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RESEARCH

Possession and nominalization in Dan: Evidence for a general theory of categories

Mark C. Baker[1] and Bleu Gildas Gondo[2]

[1] Rutgers University, New Brunswick, NJ, US

[2] Felix Houphouët Boigny University, Abidjan, CI

Corresponding author: Mark C. Baker (mabaker@linguisitics.rutgers.edu)

Dan, a Mandean language of the Ivory Coast, marks the alienable possessors of simple nonrelational nouns differently from the inalienable possessors of relational nouns: only the former occur with the particle *ɓa*. This difference also shows up in nominalizations. When a verb is nominalized, its theme argument is expressed like the possessor of a relational noun, without *ɓa*, whereas when an adjective is nominalized, its theme argument is expressed like the possessor of a nonrelational noun, with *ɓa*. We show that this generalization holds for both a low type of nominalization, in which the nominalizer combines directly with the root before that root combines with any arguments, and for a high type of nominalization, in which the nominalizer combines with a larger phrase. We account for this difference between deverbal nominalization and deadjectival nominalization using Baker's (2003) theory of the lexical categories, according to which verbs intrinsically combine directly with a theme argument, whereas adjectives do not, but only become predicates of a theme argument with the help of a functional head Pred. This theory also accounts for the fact that denominal nouns like 'childhood' pattern with deadjectival nominalizations in this respect. This study thus provides new empirical support for Baker's theory of lexical categories, as opposed to theories which assume a stronger parallelism across the various lexical categories.

Keywords: possession; nominalization; inalienable possession; adjectives; Dan language; lexical categories; parts of speech

1 Introduction

Dan is a Niger-Congo language of the Mandean group, spoken in Eastern Ivory Coast; see Gondo (2016) for the first extended study of the Man dialect, which we investigate here. One notable syntactic feature of this language is that its nominal syntax clearly distinguishes between intrinsically relational nouns and nonrelational nouns when it comes to the expression of possession. Possession with relational nouns—often called *inalienable* possession, although the class is a bit broader than that term suggests—is expressed simply by juxtaposing the possessor DP with the possessed noun, using the order possessor-noun. No connecting particle comes between them (Gondo 2016: 135–136, 202–203). This construction is used for canonical body parts and kin terms, as in (1), as well as other relational concepts.[1]

(1) a. Zɔ̀tá̋ gɔ̀
Zota head
'Zota's head'

[1] The Dan data in this work all comes from the knowledge and judgments of the second author, a native-speaker linguist who has researched the language for years.

b. Zɔ̀tā̋ gbɤ̋
Zota son
'Zota's son'

Other, not intrinsically relational nouns can be possessed too—*alienable* possession—but the grammatical pattern is different. With these nouns, the possessor must be connected to the possessed noun by the possessive particle *ɓa*, which gets its tone by spreading from the last tone of the possessor (Gondo 2016: 136–138, 201–202).[2] This is illustrated in (2).

(2) a. Zɔ̀tā̋ ɓā̋ nʌ́
Zota POSS child
'Zota's child'

b. Zɔ̀tā̋ ɓā̋ já̋
Zota POSS yam
'Zota's yam'

Although it is not rare for a language to distinguish alienable and inalienable possession in some way or another, Dan is rather different from English and the other well-studied Western European languages in this respect. For example, in English *Chris's head* and *Chris's yam* look to be parallel.

Like many other languages, Dan has derived nominal constructions as well as basic nominal constructions. For example, verbs can be productively nominalized by the morpheme *-su* to get event or fact denoting expressions (Gondo 2016: 211–212). This is possible both with intransitive (unaccusative) verbs, as in (3), and with transitive verbs, as in (4).

(3) a. Klà nū-sūɯ̀ è sʌ̄.
Kla come-NMLZ 3.SG.PRS good
'Kla's coming is good.'

b. tɤ̄ɤ̄ pɤ̀-sùɯ̀ è já.
basket fall-NMLZ 3.SG.PRS bad
'The basket's falling was bad.'

c. Mű́sɔ̀ gā-sūɯ̀ è já.
Muso die-NMLZ 3.SG.PRS bad
'Muso's dying is bad.'

d. Zɔ̀tā̋ ɗó-súɯ́ è sʌ̄.
Zota go-NMLZ 3.SG.PRS good
'Zota's departure is good.'

(4) a. Klà zʌ̄-sūɯ̀ è já.
Kla kill-NMLZ 3.SG.PRS bad
'Killing Kla is bad.'

b. (Klà ɓà) ɓā̋ā̋ ɓɤ̀-sùɯ̀ è sʌ̄.
Kla POSS rice eat-NMLZ 3.SG.PRS good
'(Kla's) eating rice is good.'

c. Klà ɓà nʌ́ kṵ̀-súɯ́ è já.
Kla POSS child catch-NMLZ 3.SG.PRS bad
'Kla's catching the child is bad.'

[2] Dan also has demonstratives that are segmentally *ɓa*, but these have fixed tones of high or superhigh, whereas the POSS head receives tone from its specifier via tone spreading.

d. vǐ dɔ̄-sʊ̄ʊ̀ è sʌ̄.
fish buy-NMLZ 3.SG.PRS good
'Buying fish is good.'

Adjectives can also be nominalized productively, although a different morpheme *-dɛ* is used (Gondo 2016: 214–215). The result is a state, fact, or degree denoting expression, as seen in (5).

(5) a. Műsɔ̀ ɓà zɔ̄ɔ̄zɔ̄ɔ̀-dɛ̀ è gbǐ.
Muso POSS foolish-NMLZ 3.SG.PRS big
'Muso's foolishness is great.'

b. mā pűű-dɛ̋ è gbǐ. (mā = ŋ̄ + ɓa)
I.POSS white-NMLZ 3.SG.PRS big
'My whiteness is much.' (i.e., 'I am very white.')

c. mā zīī-dɛ̄ è já.
I. POSS old-NMLZ 3.SG.PRS bad
'My oldness is bad.'

d. ɓɛ́ɛ́ ɓá̋ kpɛ́ɛ́-dɛ́ è sʌ̄.
shirt POSS dry-NMLZ 3.SG.PRS good
'The dryness of the shirt is good.'

There is, however, a clear structural difference between deverbal nominalizations and deadjectival nominalizations in Dan, which can be observed in Gondo's (2016) examples, although he does not emphasize it. The theme argument of a deverbal nominalization like those in (3) and (4) is grammatically unmarked, like the possessors of the relational nouns in (1). In contrast, the theme argument of an adjectival nominalization like those in (5) must be marked by the possessive particle *ɓa*, like the possessors of the nonrelational nouns in (2). This grammatical difference is not expected from the point of view of English and other familiar European languages, where the arguments of a deverbal nominal and a deadjectival nominal are marked in the same ways, as shown in (6).

(6) a. John's arrival, the arrival of John
b. the city's destruction, the destruction of the city
c. Mary's foolishness, the foolishness of Mary

This is not particularly surprising, in that we already know that English is impoverished relative to Dan in not clearly distinguishing different types of possession; therefore, it has fewer opportunities to show a difference between deverbal nominalizations and deadjectival nominalizations. Dan does distinguish the different possessor types, and it is interesting that different types of nominalization behave differently in this respect.

The primary question to be considered in this article, then, is why are the themes of deverbal nominalizations treated as inalienable possessors, whereas the themes of adjectival nominalizations are treated as alienable possessors. We claim that this is not an arbitrary choice, but can be explained in terms of the theory of lexical categories in Baker (2003) (and similar approaches), according to which theme arguments are direct arguments of verbs, but they are only indirect arguments of adjectives.

The article is structured as follows. First we sketch a very simple account of possessed nominals in Dan (section 2). Then we discuss the basic distinguishing properties of nouns, verbs, and adjectives in Dan (section 3), and use these to support the claim that *-suu* and *-dɛ* are both category changing nominalizers (section 4). In the course of doing this, we

also distinguish our constructions of interest from some others that use homophonous affixes. Section 5 introduces Baker's (2003) theory of the differences among the lexical categories, which is the basis of our analysis. Section 6 presents the heart of the analysis, showing that the fundamental difference in how nouns, verbs, and adjectives relate to theme arguments can readily translate into an explanation of the asymmetry observed in Dan. Indeed, this holds true regardless of whether what is nominalized is only the lexical root itself or a larger phrase headed by that root. Section 7 uses morpheme order to argue that in fact deverbal nominalization can be either root nominalization or phrase nominalization in Dan, whereas deadjectival nominalization seems to be only root nominalizations. Section 8 offers some conclusions and general discussion, briefly contrasting deadjectival nominalizations in Dan with those that are known from some Indo-European languages.

2 Possession in Dan

First, we discuss basic possession in Dan a bit more, sketching a simple theory of the two types shown in (1) and (2). This provides a baseline for our understanding of derived nominalizations.

We follow the classic generative treatments of Vergnaud and Zubizarreta (1992) and Barker (1995) by assuming that the fundamental difference is simply that relational nouns like body part nouns and kinship terms take an internal argument directly, whereas nonrelational nouns do not; see also Alexiadou (2003) for more recent discussion and some additional references.[3] There is no standard label for the thematic role that a relational noun assigns to its argument, so we just call it X. The argument structures of selected nouns in Dan then look something like this:

(7) a. *gɔ̀* 'head' <X>, *gbɤ́* 'son' <X>, …
b. *nʌ́* 'child' < >, *jã́* 'yam' < >, ….

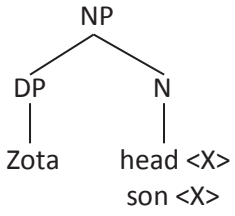
Other nouns in the relational class besides obvious kin terms and body parts include *wɛ̃̀ɛ̃̀* 'place where one usually sits', *tɛ́ɛ́dō* 'friend', *jàjóó* 'neighbor', *gɔ̀mɛ̀* 'boss' (literally 'head-man'), *ɓɛ̄* 'fruit' (of a tree), *gā* 'seed' (of a tree), *slɔ́ŋ̀* 'injury', *níí* 'life' and *slɔ̀ɔ̀-pʌ̀* 'wages, earnings'. Most or all of these are naturally relational. For example, *gbɤ́* 'son' and *nʌ́* 'child' are a near minimal pair. We might often use "X's son" and "X's (male) child" almost interchangeably, but 'son' is an intrinsically relational concept, whereas 'child' is not intrinsically relational—it applies to humans in a certain age range, regardless of their relationships. Similarly, at first it seems peculiar that 'wife' and 'husband' are treated as nonrelational nouns (*Klà ɓà dɛ̄ɓɔ̄* 'Kla POSS wife', *Zɔ̀tã́ ɓã́ gɔ̄* 'Zota POSS husband). One can start to tell a story based on spousehood being a derived kinship relation, not an intrinsic one, which does not hold across one's whole lifespan. But *ɓá* 'in-law' takes an unmarked possessor (*Klà ɓá*, 'Kla's in-law'), and that is presumably as much a derived relation as 'wife' is. More to the point is the fact that *dɛ̄ɓɔ̄* actually means 'woman, female' and *gɔ̄* is 'man, male'; like 'child' these are not intrinsically relational, even though they are often used to refer to a spouse. Even so, the exact borderline between the relational class and the nonrelational class seems to be somewhat lexically idiosyncratic. For example, *ŋ̄ slɔ́ŋ̀* 'my injury'(female) follows the relational pattern, whereas *m̄-ɓā jwã́* 'my disease' follows the nonrelational pattern. This situation is not significantly different from what we see with the argument structures of verbs and their relationship to the intrinsic lexical semantics of a verb: the argument structure is largely predictable from the verb's lexical semantics, but not always entirely so, at least to the extent that we know how to independently assess a verb's lexical semantics. It is similar for the distinction between the two classes of nouns

[3] We thank an anonymous reviewer for pointing out this work to us.

