relative clause is reflected by the fact that it occurs in the ergative case, reflecting the fact that it is the subject of a transitive clause; since it is the relative clause that is transitive, and not the main clause, this case marking must be reflecting its role within the relative clause, not outside the relative clause.

(35) Muinypatha (Walsh 1977: 289, 287)

[mutyinga-ie ŋayi pan-ŋi-baɖ] paŋanduwi mundakŋayya
 [woman-ERG 1SG.ABS 3SG.PERF-1SG-hit] 3SG.PERF.arrive earlier
 ‘the old woman who hit me arrived earlier’

2. Hypothesis II: One of the apparent modifiers is really a noun

The second hypothesis listed above for analysing noun phrases without nouns is that in such noun phrases, one of the apparent modifiers is really a noun. For example, one might suggest that in a Spanish example like (5), repeated here, *blanco* is not an adjective, but a noun.

(5) el blanc-o
 the.MASC white-MASC
 ‘the white one (masculine)’

I can think of two arguments that someone might advance for such claim. First, one might claim that noun phrases must contain nouns, and that *blanco* is a better candidate for being a noun than the definite article *el* is, so *blanco* must be a noun. However, such an argument would be circular from the perspective of this paper, since what we are looking for are arguments why such noun phrases cannot be considered as simply lacking a noun. A second possible argument would be to argue that *blanco* has the same semantic function in (5) that a noun would have and a different semantic function than it has in noun phrases containing a noun. A proponent of this view would claim that *blanco* in (5) has the same semantic function as *camion* ‘truck’ in (36) and not the same function as *blanco* in (36).

(36) el camion blanco
 DEF.MASC truck white
 ‘the white truck’

A possible version of this view would be to claim that *camion* ‘truck’ in (36) denotes a thing, while *blanco* ‘white’ in (36) denotes a property, and that *blanco* in (5) denotes a thing, like *camion* ‘truck’ in (36). However, such a view would be seriously confused. The noun *camion* in (36) does not denote a thing: it denotes a category or kind that the referent of the noun phrase is an instance of. It is only the entire noun phrase in (36) that denotes a thing, namely a particular white truck. The role of *blanco* ‘white’ in (36) is to give a property that this thing has, and the role of *camion* ‘truck’ in (36) is to specify a category or kind that this thing is an instance of. In other words, *blanco* and *camion* specify two properties or characteristics of this thing, that it is white and that it is a truck. It is thus confused to think that the noun *camion* denotes a thing. The role of *blanco* in (5) is the same as its role in (36), to give a property of the thing that the entire noun phrase denotes has; it does not specify a category or kind that this thing is an instance of.

A further serious problem with the view that *blanco* is a noun in (5) is that this view confuses word class with grammatical function. If we were to say that *blanco* is a noun in (5), we would have to say that for every adjective in Spanish there is a homophonous noun with the same meaning. However, there is a different set of grammatical properties that characterize adjectives in Spanish from those which characterize nouns. For example, only nouns have inherent gender, and only adjectives occur in the construction with *lo* illustrated in (48) above. Nouns and adjectives in Spanish simply share the property that they can occur with just a definite article as a well-formed noun phrase.

There are some cases of noun phrases without nouns where the hypothesis that some apparent modifier is really a noun has somewhat more credibility. One example is the English *the poor*, as in (37).

(37) The prime minister is always forgetting *the poor*.

One argument that that *poor* here is really just a noun is that one cannot use *the poor* to denote a single poor individual, as illustrated in (38).

(38) There was once a rich man and a poor man. *The poor admired the rich.

Rather, *the poor* is inherently generic and grammatically plural, as illustrated in (39).

(39) The poor are/*is always forgotten.

Furthermore, as a noun, *poor* only has the meaning of lacking money, and does not have the other senses that *poor* has as an adjective, illustrating that this is not a productive process.

There are instances in other languages in which one can argue that words that otherwise appear as modifiers of nouns are really nouns because they appear with some inflectional morphology which is generally associated with nouns *if (and only if)* there is no noun in the noun phrase. For example, in the Lucazi example in (2) above, repeated here, the word *nénè* ‘big’ appears with three prefixes: the third prefix is a noun class prefix, which is irrelevant here, since adjectives modifying nouns occur with noun class prefixes as well.

