The AUTOTYP Research Program

Balthasar Bickel

University of Leipzig

http://www.uni-leipzig.de/~bickel

AUTOTYP

Background

Background

- The research group
  - Johanna Nichols (Co-Director, Berkeley)
  - Balthasar Bickel (Co-Director, Leipzig)
  - Fernando Zúñiga (Post-Doc, Leipzig)
  - Sandra Biewald (RA, Leipzig)
  - Aimee Lahaussois-Bartosik (RA, Berkeley, until 2002)
  - Michael Riessler (RA, Leipzig)
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- www.uni-leipzig.de/~autotyp

General goals

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1. develop cross-linguistically viable analytical terms as input to:

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   - independent development potentials (universal preferences)

Projects

gramm. relations

Projects

backbone projects

gramm. relations

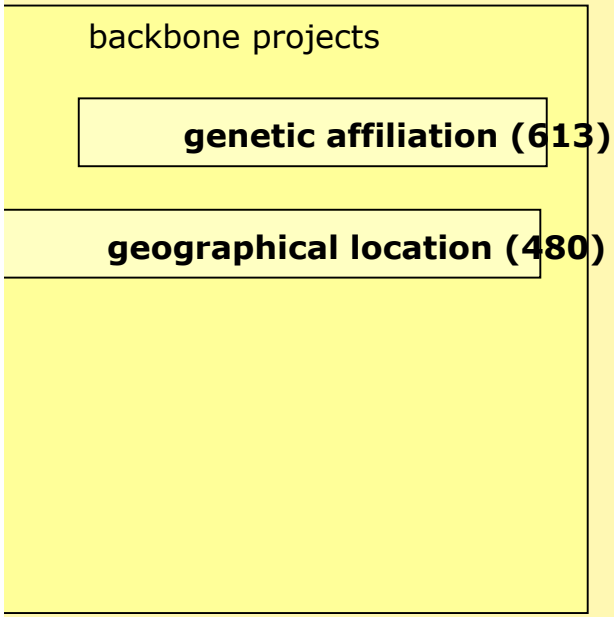
Projects

backbone projects

genetic affiliation (613)

gramm. relations

Projects



gramm. relations

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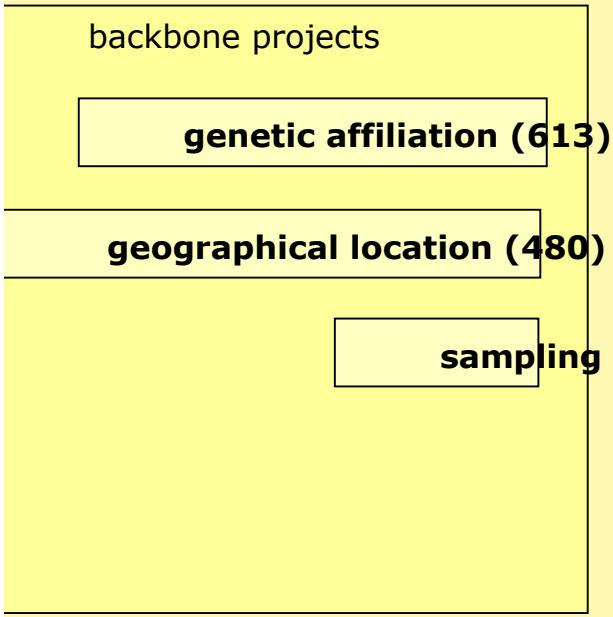

gramm. relations

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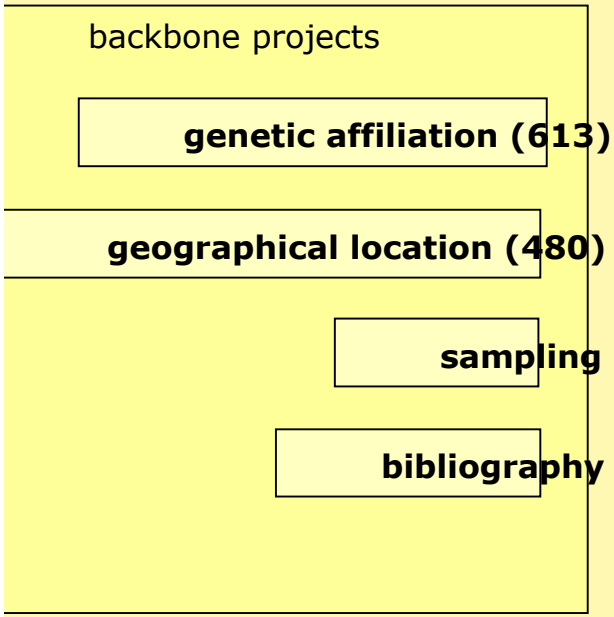

