

Leipzig Questionnaire on Nominalizations and mixed categories

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1. Introduction

The questionnaire discusses two types of nominalizations: lexical and clausal (Comrie & Thompson 1985; 2007). Below we will mostly be concerned with clausal nominalizations which show a ‘mixture’ of verbal and nominal characteristics; lexical nominalizations will be specifically addressed in §15-16.

As is well known languages allow for expressing not only terms but also propositions in the argument (NP) positions. Thus for English we have:

- (1) a. *That John won the race came as no surprise*
b. *John winning the race came as no surprise*
c. *John’s winning the race came as no surprise*
d. *John’s winning of the race came as no surprise*
e. *John’s refusal came as no surprise*

While the sentential subject in (1a) retains all clausal properties, and the abstract noun in (1e) shows all features of underived nouns, the constructions in (1b-d) display a mixture of verbal (clausal) and nominal properties. For example, the verbal gerund in (1c) takes the object in the same form as a finite verb, while the subject is encoded in a nominal fashion as a possessor. Similar constructions are found in many other languages. For example in Turkish we have a nominalization-participle which takes its complements and adjuncts in the sentential form while the subject appears in the genitive and is cross-referenced by the possessive-style agreement.

- (2) Turkish
kız-ın kedi-yi kovala-dığ-ın -ı gör-dü-m
girl-GEN cat-ACC chase-PART-3.SG.POS-ACC see-PST-1.SG
‘I saw that the girl was chasing the cat’

Our focus is mainly on the forms like 1b-d (the verbal gerunds in (1b-c) and the nominal gerund in (1d)) and its Turkish counterpart (2), which show to a different degree both nominal and verbal properties, but other types will also be taken into account as well. The clausal nominalizations will be taken into account insofar as they allow for a combination with a case or adposition, which would be then a limiting case. At the nominal end of the cline, the limiting case would be deverbal nouns of the ‘process’ type (action nominalizations) which are most similar to verbs in terms of argument structure (Grimshaw 1990); other types of deverbal nouns (e.g., of the ‘result’ type) are considered insofar as they share the same form with action nominalizations and/or display verbal characteristics (see §16 for some discussion). Also we will be mainly concerned with nominalizations occurring in the argument (subject or object/complement) positions, although other uses will be mentioned as well, as long as they involve the same

nominalization marker (consider different functions of the English *-ing* form). Different uses of polyfunctional nominalization markers will be briefly introduced in §2, but the discussion of morphosyntactic distinctions between different uses will be relegated to section §14.

The following questionnaire examines nominalization patterns in individual languages w.r.t. their syntactic, morphological, and semantic properties. Ultimately, the questions relate to possible combinations of verbal (clausal) and nominal properties in nominalizations, but availability of verbal and nominal categories will be first addressed independently (cf. ‘deverbalization’ and ‘substantivization’ in Malchukov 2004). Note that these characteristics should be described for each nominalization pattern (so that e.g. the nominal and verbal gerund will be described separately). Only the introductory sections where basic nominalization markers are introduced (§2-3), ask questions about particular nominalizers; the rest of the questionnaire is concerned with individual nominalization patterns. In what follows NZ stands for a particular nominalization type (pattern).

2. Nominalizations: inventory and function

- Does your language have nominalizations (such as (1b-d) or (2)) above?
- How are these constructions marked (in particular, what is the morphological status of nominalization marker)?

NB the nominalizing morpheme may be an affix but also a free morpheme, as Japanese nominalizer *koto*.

- What kind of constructions does each marker appear in?
 - In complement clauses?
 - In relative clauses?
 - In adverbial clauses?
 - Other constructions?

NB In many languages nominalization markers are polyfunctional, i.e. are also employed in other functions. Consider the different uses of the *-ing* form in English which apart from complement clauses (cf. the gerund uses as in (1b-d)) can appear in the (reduced) subject relative clauses (cf. *a singing girl*), as well as in adverbial clauses (cf. *Crossing the street, he noticed...*). In German one type of nominalizations is identical to infinitives (cf. *das Singen*). In Turkish, the nominalizer *-DIK* is used in complement clauses (as in (2)), but also for relative clauses when a non-subject is relativised (as in (3)), as well as for certain types of adverbial clauses:

- (3) ız-in ___ kovala-dığ-ı kedi pencere-den düş -tü
 girl-GEN chase-DIK-3.SG.POS cat.NOM window-ABL fall-PST(-3SG)
 ‘The cat that the girl is chasing fell from the window.’