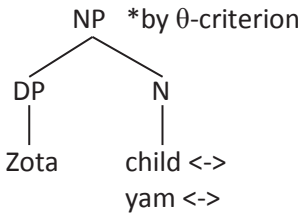
in Dan. Here we use the term *inalienable possession* for the construction in (1) involving a relational noun, and *alienable possession* for the construction in (2) involving a nonrelational noun, as is common in the generative literature, but it should be kept in mind that the relational/nonrelational distinction is a bit broader and conceptually more fundamental than the alienable/inalienable distinction.

Moving from argument structure to syntax, we derive simple nominal structures like those in (8). A relational noun can combine with a DP to form an NP, assigning that DP a thematic role, as in (8a). In contrast, if a nonrelational noun is merged directly with a DP, that DP will not receive a thematic role, so (8b) is ruled out by the Theta Criterion.

(8) a.



b.



Note that we assume that the inalienable possessor of a noun is the complement of the noun, not its specifier (see Alexiadou 2003). This is in accordance with Chomsky's (1995) bare phrase structure theory, given that there is nothing else that obviously merges with the noun before the possessor does. It is also consistent with Baker's (2003) category theory, according to which nouns can take complements but not specifiers, by definition (see section 5 below). It also fits with what is known about word order in Dan, which, like other Mandean languages (cf. Koopman 1992 on Bambara), has interesting mixed word order properties. Theta-role assigning lexical heads like verbs and Ps take NP/DP arguments to the left, whereas core verbal functional heads like C and T/Aux take complements to their right. Relational nouns presumably form a natural class with the former. However, we do not take a stand here on the nature of this mixed word order in Mandean languages. It is possible that some movement process preposes the DP possessor in (8a) (and also the objects of Vs and Ps), as would be the case in Kayne's (1994) Antisymmetry theory, but if so, we abstract away from that movement here.

Nonrelational nouns cannot merge directly with a DP, but they can have a possessor if the particle *ɓa* is present. We assume that this is a Poss head (perhaps a subtype of D) which takes an NP complement (the possessum) and a DP specifier (the possessor), to which it assigns an intrinsic possession thematic role $<\pi>$ (cf. Barker 1995: Chapter 2; Alexiadou 2003)—just as *'s* (or a null D head) does in English. This is stated in (9).[4]

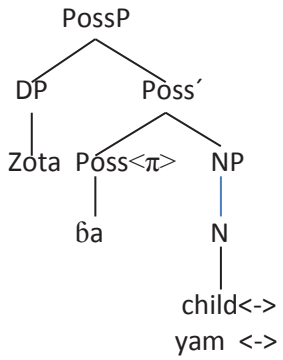
(9) *ɓa* Poss (D), Subcategorization [_NP], argument structure $<\pi>$

Therefore, the structure in (10) is well-formed, in contrast with (8b), since the possessor DP is theta-marked by *ɓa* (not by N). Note also that the word order properties of *ɓa* in Dan nominals are analogous to those of T/Aux, the core functional head in clauses in Dan (see, for

[4] It is not clear to us whether the NP complement of Poss should count as an argument of Poss or not, in the technical sense of the Theta Criterion. If it does, one could attribute a second theta-role to the Poss head, which it assigns to its NP complement.

example, (13) below). The possessor comes before *ɓa* just as the subject comes before T/Aux, and the possessum complement of *ɓa* follows it just as the VP complement of T follows T. This then is in accord with the widespread intuition that the possessor of a nonrelational noun is syntactically parallel to the subject of a clause (again, see Alexiadou 2003, among others).

(10)

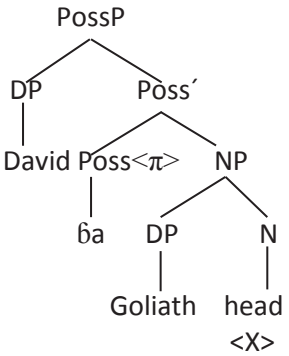


This gives us the core structures in (1) and (2), along with a reason why *ɓa* is needed with one class of nouns but not the other. Our proposal is essentially (a slight simplification/clarification of) Alexiadou's (2003), and we take it to be not particularly novel or controversial.

One other structure that is possible given these assumptions is one in which *ɓa* takes as its complement an NP headed by a relational noun. Formally, the thematic and selectional requirements of the heads are satisfied, and indeed the structure is possible in a case like (11). In effect, the same noun has both an inalienable and an alienable possessor.[5]

(11) a. Dàvīīdʌ̀ ɓà gúlìàtʌ̀ gɔ̀
David POSS Goliath head
'David's head of Goliath'
(David carries around the head severed from Goliath's body)

b.



[5] It is also possible for a noun like 'head' to have an alienable possessor without any overt inalienable possessor in the right context; for example, *David ɓà gɔ̀* is possible in a situation in which David is parading around with the severed head of his enemy. This is not surprising, given that body parts and kin terms do not in general require an overt possessor in Dan. Hence, examples like (i) are possible.

(i) a. gbjɤ́ (gbā) è klɤ̃ɤ̃.
arm (all) 3.SG.PRS short
'The arm/all the arms is/are short.'

b. Klà jā wlɤ̃ nấ tấ.
Kla 3.SG.PST fly grandmother over
'Kla flew over the grandmother.'

We leave open whether the argument of relational nouns is formally optional, or whether some kind of null DP complement is present in these cases. See also note 19 for the same issue arising with nominalizations of unaccusative verbs.

As a final detail, we observe that there is evidently no case theory problem with having two possessor DPs inside a nominal like (11). One can take various views about this: either the Case filter does not apply at all in Dan (cf. Diercks 2012 on some Bantu languages), or both N and Poss are case assigners in Dan, or any DP can get case by default in Dan. For our purposes in this article, any of these views will do, and we do not concern ourselves with case assignment in Dan nominals here.[6]

3 Lexical categories in Dan

Our main goal is to compare the arguments of nominalizations with these basic possessor constructions in Dan. But before discussing category-changing nominalization constructions, it behooves us to consider briefly the basic lexical categories of noun, verb, and adjective in Dan. Gondo (2016) assumes that this three-way distinction exists and is relatively unproblematic. We assume that too, and briefly discuss why.

A very traditional, indeed ancient approach to the lexical categories (parts of speech) is that nouns and the phrases that they head are natural referring expressions, hence suitable for being subjects of predication, verbs and the phrases they head are natural predicates, and adjectives are natural modifiers—in particular, modifiers of nouns. (The question of whether adjective and adverbs—the modifiers of verbs—are distinct categories need not concern us here.) This traditional view has been defended and developed in a variety of modern theories, including that of Croft (1991), in a functionalist version, and Baker (2003), in a formal/generative version. This is not to say that it is impossible for these lexical categories to be used in other grammatical functions, but it generally takes more morphosyntactic support for a given category to be used in something other than its natural function. For example, nouns and adjectives can be used as predicates in most languages, but they often need the help of some copular item (not necessarily overt) to do so, whereas that copular item is often not needed with verbs. Similarly, nouns can be used as subjects directly, whereas verbs and adjectives either cannot be used as subjects or they need the help of some determiner/article in order to do so (cf. English: **(The) poor often resent their lot in life*). Finally, adjectives can modify nouns directly, whereas verbs only do so by appearing in a relative clause and nouns may need genitive-like functional support (e.g. *a smart man* vs. *a man of intelligence*, **an intelligence man*).

This familiar situation also holds in Dan, for the most part. Consider first the ability to function as a subject. Canonical nouns can of course do this, but verbs and adjectives cannot systematically play this role, as seen in (12).

(12) a. nʌ́ ɛ̀ sʌ̄.
child 3.SG.PRS good
'The child is good.'

b. *ɗó ɛ̀ sʌ̄.
go 3.SG.PRS good
(lit. 'Go is good.')

c. *zɔ̄ɔ̄zɔ̄ɔ̄ è já.
foolish 3.SG.PRS bad
(lit. 'Foolish is bad.')

[6] Note that not even pronouns that are complements to nouns show a special case form (e.g., "genitive") in Dan. Apart from the possibility of weak nominative pronouns that fuse with the tense auxiliaries, Dan has a single set of pronouns, which are used as complements of Vs, Ps, Ns, and specifiers of PossP, as well as for focused subjects. One consequence of this is that one cannot tell by inspection whether the complement of a deverbal nominalization is accusative or genitive—i.e., whether the constructions in (4) are more like gerunds or derived nominals in this respect.

One caveat here is that some verbs can also be used as nouns as a result of zero conversion. For example, the verb *gā* 'to die' can (with the right tone) also be used as a noun meaning 'death' or 'bone', so *gā è já* is possible, meaning 'Death is bad' or 'The bone is bad.' But this is idiosyncratic, not a general property of verbs in Dan. For example, 'die', 'walk' and 'vomit' have zero-derived nouns in Dan, but 'go', 'eat', 'see', 'pound' and 'wash' do not. It is also true in English that some verbs are homophonous with zero-derived nouns (including *walk* and *vomit*), whereas others are not. This is not usually taken to undermine the noun-verb distinction in English (although it has influenced the development of some theories, like that of Borer 2005); we assume that the same is true in Dan.

Next consider the possibility of using a word to modify a noun directly. Canonical adjectives like 'foolish' can do this in Dan, but canonical verbs like 'fall' and canonical nouns like 'dirt' cannot. This is seen in (13).

(13) a. mɛ̄ zɔ̄ɔ̄zɔ̀ɔ̀ jà gā.
person foolish 3.SG.PST die
'The foolish person died.'

b. *nʌ́ pɤ̀ jà gā.
child fall 3.SG.PST die
(lit. 'The fall child died.')

c. *nʌ́ dìì jà gā.
child dirt 3.SG.PST die
(lit. 'The dirt child died.')

(OK is: nʌ́ dìì-sʊ̀ jà gā.)
child dirt-ADJ 3.SG.PST die
'The dirty child died.'

Rather a verb can only modify a noun if it is connected to it by the relativizing particle *ɤ́*, as in *nʌ́ ɤ́ pɤ̀ jà gā* (child REL fall PST die) 'The child who fell died.' No such relativizing particle is needed with an attributive adjective. Similarly, a noun can only modify another noun if it is converted into an adjective by the adjectivizing suffix *-sʊ̀*, as in the alternative form of (13c). Here too, the category system of Dan is quite comparable to that of English and related languages. Nor is there any significant amount of zero-derivation of adjectives to muddy the picture here (but see note 9 for one example).