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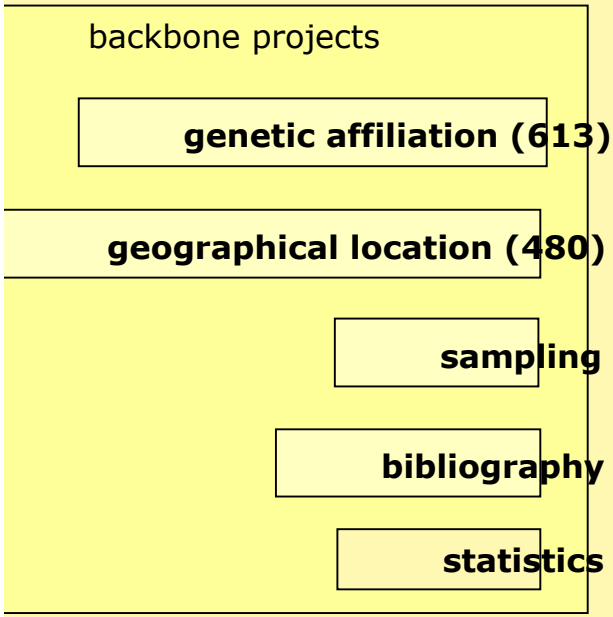

gramm. relations

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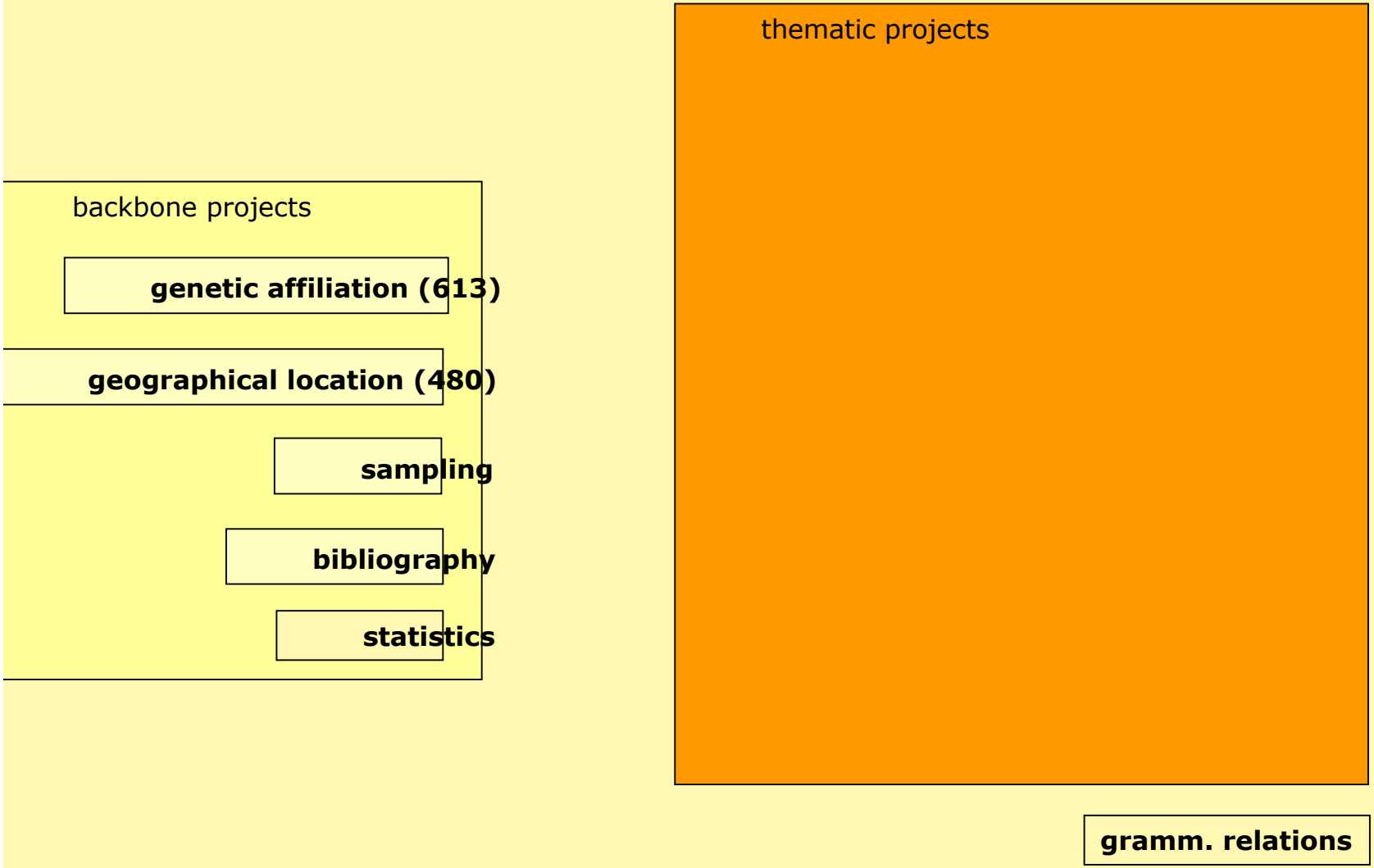
thematic projects
backbone projects
genetic affiliation (613)
geographical location (480)
sampling
bibliography
statistics
gramm. relations

