

# NOMLEX WORD CLASSES

MANUAL

Ruth Reeves  
Catherine Macleod

Computer Science Department  
New York University

prepared under NSF Grant No. IRI-9633286.

January 15, 1999

This manual lists the features and the complement structures used for the **NOMLEX** dictionary specification of nominalizations and the predicate structure relation to the verbs to which they correspond. It can be referenced in conjunction with **COMLEX Syntax Reference Manual 3.0** for more detailed definitions of the lexical classes in use. Its primary purpose has been to serve as a guide for dictionary coding.

The complement structures and features in this manual follow the organization of the interactive coding program used to create **NOMLEX**. Subclass names attempt to be as descriptive as possible and spell out in most cases the syntactic environment subcategorized for. Each feature or subclass is followed by a brief definition of the class and some examples. A list words that are members of a given class is intended as further help.

.

## NOTATION

### **:ORTH**

The orthography of the nominalization.

:orth "retirement"

### **:VERB**

The verb associated with the nominalization.

:verb "retire"

### **:PLURAL**

The orthography of the plural nominalization is given. Often the nominalization doesn't pluralize, in which case, it is marked **:PLURAL \*NONE\***. An entry so marked does not imply that there are no plural nouns. What it does mean is that none the plural tokens of the word are nominalizations.

Example: His disappointments in life  
\*His dissappoints in the movie

### **:PLURAL-FREQ**

A ratio of the occurrences of the plural to the occurrences of the singular found in the British National Corpus is given if the plural is rare with respect to the singular. Otherwise, "not rare" is entered. For example, if there were 24 plurals and 2030 singulars, the entry would read "24:2030 plur:sing". A second ratio of plural forms is given if there is a noun usage as well as a nominalization. Since the BNC allows access to only 50 example sentences, for any given word-query, the nom-noun ratio is the number of plural nominalizations which occur in these 50 random examples.

### **:SINGULAR-FALSE**

If the nominalization can only occur in the plural, it is marked **:Singular-False t**.

**NOM-TYPE**

All of these designate nominalization types which incorporate different aspects of the verb phrase. These include event or state expressions of the verb and may also include incorporations of an argument of the verb. The following features are mutually exclusive:

**VERB-NOM**

The nominalization expresses only the event or state of the verb and allows rich complementation.

Example: Rome's DESTRUCTION of the city.  
Rome destroyed the city.

**VERB-PART**

The nominalization incorporates the verb particle. The verbal subject and object may appear but few oblique complements are allowed.

Example: The takeover of the company by ITT.  
ITT took over the company.

**OBJECT**

The nominalization incorporates the object-role of the verb. Therefore it allows no verbal object argument. (see Uniqueness Principle). The verbal subject may appear as well as other oblique verbal arguments.

Example: Clinton's APPOINTEE to the cabinet.  
Clinton appointed (the appointee) to the cabinet.

**SUBJECT**

The nominalization incorporates the subject-role of the verb. Therefore, the nominalization can have no subject argument. (see Uniqueness Principle). The verbal object is allowed as well as a reduced set of oblique verbal complements.

Example: John's teacher of history/history teacher.  
(the teacher) taught John history/history to John.

**IND-OBJECT**

The nominalization incorporates the indirect object of the verb. Therefore no indirect object argument can appear. (See Uniqueness Principle).

Example: The payee of the check  
(someone) paid the check (to the payee)

**:NOUN**

This applies to nominalizations which also have regular noun forms. Entries of this category are marked as to their relative frequency, as indicated below. There is also a subcategory labelled **RESULT**. This is a portmanteau category which may have to be further divided.

**RARE-NOM**

If the nominalization usage is much less prevalent than the noun usage, the nominalization is marked (Rare-Nom).  
Example: "delegation" is much more common in its noun usage, as a reference to a body of church-goers, than in its nominalization usage, as in "the treasurer's delegation of the task to the secretary".

**RARE-NOUN**

If the noun usage is much less prevalent than the nominalization usage it is marked (Rare-Noun).  
Example: "consumption" as a reference to the lung disease in contrast to "fuel consumption"

**PLUR-ONLY**

If the noun exists only in plural form, it is marked (Plur-Only).

**SING-ONLY**

If the noun exists only in singular form, it is marked (Sing-Only)

Example:

John was stricken with consumption

\*All the patients were stricken with consumptions

**EXISTS**

If there is a homograph with a usage frequency equal to that of the nominalization which occurs in both the singular and the plural, it is marked with this feature.

Example:

John's APPOINTMENT to the board (nominalization of APPOINT)

John's APPOINTMENT to have his teeth fixed (homograph noun)

## RESULT

This is a feature used for nominals that express the result of an event or state, rather than the event itself. The nominalization frequently can be used as the object in the verbal frame. It pluralizes easily because it is usually a physical object, thus countable. It is the result of the verb-event, rather than the event itself.

Example: They signed the agreement, then left it on the table

## :NOUN-SUBC

These are noun complements that appear with nominalizations but which have no related verbal roles or complements. That is, they are ordinary noun complements. The following two complement patterns contrast in this respect.

The announcement about the war (Noun-Subc (NOUN-PP :PVAL ("about")))  
 The announcement of the war (Verb-Subc)

There is no mapping from the first example, while there is for the second, to the corresponding sentence.

Someone announced the war.

The possible complement choices for NOUN-SUBC are:

NOUN-PP (given above)

NOUN-P-WH-S His announcement about whether they would come

NOUN-P-POSSING His announcement about England's going to war

**:VERB-SUBJ**

This is a list of nominal positions where the verbal subject can be found. Needless to say, no value is marked if the nom-type is NOM-TYPE :(SUBJECT), since this role is absorbed by the nominalization itself. These subjects are the default for all the subcategorization classes but they may be over-written under any complement with the keyword :subject followed by the list of subject positions allowed by that particular complement.

The possible positions in this list are:

**DET-POSS**

The possessive determiner of the noun. (most common)  
Example: MY/JOHN'S assessment of the situation

**N-N-MOD**

The pre-noun noun modifier position. (quite common)  
Example:  
The WHITE HOUSE/GOVERNMENT assessment of the situation

**PP-OF**

A prepositional phrase starting with "of" (more common as an object).  
Example:  
The action of the government to thwart the protest

Since PP-OF subjects are relatively rare as compared to PP-OF objects, NOMLEX provides a ratio of subject PP-OF instances to other PP-OF occurrences, given a particular nominalization. The range allows from 0/50 to 5/50 subject/other PP-OF instances. These ratios are obtained by consulting the British National Corpus.

**PP :PVAL (prep)"**

A prepositional phrase headed by a proposition other than "of" or "by" (quite uncommon)  
Example: (PP :pval ("to")) John's attraction to Mary  
Mary attracted John.

**NOT-PP-BY**

A prepositional phrase headed by "by" is a default subject position. If a "by" subject cannot occur it must be marked NOT-PP-BY.  
Example: John's arrival  
\*The arrival by John



# **:SUBJ-ATTRIBUTE/OBJ-ATTRIBUTE**

These are small attempts to incorporate some semantics into the dictionary in order to disambiguate subjects and objects which often occur in the same nominalization positions. The classes given below are valid as attributes for either the subject or the object. All of these attributes have an associated negative attribute with the prefix "NOT" (i.e. NUNIT, NOT-NUNIT).

## **NUNIT**

This class, which is a COMLEX noun class, indicates units of measurement. It includes words like "foot" "gallon" "dollar", etc

## **NHUMAN**

This class, also a COMLEX noun class, is for human entities, including "boy" "cook" "teacher", etc. Names and (non-neuter) pronouns would also fall into this class.

## **COMMUNICATOR**

This is not a COMLEX class but can be obtained by combining nhuman nouns, with lists of proper names, names of companies, etc., which are quite widely available.

## **LOCATION**

This feature (not a COMLEX class) includes proper place-names, and institutions; including, for example, St Aluoitious Church, Mount Magazine, IBM, Rome, Amazon River, etc.

## **REFLEXIVE**

This feature is an attribute associated with an argument which in the verbal system can only appear in reflexive form. These verbs occur transitively only with reflexive pronouns, i.e., "behave" and "perjure". In the nominalization, the reflexive is notexpressed. For example, the OBJ-ATTRIBUTE of "perjury" would be marked since we have "his perjury" but not \* "his perjury of himself".

## **NTIME**

This feature is a combination of two temporal noun COMLEX classes: NTIME1 and NTIME2. It is more commonly used in the negative to indicate that a temporal element appearing in a potential subject or object position (e.g. in DET-POSS or N-N-MOD) is not an argument. For instance, the SUBJ-ATTRIBUTE for "appointment" in "Yesterday's senate appointment" is marked as NOT-NTIME. This would indicate that the temporal element "yesterday's" cannot be interpreted as a subject.

:DET-POSS-NO-OTHER-OBJ and :N-N-MOD-NO-OTHER-OBJ are other features that aid

in the process of disambiguation.

**:DET-POSS-NO-OTHER-OBJECT**

States the verbal role of the possessive of the nominalization, if there is no (other) object present. For many nominalizations, in the absence of an object such as an "of-phrase" or an n-n-mod object, the possessive always takes on one or the other role. For example, in the entry for "destruction", since the possessive in "Carthage's destruction was ignoble" can only be interpreted as the object of destruction, DET-POSS-NO-OTHER-OBJECT is marked :OBJECT. In the entry for "resentment", DET-POSS-NO-OTHER-OBJECT would be marked (SUBJECT), since "Mary's resentment" cannot be interpreted as the resentment of Mary by someone else; the possessive can only map to the subject.

**:N-N-MOD-NO-OTHER-OBJECT**

States the verbal role of N-N-MOD if there is no (other) object on the nominalization. For example, for "administration" both the verbal subject and object can appear as N-N-MOD. However, when the N-N-MOD appears alone it is interpreted as the subject of the verb.

The Clinton administration (Clinton administers)

"administration" is marked N-N-MOD-NO-OTHER-OBJECT (SUBJECT)

**FEATURES**

The following are features which affect the nominalization as whole.

**:VCOLLECTIVE**

A complex feature on verbs which require either the subject or object to be plural or to have the COLLECTIVE (noun) feature. Collective nouns are an aggregate or mass terms (blood, calcium, change, information). A verb with this feature usually transfers it to its corresponding nominalization. Therefore, the nominalization argument corresponding to the verbal argument must be plural as well.

Example: The accumulation of books

\*The accumulation of book

**:SUBJ-OBJ-ALT**

The feature marks the verbal property that allows an argument to appear in either of two positions: subject or object.

Example: Microsoft circulated the rumor (object position)

Microsoft's circulation of the rumor

Example: The rumor circulated (subject position)

The circulation of the rumor

The rumor's circulation

The occurrence of the argument in object position is stipulated as the more basic construction. This is mainly useful with regard to the semantic attributes. The object-attributes apply whether the argument occurs as an object or in the subject position. In the above case, this allows us to restrict the subject-attribute to communicator and the object-attribute to not-communicator.

This is a feature of the nominalization as a whole. It entails a certain arrangement with respect to pairs of complements:

NOM-NP                      | NOM-INTRANS

NOM-NP-PP    | NOM-PP

NOM-NP+X    | NOM-X

(where "X" stands for an oblique argument) where a complement in left-hand column ALTERNATES with the corresponding complement in the right-hand column.