The third factor to consider within this view of the lexical categories is which words can be used as the primary predicate of a clause. Here we do find a complication: in slow/careful/formal speech in Dan, nouns and adjectives used as predicates are preceded by a particle like *ɛ̀* (third singular present tense form) which marks tense and the person-number of the subject, as in (14b, c). The modest surprise is that verbs are preceded by the same particle under the same conditions, as seen in (14a).

(14) a. nʌ́ ɛ̀ gà̀.
child 3.SG.PRS die
'The child dies."

b. Mʊ́sɔ̀ ɛ̀ zɔ̄ɔ̄zɔ̀ɔ̀.
Muso 3.SG.PRS foolish
'Muso is foolish.'

c. Klà ɛ̀ nʌ́ ká.
Kla 3.SG.PRS child with
'Kla is a child.'

This tense-and-agreement particle is optional, and can be deleted with verbs, so (15a) is possible alongside (14a). However, the same particle is also optional before adjectival and nominal predicates, as seen in (15b, c).

(15) a. nʌ́ gɑ̀.
child die
'The child dies.'

b. Mű́sɔ̀ zɔ̄ɔ̄zɔ̄ɔ̀.
Muso foolish
'Muso is foolish.'

c. Klà nʌ́ ká.
Kla child with
'Kla is a child.'

So no clear difference between verbs, nouns, and adjectives is seen in this environment in Dan, where we might have expected one. However, this pattern is not too surprising from the perspective of generative theory. The syntax of English and other languages is often taken to include a special functional head Tense that acts as the head of the finite clause. This Tense head hosts the subject in its specifier, and agrees with that subject, while taking the (greater) verb phrase as its complement. Tense usually combines with the verb morphologically in English, but phenomena like *do*-support with negation and subject-auxiliary inversion show that it is a separate item in the syntax. The syntactic part of this standard analysis is appropriate for Dan too, but T and the verb are not brought together in Dan by affix lowering, verb raising, or the equivalent. The existence of (14a) in Dan is, then, not too surprising. With this in mind, (14b, c) and (15b, c) then suggest that Dan does not have an overt copula distinct from T. That is not especially surprising either, since plenty of languages do not (always) have an overt copula in predicate nominal and predicate adjective constructions (Hebrew is a well-known example) —even though some of these still show evidence of a copular (Pred) head being present in the underlying structure (see Baker 2003, among others). The upshot of this is that the difference between verbs and nouns/adjectives in Dan is concealed in this particular environment because of the confluence of two features of the language, neither of which is remarkable in itself: T remains as a separate word in Dan, and Pred is lexically null (also T can be elided in faster/informal speech). So we do not see a clear category difference here, but these patterns do not give us any serious reason to doubt the category difference either.[7]

It is also worth observing that predicate nominal constructions in Dan are different from predicate adjectival constructions in that predicate nominals need to be followed by the postposition *ká* 'with'. This difference among the categories is less common/familiar crosslinguisically, but it is systematic in Dan. As such, it is another way of distinguishing nouns from verbs and adjectives in the language. We do not offer a serious analysis of this here, but it will have some diagnostic value below.[8]

Overall, then, there is reason to think that Dan has a familiar three-way distinction in lexical categories, including a category noun that naturally forms subjects, a category

[7] An anonymous reviewer suggests a different interpretation. This reviewer suggests that *e* and the other tense-agreement particles are fundamentally copulas (i.e., Pred heads?) on the basis of its use in (14b, c). Then the reviewer concludes from (14a) that "verbs" in Dan are not really verbal in themselves, but rather elements that lack a lexical category, perhaps like the semantic heads of light verb constructions in languages like Japanese and Turkish. We cannot entirely rule out this alternative, but it strikes us as more radical than the view we take in the text, since it says that Dan has no true verbs (except perhaps the copula itself) and we do not see any particular empirical advantages to it.

[8] A conjecture in terms of Baker's (2003) theory of the categories could go like this. Some languages have two distinct copulas, one that selects predicate APs and a different one that selects predicate NPs (e.g., Edo, another Niger-Congo language). Suppose that Dan has only an AP-selecting copula. Then NPs can only be used as predicates if they first become "adjectival" in the relevant sense (in Baker's terms, if their referential index is suppressed or licensed). This is what combining the NP with *ka* does, under the assumption that PPs are intrinsically like APs, also forming grammatical modifiers (Baker 2003: Appendix).

adjective that naturally forms modifiers, and a category verb that naturally forms predicates. The last of these three categories is partially concealed by the way that Tense marking works in Dan, but it can be inferred from the fact that this class of words does not function as a subject or as a modifier "for free", and one would think that it must have *some* grammatical function. Thus the two tests that do work as expected in Dan are sufficient to support a three-way category distinction. It would be worthwhile to do a more thorough study of the lexical categories in Dan, looking for converging evidence for these basic distinctions (and learning more about the precise nature of the alternation between (14) and (15)). But we take it that we have enough empirical support to move on toward our main topic here.

4 Nominalization in Dan

Now that we know something about basic lexical categories in Dan, we are equipped to recognize nominalization processes in Dan as well. Our claim is that the constructions in (3)–(5) are indeed nominalizations: the root word is not nominal, a verb or an adjective, and the suffixed word is nominal. It is straightforward to demonstrate this, given what we now know.

We saw in (12) that a bare adjective or verb cannot stand in the subject position (unless the verb happens to be homophonous with a noun). However, a verb root bearing the *-su* suffix can, as can an adjective bearing the *-ɗɛ* suffix. This is seen in (16).

(16) a. ɗó-sʉ́ ɛ̀ sʌ̄.
go-NMLZ 3.SG.PRS good
'Going is good.'

b. zɔ̄ɔ̄zɔ̃̄ɔ̃̄-ɗɛ ɛ̀ já.
foolish-NMLZ 3.SG.PRS bad
'Foolishness is bad.'

Not only do these derived words gain this distinctive property of nominals, they also lose the characteristic properties of other categories. For example, the derived words cannot be used by themselves to modify a noun, the way an adjective can. This is shown in (17).

(17) a. *[mɛ̄ Klà zʌ̄-sʉ̄] jà pɤ̀.
person Kla kill-NMLZ 3.SG.PST fall
('The person killing Kla fell.')

b. *[mɛ̄ zɔ̄ɔ̄zɔ̃̄ɔ̃̄-ɗɛ̃̀] jà pɤ̀.
person foolish-NMLZ 3.SG.PST fall
('The foolish person fell.' lit. 'The foolishness person fell.')

Similarly, these derived words cannot be used by themselves as the head of a main clause predicate in Dan, as shown in (18).

(18) a. *Mʉ́sɔ̃ jà Klà zʌ̄-sʉ̄.
Muso 3.SG.PST Kla kill-NMLZ
('Musa was killing Kla.' lit. 'Musa was (the) killing of Kla.')

b. *Mʉ́sɔ̃ ɛ̀ zɔ̄ɔ̄zɔ̃̄ɔ̃̄-ɗɛ̃̀.
Muso 3.SG.PRS foolish-NMLZ
('Muso is foolish.' lit. 'Muso is foolishness.')

Interestingly, the suffixed verb can be used in a sentence like (18a), if the postposition *ká* is included as well, as in (19).

(19) Mű́sɔ̀ è Klà zʌ̄-sɯ̄ ká.
Muso 3.SG.PRS Kla kill-NMLZ with
'Musa kills Kla.' (lit. 'Muso is with (at) the killing of Kla.')

As we have seen, the need for *ká* is a distinctive property of predicate *nominals* in Dan (see (14)). Its presence in (19) thus tends to confirm the inherent nominality of the verb + *su* form. Overall, then, there is every reason to see these as straightforward instances of nominalization.

It is evident from all these examples that the nominalizing suffix on verbs is lexically distinct from the nominalizing suffix on adjectives: one is *-su*, the other *-dɛ*, as we have seen throughout. From a crosslinguistic perspective, there is nothing surprising about this; it is true in English and related languages as well. So in English verbs are nominalized by a suite of affixes including *-ion*, *-ation*, *-al*, *-ure*, *-ment*, and (most productively) *-ing*. In contrast, adjectives in English are nominalized by a different suite of affixes, particularly *-ity* and *-ness*. The fact that there is such a difference in Dan tends to be a further confirmation of the fact that words like 'go' and 'old' belong to different categories, verbs versus adjectives. The most obvious alternative would be a semantic view, in which *-dɛ* attaches to property words to derive state-denoting phrases and *-su* attaches to action words to derive event-denoting phrases. Depending on one's assumptions about the ontology, this might be much the same generalization, but expressed in different terms. To the extent that the two views can be distinguished, one might try to compare stative verbs with adjectives. If the proper generalization about *-su* vs. *-dɛ* is in terms of category, stative verbs should take the *-su* suffix; if it is in terms of a semantic distinction like state versus event, they should take the *-dɛ* suffix. With this in mind, consider the pattern in (20).

(20) a. Kla è swɔ̀.
Kla 3.SG.PRS fear?/afraid?
'Kla fears; Kla is afraid.'

b. *nʌ́ swɔ̀
child fear
'the scared child'

c. nʌ́ ɤ́ swɔ̀ (also nʌ́ swɔ́-sɯ́)
child REL fear child fear-ADJ
'the child who fears' 'the fearful child'

d. Klà swɔ́-sɯ́ è sʌ̄.
Kla fear-NMLZ 3.SG.PRS good
'Kla's being afraid is good.'

e. *Klà ɓà swɔ́-dɛ̋ è gbɛ̄.
Kla POSS fear-NMLZ 3.SG.PRS great
('Kla's afraidness is great.')

Based on its intrinsic meaning, *swɔ̀* could equally well be an adjective 'afraid' or a stative verb 'fear'. The simple predicative use in (20a) does not resolve this, given that Tense is a separate word in Dan and there is no distinct copula. But (20b, c) do resolve the matter: here we see that *swɔ̀* cannot modify a noun directly, but has to be used in a relative clause (or undergo adjectivalization; see below). Therefore, *swɔ̀* is a stative verb, rather than an adjective. Then we ask what its nominalization pattern is. (20d, e) shows that it is nominalized with *-su*, like other verbs, and it cannot be nominalized with *-dɛ̋*, unlike adjectival

state/property denoting expressions. This is evidence that which nominalizer is used is determined by lexical category rather than by semantic distinctions (as in English).[9]

It should be mentioned that both *-su* and *-ɗɛ* have other uses in Dan, which go beyond the ones we focus on here. Indeed, both can be attached to roots of all categories, although with quite different meanings and semantic effects. This is summarized in (21).

(21)

	-su	*-ɗɛ*
On verbs:	event/fact nominal or adjective	location nominal
On adjectives:	adjective	state/fact nominal
On nouns:	adjective	state/fact nominal

Of these additional uses, the only one that we take to be directly relevant to the topic at hand is the use of *-ɗɛ* on nominals. This is illustrated in (22).