Possible morphosyntactic distinctions between the uses of nominalizations in complement vs. other functions will be addressed in §17 below.

3. Nominalizations: basic syntax

- How are core arguments of the verb (subjects and object) encoded? Are they encoded in the possessive or in a sentential form (as found with finite verbs)?

Note that encoding can be manifested either through dependent marking (case/adposition) or head-marking (agreement/cross-referencing). Usually, the encoding through head and dependent marking match, that is, they are both either sentential or possessive. Importantly, however, they need not match. Thus, in Cuzco Quechua (Lefebvre & Muysken 1988; cf. Cole 1982 on Imbabura Quechua), the subject of a nominalized verb can appear either in the nominative or a genitive form, but is invariably cross-referenced through a possessive-style agreement.

In particular:

- What is encoding of the intransitive subject (S), in nominalizations?

NB this question should be asked separately for different subclasses of intransitive verbs (agentive/unergatives vs. patientive/unaccusatives) if this distinction is relevant for the clausal syntax in your language.

- What is encoding of the transitive subject (A) and the direct object (P) of transitive verbs in nominalizations?

Nominalizations can be classified on the basis of encoding of verbal arguments, in either sentential or nominal (possessive) form (Comrie & Thompson 1985; Koptjevskaja-Tamm 1993). The four main nominalization types based on a transitive verbs w.r.t. encoding of A and P arguments are: sentential (nom-acc, cf. (1b)), pos-acc (see (1c)), pos-pos (1d), as well the erg-pos nominalization (as in (4)), where the object is encoded as a possessor, while the subject is encoded as an agentive oblique:

(4) *The winning of the race by my horse was no surprise*

- Which of these nominalization patterns (in terms of case marking of arguments) are found in your language?
- Which other nominalization patterns are found in your language?

NB For example, some languages allow for incorporation of an (object) argument; cf. constructions of the type *truck-driving* in English and other European languages (Koptjevskaja-Tamm 2003: 739). Similarly, in Cuzco Quechua, the objects in nominalized clauses with genitive subjects must be unmarked (rather than accusative). Another strategy is to encode an argument as a possessive adjective rather than as a genitive marked NP. This is especially frequent with pronouns but may be also found with some (highly referential) nouns as well (see 3.4 below). Some other patterns are cross-linguistically attested, albeit less frequently. Thus, languages build nominalization on a relative clause pattern, so that English nominalization of the type *X's buying of the dress* would be rendered by

constructions of the type “the buying of the dress that X did” (or “the buying that X bought the dress”; see Koptjevskaja-Tamm 2005: 255 on Yoruba).

3.3. Nominalization: variation in patterns

- Do individual nominalizers described above allow for variation in syntactic pattern?

Recall that verbal and nominal gerunds in English differ in the object encoding (among other things). Some other languages like Cuzco Quechua exhibit a variation between GEN and NOM subjects inside the nominalized clauses:

- (5) Cuzco Quechua
Xwan [tata-y/tata-y-pa maqa-wa-sqa-n-ta] uyari-n
Juan father-1/father-1-GEN beat-1OM-NOM-3-ACC hear-3
Juna heard that my father had beaten me.

3.4. Encoding of pronominal arguments

- Is expression of pronominal arguments the same as nominal ones?

NB this need not be the case: e.g., in Russian pos-pos nominalizations are only possible with pronominal subjects (as in (6b)), while (lexical) nominal arguments follow the erg-pos pattern (as in (6a)):

- (6) Russian
a. *čtenie knigi Petej*
reading book.GEN Pete.INSTR
‘reading of the book by Pete’
b. *ego čtenie knigi*
his reading book.GEN
‘his reading of the book’

- If pronominal arguments display a deviant pattern, do some other NPs show this pattern, as well?

For example, in Slavic languages, apart from pronouns, proper nouns and kin terms have a special possessive adjectival form that can encode arguments of nominalizations; cf. Russian forms in *-in*: *mam-ino čtenie knigi* ‘Mom’s reading of the book’.