(2) ma-ířò a-á-mu-nénè
 NC6-leaf NC6-poss-NC3-big
 ‘the leaves of the big one (referring to a tree, class 3)’

However the first two prefixes on *nénè*, or the combination of these two prefixes, is otherwise associated only with head nouns in a noun phrase which is serving as a possessor of another noun, and the first of the two prefixes is a noun class prefix agreeing in noun class with the possessed noun. In (2), however, in the absence of a head noun within the possessing noun phrase, this combination of prefixes occurs on the “adjective” instead. If we treat the possibility of hosting these possessor prefixes as diagnostic of nouns, then we can say that *nénè* is really a noun in this example.

One might also propose this approach for English examples like (40), where we find plural morphology on what are generally adjectives.

(40) a. I’ll have three larges and a small.
 b. I like the reds better than the greens.

Sentence (40a) might be used by someone buying clothes, where the relevant noun is clear in the context. (40b) actually has two readings, and in both cases one can argue that *reds* is a noun: on one reading, *reds* denotes shades of red, on the other reading, *reds* denote red instances of some class of things we have been discussing, like red plates or red sweaters. The fact that this is not fully productive with adjectives (cf. **I like the easies better than the hards*) provides an argument that these are nouns.

The claim that in noun phrases apparently lacking nouns, one of the overt words is really a noun becomes more far-fetched when one examines other sorts of examples of noun phrases lacking nouns. For example, in (6) repeated from above from Tidore, are we to say that *jang* ‘beautiful’ is really a noun, or are we to say that it is *malofó* ‘two’ that is really a noun?

- (6) ona jang malofó
 3PL beautiful two
 ‘the two beautiful ones’

How are we to decide which of these two is “really” a noun? And in the Miya example in (8a) repeated from above, where a noun phrase can consist of just a relative clause, there is no plausible candidate for a noun.

- (8a) má rábaza
 REL.FEM.SG wet
 ‘the one [feminine, singular] that is wet’

It would not help to try to claim that *rábaza* ‘wet’ is really a noun in (8a), since nouns cannot occur in that position in relative clauses in Miya, and even if they could, they would be in the predicate position of a clause and not a head of a noun phrase with a relative pronoun as modifier. Similar problems face attempts to apply this hypothesis to the Cebuano, Kutenai, and Mesa Grande Diegueño examples discussed above.

3. Hypothesis III: Some word that is not a noun is head

The third hypothesis listed above is that in noun phrases lacking nouns, one of the words that does occur in the noun phrase is in fact the head, even though it is not a noun. Applying this to *el blanco* in Spanish, the claim would be that although *blanco* is an adjective, it is the head of the noun phrase. But it is unclear what such a claim would accomplish, since it seems to do such serious violence to the notion of head that it is unclear what it would even mean to say that it is the head.

One instance where this hypothesis has some plausibility is the case of Lucazi, discussed in the preceding section, where in possessor noun phrases without a noun, the possessor prefixes can occur on an adjective, something that seems to be not otherwise possible in Lucazi. In the preceding section, I suggested that this could be taken as an argument that these apparent adjectives are really nouns, if we take the possibility of occurring with these prefixes as diagnostic of nouns. However, an alternative interpretation is that these prefixes really occur on the heads of noun phrases. An advantage of this interpretation over the preceding one is that the preceding one must posit a productive transparent process that involves no added morphemes by which adjectives become nouns. As argued above, if this is something any adjective can do productively and transparently (without any difference in meaning), it is not clear that we don’t just want to say that this is something that adjectives can do, without saying that they have become nouns. And if that something is that they can serve as heads of noun phrases, in the absence of a noun, we can avoid the apparent confusion of word class and grammatical function: they still have the same word class, that of adjective, but they are serving in a grammatical function normally associated with nouns, namely as heads of noun phrases.

Another sort of example that fits this hypothesis is provided by languages where some special morphology must be used on what is normally a modifier in a noun phrase without an apparent noun. For example, in Koyra Chiini, a noun phrase can appear with

an adjective but no noun, but when it does, it must appear with a prefix *i-*, which Heath calls an ‘absolute’ prefix, as in (41).