(22) a Klà ɓà nʌ́-ɗɛ́ ɛ̀ sʌ̄.
Kla POSS child-NMLZ 3.SG.PRS good
'Kla's childhood is good.'

b Klà ɓà mɛ̄-ɗɛ̄ ɛ̀ sʌ̄.
Kla POSS person-NMLZ 3.SG.PRS good
'Kla's being/becoming a (great) person is good.'

c Klà ɓà gbɛ̰́-ɗɛ́ ɛ̀ já.
Kla POSS dog-NMLZ 3.SG.PRS bad
'Kla's being (acting like) a dog is bad.'

We take these to be nominalizations of nouns, similar to *-hood* (e.g., *childhood*) or *-ship* (e.g., *friendship, leadership*) in English. The affix takes a noun denoting a thing or person and creates an abstract noun out of it. It is semantically similar to the use of *-ɗɛ* on adjectives, in that the whole NP refers to an entity being in a particular state or having a particular property. It is also grammatically similar to the use of *-ɗɛ* on adjectives in that here too the derived noun acts like a nonrelational noun rather than like a relational noun, needing the Poss particle *ɓa* to express an argument. Presumably, these denominal nouns should be analyzed in the same way as the deadjectival nouns in (5), and our analysis will capture this generalization.

The affix *-ɗɛ* can attach to verbs as well, but here there are significant differences. First, the meaning of the derived form is quite different: it does not refer to a state/event/fact/eventuality, but rather to the location at which an event or events of the type named by the verb root takes place, as seen in (23).

(23) a. Klà ɛ̀ kpa̰ Zòtấ gā-ɗɛ̄ ɓà.
Kla 3.SG. PRS see Zota die- LOC.NMLZ PRT
'Kla sees the place where Zota died.'

b. ɓấấ kpà-ɗɛ̀
rice cook- LOC.NMLZ
'the place where rice is cooked'

[9] We have observed one doublet: *zɔ̄ɔ̄zɔ̄ɔ̄* can bear either *-su* or *-ɗɛ*, with very similar (but not identical) meanings. We tentatively assume that this word is ambiguously a verb or an adjective, like *clear* or *open* in English. If so, it is not surprising that it can undergo either kind of nominalization (cf. *the clearing of the table*, *the clearness of the glass*).

This usage is also grammatically distinct from the other uses of *-ɗɛ*, in that the theme argument of the derived nominal is bare, not marked with the possessive particle *ɓa*. In this respect. verb + *ɗɛ* behaves more like verb + *su* than like adjective + *ɗɛ* or noun + *ɗɛ*. Nor are we aware of a similar pattern in other languages, where the same process of nominalization derives state-denoting nominals from adjectives but location-denoting nominals from verbs. Therefore, we assume that the sort of nominalization seen in (23) is not directly/synchronically related to the nominalizations of adjectives and nouns, and we put it aside, except for a brief comparison with deverbal event-denoting nominals in section 7. The bottom line is that we do not have a good idea about how location-denoting nominals can be derived from verbs and state-denoting nominals can be derived from adjectives (and nouns) by combining them with an affix that has essentially the same meaning and grammatical features; however, if someone else does, we would be open to that.

The affix *-su* also has uses other than its use in deriving event/fact nouns from verb. It productively derives adjectives from a root of any category. We already saw an example of it deriving an adjective 'dirty' from the noun 'dirt' in (13c); another such example is (24a). We also saw an example of *-su* attaching to the verb 'fear' to create an adjective 'fearful, afraid' in (20c); another example is (24b). The affix *-su* can even attach to an adjective to create an adjective, as in (24c).

(24) a. [nʌ́ dĩ-sɯ] è gbőɓɔ̄-nʌ̀gɯ̀. (cf. dĩ jà nʌ́ kṵ̄.)
child hunger-ADJ 3.SG. PRS cry-CONT hunger 3.SG. PST child catch
'The hungry child is crying.' 'Hunger caught the child.'
(= 'The child is hungry.')

b. [gbɔ̄ pɤ̀-sɯ̀] jà wɯ́.
pot fall-ADJ 3.SG. PST break
'The fallen pot broke.'

c. ā wĭ́ [mɛ̄ pűű-sű́] ká. (cf. mā pűű-ɗɛ́̄)
1.SG. PRS talk man white-ADJ about 1.SG. POSS white-NMLZ$_{ADJ}$
'I talk about the white man.' 'My whiteness'

In this domain, then, there is no interaction between the intrinsic properties (category or meaning) of the root and the type of word that is derived: the result is a simple adjective in all cases. This use of *-su* has nothing in common with the use of *-su* to form deverbal event-denoting nominals, either syntactically or semantically (that we can see). Therefore, we put this type of example aside as well, and offer no explanation for why what is segmentally the same affix has these two quite different uses.[10]

From this range of material, then, we pick out deverbal nominalizations with *-su* and deadjectival and denominal nominalizations with *-ɗɛ* as forming a natural class in that all of them are abstract nominals which can denote an eventuality (an event or state) and which can express the participants in that eventuality inside the nominal—in particular, the theme/holder of the event/state. We used examples without the theme argument expressed in (16)–(19) to establish that these are indeed nominalizations.

[10] A possible clue to this is that *su* is also a verb in Dan. In particular, it is the very common verb 'take', which can be used in many contexts, often with a bleached grammatical meaning, including light verb constructions and serial verb constructions. It is possible, then, that this verb was used grammatically in two quite different structures, one of which evolved into the nominalization constructions (with verbs only) and the other of which evolved into the adjectival construction (with roots of any category). We have no explicit proposal to suggest, however.

But when the theme argument is expressed, the interesting and unexpected difference introduced in section 1 becomes evident: the deverbal nominalizations pattern like relational nouns, whereas the deadjectival and denominal nominalizations pattern like nonrelational nouns in terms of how the theme/holder argument is coded. This difference does not follow from the more elementary observations about category membership we have surveyed so far. Therefore, in the remainder of this article, we focus on how this difference can be explained, and what it implies for a general theory of the lexical category distinctions.

5 Baker's theory of the lexical category distinctions

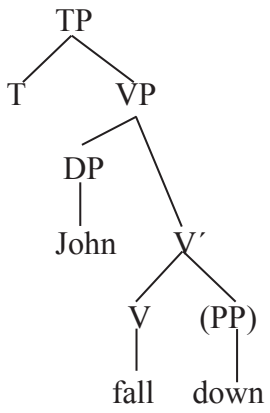
Since our goal is to account for why the nominalizations of adjectives (and nouns) are systematically different from the nominalizations of verbs, we do well to start with a theory of what the core difference is between verbs and adjectives before they are nominalized, which we can then apply to this Dan-specific issue. In fact, much of the generative literature has been more interested in the cross-categorical similarities of nominal, verbal, and adjectival structures than in their differences. However, a theory of the core differences that is suitable for our purposes is that of Baker (2003). This theory also bears a relatively transparent relationship to the simple and familiar differences between the lexical categories that we used to distinguish them in section 3, differences that are relevant to Dan as well as to many other languages.

The basic axioms of Baker's (2003) category theory are summarized in (25).

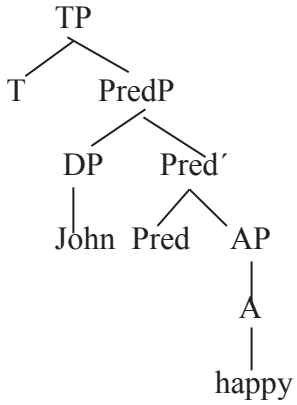
(25) a. A noun is a lexical category that introduces a referential index.
b. A verb is a lexical category that has a specifier (as well as a complement).
c. An adjective is a lexical category that has neither a referential index nor a specifier.
d. Reference Predication Constraint: No syntactic node can both introduce an index and license a specifier.

Most important for our purposes here is (25b) versus (25a, c): the claim that verbs license specifiers but adjectives and nouns do not. This means that there is room inside VP for two arguments: a PP or AP complement expressing a path/goal/resulting state, and a theme argument as the specifier of VP (at least if a result argument is present). In contrast, an adjective phrase might have a PP complement (e.g., *John is [$_{AP}$ good **at swimming**]*), but it has no room for a theme argument. Another way of expressing the basic intuition is that verbs are intrinsic predicates, whereas adjectives and nouns are not. Of course, adjectives (APs) and nouns (NPs) are often used predicatively, as mentioned above, but Baker's claim (with many precedents, including Bowers 1993, and, in a very different framework, Croft 1991) is that this is only possible when the AP or NP gets support from a functional head, called Pred. (26) compares an unaccusative verb, where the subject originates inside VP ((26a)), with a canonical adjective and a canonical noun, where the subject originates outside AP/NP in Spec PredP ((26b, c)). This difference often shows up (directly or indirectly) in the fact that some sort of copula or predicational particle is needed in predicative adjective and predicate nominal constructions, like *be* in English (*John **is** happy, John **is** a hero*), but not in verbal constructions (*John fell, *John **was** fall*)—although the precise distribution of particular copular elements can be complex in particular languages (e.g., factors like tense marking often also play a role; see Baker 2003: Section 2.4 for general discussion, and Section 3 above for why this difference is not apparent on the surface in Dan).

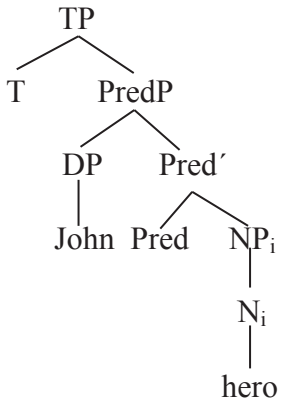
(26) a.



b.



c.



This theory also undergirds the kinds of differences between the lexical categories that do show up clearly in Dan. For example, nouns and their projections are uniquely suited to being the subjects of clauses because their referential index allows them to receive a thematic role: they can thus be coindexed with the subject argument in the argument structure of the verb (Baker 2003: sec. 3.6). In contrast, adjectives and their projections are easy to use as attributive modifiers because they do not have the special positive properties of verbs and nouns, which come along with special licensing conditions that cannot be met in this environment: a verb does not have the specifier it needs in this structure, and a noun has nothing it can be coindexed with (see Baker 2003: sec 4.2 for general discussion). Thus, Baker's (2003) theory accounts for the obvious core differences between the different lexical categories that are observed—with varying degrees of clarity—in many languages, including Dan.

This theory also has immediate promise for the Dan-specific fact that we are trying to explain here. Baker (2003) says that simple verbs combine directly with their core argument, whereas adjectives and nouns can only do so indirectly, with the help of a functional

head that may or may not be overt. Dan shows us that nominalized simple verbs combine directly with their core argument, whereas nominalized adjectives and nouns can only do so indirectly, with the help of an overt functional head *ɓa*. There is a clear parallel here that we can hope to endow with explanatory force. That is the task of the next section.