If the nominalization is marked with this feature, then, For NOM-NP, (and complements in the left-hand column) the NOM-positions of the base-object are marked as OBJECT values. This mapping, in which the nominalization object values map to the verbal object, as opposed to the verbal subject, is the normative mapping.

For NOM-INTRANS, (and complements in the right-hand column) the NOM-positions in which the base-object can occur are entered as values SUBJECT under the complement, thus over-writing the values in VERB-SUBJ for this particular case. In addition, the feature ALTERNATES is marked to indicate that this mapping is

the alternate, rather than the basic mapping, and to indicate that the object-attributes, rather than the subject-attributes apply to argument.

#### **:SUBJ-IND-OBJ-ALT**

This feature marks the verbal property that allows an argument to occur in either subject position or indirect object position.

Example: The Acme Co. rented Bill a boat (IND-OBJ position)  
Bill rented a boat (SUBJECT position)

The indirect-object position (of BILL, the recipient) is stipulated to be the basic position, while the appearance of the recipient in subject position is considered a specialized construction. The feature indicates an alternation between the pair NOM-NP-NP and NOM-NP. NOM-NP-NP is the basic construction, while NOM-NP requires the feature ALTERNATES to indicate that its SUBJECT values are those of the NOM-NP-NP indirect object. The SUBJECT values a for NOM-NP complement marked ALTERNATES, (in nominalizations marked SUB-IND-OBJ-ALT) overwrite the SUBJECT values in VERB-SUBJ.

#### **:V-NUNIT**

This feature indicates that a unit of measurement such as dollars or miles or gallons occurs as one of the arguments. These unit-of-measurement nouns are marked as NUNIT in COMLEX Syntax. These items have properties that are in some ways distinct from NP-arguments. One way they differ is that they can occur in the N-N-MOD position even when an NP cannot.

Example:

The Museum acquired the painting for \$3 million/for a lump sum  
The \$3 million acquisition of the painting  
\* The lump sum acquisition of the painting

There are three possible values of this feature: Subject, Object and Pval. These refer to the VERBAL positions in which the NUNIT can occur. For the nominalization "acquisition", V-NUNIT would be marked :PVAL ("FOR") and :N-N-MOD.

#### **:NSAY**

A nominalization is marked NSAY if it can occur with a direct quote.

Example:

His exclamation "Ouch, that's my foot!" (was the last straw)

**Conventions in NOMLEX**

DEFAULT values are listed in the manual under each complement.  
 If a complement conforms to the DEFAULT, then those values  
 will not appear in NOMLEX. Divergences from the DEFAULT values  
 are listed in NOMLEX.

**:NOM-SUBC**

The nominal subcategorization of the oblique complements of  
 the verb often correspond precisely, e.g. a THAT-S verbal  
 complement becomes a THAT-S nominal complement

He reported that Clinton resigned.  
 His report that Clinton resigned

In some cases, the verbal complement must be preceded by a  
 preposition in order to become a nominal argument, e.g. verbal  
 WH-S becomes nominal P-WH-S :pval ("of"), the common  
 preposition is "of".

They assessed whether it was a good idea or not.  
 Their assesment of whether it was a good idea or not

Most of these nominal complements headed by prepositions are  
 defaults (see our list of defaults). As mentioned above, if the  
 default SUBC applies, then no NOM-SUBC is entered. If the  
 default preposition is not adequate i.e. another preposition  
 is used either in place of, or in addition to "of", then these  
 prepositions must be added using the :PVAL under NOM-SUBC.

example entry  
 :verb-subc (NOM-WH-S  
                   :NOM-SUBC (P-WH :WH-S T :PVAL ("about" "on" "of")))

He judged whether it was necessary to go or not.  
 His judgement about/on/of whether it was necessary to go or not

Other NOM-SUBC's differ from the verbal complements but do not  
 have a default, e.g. verbal ADVP may be rewritten for the noun  
 as an ADJP or an ADVP. An evaluative adverb e.g. "well" in

He behaved well.

is rewritten as an adjective phrase

His good behavior

A locative adverb remains an ADVP

He arrived abroad.  
 His arrival abroad

Therefore the entries would be:

:VERB-SUBC (NOM-ADVP :NOM-SUBC (ADJP))

where the verbal ADVP is rewritten as a nominal adjective phrase and

:VERB-SUBC ((NOM-ADVP))

which remains an adverbial phrase.

### **:PVAL PHRASES**

There are a number of different keywords introducing prepositional values, each will be explained as part of the complement structure to which it belongs, but we feel that an overview of all the different types would be useful.

### **:PVAL and :PVAL1**

These are the original prepositional lists for the verbal complements. :PVAL is the default preposition keyword for most prepositional phrases including PP-PP where, for the verbs, there is only one list. :PVAL1 is a short list of prepositions used for indirect objects, as in PP-THAT-S.

It matters to them that she left. PVAL1 "to"  
We accounted for the exceptions. PVAL "for"

The prepositional lists for the nominalization include the verbal pvals :PVAL and :PVAL1. There has been a further division for the nominalizations for complements with two prepositional phrases (PP-PP and NP-PP-PP). The verbal list is divided into two, called :PVAL and :PVAL2. This explicitly rules out prepositions which cannot coocur.

### **:PVAL-NOM**

This keyword is used for situations where the verbal complement has a pval list which must be revised for use on the nominalization. For example, the verb "act" allows a wider variety of prepositions than the nominalization "action". It is entered as follows:

NOM-PP  
:PVAL ("for" "like" "in" "on" "out of" "through" "under" "upon" "with")  
:PVAL-NOM ("against" "on" "upon")

### **:PVAL1-NOM**

This is used to overwrite the verbal :PVAL1 when the allowed values of the preposition for the nominalization are different from those of the verb.

### **:NOM-ROLE-FOR-PVAL**

This is used for indicating the variant syntactic positions a prepositional phrase of the verb may map to in the

## NOTATION

nominalization.

Nabisco acquired Nestles for eighty million dollars

Nabisco's acquisition of Nestles for eighty million dollars

Nabisco's eighty million dollar acquisition of Nestles

The entry for this complement would be:

(NOM-NP-PP :OBJECT ((PP-OF)) :PVAL ("for")

:NOM-ROLE-FOR-PVAL ((N-N-MOD)))

The following keywords appear under the complement structures:  
The keywords that are not common to all complements are explicated within the manual entry for the particular complement.

## **:SUBJECT**

This value is allowed for all NOM-complements. Although the list of VERB-SUBJ is the default value for each NOM-complement, this list can be overwritten under any NOM-complement by using the keyword :subject, followed by a list of subject positions allowed for that particular complement.

## **:OBJECT**

This appears only on VERB-SUBCs that have an NP-object constituent of the complement (NOM-NP, NOM-NP-THAT-S, NOM-NP-AS-ADJP, etc). The NOM positions that the object NP argument can appear in are listed.

## **:REQUIRED**

This is an overwrite option. By assumption, SUBJECT roles and OBJECT roles are optional, however, for any given complement, either role may be marked :REQUIRED to overwrite the default value.

## **:OPTIONAL**

This is an overwrite option. Any part of the complement that is required by default may be marked :OPTIONAL to overwrite the default value.

## **:NOT**

A logical operator which expresses constraints on some possible combinations. The combination being constrained is expressed as values of the operator "AND". For example, for the nominalizations "agreement" under the VERB-SUBC "NOM-PP", some PVALS do not allow a subject to be expressed.

Their agreement about the gubernatorial race

\*Their agreement between the men

This constraint would be expressed as follows:

(NOM-PP

:PVAL ("among" "about" "between" "on" "to" "upon" "with")

:NOT ((AND1 :SUBJECT ((DET-POSS)

(N-N-MOD)

(PP-OF))

:PVAL ("between" "among"))))



**:PASSIVE-NOM**

This is a feature that indicates that a particular complement is not truly derived from the verbal complement set, but rather from the corresponding adjectival-passive complement set. This is marked if the complement cannot occur with an argument corresponding to the verbal subject, and the complement does appear in the passive complement set.

Jim introduced Merv to jumping turnstyles  
 Merv was introduced to jumping turnstyles  
 \*Jim's introduction of Merv to jumping turnstyles  
 Merv's introduction to jumping turnstyles

The syntax of the passive version is preserved, thus the subject of the passive appears in the nominalization, but the object is empty. The entry for this complement of "introduction" would appear as follows:

(NOM-NP-P-ING  
       :SUBJECT ((DET-POSS) (PP-OF))  
       :OBJECT ((NONE))  
       :PVAL ("to")  
       :PASSIVE-NOM T)

The passive-nomnotation also allows us to apply the semantic attributes of the object (OBJ-ATTRIBUTE) to the subject position.

If all the complements of a particular nominalization are derived from the passive, then that nominalization is excluded, since NOMLEX represents the verb-to-noun mappings of simple active declarative sentences.

## NOTATION

.

## Generalizations in NOMLEX

### The Uniqueness Principle

This principle applies to argument positions available in the syntax of nominalizations, and to the verbal roles these arguments map to.

A verbal role may be filled only once. This means for example, that the DET-POSS position in "Rome's destruction by Carthage" cannot correspond to the verbal-subject role if the subject-role also appears in the "by-phrase". The NP in DET-POSS must correspond to some other role assigned by "destroy", in this case, the object position. This principle also determines that a subject-nominalization such as "teacher" is unable to take a subject argument, since that role is already filled by the nominalization itself. For similar reasons, an object-nominalization, such as "employee" will have no object arguments.

The argument positions available in nominalizations are also unique, with the exception of N-N-MOD. Thus, for example, it is possible for the DET-POSS position to house the subject-role in some instances, and the object-role in others.

Mary's description of Mother  
Mother's description by Mary

It is, however, not possible to generate more than one DET-POSS for any noun. Thus "description" can not be analyzed as having two possessors

Mary's mother's description      cannot map to:  
Mary described Mother

We also apply this restriction to the PP-OF position. This position is somewhat problematic when the verb has a prepositional complement which allows the preposition "of". For example, the verb "accuse" subcategorizes for an NP-PP:PVAL ("OF"). If the object NP occupies the PP-OF position of the nominalization, the result is ungrammatical. In contrast, expressing the object in any other position is well-formed.

They accused him of theft  
\*Their accusation of him of theft  
His accusation of theft by them

It is possible, however, that in this case, the restriction may rule out some acceptable nominalization phrases.

## GENERALIZATIONS IN NOMLEX

The only position that iterates in nominalizations is N-N-MOD. It is a general property in noun phrases that more than one noun noun-modifier may occur as in "the John Brown birthday party". For nominalizations, the subject-role and the object-role each map to an N-N-MOD position in many instances, such as

The U.S. debt accumulation.

There are, however certain mapping constraints which aid in such environments. See the Ordering Constraint.

### The Ordering Constraint

If there are multiple pre-nominal arguments, they must appear in the order:

SUBJECT > INDIRECT OBJECT > DIRECT OBJECT > OBLIQUE

This is illustrated by the following examples:

[John Smith's school board appointment] cannot map to:  
The school board appointed John Smith to some position  
OBJECT > SUBJECT (Ordering Constraint violation)

[John Smith's school board appointment] does map to:  
Someone appointed John Smith to the school board  
DIRECT OBJECT > OBLIQUE (obeys Ordering Constraint)

[The project's food allocation] maps to:  
Someone allocated food to the project  
INDIRECT OBJECT > DIRECT OBJECT

This constraint also orders iterated N-N-MOD arguments.  
"The AT&T Sprint acquisition" can only mean that AT&T acquired Sprint and not that Sprint acquired AT&T.