- (41) *i-jeeno* *di*
 ABSOL-old DEF
 ‘the old one’ (Heath 1999: 87)

One might treat this prefix as a derivational prefix deriving nouns from adjectives, but the process seems to be both productive and transparent, so it is not clear that anything is gained by analysing these words as nouns: rather, once again, this is simply one of the things that adjectives can do in this language. The function of the prefix would be to signal that an adjective is serving as the head of a noun phrase.

Despite these cases where this hypothesis has some plausibility, the problem remains of what it means to say that an adjective is serving as head of a noun phrase. And the problems presented by the Tidore example in (6) and the Miya example in (8a) in the preceding section are equally problems for any attempt to apply this hypothesis more generally.

4. Hypothesis IV: Determiners are the heads of noun phrases

The fourth hypothesis is that it is really articles or determiners that are the heads of noun phrases, not nouns (cf. Vennemann 1976, Abney 1987, Hudson 1990, Hewson 1991). (Note that I will continue to use the expression “noun phrase”, although under this hypothesis they are really article phrases or determiner phrases. Note also that while this hypothesis is most often formulated in terms of the term “determiner” rather than “article”, there are many languages where there is little motivation for a category of determiner distinct from articles.) There is little question that this approach would solve the problem presented by many of the examples, and that many of the examples could be construed as providing an argument that determiners are the heads of noun phrases. For example, if one claims that determiners are the heads of noun phrases in Spanish, then the possibility of having noun phrases consisting of a determiner plus adjective simply means that the determiner can combine with adjective phrases.

It is important to emphasize that the question of whether determiners are the heads of noun phrases is a question that must be answered separately for each language. There is a tendency in the literature to approach the question of whether determiners are heads with the apparent assumption that either determiners are heads crosslinguistically or they are not. For example, Van Langendonck (1994) offers a number of interesting arguments against the view that determiners are heads, but he seems to ignore the possibility that one might answer the question differently depending on the particular language. While his arguments present apparent problems for a claim that determiners are universally heads, his arguments do not really address the possibility of specific languages where the arguments for determiners being heads are more attractive.

There are languages for which the hypothesis that determiners are heads has little attraction: in languages lacking definite or indefinite articles, where most noun phrases do not contain a demonstrative or any word that one might analyse as a determiner, the hypothesis has little plausibility. Conversely, there are languages where the hypothesis is more attractive. In Tidore, illustrated in (6) above, the words that function as definite articles also serve as pronouns; thus the initial word in (6), which serves as a definite article in this example, also functions as a third plural pronoun, as in (42).

- (42) *ona jau gia*
 3PL hold hand
 ‘they hold hands’ (Van Staden 2000: 212)

Since the view that determiners are the heads of noun phrases also claims that what are traditionally called pronouns are really determiners, this view works well for languages like Tidore: the two uses of *ona* in (6) and (42) simply involve determiners with and without an accompanying modifier. In fact, Van Staden (2000) treats all instances of words like *ona* as pronouns, and treats examples like (6) as involving a pronoun modified by an adjective and a numeral.

Another class of languages which fit the hypothesis that determiners are the heads of noun phrases are ones for which articles are obligatory in noun phrases, but they freely combine with words other than nouns. The case of Cebuano discussed above is a clear instance of this. Since the one constant feature of these phrases in Cebuano is that they contain an article, the view that the article is the head of these phrases in Cebuano is an attractive one. Although I will suggest below that the issue of what is head is a pseudo-question, there is little question that if anything is the head in Cebuano, it is the article.

While the view that determiners are the heads of noun phrases solves the problem of noun phrases without nouns in some languages, it does not solve all the cases. First, even in Tidore, where third person pronouns function as definite articles, it is common to have noun phrases lacking an article. The numeral for ‘one’ can function as a kind of indefinite article in Tidore, but neither it nor the use of third person pronouns as definite markers is obligatory. Furthermore, although the numeral for ‘one’ in Tidore can have the meaning of indefinite article, it does not appear in the same position as the pronoun functioning as definite article: it follows a noun, while the pronoun functioning as definite article precedes the noun. There is thus little basis (apart from English translations) for positing a category of determiner in Tidore.