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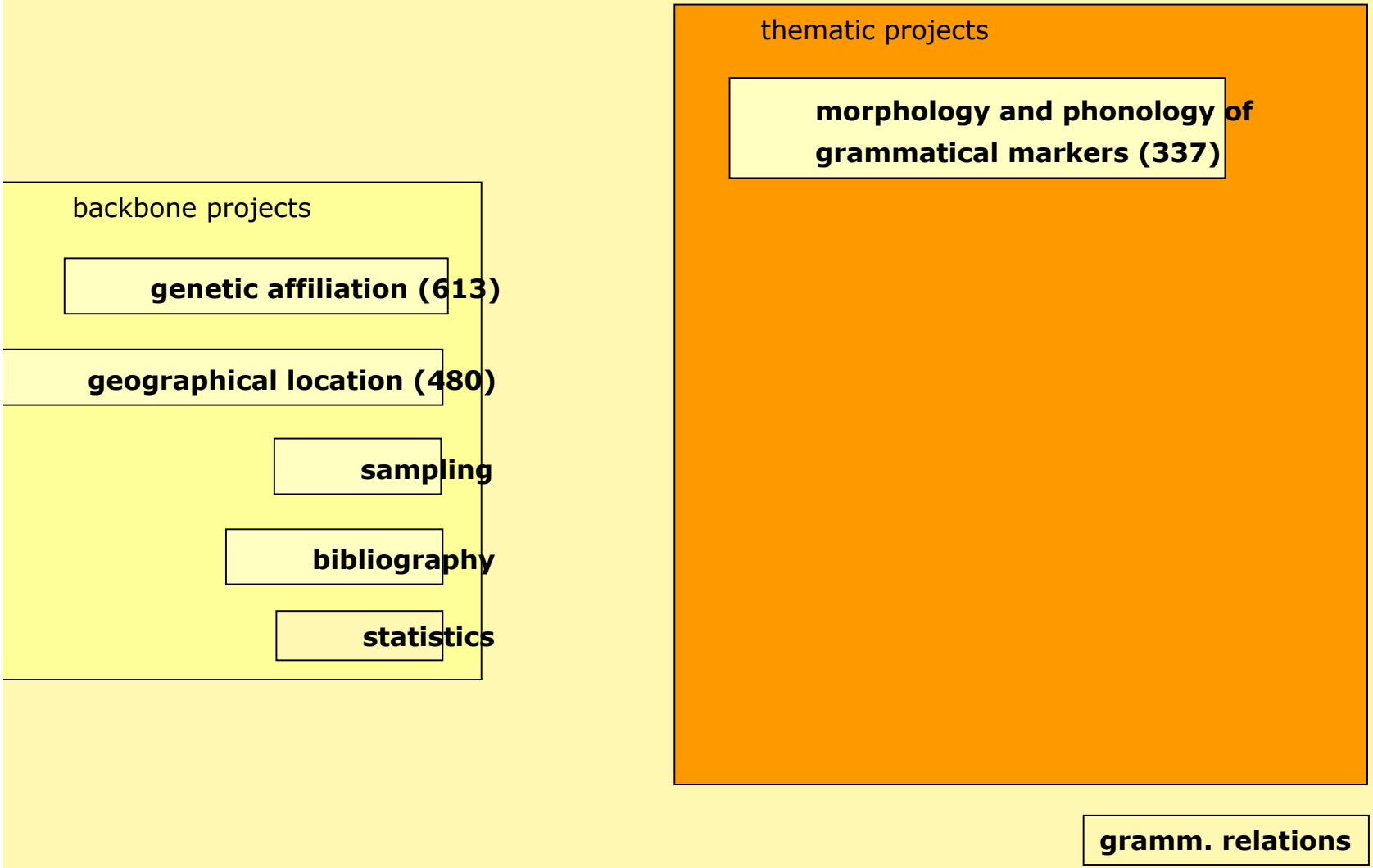