### Obligatoriness Constraints

NOMLEX employs Obligatory Constraints for the mappings associated with each complement with respect to some general assumptions. These default assumption can be overridden for any NOM-complement with the key-words :REQUIRED (to override an assumed otionality) and :OPTIONAL (to override an assumed requirement) These assumptions are of two types.

#### ASSUMPTION 1:

Only the subject and object are OPTIONAL within a given complement. All other portions of a given complement are REQUIRED. This entails that "Mary Smith's appointment" cannot be associated with NOM-NP-AS-NP, since the AS-NP constituent is obligatory for NOM-NP-AS-NP. The example could only be associated with NOM-NP.

#### ASSUMPTION 2:

The OBJECT-NP is REQUIRED in a nominalization that takes both

## GENERALIZATIONS IN NOMLEX

NOM-INTRANS and NOM-NP. This assumption also holds for other NOM-complement pairs, such as:

NOM-PP                      NOM-NP-PP  
NOM-THAT-S   NOM-NP-THAT-S  
etc.

## GENERALIZATIONS IN NOMLEX

.

## NOMLEX CLASSES

### :VERB-SUBC

These are the verbal complements as defined in COMLEX Syntax Word Class Manual (<http://cs.nyu.edu/cs/projects/proteus/comlex>). For use in NOMLEX, they are prefaced by NOM. That is, NOM-NP represents the verbal complement NP. NOM-WH-S represents the verbal complement WH-S and so on. Most verbal complements are allowed on nominalizations.

### NOM-INTRANS

Verbs classified as **intrans** require no further complementation in order to yield grammatical sentences.

He disappeared.

The nominalizations of this class have no complementation. Subjects are optional.

Example: His disappearance/The disappearance

WORD LIST: acceleration, accumulation, adaptation, adjustment, diversification, relaxation, revolution, supervision, takeover, translation, variation

### NOM-INTRANS-RECIP

This class contains verbs that only occur intransitively when they have a plural or an aggregate noun subject or a subject consisting of co-ordinated noun phrases.

The streets intersect (intrans-subj-plural)  
 \*This street intersects.  
 Mulberry and Canal intersect. (intrans-subj-co-ord)  
 They argued. (intrans-subj-plural)  
 The couple reconciled. (aggregate-noun-subject)

Nominalizations of this class also have aggregate or co-ordinate subjects. Since subject-values in nominalizations can be syntactically expressed in a variety of ways, the subject may show up in the usual subject positions, e.g., DET-POSS, N-N-MOD, etc, but it may also be expressed by an interrelative preposition, e.g. "among, amongst, between".

Example: The Mulberry and Canal intersection  
 The intersection of Mulberry and Canal  
 The argument between/among the men

WORD-LIST: agreement, argument, association, combination, communication, competition, congregation, consultation, contention, conversation,

coordination, correlation, division, engagement, fusion, integration, interaction, intersection, merger, reconciliation, rivalry

### NOM-NP

This is the general class of verbs that subcategorize for a noun phrase complement.

The boy prefers cupcakes.  
He modified the plan

Nominalization complements in this class correspond to the verbal object. The possible noun positions for object are the positions available for verb-subj except for the default "by" and the NOT-PP-BY.

Example: The boy's preference for cupcakes  
His modification of the plan  
The plan's modification

The positions for the OBJECT are listed. The most common object position is PP-OF

Example: "John's destruction OF THE BUILDING"  
"John destroyed THE BUILDING."

Also fairly common is DET-POSS

Example: "THE CHILD'S abandonment (by the mother)"  
"The mother abandoned THE CHILD."

N-N-MOD is quite common.

Example: "THE DEGAS acquisition by the museum."  
"The museum acquired THE DEGAS."

Relatively less common is PP :PVAL ("prep")

"preference" (PP :PVAL ("for"))

Example: "The boy preferred CUPCAKES"  
"The boy's preference for CUPCAKES."

WORD LIST: abandonment, absorption, abstraction, acceleration, accommodation, accomplishment, accusation, commitment, consumption, deregulation, justification, modification, realization, specification, stimulation, utilization, violation, winner, writer

### NOM-NP-NP

This verbal complement consists of a direct and an indirect object. Unlike the double objects of the verbs classified as **np-to-np** or **np-for-np**, the two noun phrases in the complement of **np-np**-verbs do not permute.

The accident cost me \$8000.  
\*The accident cost \$8000 to/for me.  
She envied him his self-confidence  
\*She envied his self-confidence him

To be marked as an instance of this complement, the



indirect object must appear on the nominalization. The verbal indirect object is preceded by a "to" or a "for" in the nominalization.

Example: The cost TO HER OF \$8000  
Her envy of him for his self-confidence

keywords for this complement are:

:object (specify noun positions where object can occur)  
:ind-obj (specify noun positions where indirect object can occur)

WORD-LIST: assurance, assessment, cost, envy, fine, profit, tip

### NOM-PP

This verbal complement consists of a prepositional phrase. The verbal prepositions allowed for this complement are listed under :pval (value of the preposition). If the nominalization allows different prepositions from those selected by the verb, they are listed under :pval-nom. Occasionally, the nominalization will allow the prepositional phrase to occur in another position such as n-n-mod if this is the case the position(s) is listed under :nom-role-for-pval

Example: "His advisor (on/\*against) the compromise"  
"[His advisor] advised (on/against) the compromise."  
:pval ("on" "against")  
:pval-nom ("on")

WORD-LIST: action ("against" "on" "upon"), adjustment ("to"), admission (to) translation ("from" "into" "to"), speculation ("about" "in" "on" "upon")

### NOM-PP-PP

The verb has two prepositional phrases as its complement. It strongly selects for each of the prepositions. The prepositions must be specified for each verb. The ordering is free.

Nabisco competed against Nestles for market share.  
Nabisco competed for market share against Nestles.

The nominalization also requires two prepositional phrases.

Example: Nabisco's competition against Nestles for market share

The values of the prepositions are listed. Unlike the COMLEX verb-pattern, the NOMLEX lists are separated into two groups: PVAL and PVAL2. This indicates the possible prepositional pairings. It does not imply any ordering constraint on the two prepositional phrases.

WORD LIST: agreement PVAL (among, between, with) PVAL2 (about, on, upon)  
argument PVAL (about, over) PVAL2 (between, among, with),  
conversation PVAL (about, on) PVAL2 (among, between, with),  
cooperation PVAL (in, on) PVAL2 (among, between, with),  
deliberation PVAL (for) PVAL2 (about, for, on, over),  
disagreement PVAL (about, on, over) PVAL2 (among, between, with),

evolution PVAL (from) PVAL2 (into, to),  
 litigation PVAL (between, with) PVAL2 (against, about, in favor of, for, over)  
 negotiation PVAL (about, for, over) PVAL2 (with),  
 reaction PVAL (at, toward, towards, to) PVAL2 (out, of),  
 transformation PVAL (from) PVAL2 (into, to),

### NOM-NP-PP

This subclass comprises verbs that subcategorize for a direct object noun phrase followed by a prepositional phrase. The particular preposition (PVAL) must be specified for each verb.

They attributed the painting to Masaccio.  
 \*They attributed the painting.

Nominalizations of this verb-class also take an object NP and a prepositional phrase. The object may or may not be contiguous to the prepositional phrase.

Example: Their attribution of the painting to Masaccio  
 The painting's attribution to Masaccio

The positions of the object NP are listed. The values of the preposition are listed. The list of values for the prepositional phrase may also contain a nom-role-for-pval.

Example: He acquired the painting for \$2000  
 The \$2,000 acquisition (of the painting)

WORD LIST: abandonment (for, to), absorption (from, in, into),  
 accommodation (to, with), accompaniment (at, in, on, through, to, with),  
 acquisition (from, for), adaptation (into, from, for, to), adjustment (for, to)  
 admission (into, in, to), alienation (from), allocation (among, for),  
 announcement (over, to),  
 application (against, along, onto, on, toward, over, to, upon),  
 appropriation (for, to)

### NOM-NP-TO-NP

Verbs of this subclass take an object and an indirect object. They allow two complement structures **\*np-to-np** (an np-pp structure with a "to" required as the preposition) and **\*np-np** (two contiguous noun phrases). The occurrences of these two structures must preserve essentially the same meaning. This construction also allows a heavy NP shift of the direct object (**to-np-np**).

The department allocates new students a computer (\*np-np)  
 The department allocates a computer to new students. (\*np-to-np)  
 The department allocates to new students the most expensive  
 state-of-the art computers on the market. (\*to-np-np)

Nominalizations of this verb-class take also take an object and an indirect object. However, the permutation "NP-NP" does not have a mapping to the nominalization. The object NP may or may not be contiguous to the indirect

object. The indirect object appears by default as the object of the preposition "to", but it may also occur in other positions.

Example: The department's allocation of computers to students  
 The computer allocation to the students  
 The student allocation of computers  
 The student computer allocation

The positions of the object NP are listed. The possible values for indirect object are: IND-OBJ-TO (the indirect object appears after "to") or IND-OBJ-FOR (the indirect object appears after "for") or IND-OBJ-OF (the indirect object appears after "of") IND-OBJ-OTHER (the indirect object appears after some other preposition) or DET-POSS, or N-N-MOD.

WORD LIST: administration, allocation, allotment, apportionment, assignment, delivery, denial, lender, licensee, payee, payment, quotation, repayment, seller, service, shipment, teacher

### NOM-NP-FOR-NP

Verbs of this subclass allow two complement structures  
**\*np-for-np** (an np-pp structure with a "for" required as the preposition) and **\*np-np** (two contiguous noun phrases). The occurrences of these two structures must preserve essentially the same meaning. This construction also allows a heavy NP shift of the direct object (**for-np-np**).

The chef prepared breakfast for the guest. (\*np-for-np)  
 The chef prepared the guest breakfast. (\*np-np)  
 The chef prepared for the guest a feast so magnificent that  
 it became a national legend. (for-np-np)

Nominalizations of this verb-class take also take an object and an indirect object. However, the permutation "NP-NP" does not have a mapping to the nominalization. The object NP may or may not be contiguous to the indirect object. The indirect object appears by default as the object of the preposition "for".

Example: The chef's preparation of breakfast for the guests  
 The breakfast preparation for the guests

The positions of the object NP are listed. No value is listed for the indirect object since it can only appear as the object of the preposition "for".

WORD LIST: allocation, builder, buyer, maker, preparation

### NOM-NP-PP-PP

This complement comprises verbs that subcategorize for a direct object noun phrase followed by two prepositional phrases. The prepositional phrases are not ordered. The particular prepositions (PVAL) must be specified for each verb. There is one pval list that is shared by the prepositional phrases, the only stipulation is that the same preposition may not occur twice in the complement.

They converted the interest from US dollars to Swiss francs. (np-pp-pp)  
 They converted the interest to Swiss francs from US dollars. (np-pp-pp)  
 \*They converted the interest to US dollars to Swiss francs.

The nominalization also takes an object NP and two prepositional phrases. In the nominalization dictionary, there are separate lists for the prepositions.

Example: The conversion of the interest from US dollars to Swiss francs

The positions of the object NP are listed. The prepositions are listed in two separate PVAL lists: PVAL and PVAL2 to indicate which combinations are possible.