The view of determiner as head does not appear to provide a good solution to the problem presented by relative clauses appearing as noun phrases without a noun in Miya, as illustrated in (8a) above. If one analyses the relative pronoun as a determiner, then such examples would involve a determiner as head, but this is not well-motivated, and raises a question of how to analyse the relative pronoun when the relative clause is modifying a noun. Furthermore, the view of determiner as head does not work well overall for Miya: Miya does have both a definite and an indefinite article, but again they do not form a word class, occurring on opposite sides of the noun (Schuh 1998: 245, 277).

And while the view of articles as heads works well for noun phrases in Cebuano that consist of an article plus a clause, it works less well for similar noun phrases in Kutenai. For one thing, Kutenai has a definite article, but no indefinite article. Furthermore, the definite article is not obligatory; in fact, it is more common not to use it with plural or inanimate noun phrases. The examples in (43) illustrate noun phrases in Kutenai without articles.

- (43) a. *ɕatat-i* *?a.kɕamaʔ-s.*
 have-INDIC small.knife-OBV
 He has a small knife.
- b. *ɕikxuʔ-ni* *ʔuk-s.*
 split.in.two-INDIC wood-OBV
 He split the wood in two.

The high frequency of noun phrases without articles makes the view that the articles are heads in Kutenai relatively unattractive. And while one might fall back on the view that nouns are heads in Kutenai, this then leaves a puzzle about the noun phrases illustrated above in (32) which consist of an article plus a clause. Furthermore, along with noun phrases consisting of an article plus a clause are ones that consist of just a clause. Examples are found above in (23a) and (23c) as well as in (44); these examples are similar to the ones in (32) and (33), except that they do not have an article.

- (44) a. ʔat yunaqaʔ-ni $k=\text{a}kqafi$ ɬawiyat-s
 HABIT many-INDIC SUBORD=pick huckleberry-OBV
 ‘There were many who picked huckleberries’
 (Literally: ‘the ones that picked huckleberries were many’)
- b. $n=aqaʔ-ni$ ʔat $k=a\text{xu}$ ciya-ʔis
 INDIC=exist-INDIC HABIT SUBORD=carry y.brother-3POSS
 ‘There was *one who packed her younger brother on her back*.’

In (44a), for example, the subject of the sentence is $kakqafi \text{ɬawiyats}$ ‘those who picked huckleberries, but it simply consists of a subordinative proclitic $k=$ (which appears in all subordinate clauses in Kutenai) plus the verb $akqafi$ ‘pick’ plus the object of that verb ɬawiyats ‘huckleberries’. The absence of an article in these examples is related to the fact that both sentences are existential, and the subject is thus indefinite.

These are thus noun phrases that consist only of clauses, with neither a noun nor an article to serve as head. Superficially, they resemble complement clauses in English, which consist only of clauses and which appear in positions in which noun phrases occur. But as noted above, complement clauses are semantically different from canonical noun phrases in that they must have abstract denotations, denoting propositions or states of affairs. But the Kutenai clauses in (44) are like canonical noun phrases in that they denote concrete objects or people. Thus while complement clauses are lexically restricted to appear as arguments of verbs (or adjectives) whose semantics allows (or requires) a propositional argument, these clausal noun phrases in Kutenai are not so constrained and exhibit no restrictions that I am aware of on where they can occur.

In addition to the cases of Miya and Kutenai, a number of the constructions of noun phrases without nouns discussed early in the paper are not helped by the view that determiners are heads, including Nkore-Kiga in (1), Lucazi in (2), Northeast Ambae in (3), and Latin in (10). In short, while the view that determiners (or articles) are heads of what are traditionally called noun phrases would solve the problem presented by some instances of noun phrases without nouns, it leaves other cases unsolved.