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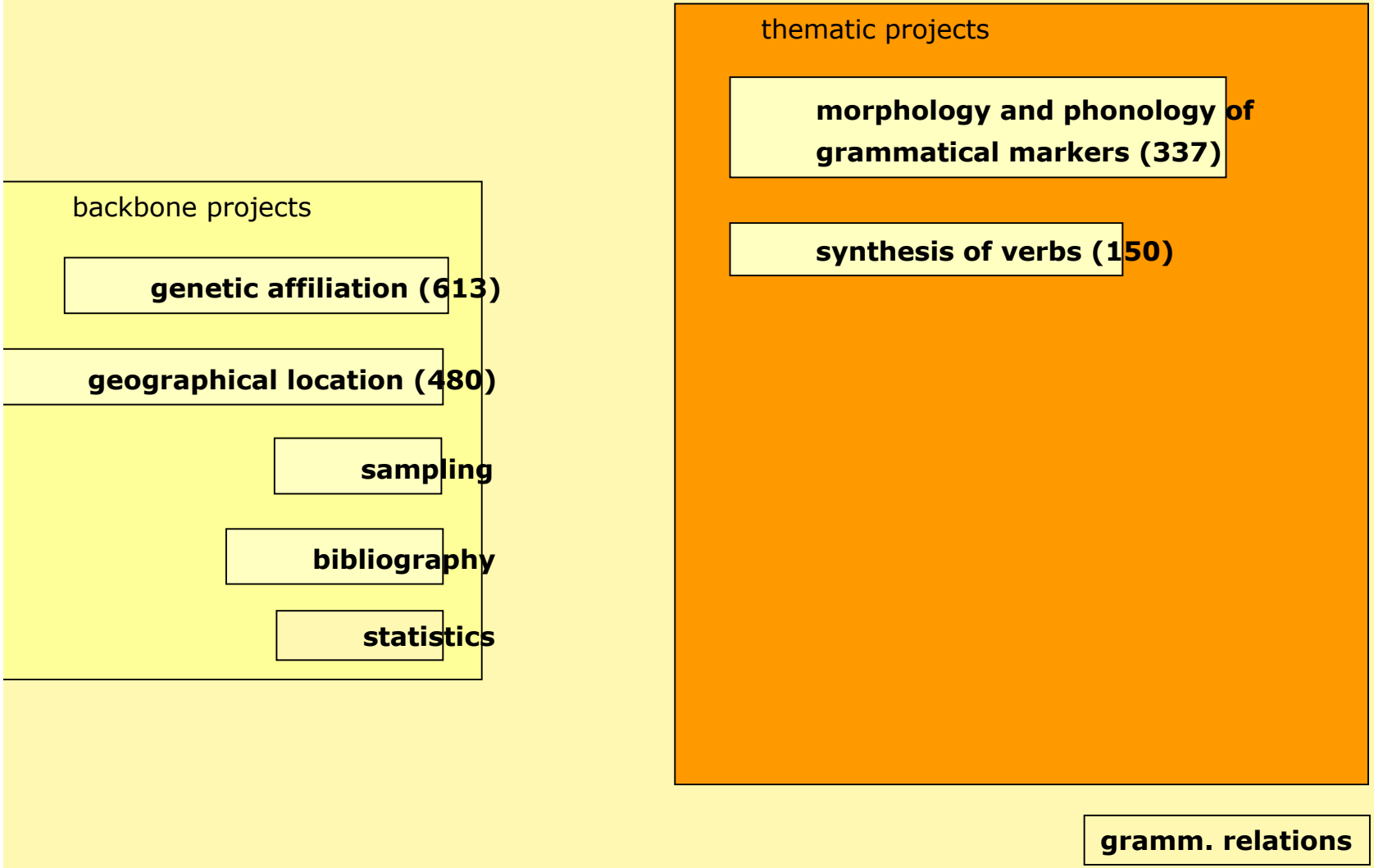