6 Theories of nominalization

What, from a theoretical perspective, is a nominalization? Crosslinguistically and theoretically, there are (potentially, at least) two kinds of constructions that are worthy of this label (see Alexiadou et al. 2007: Part IV Chapter 1 for a fairly recent overview). First, a nominalizing morpheme can combine directly with a lexical head, before the lexical head combines with any of the arguments (or adjunct modifiers) that it would normally appear with. This could be combination in the lexicon, prior to the syntax, as in the traditional lexicalist hypothesis, with roots in Chomsky (1970). But it could also be direct merger of a root with a noun head in the syntax, a possible treatment within Distributed Morphology (DM); see Wood (2019) for a recent analysis of deverbal nominalizations in Icelandic that is along these lines. We have no need to distinguish the two variants here, and we refer to both as *low* nominalization, because the nominalizer appears relatively low in the syntactic structure (we thank an anonymous reviewer for this terminological suggestion). This view was the dominant one in the literature until about 1990.

The other major theory or type of nominalization is one in which the nominalizing morpheme combines with a verb or adjective after the verb or adjective has already combined with at least some of its arguments or modifiers. This sort of nominalizer is taken to be a noun head that takes a VP or an AP (perhaps along with some of their associated functional heads) as its complement. This kind of analysis was pioneered by Hazout (1995), based on his study of Hebrew. It has also been developed in DM versions since Marantz (1997) for derived nominals with genitive complements, and it is a more traditional and broadly held view for gerund constructions that take accusative complements.[11] In effect, nominalization applies to a phrase in this version, not to a "word" (terminal node). For convenience, we refer to this as *high* nominalization, since the nominal morpheme combines with an internally complex, distinctively syntactic object and therefore appears higher in a syntactic tree than constituents inside the projection of the lexical base. This sort of analysis exists in a rather wide range of specific forms (see Alexiadou et al. 2007: 515–541 for an overview of many of them), and perhaps the bulk of contemporary Chomskian analyses fall into this category.

In fact, it has often been suggested that two types of nominalization can exist side by side, even in a single language. Moreover, the very same morpheme can participate in both types of construction. This is true for the English nominalizing morpheme *-ing*, for example. This morpheme is found in both the *action nominal* construction in (27a) and the *gerund* construction in (27b). In the action nominal, the theme complement is marked with genitive *of*, and the nominalization as a whole can be introduced with an ordinary determiner *the*. The overall structure is uniformly nominal in these respects, with *the killing of the goat* parallel to *the picture of the ocean* or *the leg of the table*. This then is plausibly a case of low nominalization in the sense described above. In contrast, in the gerund construction, the theme complement is a bare accusative DP, and the construction cannot be introduced by the article *the*. However, the gerund construction is nominal in that it (like the action nominal)

[11] We take some expositional liberty here, since in fact Marantz (1997) denies that the roots which the nominalizing morpheme combines with have any category such as verb or adjective. We are distinguishing here between Marantz's claim that nominalization may be syntactic, which we accept, from the claim that roots are intrinsically without category, which we do not. (For some criticism of this aspect of Marantz's view, see Baker 2003: 265–271.)

can take a subject marked with genitive *s*, and it can appear in DP-selecting positions, like direct object, subject, and object of preposition. Therefore, the gerund constructions has a combination of verbal and nominal properties, consonant with the claim that *-ing* is a noun that combines with a full verb phrase in this case—a type of high nominalization.[12]

(27) a. Mary witnessed {the/John's} killing of the goat.
b. Mary was upset by {John's/∅/*the} killing the goat.

The distinction between low nominalization and high nominalization is not as familiar for deadjectival nominalizations (which have been less thoroughly studied), but Arsenijević (2011) argues that the two exist side by side in Serbo-Croatian, using the same nominal suffix.

Given the existence and close association of these two types of nominalization, a thorough explanation of the asymmetry we have seen in Dan should come in two parts. Part one is explaining why low nominalization treats deadjectival constructions differently from deverbal constructions, and part two is explaining why high nominalization treats deadjectival constructions differently from deverbal constructions. If both parts go through, then we have a robust explanation for the asymmetry that we observed in Section 1. We consider the low nominalization construction first, and then go on to the high nominalization construction.

6.1 Low nominalization

Consider first the possibility that a nominal morpheme combines directly with a verbal or adjectival root, before that root combines with any arguments (or adjuncts). Still the root is associated with an argument structure (we assume—perhaps largely deducible from its lexical semantics). A key question, then, is what is the argument structure of the derived noun, and how does it relate to the argument structure of the base word?

The classical and default assumption about this is that (all things being equal) the argument structure of [[X] + NMLZ] is the same as the argument structure of X itself. The derived nominal simply inherits the arguments of the root essentially unchanged. This accounts for the parallelism between a clause like *Rome destroyed Carthage* and a nominalization like *Rome's destruction of Carthage* (Chomsky 1970; see Alexiadou et al. 2007: 478–490 for general discussion). We adopt this view too, at least as a starting point, and for the sake of argument (but see (41) below for one principled exception).

What then are the argument structures of verbal and adjectival roots? Unaccusative verbs take at least a theme argument (and perhaps also a PP/resulting state argument, not considered here). So do transitive verbs like 'kill'. Traditionally transitive verbs also take an agent argument, but we assume that this argument is more precisely added by a v or Voice head, as in Hale and Keyser (1993), Chomsky (1993), Kratzer (1996), and others. However, adjectives do not take a theme argument according to Baker's (2003) theory; rather that argument is added by a functional head Pred in some contexts. The argument structures are thus as in (28).

(28) a. 'die' <theme>
b. 'kill' <theme> (*agent addable by v/Voice*)
c. 'foolish' < > (*theme addable by Pred*)

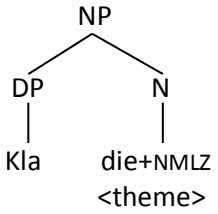
[12] Some analyses agree with the idea that *-ing* combines with a larger constituent to form a gerund construction and with a smaller constituent to from an action nominal, but have it combine with a phrase in both cases. For example, *-ing* plus an Aspect Phrase might give a gerund construction, whereas *-ing* with a VP or a root phrase might give an action nominalization. Both of these analyses would count as high nominalizations according to our distinction, but the more general point that the same morpheme can appear in different structures applies to this view as well.

If we start with these argument structures and then nominalize the roots, passing on the arguments in accordance with the default assumption, the results are in (29).

(29) a. gā-sūɪ <theme> 'dying' (*like a relational noun*)
b. zʌ̄-sūɪ <theme> 'killing' (*like a relational noun*)
c zɔ̄ɔ̄zɔ̄ɔ̄-dɛ̂ < > 'foolishness' (*like a nonrelational noun*)

Notice that the deverbal nouns have argument structures that are essentially like those of the relational nouns in (7a) in that they take a single internal argument. In contrast, the deadjectival noun has a null argument structure, which is essentially like that of the nonrelational nouns in (7b). The larger structures that can be constructed using these heads are also parallel, as shown in (30).

(30) a.



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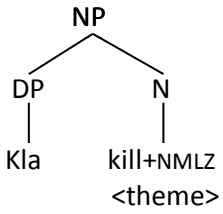

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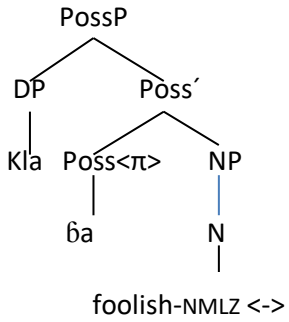


So it is easy to explain the observed asymmetry in nominalization along these lines. Basically, Baker's distinction between verbs taking a true internal argument and adjectives taking an analogous external argument carries over directly to the derived nominals. There it is clearly made manifest by the fact that arguments internal to NP and arguments external to NP are marked quite differently in Dan.

The account also generalizes readily to the nominalization of nouns. Nouns are like adjectives rather than verbs in not having specifiers, hence not having room for an internal theme argument. Therefore, they too have no argument that their nominalization can inherit. As a result, they too behave like nonrelational nouns, as seen in (22).[13] It is also not surprising that nouns take the same nominalizing suffix that adjectives do, different from

[13] This discussion assumes that the noun root is a noun from the nonrelational class, as is the case for the specific examples shown in (22). In contrast, a relational noun like a kin term does take an argument ((7a)) and could in principle pass this argument on to a low nominalization derived from it. In other words, the nominalization of a relational noun in Dan could behave like a relational noun. The fact, however, is that the nominalizer *-dɛ* cannot attach to a relational noun, as shown in (i). This does not follow from our account. It so happens that the parallel construction in English *(??John's fatherhood of Mary was good)* is also not very good for many English speakers (including the first author), so there may be a general constraint at work here, although we do not know what it is.

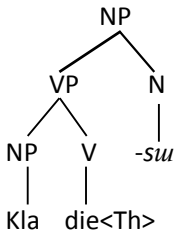
the one on verbs, given that nouns and adjectives are a natural class when it comes to matters of argument structure. We don't see this with nominalization in English, the way we do in Dan, but we do see it with verbalization in English, where the same affixes can derive verbs from both nouns and adjectives (e.g. *legalize* and *crystalize*; *enlarge* and *enrage*).

6.2 High nominalization

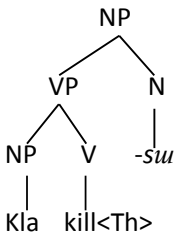
Next we entertain the possibility of deverbal and/or deadjectival nominalizations of the high type, where the nominal head combines with a phrase, not just with a root. What sort of overall structures should these have?

The simplest assumption along this line is that the nominalizing morphemes are noun heads that take an XP complement, where X is a lexical head, verb or adjective (or noun).[14] In this version, the crucial difference is that the VP complement of the N will have a theme argument inside it, but an AP or NP complement of the N will not have a theme argument inside it, since themes are never generated inside AP and NP proper, according to Baker (2003). This is a straightforward transfer of the core structural difference in (26) to the situation where VP and AP are complements of N rather than constituents in a finite clause. On these assumptions, the structures will look like (31) and (32). Note in particular that a DP inside AP in (32) would not get a thematic role. The only way to include it is to embed the NP headed by *-dɛ* inside a PossP headed by *ɓa*, so the DP can be theta-marked by the Poss head.

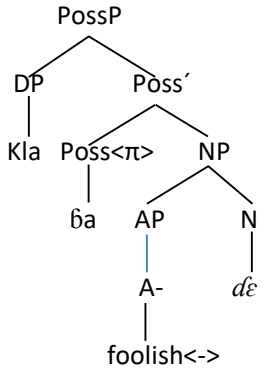
(31) a.



b.



(32) a.



(i) *Klà ɓà Zɔ̀tấ gbɤ́-dɛ́ è sɑ̄.
Kla POSS Zota son-NMLZ 3.SG.PRS good
('Kla's being Zota's son is good.')

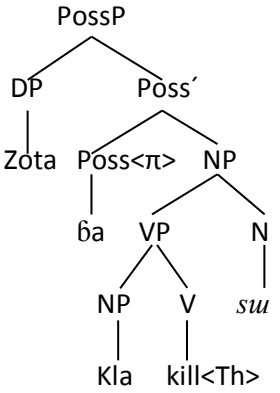
[14] This proposal can be contrasted with that of Roy (2010), who argues that nominalizers in French can only combine with a predicative complement, hence with VP or PredP, but not directly with AP (see also Arsenijević 2011 for a similar analysis of Serbo-Croatian). Roy's assumption may be correct for French and related languages, but the Dan asymmetry shows that it is not universal. See section 8 for some discussion.