5. Hypothesis V: Noun phrases with noun are headed, but noun phrases without nouns are headless

The fifth hypothesis for dealing with noun phrases without nouns is to analyse the phrases as headless. One occasionally finds this as a descriptive approach to such constructions. Under this view, noun phrases with nouns are headed, with the noun as head, but noun phrases without nouns are headless. Like the first and second hypotheses, it maintains that it is always nouns that are heads of noun phrases. Unlike the first hypothesis, the one involving ellipsis of a head noun, it has no problem with cases where there is no noun, other than some general noun meaning something like ‘thing’, that the speaker could have provided. Unlike the second hypothesis, it does not have to posit otherwise unmotivated processes converting nonnouns into nouns. The idea, however,

that noun phrases sometimes have heads and sometimes do not have heads is problematic under certain assumptions about heads. And what is the motivation for saying that nouns, when present, are heads but that no other words can serve as heads? What property is it that nouns have that other words in noun phrases lack that provides a reason for saying that they are heads but that no words in noun phrases without nouns are heads? One of the traditional features of heads is that they be obligatory; what is the motivation for analysing the noun as head if it is not obligatory?

6. Hypothesis VI: Noun phrases are always headless

The questions posed at the end of the preceding section lead to the final hypothesis I will consider, that noun phrases are always headless, that even in canonical noun phrases with a noun, the noun is not a head. Under this hypothesis, nouns are just one of the many types of words that occur in noun phrases. In some languages, there may be a requirement that noun phrases contain a noun (or a pronoun). In other languages, there will be no such requirement. It will probably be the case that in languages of the latter sort, the overwhelming majority of noun phrases in usage will contain a noun. And in the former sort of language, this high frequency of nouns in noun phrases will have become grammaticized as a requirement.

The high frequency of nouns in noun phrases has a natural pragmatic explanation. Noun phrases refer to particular things in the world. Speakers need to have a way to refer to things in a way that will make it easy for the hearer to understand what they are referring to. Nouns have a number of advantages as far as this task is concerned. First, it is better to refer to something in terms of a permanent property rather than a temporary property, since it is far more likely that the hearer will be aware of a permanent property than a temporary property. If I want to tell you that a dog that is running is scaring the children, I am more likely to do this by telling you that the dog is scaring the children than I am by telling you that the thing running is scaring the children, since you may not know that the dog is running, even if you do know that it is a dog.

Nouns also have advantages over other permanent properties for the purposes of referring in that they typically have richer meanings and are part of a classificatory system by which we classify things in the world. If I want to tell you that a dog that is black is scaring the children, I am more likely to succeed in this by telling you that the dog is scaring the children than by telling you that the black thing is scaring the children. In other words, you are more likely to realize what I am referring to if I refer to it as *the dog* than if I refer to it as *the black thing*. This probably also reflects the fact that the kinds that nouns denote play a more important role in memory. For example, I am more likely to remember that you have a dog, but not be able to remember what colour it is, than I am to remember that you have a black pet, but not remember what kind of animal it is.

The fact that nouns are so useful for referring to things means that even in languages that permit noun phrases without nouns, such noun phrases are likely to be used in only two situations: first, when the speaker does not know what kind of thing the thing that they are referring to is; and second, when the kind will be so obvious to the hearer that it can be left out. The latter situations are ones where ellipsis is a plausible hypothesis. The former situations are the ones that are more central to this paper, since it is in these situations where it becomes clear that nouns are not essential to noun phrases. In any other situation, the speaker will generally use a noun.

What this means is even in languages in which nouns are obligatory in noun phrases, we can explain this grammatical constraint without appealing to the notion of

head. It is common for patterns with a high degree of frequency to become grammaticized in a language, so that only the high frequency pattern is grammatical, while in another language the low frequency pattern will still be grammatical but simply infrequent. In some languages, it will only be possible to leave out the noun if it is clear in the context. In other words, for some languages, the ellipsis hypothesis may be the best way to analyse noun phrases without nouns, so that in such languages, the noun will, in a sense, be obligatory in noun phrases. But again, the high frequency of nouns in noun phrases will explain why the language has such a rule, without any need to appeal to a notion of head.

It is worth asking what motivation there is for positing a notion of head, not only for noun phrases, but also for other phrasal categories as well. To understand the issues, consider two grammatical descriptions of a language, one which posits phrasal categories with heads and one that posits phrasal categories without reference to a notion of head. In the former grammatical description, one will stipulate certain elements as heads, and the theory may specify properties of heads so that it is not necessary to spell out the specific properties of the individual heads of the different sorts of phrases. In the latter grammatical description, it will not be necessary to stipulate which elements are heads, but it will be necessary to spell out the properties for each category that is a head under the former approach, repeating properties that are shared.