4. Deverbalization: morphological aspects

The questions in sections §4-8 ask which verbal categories are retained in nominalization and which nominal categories are acquired. This presupposes that verbal categories are formally distinguishable from the nominal ones. This is not always the case, however: problematic cases will be addressed in §9.

- Which verbal categories are found on a finite verb in your language (tense, aspect, mood, agreement, negation, voice, valency, other)?
- Which verbal categories are retained in NZ?

As is often the case, some categories are lost in NZ and some are retained. For example, in English verbal gerund as in (1b-c) loses tense distinctions but retains aspectual distinctions. In Korean the “non-factive nominalization” in *-ki* loses the epistemic mood markers but retains tense. In Turkish clausal nominalizations as in (2) voice/valency is retained, but the finite agreement is replaced by the noun-style possessive agreement, and tense is represented in an impoverished form or not at all, depending on the particular nominalization. Thus, factive nominalizations distinguish between the non-future form in *-DIK* and the future in *-(y)AcAK*; cf. (2) and (7):

- (7) Turkish
kız-in kedi-yi kovala-yacağ-ın-ı bil-iyor-um
 girl-GEN cat-ACC chase-FUT-DIK-3.SG.POS-ACC know-Pres.-1.SG
 ‘I know that the girl will chase the cat’

The same questions can be asked w.r.t. analytic expression of other grammatical categories (e.g., clausal negation *not* cannot be used to negate lexical nominalizations in English; cf. **not destruction*).

- If a verbal category (marker) is retained is its function retained as well?

Note that verbal categories retained on nominalizations closer to the lexical end tend to be reinterpreted and/or lexicalized. For example, Russian action nominalizations in *-nie* may retain aspectual markers, so that *rassmatr-iva-nie* ‘examination’ corresponds to the imperfective verb (*rassmatr-iva-tj* ‘examine (IPFv)’), while *rassmotre-nie* with a similar meaning corresponds to the perfective (*rassmotretj* ‘examine (PFv)’). Yet, only the former is used as a regular action (process) nominalization, the latter is lexicalized referring to examination as a legal term (Comrie & Thompson 1985: 363).

5. Deverbalization: syntactic aspects

The following questions ask which clausal features are retained by NZ. Note that deverbalization in syntax need not match morphology. For example in Basque *-te*-nominalizations display total loss of verbal morphological categories (including agreement markers), while clausal syntax (i.e., ERG-ABS encoding of arguments) remains intact.

- (8) Basque (Saltarelli 1988: 258)
Su-k ni-ri gezurra esa-te-ak
 you-ERG me-DAT lie-SG.ABS tell-NMZR-SG.ERG
harri-tzen n-a-u
 surprise-HAB 1SG.A-PRES-AUX(-3SG.ERG)
 ‘That you tell me a lie surprises me.’

- How are arguments and modifiers in finite clauses expressed in your language?
- How are arguments and modifiers expressed in NZ? In particular, are subjects and objects marked with the same case as in verbal sentences?
 - S encoding
 - A encoding

- P encoding
- encoding of indirect and oblique objects?

NB usually indirect and oblique objects are retained in the ‘sentential’ form, as found in the finite clauses (Comrie & Thompson 1985), but sometimes they have a special expression. For example, in Georgian ‘masdar’ nominalizations the indirect object is encoded as in the passive construction (with the suffix *-tvis*), not by the dative case as in the corresponding transitive active clause.

- expression of adverbial modifiers

NB this may differ for different types of adverbial modifiers; thus in English action nominal permits time adverbs (like *tomorrow*) more readily than manner adverbs (like *quickly*).

6. Substantivization: morphological aspects

- What nominal categories are available for (non-derived) nouns (case/adposition, determiners, number, case, possession, other) in your language?

NB apart from inflectional morphology analytically expressed function words (e.g., articles) should also be taken into account.

- What nominal categories are acquired by the nominalized predicate?

As in case of verbal categories, acquisition of nominal categories is often gradual (Malchukov 2004). For example, in Mangarayi, the only nominal category acquired by the nominalized predicate is case (otherwise nominalized predicate retain the verbal morphology). In Jamul Tiipay (a variety of Diegueño), nominalizations further take a determiner, but not the other categories (the subject is encoded by the finite not the possessive morphology).