So the asymmetry presented in section 1 follows naturally from Baker's proposal about the fundamental difference between verbs and adjectives along this line too. And again nouns are like adjectives in the relevant respects, also forming a structure like (32) (but see also note 13).

Rounding out the picture, there is another, more fully articulated possibility for the nominalization of transitive verbs. These can have a theme as the internal argument of VP inside the nominalization and an agent in Spec PossP, theta-marked by Poss. This is a grammatical possibility in Dan too, as shown in (33a), with the structure in (33b).

(33) a. Zòtấ ɓấ Klà zā-sūɪ è já.
Zota POSS Kla kill-NMLZ 3.SG.PRS bad
'Zota's killing Kla is bad.'

b.



Here again *ɓa* is required, as it is with adjectives and nouns. This is expected within our theory, since agents are not true arguments of verbs, just as themes are not true arguments of adjectives or nouns (see (28)). Rather, both are theta-marked by higher functional heads: v/Voice for the agent of a verb, and Pred for the theme of an adjective or noun. These functional heads are not present as such in the nominal constructions, on the hypothesis that the nominalizer head takes a lexical phrase as its complement. Therefore, these arguments need to be introduced in a PossP structure, if they are present at all. The overall structure of the transitive nominalization in (33) is parallel to that of the doubly possessed inalienable noun 'head' in (11). (We give (33b) in the high nominalization version, but it could also arise in the low nominalization version. The only difference is that 'Kla' would be the complement of the noun kill + NMLZ rather than the complement of the verb 'kill' itself.)

6.3 Interim conclusion and comment on unergative verbs

In summary, we have seen that the asymmetry between deverbal nominalization and deadjectival nominalization in Dan is explicable regardless of whether Dan has low nominalizations or high nominalizations. The structures are a bit different according to the two hypotheses, but the underlying causal factor is recognizably the same. A verb combines directly with its theme argument, so it either does so before combining with the nominalizing morpheme (high nominalization) or it passes on its direct argument-taking property to the nominalized version (low nominalization). Either way, the result looks like an inalienable possession construction, in which a noun combines directly with a possessor DP. In contrast, an adjective or a noun cannot combine directly with a theme argument, but needs the help of a functional head. Therefore, they cannot take a theme argument before functioning as the complement of NMLZ (high nominalization) and/or they cannot pass a direct argument-taking capacity on to a nominalized version (low nominalization).

Either way, a theme argument is only possible if it is theta-marked by a distinct head *ɓa*, as is also true for nonrelational nouns with alienable possessors. Thus, we have the robust explanation for the nominalization asymmetry in Dan that we were aiming for.

One further empirical question to consider is what happens when an unergative verb—one with an agentive subject but no object argument—is nominalized in Dan. The answer is that we are not sure that Dan has any basic unergative verbs. The most prototypical unergative verbs in Dan turn out to be transitive constructions consisting of a light verb plus some kind of idiomatic or cognate object. Thus, 'sing' is 'song + pick/harvest', 'dance' is 'dance + do', 'sleep' is 'sleep + kill', 'swim' is 'water + do', 'walk' is 'walk + do' and so on. It is not surprising, then, that these predicates nominalize like transitive verbs: the agent is in Spec PossP headed by *ɓà* and the cognate object is bare and adjacent to the nominalized light verb, as in (34). There is nothing really new to learn from this pattern.

(34) a. Klà ɓà tą̰́-ɓō-sɯ̄ è sʌ̄.
Kla POSS song-pick-NMLZ 3.SG.PRS good
'Kla's singing is good.'

b. mā jḯ-kʌ̄-sɯ̄ è sʌ̄.
I.POSS water-do-NMLZ 3.SG.PRS good
'My swimming is good.'

There are a few less canonical unergative predicates that are simple verbs, not syntactically complex constructions. When nominalized, these have understood subjects that are not marked with the Poss head *ɓà*, as shown in (35).

(35) a. Klà (*ɓà) pè-sʊ̀ɯ̀ è já.
Kla POSS vomit-NMLZ 3.SG.PRS bad
'Kla's vomiting is bad.'

b. bōō (*ɓā) wlɤ̀-sʊ̀ɯ̀ è sʌ̄.
owl POSS fly-NMLZ 3.SG.PRS good
'The flying of the owl is good.'

The structure of these examples seems to be no different from that of unaccusative nominalizations. Indeed, we are not sure that these are not really unaccusative verbs. After all, vomiting is not something that one usually does on purpose, and 'fly' can be considered a verb of directed motion (hence unaccusative) as well as a verb of manner of motion (canonically unergative) in many languages. Until independent diagnostics of unaccusativity are found for Dan to shed more light on this, we tentatively assume that the language has no simple unergative verbs, but they are all syntactically transitive constructions, similar to what Hale and Keyser (2001: 117, 140) claim for Basque and Tanoan.[15]

7 Choosing among the structures

We have boasted about being able to explain why theme arguments of deverbal nominalizations are expressed differently from theme arguments of deadjectival nominalizations in terms of fundamental principles, regardless of whether nominalization in Dan is low

[15] If this turns out not to be the case and the verbs in (35) are genuine unergatives, something will need to be added to account for why the subject is not in Spec PossP in these examples, given that unergative Vs do not assign theta roles. One possibility is that v counts as a semi-lexical head, such that vP with the agent in its specifier can be the complement of NMLZ—like VP and AP but different from PredP. A similar distinction between vP and PredP plays a role in some of the details of Baker's (2003) theory.

or high. Nevertheless, the two types of structure are distinct, especially in the case of deverbal nominalizations: the theme argument is in a different position in (30a, b) from where it is in (31a, b). Therefore, from a descriptive point of view, one would like to know which structures Dan does in fact allow. We now consider this descriptive question in this section.

In fact, there is a simple syntactic consideration that shows that the deverbal nominalizer *-su* must permit the high nominalization structure in (31), and cannot be only a low nominalizer. Recall that, like other Mandean languages, Dan has a somewhat unusual word order in verbal clauses: Subject-Aux-Object-Verb-PP/goal/AP/Adv. In particular, the true theme object of a verb comes before the verb, but other kinds of complements and adjuncts come after it. This is illustrated in (36).

(36) a. Klà è ɓáá nú Zòtá ɗé.
Kla 3.SG.PRS rice give Zota to
'Kla gives rice to Zota.'

b. Klà jà ɗó plɤ̀ɤ̀.
Kla 3.SG.PST go village
'Kla went to the village.'

c. Klà jà jí kʌ̄ sɛ̀̀ɛ̀.
Kla 3.SG.PST water make cold
'Kla made the water cold.'

Suppose, then, that we try nominalizing a verb that goes along with a post-verbal constituent. The striking result is that in this situation *-su* need not suffix to the verb at all; rather it can come after the post-verbal constituent, as shown in (37). This is true for a rather wide range of postverbal elements, including directional PPs ((37a)), the directional bare nominal complement of 'go' ((37b)), resultative adjectives ((37c)), other PP complements ((37d)), and even adjunct PPs ((37e)) and adverbs ((37f)).

(37) a. ɓáá nū nʌ́ ɗɛ́ sʊ̀ʊ̀ è sʌ̄.
rice give child to NMLZ 3.SG.PRS good
'Giving rice to a child is good.'

b. Klà ɗò plɤ̄ɤ̄ sʊ̄ʊ̄ è sʌ̄.
Kla go village NMLZ 3.SG.PRS good
'Kla going to the village is good.'

c. jí kʌ̀ sɛ̀̀ɛ̀ sʊ̀ʊ̀ è sʌ̄.
water become cold NMLZ 3.SG.PRS good
'The water's being/becoming cold is good.'

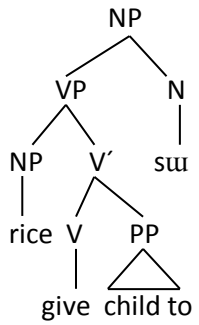
d. Klà wì Zòtá ká sʊ́ʊ́ è sʌ̄.
Kla speak Zota with NMLZ 3.SG.PRS good
'Kla's greeting Zota is good.'

e. Zòtá ɓá tą̰-ɓō Klà gʊ́ʊ́ sʊ́ʊ́ è sʌ̄.
Zota POSS song-pick Kla in NMLZ 3.SG.PRS good
'Zota's singing in Kla is good.' (a case of spirit possession by a sorcerer: Zota takes over Kla and sings through him)

f. mlɛ̰̀ɛ̰̀ tà vą̰́vą̰́ɗɤ́ sʊ́ʊ́ è sʌ̄.
snake go quickly NMLZ 3.SG.PRS good
'The snake's going along quickly is good.'

This is clear evidence for the high nominalization structure in (38). This high nominalization structure has room for a PP or AP complement inside VP.[16] It is also possible for an adjunct PP or adverb to adjoin to the right of VP, with the resulting complex VP serving as the complement of NMLZ.

(38)



In contrast, a low nominalization analysis would not work for these examples, since V clearly combines with something before it combines with *-sɯ*, and that is our definition of a high nominalization structure.

The fact that *-sɯ* can combine with a fully formed VP, as in (38), does not entail that it must do so. This is consistent with the view that *-sɯ* can combine with either V or VP, as *-ing* does in English (see (27)). In fact, there is a second version of the nominalizations in (37) in which *-sɯ* does appear affixed directly to the verb root, and the PP, AP or adverb follows *-sɯ*. The wrinkle is that these postverbal elements are necessarily connected to the nominalized verb by the linking particle ɤ́. Examples of this second form of nominalization are given in (39).

(39) a. [Klà ɓà ɓáā nū-sɯ̄ ɤ́ Zɔ̀tā ɗɛ́] è sʌ̄.
[Kla POSS rice give-NMLZ REL Zota to] 3.SG.PRS good
'Kla's giving of rice to Zota is good.'

b. [Klà ɓà ɓáā ɓɤ-sɯ̄ ɤ́ jī́ ká] è sʌ̄.
[Kla POSS rice eat-NMLZ REL water with] 3.SG.PRS good
'Kla's eating of rice with water is good.'

c. [jī́ kʌ̀-sɯ̀ ɤ́ sɛ̏̀ɛ̏] è sʌ̄.
water become-NMLZ REL cold 3.SG.PRS good
'The water's being/becoming cold is good.'

d. [mlɛ̀ɛ̀ tā́-sɯ́ ɤ́ vą̋vą̋ɗɤ́] è sʌ̄.
snake go-NMLZ REL quickly 3.SG.PRS good
'The snake's going along quickly is good.'

This linking particle is otherwise used when a locative PP is adjoined to a simple noun, and to connect a relative clause to its nominal head, and as seen in (40). So putatively low nominalizations are similar to ordinary nouns in this respect.