WORD LIST: conversion PVAL (from) PVAL2 (into, to),  
 promotion PVAL (for, into, to) PVAL2 (from),  
 transformation PVAL (from) PVAL2 (into, to),  
 translation PVAL (from) PVAL2 (into, to)

### NOM-ADVP

The verbal complement ADVP consists of evaluative and locative-directional adverbs. These adverbials appear on the nominalizations as either adjective phrases or adverbial phrases. Evaluative adverbs (COMLEX adverb class :Eval-Adv) map to :NOM-SUBC (ADJP) as shown in the following:

He behaved badly (advp: eval-adv)  
 His bad behavior (adjp)

Locative and directional adverbials (COMLEX adverb class: loc&dir) remain ADVP arguments on the nominalization.

They settled there. (advp: loc&dir)  
 Their settlement there (advp)  
 He arrived aboard. (advp: loc&dir)  
 His arrival aboard. (advp)

Note that there is a small class of loc&dir adverbs (those which end in "-ward") which can also map to :NOM-SUBC (ADJP).

He glanced upward. (advp: loc&dir)  
 His glance upward (advp)  
 His upward glance (adjp)

WORD-LIST: action (adjp), arrival (advp), bidder (adjp), motion (advp),  
 reaction (adjp)

### NOM-NP-ADVP

This subclass specifies verbs that subcategorize for noun phrase objects followed by an adverbial phrase. The selected adverb is either locative (COMLEX loc&dir-adv) or evaluative (COMLEX eval-adv). The adverbial phrase cannot be analyzed as an optional adjunct.

He put it there.  
\*He put it.

Or, if the verb also occurs with a noun object alone, it occurs in a different sense than with the complement string np + advp:

They treated them.  
They treated them well.

Nominalizations of this verb-class also take an object NP and a locative or evaluative adverb. When it is evaluative, the adverbial constituent of the verb is mapped to an adjective in the nominalization. The locative modifier remains adverbial.

Example: He moved the chair upstage  
His movement of the chair upstage  
The state compensated the trucking company generously  
The state's generous compensation of the trucking company

The positions of the object are listed. No value is listed for the locative adverb phrase, since it remains an ADVP in the nominalization. In the case where the adverb is evaluative, the adverbial constituent is over-written as :NOM-SUBC ((ADJP)).

WORD-LIST: compensation (ADJP), direction (ADVP), distribution (ADJP), employment (ADJP), extension (ADVP), interpretation (ADJP), movement (ADVP), recommendation (ADJP), settlement (ADJP), shipment (ADVP), treatment (ADJP)

### NOM-ADVP-PP

This complement is an adverbial phrase followed by a prepositional phrase. The adverbial phrase is either evaluative or locative.

He resides here in Oxford. (advp-pp)  
It boded ill for him. (advp-pp)

Nominalizations of this class also take an adverbial phrase (locative or evaluative) followed by a prepositional phrase. When it is evaluative, the adverbial constituent of the verb is mapped to an adjective in the nominalization. The locative modifier remains adverbial.

Example: The highway extended south to Minneapolis  
The highway's extension south to Minneapolis  
He reacted positively to the news  
His positive reaction to the news

WORD LIST: climb (ADVP) (to, on, from), comparison (ADJP) (to, with), drive (ADVP)(through, to, from), extension (ADVP) (to), reaction (ADJP) (to)

### NOM-WORDS

This class consists of three options: **word**, **phrase**, and **quoted-material**. An example of each is seen in the following:

We should answer Yes. (word)  
 The dog obeys Stop Now. (phrase)  
 He understands "No". (quoted-material)

Nominalizations of this class also take a complement of quoted words or phrases, with and without quote-marks in the punctuation. There are two ways such complements map to nominalizations. Either directly, with no nominalization morphology or via a PP-OF complement.

Example: His answer Yes, I can (direct complementation)  
 His repetition of you can do it, you can do it (PP-OF)

No value is listed with this complement if it occurs only by direct complementation, where it requires PP-OF, the value :WORDS ((PP-OF))) appears with the complement NOM-WORDS.

WORD-LIST: answer, boast, repetition

#### NOM-NP-NUNITP-TO-RANGE

This complement represents a group of complements containing a noun phrase object which precedes a range-phrase headed by a nunit noun. NUNIT, a COMLEX noun class, is assigned to nouns which are units of measurement such as "inches" "meters", "dollars" "pounds", etc. The group includes the following co-occurring complements:

**\*np-nunitp \*np-nunitp-to-range, \*np-nunitp-from-range,  
 \*np-to-rangeR, \*np-from-range, \*np-to-nunitp,  
 \*np-from-nunitp, \*np-nunitp-to-np,\*np-nunitp-from-np,  
 \*np-by-nunitp, \*np-by-nunitp-from-range  
 \*np-by-nunitp-to-range, \*np-by-nunitp-to-np,  
 \*np-by-nunitp-from-np.**

Note that the noun phrases following the prepositions "from" and "to" in the last two complements must be nunit phrases.

They reduced interest rates five percent (\*np-nunitp)  
 They reduced the price 2% to \$102 per share from \$100.  
 (\*np-nunitp-to-range)  
 They reduced the price 2% from \$100 to \$102 per share.  
 (\*np-nunitp-from-range)  
 They reduced the price to \$102 from \$100 per share.  
 (\*np-to-range)  
 They reduced the price from \$100 to \$102 per share.  
 (\*np-from-range)  
 They reduced the price to \$102 per share. (\*np-to-nunitp)  
 They reduced the price from \$100 per share. (np-from-nunitp)  
 They reduced the price 2% to \$102 per share. (\*np-nunitp-to-np)  
 They reduced the price 2% from \$100 per share.  
 (\*np-nunitp-from-np)  
 They reduced the price by 2%. (\*np-by-nunitp)  
 They reduced the price by 2% from \$100 to \$102 per share.  
 (\*np-by-nunitp-from-range)  
 They reduced the price by 2% to \$102 from \$100 per share.

## NOMLEX CLASSES

(\*np-by-nunitp-to-range)  
They reduced the price by 2% to \$102. (\*np-by-nunitp-to-np)  
They reduced the price by 2% from \$100. (\*np-by-nunitp-from-np)

Nominalizations of this verb class also take an object NP and a range-phrase headed by an nunit noun. The object NP may occur detached from the rest of the complement. The nunit phrase, too, has some degree of freedom in its position.

Example: The reduction of the price to \$108 a share  
The 2% reduction of the price  
The reduction of the price by 2%  
The 2% price reduction  
The price reduction of 2%  
\*The reduction of the price 2%

The positions of the object are listed. The positions of the NUNITP that differ from the NUNITP positions within the verb-phrase are listed as values of NOM-ROLE-FOR-NUNITP. Thus, for "reduction", the only values listed for the NUNITP are (PP-OF) (The price reduction of 2%) and (N-N-MOD) (The 2% price reduction). The NUNITP positions that occur after the preposition "to", and "by" are mapped directly to those position in the verb phrase, therefore they need not be listed.

WORD LIST: expansion, reduction

### NOM-NUNITP-TO-RANGE

This complement represents a group of complements containing noun phrases headed by an nunit noun. The list included the **from-range** group discussed above as well as the following: **\*nunitp-to-range**, **\*to-range**, **\*nunitp-from-range**, **\*nunitp-to-np**, **\*nunitp-from-np**, **\*to-nunitp**, **\*from-nunitp**, **\*nunitp-to-inf-sc**, **\*nunitp-from-np-to-inf-sc**, **\*by-nunitp**, **\*by-nunitp-from-range**, **\*by-nunitp-to-range**, **\*by-nunitp-to-np**, **\*by-nunitp-from-np**, **\*by-nunitp-to-inf-sc**, **\*by-nunitp-from-np-to-inf-sc**. Note that the noun phrases following the prepositions "to" or "from" in the last four complements mentioned, must be nunit phrases.

The stock rose 2 percent. (from-range)  
The stock rose from \$100 to \$102 (from-range)  
The price rose 2% to \$102 from \$100. (\*nunitp-to-range)  
The price rose to \$102 from \$100. (\*to-range)  
The price dropped 2% from \$100 to \$98. (\*nunitp-from-range)  
The price dropped 2% to \$98 per share. (\*to-nunitp)  
The price dropped from 100 dollars. (\*from-nunitp)  
The stock rose 1 point to close at 16. (\*nunitp-to-inf-sc)  
It rose 1% from 10 to close at 10.1. (\*nunitp-from-np-to-inf-sc)  
Earnings dropped by 5 percent. (\*by-nunitp)  
They rose by 5% from 100 to 105. (\*by-nunitp-from-range)  
Rates jumped by .5% to 9% from 8.5%. (\*by-nunitp-to-range)  
Rates jumped by .5% to 9%. (\*by-nunitp-to-np)

## NOMLEX CLASSES

Rates jumped by .5% from 8.5%. (\*by-nunitp-from-np)  
Stocks rose by 1 percent to close at 101. (\*by-nunitp-to-inf-sc)  
It rose by 1 percent from 100 to close at 101.  
(\*by-nunitp-from-np-to-inf-sc)

Nominalizations of this verb class also take a range-phrase headed by an nunit noun. The NUNITP may occur in a variety of positions.

Example: The price drop of \$200  
The \$200 price drop  
The price drop from \$700 to \$500  
The price drop of \$200 from \$700 to \$500  
The \$200 price drop from \$700 to \$500  
The price drop by %50 from \$700 to \$500  
The 700 to 500 dollar drop in price

The positions of the NUNITP that differ from the NUNITP positions within the verb-phrase are listed as values of NOM-ROLE-FOR-NUNITP.

WORD LIST: acceleration, advance, climb, decrease, double, drop, expansion, fall, increase, jump, plunge, rise, slide, slip, soar, surge.

### NOM-NP-AT-NUNITP-PRED

This complement consists of a noun phrase followed by a prepositional phrase headed by "at" which subsumes a noun phrase containing an nunit noun. The nunitp is predicated of the object np.

They projected its value at 10 dollars a share.  
(the value is 10 dollars)  
They put the price at \$300 an ounce.

Nominalizations of this verb-class also take an object NP followed by a nunitp "at-phrase" which is predicated of the object NP. The object NP may appear attached to the prepositional phrase or not. The nunitp may appear as the object of the preposition "at", or in some other position of the nominalization.

Example: Their projection of yearly profits at \$30 million  
Their profit projection at \$30 million  
Their \$30 million profit projection  
Their \$30 million projection of yearly profits

The positions of the object NP are listed. The positions of the NUNITP that differ from the NUNITP positions within the verb-phrase are listed as values of NOM-ROLE-FOR-NUNITP.

WORD LIST: calculation, negotiation, projection, valuation

### NOM-NP-NUNITP-FROM-RANGE

This frame group consists of a noun phrase followed by the two options of the **nunitp-from-range** frame group.

They extended the property from twenty feet to forty feet.



They extended the property twenty feet.

The nominalizations of this verb class also takes an object NP and a range-phrase headed by an nunit. The object may be contiguous to the range-phrase or not. The nunitp may occur in a variety of positions.

Example: Their extension of the property from twenty to forty feet  
 Their extension of the property by twenty feet  
 Their twenty foot extension of the property  
 Their property extension by twenty feet  
 Their twenty to forty foot extension of the property

The position of the object are listed. The positions of the NUNITP that differ from the NUNITP positions within the verb-phrase are listed as values of NOM-ROLE-FOR-NUNITP.