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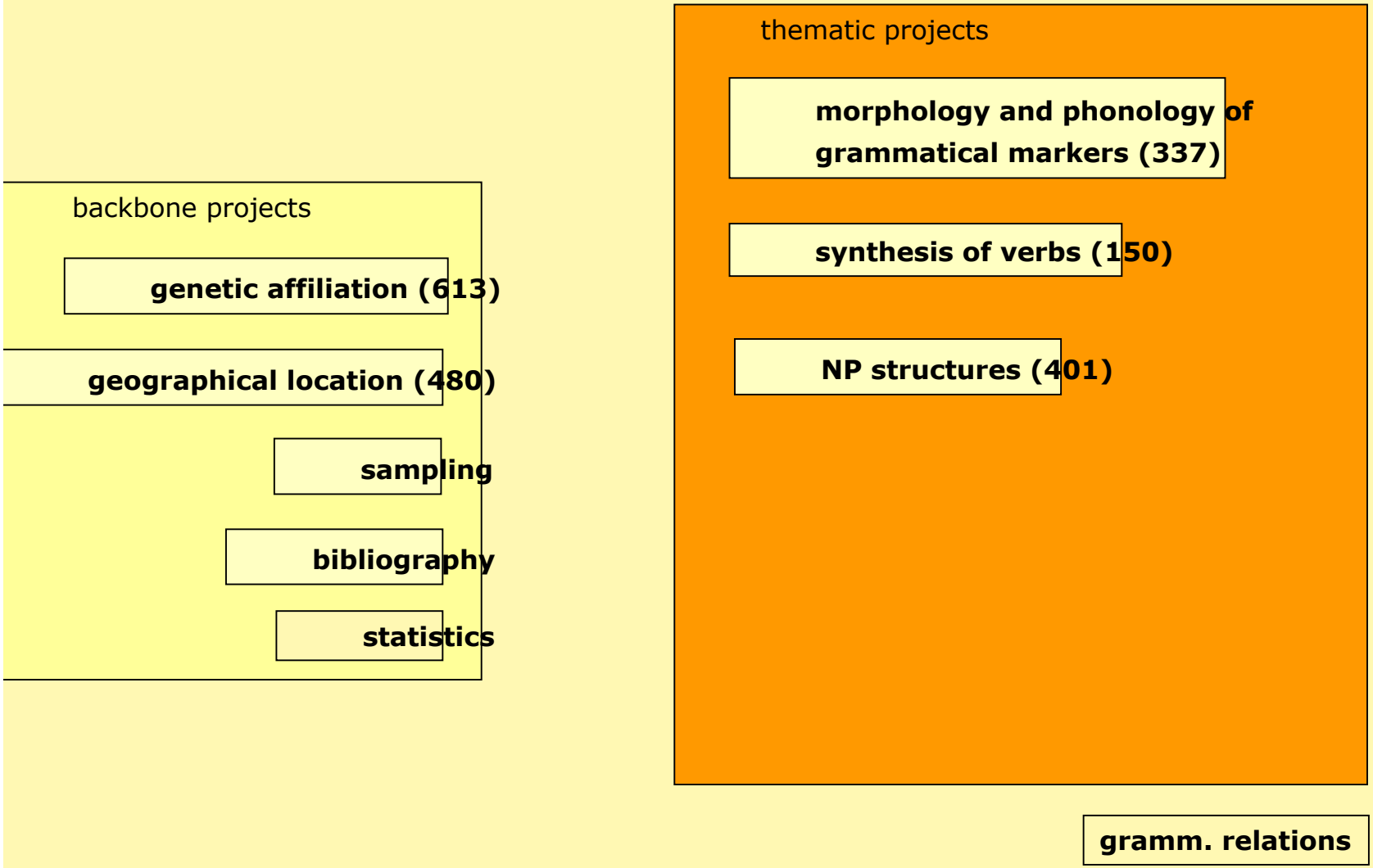
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