The fact that the latter grammatical description must spell out similar properties for different categories of what are heads under the former description is traditionally taken as an argument against such an approach. However, it is important to distinguish cases involving generalizations over a large number of items from generalizations over a small number of items. In cases of generalizations over a large number of items, such as pluralization of nouns, the claim that such a generalization is part of a speaker's grammatical knowledge makes the prediction that the speaker will produce plurals of nouns even when they have never heard that particular noun pluralized. In cases of generalizations over a small number of items, the claim is that knowing properties of some phrasal categories will lead to speakers assuming that other phrasal categories have the same properties. But unlike the case of pluralization of nouns, there is no evidence that speakers do this, and there are reasons to doubt that they do. For one thing, the number of positive cases they would have to know in order to know the pattern is sufficiently small that it is doubtful that they would draw the generalization in the first place. For another, speakers learn the properties of individual phrasal categories at the same time. It is not likely that they know the properties of clauses and the properties of noun phrases but not the properties of adjective phrases and thus extend the properties they have learned of clauses and noun phrases to adjective phrases. More likely, by the time they know the properties of clauses and noun phrases, they pretty well know the properties of adjective phrases as well. And thirdly, it is not clear that the properties shared across different phrasal categories are sufficiently similar that they will outnumber the differences enough to cause speakers to detect the patterns of similarity. The fact that noun phrases in many languages can occur without nouns while clauses may require verbs (or predicates) and adjective phrases may require adjectives is just one example of differences across phrasal categories. The fact that noun phrases in many languages also require determiners, at least in certain situations, may have no parallel at the level of clause or adjective phrase. And languages without copula verbs will not require a verb at the clause level, where the predicate is some nonverbal element like a noun. In short, given that speakers must learn the idiosyncratic differences among different sorts of phrasal categories, what reason is there to believe that amongst all this complexity, they detect similarities that lead them to posit heads across categories? It does not follow from the fact that linguists can find generalizations across categories that speakers do as well (cf. Derwing 1973).

Is there any crosslinguistic evidence for parallels across different phrasal categories? There are a couple of phenomena that might be thought to provide evidence of such. One is word order. It is popular to speak of “head-final” and “head-initial” languages. Implicit in this terminology is the assumption that languages tend to place heads in the same position within their phrasal categories. If this is true, then we have evidence of cross-categorial generalizations. However, as I have shown elsewhere (Dryer 1992), there is no crosslinguistic tendency to place heads in the same position within phrasal categories. What I have shown is that only a subset of dependents tend to order themselves with respect to their heads and that some pairs of elements which tend to correlate in their order do not (or may not) involve consistent ordering of heads and dependents. I propose that the correlations involve consistent ordering of categories involving single words with respect to categories involving more than one word, so that languages tend to be left-branching or right-branching. This line of explanation, like explanations offered by Hawkins (1994) that are similar in spirit but much more detailed, does not require reference to a notion of head. (In fact, Hawkins (1993) specifically raises questions about the need for heads.)

Another sort of phenomenon that might be relevant is the contrast of head-marking languages and dependent-marking languages (Nichols 1986). If it is the case that languages tend to be consistently head-marking or consistently dependent-marking, then this too would provide evidence of cross-categorial generalizations. But there is little evidence for any such tendency (cf. Cysouw 2002). And even if it turns out that a language that is head-marking at the clause level is more likely to be head-marking at the noun phrase level, we could account for this without reference to the notion of head. Suppose there is such a tendency. How might we explain it? Most instances of head-marking involve pronominal affixes, as in (45) from Lillooet (Van Eijk 1997), a Salishan language of western Canada.