- (9) Jamul Tiipay (Miller 2001: 219)
- | | | |
|--------------------|-----------------|-----------------|
| <i>[Me-xap]-pu</i> | <i>nya'wach</i> | <i>ny-uuwiw</i> |
| 2-enter-DEM | we.SUBJ | 1,2-see.PL |
- ‘We saw (that) you come in’

For example, in Turkish, the nominalized predicates in *-DIK* in addition to case acquire the possessive agreement morphology found on non-derived nouns (see (2)).

- Are the nominal categories under consideration used productively or not?

NB there may be idiosyncrasies in interpretation or idiosyncratic restrictions on the use of nominal categories. For example, the *-ma* nominalizations in Finnish (the “second infinitive”) is regularly used with the inessive case *-ssa* in the function of the simultaneous converb.

- If your language has several possessive (agreement) categories (e.g. for alienable/inalienable possession), which category is used in NZ?

7. Substantivization: syntactic aspects (encoding of arguments/modifiers)

- If your language allows for possessive encoding of arguments (by a genitive case or adposition like English *of*), which argument is encoded in the possessive form?
- If there are several ‘genitive’ constructions available in your language, which arguments do they encode?

NB Thus, English has two genitive/possessive markers (the ‘Saxon genitive’ –s and the ‘Norman genitive’ *of*), and Modern Hebrew has three (Comrie & Thompson 1985: 380). In English, the ‘Saxon genitive’ encodes A, and the ‘Norman genitive’ encodes P, when both arguments are present in nominalization of the pos-pos type (see (1d)).

- Does nominalization combine with nominal modifiers?
 - determiners (demonstratives, articles)
 - adjectives
 - numerals (may be possible for certain types of lexical nominalizations)
 - other (e.g., noun classifiers)

For example, in English, nominal gerunds like in *John's playing of the concerto* only allow adjectival modification, while the more verbal gerundives (*John's playing the concerto*) can only take adverbial modifiers:

- i) *J's slow playing of the concerto*/**J's playing of the concert slowly*
- ii) **J's slow playing the concerto*/*J's playing the concerto slowly*

8. Combinations of nominal and verbal categories

- What combinations of nominal and verbal categories are possible?

For example, in English, number marking in nominalizations excludes use of aspectual auxiliaries.

- What combinations of verbal and nominal syntactic properties are possible?

For example, in English, encoding of P in the possessive form normally excludes the use of adverbs (see examples of gerundive nominalizations above). In Cuzco Quechua, nominalizations with genitive subjects take the object in the unmarked rather than accusative case.

9. Problematic cases

In some cases, the categories involved in nominalizations cannot be straightforwardly identified as nominal or verbal. Three different cases will be considered in this section (Malchukov 2004): neutralization of distinctions between nominal and verbal categories; doubling of verbal through nominal categories, and the use of markers specific to nominalizations.

- Are there case of neutralization of distinctions between nominal and verbal categories in your language?

For example, in some languages like Koasati the finite agreement may be indistinguishable from the possessive marking as found on nouns. The same neutralization may be attested for syntactic categories. For example, in some languages (like Eskimo) ergative case is identical to the genitive, and in some other languages (like Ket) there is no distinction between adjectives and manner adverbs.

- Is ‘doubling’ of nominal categories through verbal categories permitted?

E.g. in Italian and Dutch adjectives and adverbs can modify certain types of nominalizations simultaneously; cf. Dutch *zijn konstante energiek zwemmen* lit. ‘his constant energetically swimming’.

- Are there any features of nominalizations not traced to either nouns and verbs?

For example, in Modern Hebrew, the negative marker (prefix *iy-*) for the action nominal (as in *i-hishtatfut-o shel David* neg-participation-3poss of David ‘David’s non-participation in the party’) is distinct from both nominal and verbal negation.

10. Word order in nominalization

- Does word order follow a nominal or verbal pattern?

This question is less relevant for languages which are consistently head-final (SOV, GEN-N), but is relevant for other language types. Compare, for example, substantivized infinitives in Spanish and Italian, in which the subject follows the infinitive, as opposed to its normally preceding finite verbs, cf. It. *il ricercare Giovanni la verità* ‘Giovanni’s searching the truth’ vs. *Giovanni ricercava la verità* ‘Giovanni searched for the truth’ (Koptjevskaja-Tamm 2003: 748).