(40) a. nʌ̀ŋ̀ *(ɤ́) tɔ̀ gɯ́ è tī́tī́.
chair REL kitchen in 3.SG.PRS small
'The chair in the kitchen is small.'

[16] Note that the exact internal structure of the VP is not crucial here. It is possible that particles like *ɗɛ́* and *ká* are not true Ps, but fossilized Vs (e.g., from an old serial verb construction), or even categoryless particles of some kind. Exactly what they are is not important, but only that they are inside VP and come between V and NMLZ.

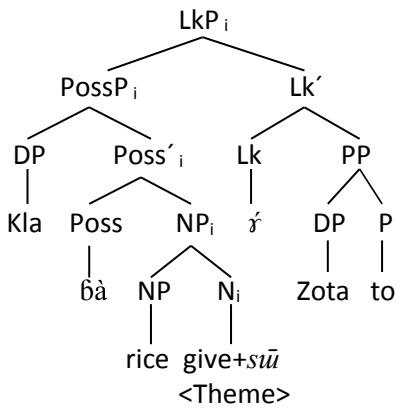
b. nʌ́ ɤ́ gā ɓā
child REL die DEM
'the child that died'

We interpret this second pattern as being the result of *-su* being a low nominalizer as well as a high nominalizer. As such, it combines with the verb root before the verb combines with any arguments or adjuncts. What is special about a verb like *nū* 'give' is that it has two arguments, as in (41a). All things being equal, we would expect the low nominalization *nū-sū* 'giving' to inherit both arguments, by baseline assumptions. However, all things are not equal in this case, because according to Baker's (2003) category theory, nouns cannot license a specifier as well as a complement, by the Reference-Predication Constraint in (25d). Therefore, the derived noun can only inherit one of the arguments of the base verb, the theme argument, as in (41b). (Presumably the theme argument is inherited because it is obligatory and more fundamental to the core meaning of the verb root than the goal argument.)

(41) a. *nū* 'give' <Theme, Goal>
b. *nū-sū* 'giving' <Theme> (not: * <Theme, Goal>)

The result is that the theme argument can be a complement of the deverbal noun, as with simple transitive verb bases, but there is no room for a goal argument or other third argument inside the core NP. This is where the linking particle comes in: it is a piece of structure that creates a new position where the orphaned argument or adjunct can be generated (on linking particles of various sorts, see den Dikken 2006, among others).[17] So our tentative syntactic structure for an example like (39a) is (42).[18]

(42)



[17] We thank Shiori Ikawa (personal communication) for suggesting this view of ɤ to us. We note, however, that ɤ is probably not a *predicative* particle, such that its complement is predicated of its subject in all cases. In particular, a goal PP cannot be predicated of a subject headed by 'giving' in a matrix clause in Dan, nor can a resultative AP be predicated of a subject headed by 'becoming', as shown in (i). We leave open exactly how a structure like (42) is interpreted by compositional semantics in the general case.

(i) a. *Klà ɓà ɓáā́ nū-sū̄ è/jā nʌ́ ɗɛ́.
Kla POSS rice give-NMLZ 3.SG.PRS/PST child to
(lit. 'Kla's giving of rice is/was to the child.')

b. *jí́ kʌ̄-sū̄ è sɛ̌̀ɛ̀.
water become-NMLZ 3.SG.PRS cold
(lit. 'The water's becoming is cold.')

[18] Here we assume that the inheritance of the referential index from the NP headed by 'eat-NMLZ' up through PossP to LkP is enough to capture the fact that LkP has the syntactic distribution of a nominal and refers to an event of eating. An equally good (and more intuitive) possibility is that the top node in (42) is labeled PossP rather than LkP.

If this is on the right track, then both low and high nominalization structures are possible for deverbal nominalizations in Dan.[19]

Next we apply these same considerations to deadjectival nominalizations involving *-dɛ* in Dan. This is complicated by the fact that it is not clear that adjectives ever take true PP complements in Dan, the way that some do in English. The best candidates that we have found are the expressions in (43).[20]

(43) a. Klà è sā̰ tą̰́-ɓō-sū̱ gú̱.
Kla 3.SG.PRS good song-pick-NMLZ in
'Kla is good at singing.'

b. ví̱ è já Zɔ̀tā́ gú̱.
fish 3.SG.PRS bad Zota in
'Fish is bad for Zota.' ('Zota dislikes fish.')

This sort of PP is never an argument with verbs (but only a modifier, as in (37e)), and the fact that it can easily prepose to the front of the sentence (*Zɔ̀tā́ gú̱, ví̱ è já* 'Zota in, fish is bad') may indicate that it has the status of a PP modifier with adjectives as well. But whatever its status, it is clear that this sort of expression can never appear between the adjective and the nominalizer *dɛ*, as shown in (44). In contrast, the PP can appear outside of the nominalized constituent, linked to it by *ɤ́*, as shown in (45).

(44) a. *Klà ɓà sā̰ tą̰́-ɓō-sū̱ gú̱ dɛ́ è gbɛ́.
Kla POSS good song-pick-NMLZ in NMLZ 3.SG.PRS big
('Kla's goodness at singing is great.')

b. *ví̱ ɓā́ já Zɔ̀tā́ gú̱ dɛ́ è gbɛ́.
fish POSS bad Zota in NMLZ 3.SG.PRS big
('The badness of fish for Zota is great.')

(45) a. [Klà ɓà sʌ̄-dɛ̄ ɤ́ tą̰́ɓō-sū̱ gú̱] è gbɛ́.
Kla POSS good-NMLZ REL song-pick-NMLZ in 3.SG.PRS big
'Kla's goodness at singing is great.'

b. [ví̱ ɓā́ jàà-dɛ ɤ́ Zɔ̀tā́ gú̱] è gbɛ́.
fish POSS bad-NMLZ REL Zota in 3.SG.PRS big
'The badness of fish for Zota is great.'

This strongly suggests that *-dɛ* is only a low nominalizer in Dan. Even if PPs headed by *gu* count as adjuncts rather than complements, such phrases can appear inside of the verbal nominalizer *-su* in (37e) but not inside of the adjectival nominalizer *-dɛ* in (44), a near minimal comparison.[21]

[19] One other consideration that might point to *-su* being a low nominalizer is the fact that a theme argument does not need to be expressed when an unaccusative verb is nominalized: *gā-sū* 'dying' and *pɤ̀-sù* 'falling' count as complete NPs by themselves. This might go with the well-known fact that arguments of nouns are generally not obligatory (whereas those of verbs often are). However, this consideration cuts both ways, because the theme argument of transitive verbs is obligatory in Dan nominalizations (unlike English): **(ɓaa) ɓɤ-su*, 'rice-eating' but not 'eating', **(mɛ) zʌ-su* 'person-killing' but not 'killing'. This raises the issue of optional arguments versus null arguments in nominals, which goes beyond our discussion here.

[20] Moreover, nouns never take PP complements in Dan, as far as we know. On the DP complements of relational nouns in nominalizations (which come before the head, not after it), see note 13.

[21] Another logical possibility is that *-dɛ* can be a high nominalizer, but (unlike *-su*) it is subject to an additional condition that it must encliticize onto the head of its complement. We don't know of anything distinctively in favor of this arguably more complex hypothesis, but it is a possibility to keep in mind.

The fact that the verbal nominalizer *-su* can be a high nominalizer, whereas the adjectival nominalizer *-dɛ* may only be a low nominalizer might seem to provide an alternative explanation for our central asymmetry in how theme arguments are coded in the two forms of nominalization. This could make Baker's (2003) hypothesis about the argument structure difference between verbs and adjectives superfluous. Then the idea would simply be that if the nominalizer combines with the head before it takes an argument, the argument is marked with *ɓa*, but if the nominalizer combines with the head after it takes its argument, the argument is unmarked. This may indeed be part of the story. However, taken by itself, we do not find this fully satisfactory. First, it is not at all clear, internal to Dan, why the hypothesis that arguments that combine with an already nominalized word should be marked with *ɓa*, since the argument of a relational noun is not marked with *ɓa*. In other words, it is not clear why low nominalizations (of adjectives) should count as deriving nonrelational nouns rather than relational nouns. On the contrary, it is usually assumed that event- and state-denoting nouns are a subclass of the inherently relational nouns (see, for example, Alexiadou et al. 2007: 477).

Furthermore, even if we accept that deverbal nominalizations are high nominalizations, whereas adjectival nominalizations are low nominalizations, we should still ask why there is *this* asymmetry in Dan, and why it could not just as well have been the other way around. And indeed there is some reason to think that something systematic is at work here. Dan has at least two other forms of deverbal nominalization that can be considered. One involves the agentive nominalizer *-mɛ* (related to the noun meaning 'person', Gondo 2016: 212–213); another involves the location-denoting nominalizer *-dɛ* (homophonous with the deadjectival nominalizer, as discussed in Section 4). Both of these additional nominalizers are like *-su* in two respects: the theme argument of the base verb is unmarked, appearing without *ɓa*, and a goal PP can intervene between the verb and the nominalizer.

(46) a. Klà zʌ̄-mɛ̄ jà gā.
Kla kill-AG.NMLZ 3.SG.PST die
'Kla's killer died.'

b. vǐ nū Klà dɛ̀ mɛ̀ jà gā.
fish give Kla to AG.NMLZ 3.SG.PST die
'The giver of fish to Kla died.'

(47) a. Klà è kpa̰ Zɔ̀tā́ gā-dɛ̄ ɓà.
Kla 3.SG.PRS see Zota die-LOC.NMLZ PRT
'Kla sees the place where Zota died.'

b. Zɔ̀tā́ ɓā́ ɓā́ā́ kpà-dɛ̀
Zota POSS rice cook-LOC.NMLZ
'the place where Zota cooks rice'

c. ɓā́ā́ gbɔ̀ɔ̀ mɛ̄-nū dɛ̄ dɛ̀
rice give person-PL to LOC.NMLZ
'the place for giving rice to people (as charity)'

Thus it seems that all productive nominalization of verbs in Dan can be high nominalization, as a significant generalization. Therefore some bias toward allowing high nominalization would be evident to a child learning Dan. The question would arise, then, why the child resists treating deadjectival nominalizations in an analogous way, especially given that obscure negative data like (44) is probably not available to language learners in the primary linguistic input. Baker's (2003) theory of categories provides the basis for an

answer, creating the expectation that the argument structure of an adjective is different from that of a verb in a relevant way.

8 Conclusion and final discussion

In this article, we have shown that when a transitive or unaccusative verb is nominalized in the Dan language, its theme argument is expressed like the inalienable possessor of a relational noun, whereas when an adjective or noun is nominalized, its theme (subject) argument is expressed like the alienable possessor of a nonrelational noun. This generalization holds true for both the low type of nominalization, in which the nominalizer combines directly with the lexical root before that root combines with any arguments or adjuncts, and for the high type of nominalization, in which the nominalizer combines with a larger phrase. We have explained this striking difference using Baker's (2003) theory of the differences among the lexical categories, according to which verbs combine directly with a theme argument (as well as perhaps a goal/path argument), whereas adjectives and nouns can only be predicates of a theme argument with the help of a functional head like Pred. This study thus provides new empirical support for this particular theory of lexical categories, as opposed to others which emphasize a stronger parallelism across the various lexical categories and do not attribute to them any systematic difference in argument structure.