WORD LIST: extension, variation

#### NOM-NUNITP-FROM-RANGE

This frame group consists of a number of co-occurring complements where the head noun of the np predominately has the feature of nunit. It is also part of the frame group **nunitp-to-range**. The verbs with this complement take the following two variations.

The stock price varied from twenty dollars to forty dollars.  
 (\*nunitp-from-range)  
 The stock price varied twenty dollars over the last week.  
 (\*nunitp)

The nominalizations of this verb class take a range-phrase headed by an nunit. The nunit may occur in a variety of positions.

Example: The price variation from twenty to forty dollars  
 The twenty to forty dollar price variation

The positions of the NUNITP that differ from the NUNITP positions within the verb-phrase are listed as values of NOM-ROLE-FOR-NUNITP.

WORD LIST: extension, variation, yield

#### NOM-FROM-RANGE

**from-range** contains two complements **\*from-range** and **\*nunitp**. The first consists of the preposition "from" followed by a noun phrase containing an **nunit** such as "feet" "percent" "%" "hours". This is followed by the preposition "to" followed by another nunit noun phrase, e.g. "from 3 feet to 9 feet.". The other complement (**\*nunitp**) is a simple noun phrase headed by an nunit noun, e.g. "three feet". This is a subset of another frame group **nunitp-to-range**.

The occupancy rate ranged from 48% to 74%. (\*from-range)  
 The board measured three feet. (\*nunitp)  
 The wood measured from three feet to 6 feet. (\*from-range)

Nominalizations of this subclass take a range phrase headed by a nunit. It can occur in a variety of positions.

Example: The occupancy rate's range from 48 to 74%  
The occupancy rate's 48 to 74% range  
The board measurement of 3 feet  
The board 3 foot measurement

The positions of the NUNITP that differ from the NUNITP positions within the verb-phrase are listed as values of NOM-ROLE-FOR-NUNITP.

WORD LIST: cost, measurement, range

### **NOM-NP-AS-ING**

Verbs of this class take an object noun phrase followed by "as" and a gerund phrase which is predicated of the object. The understood subject of the gerund is co-referential with the object noun phrase.

She diagnosed him as being ill with the measles.

Nominalizations of this verb-class require an object NP and a gerund phrase introduced by "as". Since the object NP is an independent constituent, it may occur separately from the rest of the complement.

Example: Her diagnosis of him as being ill with the measles (object = "of him")  
His diagnosis as being ill with the measles (object = "his")  
\*The diagnosis as being ill with the measles

The positions of the object NP are listed. No value is listed for the gerund phrase introduced by "as" since it is the same the verbal complement.

WORD LIST: characterization, diagnosis, identification, interpretation, perception, representation

### **NOM-NP-AS-ADJP**

Verbs of this class subcategorize for a noun phrase followed by "as" and an adjective phrase. The as-adjp is predicated of the np matrix object.

They characterized the play as well-acted.

Nominalizations of this verb-class require an object NP and a predicative adjective introduced by "as". Since the object NP is an independent constituent, it may occur separately from the rest of the complement.

Example: Oscar's characterization of the play as well-acted  
The play's characterization as well-acted

The positions of the object NP are listed. No value is listed for the adjective phrase introduced by "as" since it is the same the verbal complement.

WORD LIST: characterization, consideration, definition, description, perception, view

**NOM-AS-NP**

The verb accepts a noun phrase complement headed by "as".  
The noun phrase is predicated of the subject of the sentence.

Lulu failed as a pastry cook.

Nominalizations of this verb-class also take an "as-np" predicated of the subject.

Example: Lulu's failure as a pastry cook

No value is listed for the "as-phrase" since it is the same the verbal complement.

WORD LIST: continuation, development, entry, improvement, operation, participation, qualification, re-entry, registration, reorganization, resignation, retirement, service, takeover

**NOM-NP-AS-NP**

A verb is classified as **np-as-np** if it subcategorizes for the constituent structure np + "as"+ np where the second noun phrase is a predicate of the first. The two noun phrases agree in number.

They accepted him as a doctor.

Nominalizations of this class also take an object NP and an "as-np" predicated of the object. The object NP may appear contiguous to the "as-np" predicate or not.

Example: Their acceptance of him as a doctor  
His acceptance as a doctor

The positions of the object NP are listed. No value is listed for the "as-np" predicate since it is the same the verbal complement.

WORD LIST: adaptation, adoption, advertisement, assessment, assumption, construction, dedication, deduction, definition, development, dismissal, election, elimination, engagement, entry, evaluation, hiring, identification, illustration, indictment, instruction, interpretation, introduction, investigation, involvement, isolation, judgment, justification, measurement, mention, motivation, observation, opposition, organization, perception, proclamation, promotion, prosecution, recognition, redemption, registration, rehabilitation, rejection, resentment, restoration, retention, retirement, suggestion, suspicion, takeover, utilization

**NOM-NP-AS-NP-SC**

A verb is classified as **np-as-np-sc** if it takes the complement

with the surface structure np + as + np, where the final noun phrase is a predicate of the subject noun phrase. The subject noun phrase and the predicate noun phrase agree in number.

They served the king as messengers  
He judged the facts as a scientist

Nominalizations of this verb-class also take the string np-as-np, where the "as-np" is predicated of the subject. The subject argument is also required.

Example: His judgement of the facts as a scientist  
\*The judgement of the facts as a scientist

The positions of the subject NP are listed. The positions of the object NP are listed. No value is listed for the "as-np" subject-predicate since it is the same the verbal complement.

WORD LIST: collection, judgment, service, succession, supervision, takeover

**NOM-NP-PP-AS-NP**

This complement contains an object NP followed by a prepositional phrase, and an "as-np" predicate. The as-phrase is predicated of the object NP. The NP following "as" agrees in number with the object NP.

They mentioned the phone-call to me as a possible lead

Nominalizations of this class also take an object NP, an indirect object PP, and an as-np predicated of the object NP and all three parts of this complement are required.

Example: Their mention of the phone-call to me as a possible lead

The positions of the object NP are listed. The values of the preposition are listed. No value is listed with respect to the object-predicate "as-np", since it is the same as the verbal complement.

WORD LIST: description, introduction, mention, recommendation

**NOM-NP-ING**

Verbs of this class take a small clause consisting of a noun phrase followed by a present participle. The noun phrase is the logical subject of the gerund. It is not the logical object of the matrix verb.

I kept them laughing.  
John justified Max cheating

For nominalizations with this complement, since it is a single argument (a small clause) both the NP and the gerund must appear; in addition, they cannot be separated.

Example: John's justification of Max cheating

\*Max's justification of cheating (by John)

The NP is listed under the keyword :OBJECT, with the value PP-OF. No value is listed with respect to gerund since it does not differ from the verb's oblique argument.

WORD LIST: anticipation, appreciation, detection, discovery, examination, inclusion, interruption, justification, love, report

**NOM-NP-ING-OC**

Verbs of this subclass take a noun phrase object followed by a gerund. The noun phrase is both the logical object of the verb and the logical subject of the gerund.

I caught John stealing. (I caught John. John was stealing)  
I imitated the president denying the charges.

For nominalizations with this complement, both the object and the gerund must appear. Despite the fact that this complement consists of separate constituents, (OBJECT + GERUND), the np-object must be contiguous to the gerund.

Example: My imitation of the president denying the charges  
\* The president's imitation denying the charges

The positions for the OBJECT are listed. There is no value listed with respect to the gerund since it is the same as the verb's oblique argument.

WORD LIST: acceptance, imitation, quotation, toleration, vizualization

**NOM-NP-ING-SC**

Verbs of this subclass take a noun phrase object followed by a gerund. The subject of the matrix sentence is the logical subject of the gerund.

He wasted my money chasing after conspirators.  
(he was chasing after conspirators)

The nominalization requires both the object and the gerund. Even though the gerund is subject-controlled, the subject is optional. In such cases, the subject of the gerund will have arbitrary reference.

Example: John's waste of my money chasing after conspirators.  
The waste of money chasing after conspirators.

The positions for the OBJECT are listed. There is no value listed with respect to the gerund since it is the same as the verbal complement.

WORD LIST: waste

**NOM-NP-P-ING**

Verbs of this subclass take a small clause complement consisting of a noun phrase, a preposition, and a gerund. The noun phrase following the matrix verb is the logical subject of the gerund but not the logical object of the matrix verb.

I prevented the child from running outside.

For the nominalization, all three elements of the gerund small clause must appear: the NP, the preposition, and the ING-phrase.

Example: My prevention of the child from running outside

\*The child's prevention from running outside

The NP is listed under the keyword:OBJECT with the value PP-OF. The preposition occurring before the gerund small clause is listed. No value is listed for the gerund since it is the same as the verb's oblique argument.

WORD LIST: detention (from), prevention (from), prohibition (from)

#### **NOM-NP-P-ING-OC**

The np of this complement is the logical object of verbs of this class and is also the logical subject of the gerund following the preposition.

I cautioned him about going.

The state imprisoned the congressman for failing to pay taxes.

For the nominalization, both the object and p-ing-oc are required. Unlike NOM-NP-P-ING, this complement contains both an object and a gerund. The object may, therefore, appear separated from the gerund or not.

Example: The state's imprisonment of the congressman for failing to pay taxes

The congressman's imprisonment for failing to pay taxes

The positions for OBJECT are listed. The values for the preposition are listed. There is no value listed with respect to the gerund since it is the same as the verb's oblique argument.

WORD LIST: adaptation (to), caution (about), conversion (to), employment (at, in, for), encouragement (at, in), exemption (from) firing (for), imprisonment (for), judgement (for), limitation (to) payment (for), prosecution (for), punishment (for), restriction (from), retirement (from)

#### **NOM-NP-P-ING-SC**

Verbs in this class allow a noun phrase object followed by a preposition and a gerund phrase. The subject of the gerund is the same as the matrix subject.

I spent time on classifying words. (I classified words)

The nominalization requires both the object and the gerund proceeded by the preposition. Even though the gerund is subject-controlled, the subject is

optional.

Example: John's waste of money on maintaining the gardens  
The waste of money on maintaining the gardens

The positions for OBJECT are listed. The values for the preposition are listed. There is no value listed with respect to the gerund since it is the same as the verb's oblique argument.

WORD LIST: expenditure (on, upon, in), utilization (in, for),  
waste (on, upon, in)

### **NOM-ING-SC**

Verbs of this class take a gerund complement, where the logical subject of the gerund is the same as the subject of the matrix sentence. Generally, the subject of the gerund is not overt; if one does appear, it is possessive and it obligatorily co-refers with the matrix subject

The police department continued accepting bribes.  
They delayed their/\*his swimming the channel.

For the nominalization, the subject-controlled gerund is required. The subject is optional.

Example: The police department's continuation of accepting bribes  
The continuation of accepting bribes

No value is listed with respect to the gerund unless it differs from the default NOM-SUBC. The default NOM-SUBC is P-ING-SC :PVAL ("of").

WORD LIST: admission, continuation, exploration, intention, perfection

### **NOM-POSSING**

Verbs of this class take a complement which includes a possessive followed by a gerund. The possessive is considered to be the logical subject of the gerund. Unlike (ING-SC), the possessive is free in reference; it may co-refer with the matrix subject, or not. In the absence of the possessive, the subject of the gerund has arbitrary reference.

I suggested my/his taking out loans to pay for college.  
(I/he take out loans)  
I suggested taking out loans to pay for college.  
(anyone takes out loans)

For the nominalization, the gerund must appear. The possessive is optional. If the possessive is absent, the subject of the gerund has arbitrary reference, as in the verbal complement.