11. Internal syntax

- What clause level “transformations” found in your language are retained in nominalizations?

As is well known (Chomsky 1970), sentence level transformation such as raising, dative shift are barred from lexical nominalizations in English. Control structures are permitted though (cf. *decision to leave*). Nominalizations closer to the clausal end are more permissive in that respect. The following example from Even (Tungusic) illustrates the passive nominalization (cf. Kornfilt 1997 for similar examples from Turkish):

- (10) Even (Malchukov 2004: 75)
Bej nakat-tu ma-v-ča-va-n ukčēn-ni
 man bear-DAT kill-PASS-PERF.PART-ACC-3SG.POS tell-AOR.3SG
 ‘He said that a man was killed by the bear. (lit. man’s being killed by bear)’

- Do NZs allow wh-movement?

For example in English not even verbal gerundives allow wh-words to be moved to the beginning of the clause:

(i) **I asked what her doing* (vs. *I asked what she was doing?*)

(ii) **We wondered about what J's rejecting*. (vs. *We wondered about what John had rejected*).

12. External syntax (complement clauses)

- In what argument positions does NZ occur?
 - subject (S/A) position (as in (1))?
 - (direct) object (P) position (as in (2))?
 - oblique/adpositional object?
 - noun complement?
 - other positions?

For example, in English, *that*-clauses can appear in the subject and object (complement) position, but not as an object of preposition.

- Does NZ display identical morphosyntactic properties with nouns in these positions?
 - Do NZ get case marked (as in Turkish (2) and Quechua (4))?
 - Do they receive an (obligatory) determiner (as in Diegueño (8))?
- Do nominalizations display different morphosyntactic properties when used in different positions?

For example, in Cuzco Quechua nominalizations in the subject position require the (embedded) subject in the genitive form, while both genitive and nominative are possible for subjects of nominalized verbs used in other positions.

- Can nominalization be used as a part of a complex predicate? Does it display the same syntax in the latter function?

For example, in Irish, unlike English, nominalizations take a possessive object also when used as a part of a complex predicate (Borsley & Kornfilt 2000:121); cf. *Tá Cathal ag moladh an phictiúir* [is Cathal PROG praise the picture.GEN] ‘Cathal is praising the picture’.

- Do NZ clauses impose island conditions?
 - In extraction?

For example, in English, the verbal gerunds, like ordinary possessive phrases, disallow extraction of the genitive subject (Ross’s (1986) Left Branch Condition): **Whose did you regret playing the piece?*; cf. **Whose did you see the book?*

- In other constructions?

For example, in English, the verbal gerund cannot be used in raising and extraposition structures. Cf. *It seems that they left the city!* **It seems their leaving the city*; *It is false that they left the city!* **It is false their leaving the city* (Milsark 2006).

13. Nominalizations in complement clauses: functional distinctions

- What matrix verbs can or must take a nominalized complement in your language?
 - verbs of speech?
 - verbs of propositional attitude?
 - verbs of perception?
 - other verb types?
- Are non-factive complements encoded differently from factive ones?
- Do factive and non-factive nominalizations differ in their morphosyntactic properties?

For example, in Turkish, non-factive nominalizations (in *-mA*) do not distinguish tense-aspect-mood unlike factive clauses. Cf:

- (11) Turkish
kız-ın kedi-yi kovala-ma-sın-ı isti-yor-um
girl-GEN cat-ACC chase-mA-3.SG.POS-ACC want-Pres.-1.SG
'I want that the girl should chase/would have chased/will chase the cat'

NB reduction of TAM categories with non-factive nominalizations/infinitives is frequent cross-linguistically (Cristofaro 2003).

- What other functional distinctions are encoded through the use of particular nominalization markers in your language?

14. Nominalization markers: other uses

- If nominalization markers occur in other functions (listed under §2), what are morphosyntactic properties of these forms as compared to nominalizations used in complement clauses?
 - In relative clauses?
 - In adverbial clauses?
 - In other construction types?