This investigation raises interesting new questions for future research, including whether other languages show an analogous difference between deverbal nominalizations and deadjectival nominalizations, and if not why not. These questions go beyond our goals here. However, we can offer a further remark about English in this respect. English does not show any clear distinction between deverbal nominalization and deadjectival nominalization analogous to the one in Dan, as mentioned in the introduction. For example, the theme arguments of unaccusative verbs, transitive verbs, and adjectives can all be expressed with a prenominal genitive DP, without any obvious distinction, as shown in (48a–c).

(48) a. Pat's arrival, Pat's death
b. Pat's dismissal, Pat's promotion
c. Pat's foolishness, Pat's bravery
d. Pat's mother, Pat's leg
e. Pat's toy, Pat's car

To a large extent, this is expected simply because English often does not draw a clear distinction between alienable and inalienable possession, even with simple nouns, as seen in (48d, e). The so-called Saxon genitive can express this whole range of relationships (and more) without obvious distinction. This may be because English requires the use of some kind of determiner (including *s* or the null head that assigns it) with all count nouns, and/or because DPs inside a nominal in English are required to receive genitive case. Since Dan does not have these interfering factors, a basic difference among categories is able to shine through more clearly, we claim. This is a typical illustration of the value of doing linguistic research on a wide range of languages.

There is a bit of a distinction between alienable and inalienable possession elsewhere in English, however (see Barker 1995: 51, 76). Although the judgments can be somewhat clouded by issues of the definiteness and animacy of the possessor, the structure [Det N *of* DP] is generally better when N is a relational noun than when it is a nonrelational noun. This is shown in (49).

(49) a. the mother of the kitten/?Pat
the leg of the table/?the child/??Pat

b. the toy of the ?*kitten/*Pat
*the car of Pat

However, this contrast does not carry over into a distinction between deverbal nominalizations and deadjectival nominalizations; all of the examples in (50) are pretty much equally acceptable (Barker 1995: 62–66).

(50) a. the arrival of the train/the child/?Pat
the death of the kitten/?Pat
b. the promotion of the candidate/?Pat
the dismissal of the employee/Pat
c. the foolishness of the child/Pat
the bravery of the child/?Pat

Why don't we see a difference here? The deverbal nominalizations in (50a, b) are parallel to the relational nouns in (49a), as in Dan, so nothing special needs to be said about them. From the perspective of Dan, the surprise is why the deadjectival examples in (50c) are better than the ones with nonrelational nouns in (49b). One possibility is that *-ness* and other deadjectival nominalizers in English are low nominalizers that—unlike in Dan—count as having an internal argument of their own, as a lexical property. In other words, they are like bound relational nouns, rather than like bound neutral nouns. As such, they would be a limited exception to the baseline expectation that the argument structure of a derived nominal is the same as that of the root it attaches too. On this hypothesis, the English deadjectival nominalization can be compared to the Dan one as in (51).

(51) a. foolish < > + NMLZ = foolishness < > (Dan)
b. foolish < > + NMLZ <X> = foolishness <X> (English)

Then the argument structure of a deadjectival noun in English would be like that of a deverbal noun or a simple relational noun, but for a different reason. This is one possible account of English's lack of distinction in (50).

A connection can be made here with Roy's (2010) study of deadjectival nominalizations in French, the observations of which carry over well to English as well (see also Arsenijević 2011 on Serbo-Croatian).[22] Roy points out that constructions of the form [the A-NMLZ of DP] have a form of predication between the adjectival root and the DP argument. An empirical consequence of this is that this construction is possible if and only if the adjective can be predicated of the DP in a copular sentence. So the examples with attributive modification in (52a) look parallel, but (52b) shows that only one use of the adjective *nasal* is possible as a predicate. (52c) then shows that the same distinction that we see in copular predication shows up in deadjectival nominalization, suggesting that the two constructions are integrally related.

(52) a. the nasal vowel
the nasal cavity
b. That vowel is nasal.
#That cavity is nasal.
c. The nasality of the vowel (surprised the phonetician).
#The nasality of the cavity (surprised the anatomist).

[22] We thank two anonymous reviewers for pointing out these works to us.

This interesting observation is further support for the idea that the meaning of a Pred head found in copular constructions is also present in nominalizations. This is true for our proposal in (51b), where the NMLZ morpheme creates an argument for the adjective, parallel to what Pred does for an adjective in (26b). However, we probably do not want to say that NMLZ is literally a realization of the Pred head in a nominal environment, as Roy does. That would imply that the theme argument would be in a Spec PredP position—i.e., like a subject—whereas in fact the generalization here is that deadjectival nominalizations in English are like relational nouns in English, which presumably take an argument as complement, not as specifier (as in Dan).[23] So we have reason to capture Roy's insight in a somewhat different way, less directly. In contrast to English, French, and Serbo-Croatian, the nominalizer *-ɗɛ̄* in Dan does not have the meaning of Pred (argument creation) built into it, as we have seen. This raises the question of whether attributive adjectives that cannot be used predicatively can be nominalized by *-ɗɛ̄* in Dan in a way that they cannot be in the Indo-European languages. Unfortunately, we do not know of any such adjectives in Dan at this time, so the question must remain unanswered for now.

The moral of the story that we learn from Dan is that, *if* there is a distinction between deverbal nominalization and deadjectival nominalization, then we expect it to go in the direction of deverbal nominalizations being like relational nouns and deadjectival nominalizations being like nonrelational nouns. However, we should not be surprised when we fail to see a distinction in various languages, because there are several factors about the syntax of DPs that can wash out the distinction, including at least the ways that possession is realized in the syntax, and the lexical properties/features of the nominalizer that combines with adjectival expressions.

Abbreviations

3 = third person, ADJ = adjectivizing suffix, AG = agent, CONT = continuous, DEM = demonstrative, LOC = locative, NMLZ = nominalizer, PL = plural, POSS = possessive particle, PRS = present, PRT = particle, PST = past, REL = relative marker, SG = singular

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Competing Interests

The authors have no competing interests to declare.

References

Alexiadou, Artemis. 2003. Some notes on the structure of alienable and inalienable possessors. In Martine Coene & Yves D'Huslst (eds.), *From NP to DP: The expression of possession in noun phrases*, 167–188. Amsterdam: John Benjamins. DOI: https://doi.org/10.1075/la.56.12ale

[23] Roy (2010) assumes for French that the adjectival root undergoes head movement leftward/upward to reach a position before/above the theme argument in Spec PredP. However, this movement is more plausible for French than for English, because French often has [N-Adj-of-DP] order, whereas English consistently has [Adj-N-of-DP] order, with the noun coming after even low adjectives.

Alexiadou, Artemis, Liliane Haegeman & Melita Stavrou. 2007. *Noun phrase in the generative perspective*. Berlin: Mouton de Gruyter. DOI: https://doi.org/10.1515/9783110207491

Arsenijević, Boban. 2011. The semantic ontology of deadjectival nominalizations in Serbo-Croatian. *Recherhes linguistiques de Vincennes* 40. http://journals.openedition.org/rlv/1933. DOI: https://doi.org/10.4000/rlv.1933

Baker, Mark. 2003. *Lexical categories: Verbs, nouns, and adjectives*. Cambridge: Cambridge University Press. DOI: https://doi.org/10.1017/CBO9780511615047

Barker, Chris. 1995. *Possessive description*. Stanford, CA: Center for the Study of Language and Information.

Borer, Hagit. 2005. *In name only*. New York: Oxford University Press.

Bowers, John. 1993. The syntax of predication. *Linguistic Inquiry* 24. 591–656.

Chomsky, Noam. 1970. Remarks on nominalization. In Roderick Jacobs & Peter Rosenbaum (eds.), *Readings in English Transformational Grammar*, 184–221. Waltham, MA: Ginn.

Chomsky, Noam. 1993. A minimalist program for linguistic theory. In Kenneth Hale & Samuel Jay Keyser (eds.), *The view from Building 20*, 1–52. Cambridge, MA: MIT Press.

Chomsky, Noam. 1995. *The Minimalist Program*. Cambridge, MA: MIT Press.

Croft, William. 1991. *Syntactic categories and grammatical relations*. Chicago: University of Chicago Press.

den Dikken, Marcel. 2006. *Relators and linkers: The syntax of predication, predicate inversion, and copulas*. Cambridge, MA: MIT Press. DOI: https://doi.org/10.7551/mitpress/5873.001.0001

Diercks, Michael. 2012. Parameterizing Case: evidence from Bantu. *Syntax* 15. 253–286. DOI: https://doi.org/10.1111/j.1467-9612.2011.00165.x

Gondo, Bleu Gildas. 2016. Etude phonologique et morphosyntaxique du dan gblewo [Phonological and morphological study of Dan Gblewo]. Ivory Coast: l'Université Félix Houphouët Boigny dissertation.

Hale, Kenneth & Samuel Jay Keyser. 1993. On argument structure and the lexical expression of syntactic relations. In Kenneth Hale & Samuel Jay Keyser (eds.), *The view from building 20*, 53–110. Cambridge, MA: MIT Press.

Hale, Kenneth & Samuel Jay Keyser 2001. *Prolegomenon to a theory of argument structure*. Cambridge, MA: MIT Press. DOI: https://doi.org/10.7551/mitpress/5634.001.0001

Hazout, Ilan. 1995. Action nominalizations and the lexicalist hypothesis. *Natural Language and Linguistic Theory* 13. 355–404. DOI: https://doi.org/10.1007/BF00992736

Kayne, Richard. 1994. *The antisymmetry of syntax*. Cambridge, MA: MIT Press.

Koopman, Hilda. 1992. On the absence of Case chains in Bambara. *Natural Language and Linguistic Theory* 10. 555–594. DOI: https://doi.org/10.1007/BF00133330

Kratzer, Angelika. 1996. Severing the external argument from its verb. In Johan Rooryck & Laurie Zaring (eds.), *Phrase structure and the lexicon*, 109–138. Dordrecht: Kluwer. DOI: https://doi.org/10.1007/978-94-015-8617-7_5

Marantz, Alec. 1997. No escape from syntax. In Alex Dimitriadis & Irene Siegel (eds.), *University of Pennsylvania Working Papers in Linguistics*, 201–225. Philadelphia, PA: University of Pennsylvania Department of Linguistics.

Roy, Isabelle. 2010. Deadjectival nominalizations and the structure of the adjective. In Artemis Alexiadou & Monika Rathert (eds.), *The syntax of nominalizations across languages and frameworks*, 129–158. Berlin: de Gruyter Mouton. DOI: https://doi.org/10.1515/9783110245875.129

Vergnaud, Jean-Roger & Maria Luisa Zubizarreta. 1992. The definite determiner and the inalienable constructions in French and in English. *Linguistic Inquiry* 23. 595–652.
Wood, Jim. 2019. Icelandic nominalizations and allosemy. New Haven, CT: Yale University manuscript.

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