Example: My suggestion of his abolition of our sitting in on classes

(we sit in)  
 The administration's abolition of sitting in on classes  
 (anyone sits in)

No value is listed with respect to the gerund unless it differs from the default NOM-SUBC, which is P-POSSING :PVAL ("of"). For example, "My opposition to his driving to Boston". Here, the NOM-SUBC is P-ING-SC :PVAL ("to").

WORD LIST: abolition, description, discussion, mention, opposition, suggestion

### NOM-P-ING-SC

Verbs of this class take a complement which consists of a preposition plus a gerund. The subject of the matrix sentence is the logical subject of the gerund. Generally, the gerund occurs with no overt subject, but occasionally the subject of the gerund is expressed by a possessive. In those cases, the possessive is obligatorily co-referential with the matrix subject. The particular preposition(s) must be specified for each verb.

They failed in attempting the climb.  
 \* They failed in their/his attempting the climb  
 They confessed to cheating on the exam  
 They confessed to their/\*his cheating on the exam

For the nominalization, the preposition as well as the gerund must occur. The subject is optional.

Example: His confession to cheating at poker  
 The confession to cheating at poker

The values for the preposition are listed. No value is listed for the gerund since it is the same as the verbal complement.

WORD LIST: admission (to) application (for) commitment (to)  
 conclusion (by) confession (to) continuation (with) engagement (in)  
 experimentation (in, with) fluctuation (between) improvement (on, upon)  
 option (for) participation (in) retirement (from)

### NOM-P-POSSING

Verbs of this class take a complement which consists of a preposition plus a gerund. The gerund may be preceded by a possessive subject or have an unexpressed subject. The possessive is free to co-refer or not with the matrix subject. When no possessive precedes the gerund, the subject is arbitrary in reference. The particular preposition(s) must be specified for each verb .

Jay argued against his paying for the damage  
 Jay argued against their paying for the damage  
 Jay argued against paying for the damage

For the nominalization, the preposition as well as the gerund must occur.



Example: Jay's argument against paying for the damage  
 Jay's argument against Ezra's paying for the damage  
 The argument against (his) paying for the damage

No value is listed for the gerund since it does not differ from the verb's oblique complement.

WORD LIST: adjustment (to) agreement (about on upon to) argument (against about for over) arrangements (for) concentration (on) cooperation (on in) deliberation (about over) disagreement (about on) enquiry (about) expansion (on upon) payment (for) provision (against, for) speculation (about)

### NOM-PP-P-POSSING

Although this string does occur as a complement of some verbs, this class does not exist in COMLEX because it is an expansion of P-POSSING, where depending on the type of preposition, the subject is either co-referential with the NP of the PP or concomittant with it.

Jake argued with Mick about Clinton's visiting China  
 They argued among themselves about Clinton's visiting China

For the nominalization, the P-POSSING occurs as it does in the verb phrase. While the PVAL of the PP must be the concomittant "with", the interrelative prepositions "between" and "among" are reanalyzed as subject values. This is because no subject value can co-occur with an interrelative preposition in the nominalization.

Jake's argument with Mick about Clinton's visiting China (NOM-PP-P-POSSING)  
 The argument among the men about Clinton's visiting China (NOM-P-POSSING)  
 Their argument about Clinton's visiting China (NOM-P-POSSING)  
 \*Their argument among the men about Clinton's visiting China  
 \*Their argument among each other about Clinton's visiting China

The PVALs of PP are listed under PVAL1. If the PVALs of PP differ from those of the verb, they are listed under PVAL-NOM1. The PVALs of P-POSSING are listed under PVAL; if the PVALS in the nominalization differ from those of the verb, they are listed under PVAL-NOM. No value is listed for the gerund since it is the same as the verbal complement.

WORD LIST: agreement PVAL1(with) PVAL (about, on, upon)  
 argument PVAL1(with) PVAL (about)

### NOM-P-NP-ING

Verbs of this subclass subcategorize for a prepositional phrase and a gerund small clause. The noun phrase following the preposition is the logical subject of the gerund. If it is a pronoun, it is in the accusative. This distinguishes this complement type from the very similar complement POSSING which has a possessive noun phrase as subject of the gerund.

They worried over him drinking so much. (p-np-ing)  
 They worried over his drinking too much. (p-possing)

For the nominalization, both the preposition and the gerundive small clause must appear. Since the NP is a member of the gerundive small clause, it cannot be detached from the ING-phrase.

Example: Their report about the manager leaving the site

The values of the preposition must be specified. No value is listed for the NP-ING small clause since it is the same as the verbal complement.

WORD LIST: approval (of), argument (about), explanation (about), report (about on), worry (about)

### NOM-POSSING-PP

Verbs of this subclass require a complement consisting of a gerund, which may or may not be preceded by a possessive, and a PP. The PP and the gerund are not ordered. If the gerund appears without a possessive, the reference of its subject is arbitrary. If a possessive does occur, it may co-refer or not with the matrix subject.

She attributed his giving up smoking to will power.  
 She attributed giving up smoking to will power .  
 She attributed to will power his giving up smoking.  
 She attributed to will power giving up smoking.

For the nominalization, both the PP and the gerund must occur.

Example: Their correlation of his drinking vodka with the Russian detente

The values for PP are listed under PVAL1. No value is listed with respect to the gerund unless it differs from the default NOM-SUBC, which is (P-POSSING :PVAL ("of")).

WORD LIST: attribution (to), correlation (with) explanation (to), recommendation (to), reference (to)

### NOM-NP-P-POSSING

Verbs of this subclass take an object NP followed by a preposition followed by a gerund which may or may not be preceded by a possessive subject. The subject of the gerund is either overtly expressed as a possessive or absent. If the gerund has no overt subject, the reference is arbitrary.

We collected money for Vi's sweeping the road  
 We collected money for sweeping the road

The particular preposition(s) must be specified for each verb.

For the nominalization, the object NP, the specified preposition and the gerund must all appear. Since the object NP is not a constituent of anything else in the complement string, it may appear separated from the string P-POSSING,

Example: Our collection of money for Vi's sweeping the road  
the money collection for Vi's sweeping the road

The positions for the object NP are listed. The values for the P of P-POSSING are listed. No value is listed with respect to the gerund since it is the same as the verbal complement.

WORD LIST: collection (for), correction (for), devotion (to),  
education (about for in on), indictment (for), introduction (to),  
involvement (in), reservation (for), suspension (for)

#### **NOM-NP-P-NP-ING**

Verbs of this subclass take a complement consisting of an object NP followed by a preposition which introduces an NP-ING small clause. The particular preposition(s) must be specified for each verb.

I asked him about no one having been there.  
I asked him about there having been no witnesses.

For the nominalization, the object NP, as well as gerund small clause (NP-ING) and the preposition that precedes it, must appear. Since the object NP, the first NP in the complement string, is not a constituent of the P + small clause constituent, it can occur non-contiguously.

Example:

My education of him about there being a difference between pretending and lying  
His education about there being a difference between pretending and lying

The positions for the object NP are listed. The values for the preposition are specified. No value is stated for the small clause NP-ING since it is the same as the verb's oblique complement.

WORD LIST: education (about, on), relation (to)

#### **NOM-FOR-TO-INF**

Verbs of this subclass take an infinitival complement clause introduced by "for" with an overt subject noun phrase in the accusative.

Sue wished wish for him to leave early

For the nominalization, the preposition "for", and the NP as well as the infinitive itself must be present. No part of the complement may occur separately from the other parts, since the whole infinitival phrase is a constituent.

Example: Sue's wish for the superintendent to leave early  
\*Sue's superintendent wish for to leave early

There is no value listed with respect to this complement since it is the same as the verbal complement.

WORD LIST: arrangement, motion, movement, preparation, prescription, provision,

recommendation

**NOM-NP-TO-INF-OC**

Verbs of this subclass take a noun phrase object and an infinitival complement clause. The noun phrase is both the logical object of the verb and the logical subject of the infinitive clause.

We designated Allie to drive us home from the party.  
They contracted Smith & Co to remodel the basement.

For the nominalization, both the object NP as well as the infinitival clause must appear. The object NP, inasmuch as it is a constituent independent of the infinitive clause, may occur disjoined from the infinitive, or contiguous to it as in the verbal system.

Example: Our designation of Allie to drive us home from the party  
Allie's designation to drive us home from the party

The positions of the object NP must be listed. No value is listed with respect to the infinitive phrase since it is the same as the verbal complement.

WORD LIST: abandonment, appointment, authorization, calculation, delegation, employment, encouragement, hiring, invitation, modification, payment, permission, recommendation, reminder, selection, temptation, trainee

**NOM-NP-TO-INF-SC**

Verbs of this subclass take a noun phrase object and an infinitival complement clause. The understood subject of the infinitive is co-referential to the matrix subject.

John promised Mary to repair the desk lamp.  
(John promised, John will repair)

For the nominalization, the object NP and the subject-controlled infinitive must occur. Even though the infinitive is subject-controlled, the subject is optional.

Example: John's promise to Mary to fix the lamp  
The promise to Mary to fix the lamp

The positions for the object are listed. No value is listed for the infinitival complement since it is the same as the verbal complement.

WORD LIST: promise, threat

**NOM-NP-TO-INF-VC**

Verbs of this subclass take a noun phrase object and an infinitival complement clause. The understood subject of the infinitive clause may be co-referential with either the matrix object or the matrix subject.

They solicited him to go. (they go/he goes)

For the nominalization, both the object and the infinitival phrase must occur. As with the verbal complement, the reference of the infinitival phrase is ambiguous between matrix subject and object. The NP-object is not separable from the TO + infinitive part of the complement.

Example: His solicitation of Mayor Koch to lead the parade

WORD LIST: petition, solicitation

**NOM-TO-INF-SC**

Verbs of this subclass take an infinitival complement whose subject is understood to be identical to the subject of the matrix clause.

John tried to go.  
I want to go.  
He needs to win every argument.

For the nominalization, it works exactly the same; the infinitival subject is co-referential with the matrix subject. The matrix subject argument is optional, even though the infinitive is subject-controlled.

Example: His need to win every argument  
The need to win every argument

No value is listed for the infinitival complement since it does not differ from the verbal complement.

WORD LIST: action, agreement, arrangements, aspiration, decision, expectation, hesitation, inclination, intention, motion, movement, option, preparation, proposition, qualification, registration, resolution

**NOM-P-NP-TO-INF-OC**

Verbs of this subclass take a complement consisting of a prepositional phrase followed by an infinitival clause. The understood subject of the infinitive is co-referential with the immediately preceding NP (object of the preposition).

He motioned to John to eat the spinach.

For the nominalization, both the matrix prepositional phrase, as well as the infinitival phrase must occur. As with the verbal complement, the infinitival subject and the object of the matrix preposition are co-referential.

Example: The policeman's motion to the driver to pull over

The preposition values are specified. No value is listed for the infinitive since it does not differ from the verbal complement.

WORD LIST: imposition (on, upon), motion (to, toward)

**NOM-P-NP-TO-INF**

The verb subcategorizes for a preposition followed by an np and an infinitival clause. The preposition must be stipulated for each verb. The subject of the infinitive is the np following the preposition.

He relies on Joan to come.

Unlike the preceding complement p-np-to-inf-oc, the entire proposition, rather than just the prepositional phrase, is selected by the matrix verb. These two complements are mutually exclusive.