- (45) a. tmíx^W-kał
land-1PL.POSS
‘our land’
- b. cút-kał
say-1PL.SUBJ
‘we said something’

If it is the case that languages that are head-marking at the clause-level are more likely to be head-marking at the noun phrase level, there are two generalizations that might provide evidence for a notion of head. One is the fact that a pattern in one phrasal category increases the likelihood of an analogous pattern in another phrasal category. The other is that it is specifically putative heads that these affixes are claimed to attach to. But the former of these does not really provide any evidence for heads. What it shows is parallel behaviour of pronominal morphemes: if they are affixes (rather than separate words) in one category then they are more likely to be affixes in another category; but this does not require any reference to heads.

But what of the fact that it is specifically verbs and nouns that these affixes attach to? Is this not evidence for a cross-categorial notion of head? To answer this, we must ask the question of why pronominal affixes at the clause level attach to verbs rather than to something else. In fact, in some languages, they do attach to something else. For example, in (46) from Chemehuevi (Press 1980), a Uto-Aztecan language of the western United States, the pronominal morphemes are second-position clitics that attach to the first word in the sentence.

- (46) puusi-a=n maga-vi
 cat-OBJ=1SG.SUBJ give-PAST
 'I gave a cat.'

The fact that pronominal morphemes at the clause level often reduce, either as affixes to verbs or as clitics, presumably reflects the tendency of high-frequency elements to be phonologically weak. Their tendency to attach to verbs probably reflects the fact that, apart from clauses with nonverbal predicates in languages lacking copula verbs, the verb is the one element in the clause that is obligatory, and because it is obligatory, there will often be simple sentences consisting of just a verb and pronominal expressions of the arguments, but no other sort of simple sentence consisting of something other than a verb plus pronominal morphemes. Note that the explanation here does not make any reference to the notion of head: it makes reference to the notion of obligatoriness, but not to the notion of head per se.

What about at the noun phrase level? Why do pronominal possessive morphemes attach to nouns rather than to other classes of words? They sometimes attach to other classes of words (cf. (4) above from Misantla Totonac), but this is fairly rare. But the pragmatic fact that most noun phrases contain nouns and that the simplest noun phrases contain just a noun (or a pronoun) means that most noun phrases containing a pronominal possessive morpheme will also include a noun and in many of these, the only other word will be a noun. Thus, if through time, pronominal possessive morphemes become reduced and attach to some other word, it will generally be nouns that they must attach to.

It is important to emphasize that this line of explanation for why pronominal morphemes at the clause level tend to attach to verbs while those at the noun phrase level tend to attach to nouns does not involve any reference to the notion of head. It does make reference to the idea that verbs are the most frequent element in short clauses and that nouns are the most frequent element in short noun phrases, but it does not make any reference to the notion of head. It furthermore does not even require that speakers' grammatical knowledge involve a notion of "most frequent element" in different phrasal categories. All that the explanation requires is that they be more frequent in usage, and this guides the diachronic changes in the grammar, but the parallels across different categories need not be in the grammar itself.

Even if we do not recognize nouns as having a special status as heads in noun phrases, it does not follow that the sixth hypothesis, the one whereby all noun phrases are headless, is the correct hypothesis for all cases. Some of the other hypotheses (such as the ellipsis hypothesis and the hypothesis that apparent adjectives are really nouns) may be correct analyses for individual cases. Some of the other hypotheses (such as the hypothesis that determiners are heads) become irrelevant if there are no heads, although the grammar of Cebuano will treat articles as the one obligatory element in noun phrases in that language.

There is an extensive literature on the notion of 'head', and there are a wide variety of approaches that have seen the notion of 'head' as a central grammatical notion, from various sorts of dependency grammar to X-bar syntax to Head-Driven Phrase Structure Grammar to Nichols' (1986) notion of head-marking (as opposed to dependent-marking) languages. But most of this literature assumes that the notion of head is relevant to linguistic theory and this assumption is rarely questioned (though see Hawkins 1993, Croft 2001). There is also literature raising the question of what is the head of noun phrases, the noun or the determiner (Vennemann 1976, Abney 1987, Hudson 1990, Hewson 1991, Van Langendonck). In fact, the conflicting evidence in many languages as to which is the head of noun phrases could be construed as an argument against either being head. If the

notion of 'head' has a place in linguistic theory, then wouldn't we expect the distribution of head properties to be clearer? It is not clear what argument there is against the view that speakers don't just learn the structure of different sorts of phrases without attempting to identify one element in the phrase as head.