For example, in Turkish, the nominalized predicates in *-DİK* take a genitive subject when used in a complement clause (as in (2)), but take a nominative subject when used in certain types of adverbial clauses (e.g., temporal ones). In Ket (a Siberian isolate), the nominalization can also function as an infinitive, but it usually lacks nominal properties (e.g., possessive agreement) in the latter function.

15. Additional questions on lexical nominalizations: syntactic issues

- Do lexical nominalizations (deverbal nouns) display verbal properties?
- If they do, does this hold for action nominalizations only, or for other types of deverbal nouns as well?

E.g., in Tungusic languages, both action nominalizations and agentive-instrumental nominalizations may retain the object in the accusative form; cf. Even (North-Tungusic): *oro-m kōsči-n* 'reindeer (acc) breeding', *oro-m kōsči-mje* 'reindeer (acc) breeder'.

- What are the restrictions on the expression of verbal arguments with lexical nominalizations?

For example, in Russian, *pobeda* ‘victory’ does not admit P in the possessive form as is usual with nominalizations based on transitive verbs (an oblique preposition *nad* is used instead to introduce P).

- Do lexical nominalizations display irregular government?

This is common with nominalizations from experiential verbs; cf. German *Liebe zu*, Russian *l’ubov’ k* ‘love for’.

- Do nominalizations from psych-verbs admit an agentive phrase?

For some languages, reported as impossible: cf. **fear of flying by many people* (Rozwadowska 2006).

- Are there “passive nominalizations” of the erg-pos type (see (1f) from English or (6b) from Russian) in your language? If yes, what features do they share with passives?

- Is the A in nominalization encoded as in the passive construction?

Note that while some languages use the same encoding (cf. *by*-phrase in English), other languages encode A in a different way: for example, in German, *durch*, not *von* is used to introduce A with action nominals (Comrie & Thompson 1985).

- If A in nominalization and passive constructions, are encoded similarly, is this pattern of A-marking also found with non-derived nouns?

As noted in (Comrie & Thompson 1985) this is possible for English (*the book by Tolstoy*), but impossible in Russian (**kniga Tolstym*).

- Do these nominalizations display a regular passive morphology?

Cf. the proper passive nominalization in (10) from Even.

- What other features do nominalizations share with passives apart from A-marking?

For example, in Georgian, indirect objects in ‘masdar’ nominalizations are encoded as in the passive construction (by the suffix *-tvis*) not as in its active counterpart.

- Are there nominalizations of the pos-pos type in your language? If yes,
 - What is the interpretation of the sole genitive phrase – agentive, patientive - with nominalizations built on canonical transitives? (cf. *the man’s killing; killing of the man*)?
 - If an agentive or patientive interpretation is possible for the possessor in nominalizations built on canonical transitives, is this possible for less canonical ones (e.g., experiential verbs)?

As is well-known, often it is not the case (cf. *movie shocked the public* vs. **movie’s shock*); *John enjoyed the movie* vs. **movie’s enjoyment by John*).

16. Additional questions on lexical nominalizations: event vs. result nominalizations

- Is there a distinction between lexical nominalizations of the event vs. result type in your language?

For example, in English the same types of derived nouns can be used as either event or result nominals (Grimshaw 1990); cf. *the frequent expression of one's feelings* vs. *such expressions (are inappropriate)*. In other languages there are dedicated suffixes for the respective function. For example, in Romanian *afirmare /afirmație* 'affirmation', the first has an event reading, while the second can only have the result reading.

- How different nominalization types relate to a semantic distinction between event and result nominalizations?

For example, for Romance and Slavic languages it has been noted that pos-pos nominalizations have a result reading while erg-pos have an event reading. Consider the following French examples (from Rozwadowska 2006):

- (i) *la description du paysage de Pierre*
'Pierre's description of the landscape'
- (ii) *la description du paysage par Pierre*
'the description of the landscape by Pierre'

- What other semantic nominalization types can be distinguished (have dedicated markers)?

E.g., in Turkish there is a dedicated marker *-ış* used for manner nominalizations.

- Are action nominals compatible with adverbials like 'in two days', 'for two days' and adjectives like 'frequent'?
- Does the presence of these adverbs correlate with the event/process distinction?
- In case lexical nominalizations permit temporal/aspectual adverbs, are they also permitted with non-derived abstract nouns (cf. *the concert in two days*, etc)?

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