For the nominalization, the preposition as well as the infinitival phrase must occur. The subject of the infinitive phrase, since it is a constituent of the infinitival phrase, cannot be separated from it.

Example: His reliance on Joan to come  
\*Joan's reliance on to come

The values of the prepositions are listed. No value is listed for the infinitival phrase since it is the same as the verbal complement.

WORD LIST: dependence (on, upon), reliance (on, upon)

**NOM-P-NP-TO-INF-VC**

The verb subcategorizes for a prepositional phrase followed by an infinitival clause. The logical subject of the infinitive can be understood as being either the matrix subject, or the noun phrase following the preposition.

She appealed to him to leave the compound (she leaves/he leaves)  
He contracted with them to win the contest (he wins/they win)

For the nominalization, it works exactly the same. The infinitive subject is ambiguous between the matrix subject and the object of the preposition in the matrix clause.

Example: His contract with them to win the contest (he wins/they win)

The values of the prepositions are listed. No value is listed for the infinitival phrase since there are no differences between the verbal and nominalization complements with respect to this part of the complement.

WORD LIST: contract (with), negotiation (with)

**NOM-PP-FOR-TO-INF**

The prepositional phrase required by verbs of this subclass is followed by an infinitive clause introduced by "for". The subject of the infinitive is overt.

They arranged with her for Johnny to take the bus to school.

For the nominalization, the PP as well as the infinitival clause introduced by "for", must occur.

Example: Their arrangement with her for Johnny to take the bus to school

The value of the preposition is listed. No value is listed for the infinitival phrase since it is the same as the verbal complement.

WORD LIST: arrangement (with), negotiation (with)

#### NOM-PP-TO-INF-RECIP

This complement is made up of a prepositional phrase followed by a TO-infinitive whose subject is non-overt. The prepositional "with" phrase is part of the aggregate subject. Therefore the subject of the TO-infinitive refers to the set composed of both the matrix subject and the object of the preposition. The verbs that subcategorize for this complements are also intrans-recip; they also allow a to-inf-sc complement.

Henry conspired with Marsha to steal the contract. (they steal)  
Henry and Marsha conspired to steal the contract. (they steal)

For the nominalization, both the PP and the the infinitive must occur.

Example: Henry's conspiracy with Marsha to steal the contract

The preposition is not listed. No value is listed for the infinitival phrase since it is the same as the verbal complement,

WORD LIST: agreement, conspiracy

#### NOM-EXTRAP-NP-S

Verbs of this class occur after pleonastic "it" and take an object (which must be human) and a tensed or infinitival sentential complement. The sentential complement can also occur as the matrix subject.

It annoyed him that no one answered. (\*extrap-np-s)  
That no one answered annoyed him. (\*s-subj-np-obj)

It annoyed him to leave that early. (\*extrap-np-to-inf)  
To leave that early annoyed him. (\*to-inf-subj-np-obj)

For the nominalization, the expletive subject does not appear, and both the object (+human) and the sentential complement must appear. Only the tensed sentential complement occurs in the nominalization.

Example: \* Its annoyance of him that no one answered him (no subject)  
His annoyance that no one answered him  
The annoyance to him that no one answered him  
\* His annoyance to leave so early (no to-inf)

The subject is listed as :NONE T. The positions of the object are listed. No value is listed with respect to the sentential complement unless it differs from the default NOM-SUBC, which is (SENT :THAT-S T)

WORD LIST: amazement, disappointment, embarrassment, frustration, satisfaction

**NOM-S**

Verbs of this subclass take a sentential complement with an optional complementizer 'that'. These verbs are distinct from that-s verbs which require the complementizer 'that', e.g.:

She knows that John is an "A" student. (s)  
She knows John is an "A" student.  
She reported that John is an "A" student. (that-s)  
\*She reported John is an "A" student.

For the nominalization, the sentential complement must occur, furthermore, unlike the verb, the complementizer "that" must also appear.

Example: Her knowledge that John is an "A" student  
\*Her knowledge John is an "A" student

No value with respect to the sentential complement is marked unless it differs from the default NOM-SUBC, which is SENT :THAT-S.

WORD LIST: admission, allegation, announcement, anticipation, assertion, assumption, calculation, conclusion, confession, confirmation, contention, decision, demonstration, discovery, expectation, explanation, indication, perception, prediction, projection, realization, speculation, statement, suspicion

**NOM-THAT-S**

Verbs of this subclass take a sentential complement introduced by an obligatory complementizer "that". The verb of the embedded sentence is tensed.

She observed that the world is better today.  
\*She observed the world is better today.

For the nominalization, both the complementizer and the sentential complement must occur

Example: Her observation that the world is better today

No value is listed with respect to the complement since it is the same as the verbal complement.

WORD-LIST: advertisement, agreement, appreciation, argument, arrangement, conception, consideration, declaration, deduction, denial, disagreement, guarantee, illustration, intuition, judgment, motion, objection, observation, opinion, prescription, proclamation, proposition, recognition, reflection, requirement, resentment, resolution



**NOM-S-SUBJUNCT**

Verbs of this subclass take a complement sentence whose verb is in the subjunctive. The modal "should" (but no others) is treated as a subjunctive-marker.

I demanded that he be in tune.  
I specified that he should be on time.

The "that" complementizer is optional in some cases:

I suggest (that) John come early.  
The electrician recommended (that) she buy extra insulation.

For the nominalization, the complementizer "that" is obligatory and the verb of the complement sentence must be in the subjunctive.

Example: The electrician's recommendation that she buy extra insulation  
The electrician's recommendation that she should buy extra insulation

No value is listed with respect to the complement unless it differs from the default NOM-SUBC, which is (SENT :THAT-S-SUBJUNCT).

WORD LIST: arrangements, intention, motion, movement, recommendation, requirement, specification

**NOM-NP-S**

Verbs of this subclass subcategorize for a noun phrase object followed by a tensed sentence. The noun phrase object is human. The complementizer may be dropped.

I reminded her that the car had been stolen.  
I reminded her the car had been stolen.

For the nominalization, both the object and the sentential complement are required. In addition, the complementizer "that" is required.

Example: My reminder to her that the car had been stolen  
Her reminder that the car had been stolen

The positions for the object-NP are listed. No value is given with respect to the sentential complement unless it differs from the default NOM-SUBC, which is (SENT :THAT-S).

WORD LIST: admonishment, guarantee, notification, reminder, satisfaction

**NOM-PP-THAT-S**

Verbs of this subclass take a complement consisting of a prepositional phrase and a sentential clause introduced by the complementizer "that". The preposition is specified.

They admitted to the authorities that they had smoked.

The president agreed with his advisors that now would not be a good time to talk to the press.

For the nominalization, both the prepositional phrase and the sentential complement introduced by "that" must occur.

Example: The president's agreement with his advisors that now would not be a good time to talk to the press

The prepositional values are listed. No value is listed with respect to the sentential complement since it is the same as the verbal complement.

WORD LIST: admission (to), agreement (among between with), announcement (to), argument (to), communication (to), confession (to), confirmation (for to), declaration (to), deduction (from), explanation (to), indication (to), justification (to), motion (to), reconciliation (to with), requirement (from), statement (for to), suggestion (to)

**NOM-PP-THAT-S-SUBJUNCT**

Verbs of this subclass subcategorize for a prepositional phrase followed by a "that" clause. The verb of the complement sentence is in the subjunctive.

They suggested to him that he be on time.

The particular preposition(s) must be specified for each verb.

For the nominalization, both the prepositional phrase and the "that-clause" in the subjunctive must appear.

Example: The loanshark's suggestion to Mimi that the payments be on time

The values for the prepositions are listed. No value is listed with respect to the subjunctive "that-clause" since it is the same as the verbal complement.

WORD LIST: arrangement (with) suggestion (to)

**NOM-NP-AS-IF-S-SUBJUNCT**

This complement includes an object noun phrase followed by "as if" and a sentence in the subjunctive mood.

The cows regard us as if we were insane.  
They treat him as if he were an animal

For the nominalization, both the object noun phrase and the "as-if-clause" in the subjunctive must appear.

Example: Their treatment of him as if he were an animal

The positions for the object NP are listed. No value is listed with respect to the "as-if-clause" since it is the same as the verbal complement.

WORD LIST: treatment

### NOM-WH-S

Verbs of this subclass subcategorize for a sentential complement introduced by a wh-complementizer, which can be either "if", "whether", or "what". This distinguishes this class of verbs from those that allow only "how". The complement sentence may be tensed or non-tensed.

I wonder whether he is referring to Jake. (\*wh-s)  
 I wonder if he is sick. (\*wh-s)  
 I always know whether to tip the captain or not. (\*wh-to-inf)  
 I know what he will do. (\*what-s)  
 I know what to do (\*what-to-inf)

For the nominalization, the wh-complementizer and the tensed or untensed sentential complement must occur. The complementizer "if" does not map into nominalizations.

Example: Their knowledge of whether the risks outweigh the advantages  
 \*Their knowledge of if the risks outweighed the advantages  
 \*Their knowledge if the risks outweighed the advantages

No value is listed for the wh-s complement unless it differs from the default NOM-SUBC which is (P-WH:WH-S T :PVAL ("OF")).

WORD LIST: announcement, anticipation, assessment, calculation, confirmation, definition, detection, discovery, discussion, evaluation, examination, explanation, exploration, illustration, indication, interpretation, intuition, investigation, judgment, justification, knowledge, modification, prediction, realization, recommendation, regulation, resolution, specification, speculation, suspicion

### NOM-WHERE-WHEN-S

Verbs of this subclass take tensed and untensed sentential complements introduced by "where", "when", "how-quant-n", ("how" plus "many" or "much" followed by the quantified noun) or "how-quant".

She decided where they should go.  
 She decided where to go.  
 He asked when the blizzard would come.  
 He asked when to expect the blizzard.  
 They forecast how much snow we would have.  
 They forecast how much snow to expect.  
 He asked how much they should spend.  
 He asked how many they expected to come.

The nominalization also takes tensed and untensed complements introduced by the same set of wh-words listed above.

Example: His forecast of how many pizzas he would need

No value is listed for the wh-s complement unless it differs from the default NOM-SUBC which is (P-WH:WHERE-WHEN-S T :PVAL ("OF")).

WORD LIST: calculation, definition, examination, forecast

### NOM-HOW-S

This class contains those verbs which take a tensed wh-complement introduced by "how". It excludes verbs that also take an infinitival complement introduced by "how" pp-how-to-inf, as well as verbs that take "whether", "if", or "what" to introduce the sentential complement (cf. wh-s).

They complicated how it was done.  
 \*He complicated how to do it.  
 \*He complicated whether it was done.

The nominalization also takes a tensed complement introduced by "how".

Example: The company's complication of how the project was carried out.

No value is listed for the wh-s complement unless it differs from the default NOM-SUBC which is (P-WH :HOW-S T :PVAL ("OF")).

WORD LIST: assessment, calculation, demonstration, detection, discovery, evaluation, examination, exploration, indication, intuition, judgment, justification, perception, perfection, prediction, realization, recognition, resentment, resolution, restriction, supervision

### NOM-PP-HOW-TO-INF

Verbs of this class subcategorize for a prepositional phrase followed by a clause introduced by "how". The prepositional phrase can be omitted (how-to-inf), and the complement sentence may be tensed or nontensed (pp-how-s, how-s).