Bibliography

- Abney, Stephen Paul. 1987. *The English Noun Phrase in its Sentential Aspect*. Unpublished MIT dissertation.
- Couro, Ted, and Margaret Langdon. 1975. *Let's Talk 'Iipay Aa: An Introduction to the Mesa Grande Diegueno Language*. Ramona, California: Ballena Press.
- Corbett, Greville G., Norman M. Fraser, and Scott McGlashan, eds. 1993. *Heads in Grammatical Theory*. Cambridge: Cambridge University Press.
- Croft, William. 2001. *Radical Construction Grammar: Syntactic Theory in Typological Perspective*. Oxford University Press.
- Cysouw, Michael. 2002. Interpreting typological clusters. *Linguistic Typology* 6: 69-93.
- Derwing, Bruce L. 1973. *Transformational Grammar as a Theory of Language Acquisition*. Cambridge: Cambridge University Press.
- Dryer, Matthew S. 1992. The Greenbergian word order correlations. *Language* 68: 81-138.
- Dryer, Matthew S. 1994. The discourse function of the Kutenai inverse. In T. Givón, ed., *Voice and Inversion*, pp. 65-99. Amsterdam: John Benjamins.
- Dryer, Matthew S. 1998. Obviation across clause boundaries in Kutenai. In John Kytte, Hangyoo Khym, and Supath Kookiattikoon, eds., *Studies in Native American Linguistics IX, Kansas Working Papers in Linguistics* 22: 2: 33-51.
- Fleisch, Axel. 2000. *Lucazi grammar: a morphosemantic analysis*. Koln: Rudiger Koppe.
- Hawkins, John A. 1993. Heads, parsing and word-order universals. In Greville G. Corbett, Norman M. Fraser, and Scott McGlashan, eds., *Heads in Grammatical Theory*, pp. 231-265. Cambridge: Cambridge University Press.
- Hawkins, John A. 1994. *A Performance Theory of Order and Constituency*. Cambridge: Cambridge University Press.
- Heath, Jeffrey. 1999. *A Grammar of Koyra Chiini : the Songhay of Timbuktu*. Berlin: Mouton de Gruyter.
- Hewson, John. 1991. Determiners as heads. *Cognitive Linguistics* 2: 317-337.
- Hudson, Richard. 1990. *English Word Grammar*. Oxford: Blackwell.

- Hyslop, Catriona. 2001. *The Lolovoli Dialect of the North-East Ambae Language, Vanuatu*. Pacific Linguistics 515. Canberra: Australian National University.
- Mackay, Carolyn Joyce. 1999. *A Grammar of Misanla Totonac*. Salt Lake City: University of Utah Press.
- McGregor, William. 1990. *A Functional Grammar of Gooniyandi*. Amsterdam: John Benjamins.
- Nichols, Johanna. 1986. Head marking and dependent marking grammar. *Language* 62: 56-119.
- Press, Margaret L. 1980. *Chemehuevi*. Berkeley: University of California Press.
- Sampson, Geoffrey. 1975. The single mother condition. *Journal of Linguistics* 11: 1-11.
- Schuh, Russell G. 1998. *A Grammar of Miya*. University of California Publications in Linguistics, Vol. 130. Berkeley: University of California Press.
- Taylor, C. 1985. *Nkore-Kiga*. Croom Helm Descriptive Grammars. Dover, New Hampshire: Croom Helm.
- Van Eijk, Jan. 1997. *The Lillooet Language*. Vancouver: University of British Columbia Press.
- Van Langendonck, Willy. 1994. Determiners as heads? *Cognitive Linguistics* 5: 243-259.
- Van Staden, Miriam. 2000. *Tidore: A Linguistic Description of a Language of the North Moluccas*. Leiden: University of Leiden Ph.D. Thesis.
- Vennemann, Theo. 1976. Categorical grammar and the order of meaningful elements. In Alphonse Juillard, ed., *Linguistic Studies Offered to Joseph Greenberg on the Occasion of His Sixtieth Birthday*, pp. 615-634. Saratoga, California: Anma Libri.