She demonstrated to him how to do it. (\*pp-how-to-inf)  
 She demonstrated how to do it. (\*how-to-inf)  
 They demonstrated to me how they sailed. (\*pp-how-s)  
 They demonstrated how they sailed. (\*how-s).

The particular preposition has to be specified for each verb.

The nominalizations of this class also take tensed and untensed complements introduced by "how" with an optional prepositional phrase in the matrix clause.

Example: Their demonstration (to us) of how they diverted the lava's flow

The values of the preposition are listed. No value is listed for the sentential complement introduced by how, unless it differs from the default NOM-SUBC which is (P-WH :HOW-TO-INF T :PVAL ("OF")).

WORD LIST: agreement (with), announcement (to), demonstration (for to),

description (for to), explanation (to), illustration (for to), suggestion (to)

### NOM-NP-WH-S

Verbs of this class subcategorize for a noun phrase object denoting a human being followed by a sentence that is introduced by a wh-complementizer. The embedded verb may be tensed or non-tensed.

He asked me whether the world is round. (\*np-wh-s).  
 They asked me what I was doing. (\*np-what-s)  
 They asked him whether to go. (\*np-wh-to-inf)  
 They asked him what to do. (\*np-what-to-inf)

The nominalization also takes an NP object and a tensed or untensed complement introduced by a WH-word. The WH-phrase must be preceded by a preposition.

Example: Joan's reminder to her husband of whom to contact

The positions of the object are listed. No value is listed with respect to the sentential complement introduced by the WH-word unless it differs from the default NOM-SUBC, which is (P-WH :WH-S :PVAL ("OF")).

WORD LIST: reminder

### NOM-P-WH-S

This complement structure consists of a preposition, a WH-complementizer ("whether" "if" or "what") and a tensed clause or an infinitival clause with "to".

John inquired about whether he should go. (\*p-wh-s)  
 John inquired about whether to go. (\*p-wh-to-inf)  
 He inquired about what they wanted to do. (\*p-what-s)  
 He inquired about what to do. (\*p-what-to-inf)

The particular preposition(s) must be specified for each verb .

The nominalization also takes a preposition, a wh-complementizer and a tensed or untensed sentential.

Example: My inquiry into whether an accident had occurred

The values for the preposition are listed. If the list of prepositions differ from those allowed by the complement, they are listed under PVAL-NOM. No value is listed for the sentential introduced by the wh-word since it is the same as the verbal complement.

WORD LIST: agreement (about on upon), argument (about over), commentary (on), concentration (on), decision (about on), deliberation (about over), disagreement (about on over), inquiry (about into), reflection (on), speculation (about on over upon),

### NOM-PP-WH-S

Verbs of this subclass subcategorize for a prepositional phrase followed by a wh-clause introduced by either "if", "whether", or "what". The prepositions are restricted to "from", "to", and "of". The noun of the prepositional phrase is NHUMAN. The verb in the clause introduced by the WH-word may be tensed or untensed.

They mentioned to me what needed to be done (pp-what-s)  
 They concealed from him whether they would attack.(pp-wh-s)  
 He asked of everybody if he could have a piece or not.(pp-wh-s)  
 He deduced from the information whether to go. (pp-wh-to-inf)  
 He explained to us what to do next. (pp-what-to-inf)

The particular preposition(s) must be specified for each verb.

The nominalizations of this verb-class also take a prepositional phrase and a tensed or untensed clause introduced by "whether", or "what" introduced by a preposition (default preposition is "of"). "if" does not map to the nominalization.

Example: His deduction from the conversation of whether there had been a fight

The values for the prepositional phrase are listed. No value is listed with respect to the sentential complement introduced by the WH-word unless it differs from the default NOM-SUBC, which is (P-WH :WH-S T :PVAL ("OF")).

WORD LIST: announcement (to), communication (about to), discussion (with), explanation (to), indication (to), intuition (from), mention (to)

#### NOM-PP-P-WH-S

Verbs of this subclass subcategorize for a prepositional phrase and a wh-clause introduced by "whether" or "what" that is preceded by a preposition. The complement is either tensed or untensed. The particular preposition(s) must be stipulated for each verb.

I argued with him about whether he should kill them. (\*pp-p-wh-s)  
 I argued with them about what they needed to do. (\*pp-p-what-s)  
 I argued with him about whether to kill her. (\*pp-p-wh-to-inf)  
 I argued with them about what to do. (\*pp-p-what-to-inf)

Nominalizations of this verb-class also take a prepositional phrase and a tensed or untensed wh-clause introduced by "whether" or "what" that is preceded by a preposition.

Example: My argument with him about whether to kill her

The values of the prepositional phrase are listed, (under PVAL) as are the values of the preposition which precedes the Wh-complementizer (under PVAL2). No value is listed with respect to the wh-clause since it does not differ from the verb's oblique complement.

WORD LIST: agreement :PVAL1 ("between" "among" "with")  
 :PVAL ("about" "on" "upon" "over")

```
argument :PVAL1 ("with")
          :PVAL ("about" "over")
communication :PVAL1 ("to")
               :PVAL ("about" "on")
disagreement :PVAL1 ("with")
              :PVAL ("about" "on")
inquiry :PVAL1 ("from" "of")
         :PVAL ("about")
```

**NOM-NP-P-WH-S**

The verb subcategorizes for a direct object noun phrase and a preposition that introduces a clause with the complementizer "whether", "if" or "what". The clause may be tensed or non-tensed.

I asked him about whether we would meet. (\*np-p-wh-s)  
 John briefed me on whether to take the northern route.  
 (\*np-p-wh-to-inf)  
 I educated him about what had happened. (\*np-p-what-s)  
 I educated him about what to eat. (\*np-p-what-to-inf)

The particular prepositions must be specified for each verb.

The nominalizations of this verb-class also take a direct object and a preposition that introduces a tensed or untensed clause with the complementizer "whether" or "what". "if" does not map to the nominalization. Since the object NP is a constituent independent of the WH-clause and its introductory preposition, the object can occur in positions separated from the rest of the complement.

Example: The manager's education of the trainees about whether there was a risk  
The trainee's education about whether there was a risk

The values of the preposition are listed. The positions of the object NP are listed. No value is listed for the *wh*-clause since it does not differ from the verb's oblique complement.

WORD LIST: advice (about, on) education (about) misinformation (about, on)

## NOMLEX CLASSES



INDEX

:ORTH .....	4
:VERB .....	4
:PLURAL .....	4
:PLURAL-FREQ .....	4
:SINGULAR-FALSE .....	4
NOM-TYPE .....	5
VERB-NOM .....	5
VERB-PART .....	5
OBJECT .....	5
SUBJECT .....	5
IND-OBJECT .....	5
:NOUN .....	6
RARE-NOM .....	6
RARE-NOUN .....	6
PLUR-ONLY .....	6
SING-ONLY .....	6
EXISTS .....	6
RESULT .....	7
:NOUN-SUBC .....	7
:VERB-SUBJ .....	8
DET-POSS .....	8
N-N-MOD .....	8
PP-OF .....	8
PP :PVAL ("prep") .....	8
NOT-PP-BY .....	8
:SUBJ-ATTRIBUTE/:OBJ-ATTRIBUTE .....	9
NUNIT .....	9
NHUMAN .....	9
COMMUNICATOR .....	9
LOCATION .....	9
REFLEXIVE .....	9
NTIME .....	9
:DET-POSS-NO-OTHER-OBJECT .....	10
:N-N-MOD-NO-OTHER-OBJECT .....	10
FEATURES .....	11
:VCOLLECTIVE .....	11
:SUBJ-OBJ-ALT .....	11
:SUBJ-IND-OBJ-ALT .....	12
:V-NUNIT .....	12
:NSAY .....	12
Conventions in NOMLEX .....	13
:NOM-SUBC .....	13
PVAL PHRASES .....	14
:PVAL and :PVAL1 .....	14

## INDEX

:PVAL-NOM .....	14
:PVAL1-NOM .....	14
:NOM-ROLE-FOR-PVAL .....	14
:SUBJECT .....	16
:OBJECT .....	16
:REQUIRED .....	16
:OPTIONAL .....	16
:NOT .....	16
:PASSIVE-NOM .....	17
Generalizations in NOMLEX .....	19
The Uniqueness Principle .....	19
1. Roles .....	19
2. Argument Positions .....	19
The Ordering Constraint .....	20
Obligatoriness Constraints .....	20
NOMLEX CLASSES .....	23
:VERB-SUBC .....	23
NOM-INTRANS .....	23
NOM-INTRANS-RECIP .....	23
NOM-NP .....	24
NOM-NP-NP .....	24
NOM-PP .....	25
NOM-PP-PP .....	25
NOM-NP-PP .....	26
NOM-NP-TO-NP .....	26
NOM-NP-FOR-NP .....	27
NOM-NP-PP-PP .....	27
NOM-ADVP .....	28
NOM-NP-ADVP .....	28
NOM-ADVP-PP .....	29
NOM-WORDS .....	29
NOM-NP-NUNITP-TO-RANGE .....	30
NOM-NUNITP-TO-RANGE .....	31
NOM-NP-AT-NUNITP-PRED .....	32
NOM-NP-NUNITP-FROM-RANGE .....	32
NOM-NUNITP-FROM-RANGE .....	33
NOM-FROM-RANGE .....	33
NOM-NP-AS-ING .....	34
NOM-NP-AS-ADJP .....	34
NOM-AS-NP .....	35
NOM-NP-AS-NP .....	35
NOM-NP-AS-NP-SC .....	35
NOM-NP-PP-AS-NP .....	36
NOM-NP-ING .....	36
NOM-NP-ING-OC .....	37

## INDEX

NOM-NP-ING-SC .....	37
NOM-NP-P-ING .....	37
NOM-NP-P-ING-OC .....	38
NOM-NP-P-ING-SC .....	38
NOM-ING-SC .....	39
NOM-POSSING .....	39
NOM-P-ING-SC .....	40
NOM-P-POSSING .....	40
NOM-PP-P-POSSING .....	41
NOM-P-NP-ING .....	41
NOM-POSSING-PP .....	42
NOM-NP-P-POSSING .....	42
NOM-NP-P-NP-ING .....	43
NOM-FOR-TO-INF .....	43
NOM-NP-TO-INF-OC .....	44
NOM-NP-TO-INF-SC .....	44
NOM-NP-TO-INF-VC .....	44
NOM-TO-INF-SC .....	45
NOM-P-NP-TO-INF-OC .....	45
NOM-P-NP-TO-INF .....	46
NOM-P-NP-TO-INF-VC .....	46
NOM-PP-FOR-TO-INF .....	46
NOM-PP-TO-INF-RECIP .....	47
NOM-EXTRAP-NP-S .....	47
NOM-S .....	48
NOM-THAT-S .....	48
NOM-S-SUBJUNCT .....	48
NOM-NP-S .....	49
NOM-PP-THAT-S .....	49
NOM-PP-THAT-S-SUBJUNCT .....	50
NOM-NP-AS-IF-S-SUBJUNCT .....	50
NOM-WH-S .....	51
NOM-WHERE-WHEN-S .....	51
NOM-HOW-S .....	52
NOM-PP-HOW-TO-INF .....	52
NOM-NP-WH-S .....	53
NOM-P-WH-S .....	53
NOM-PP-WH-S .....	53
NOM-PP-P-WH-S .....	54
NOM-NP-P-WH-S .....	55