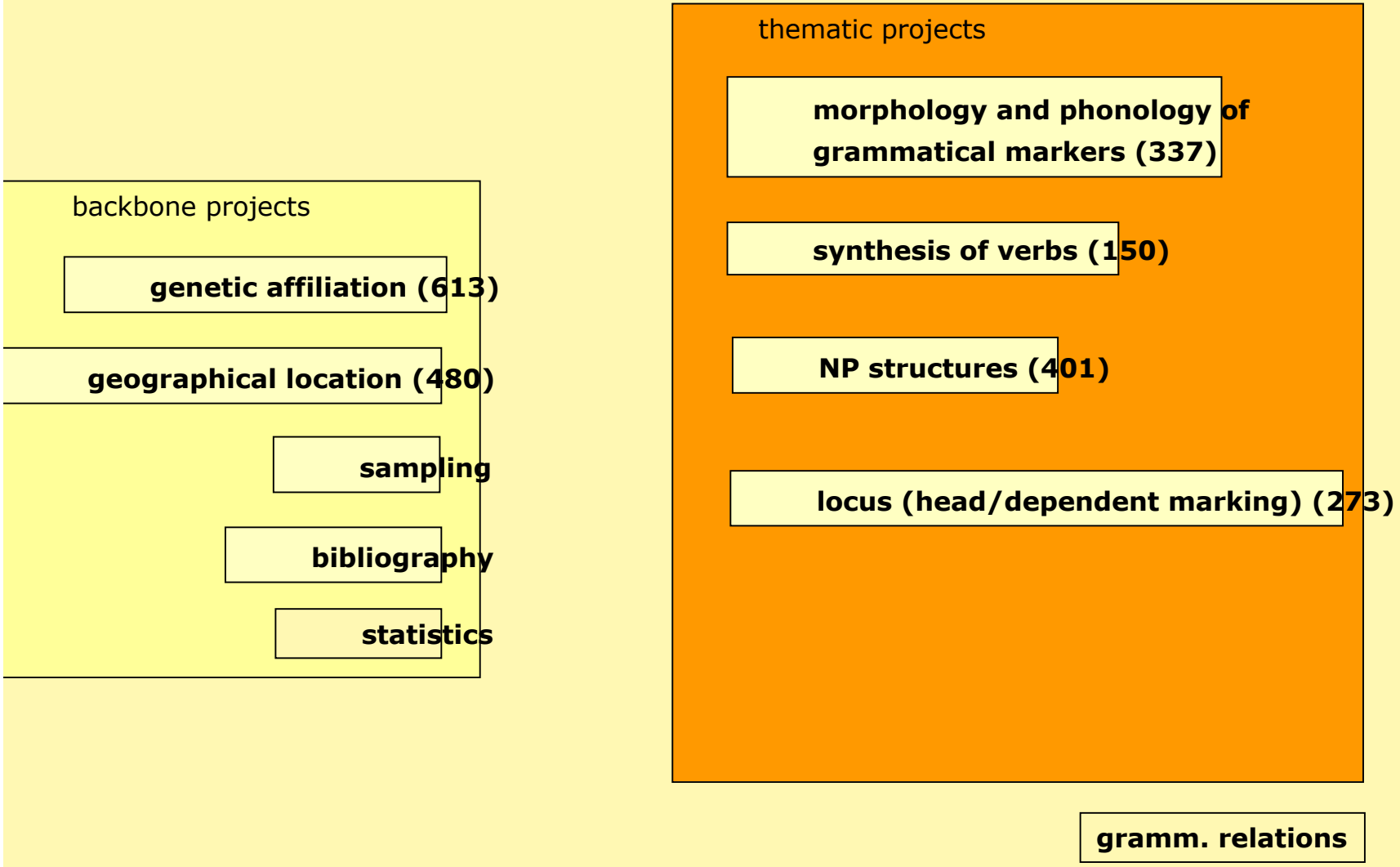
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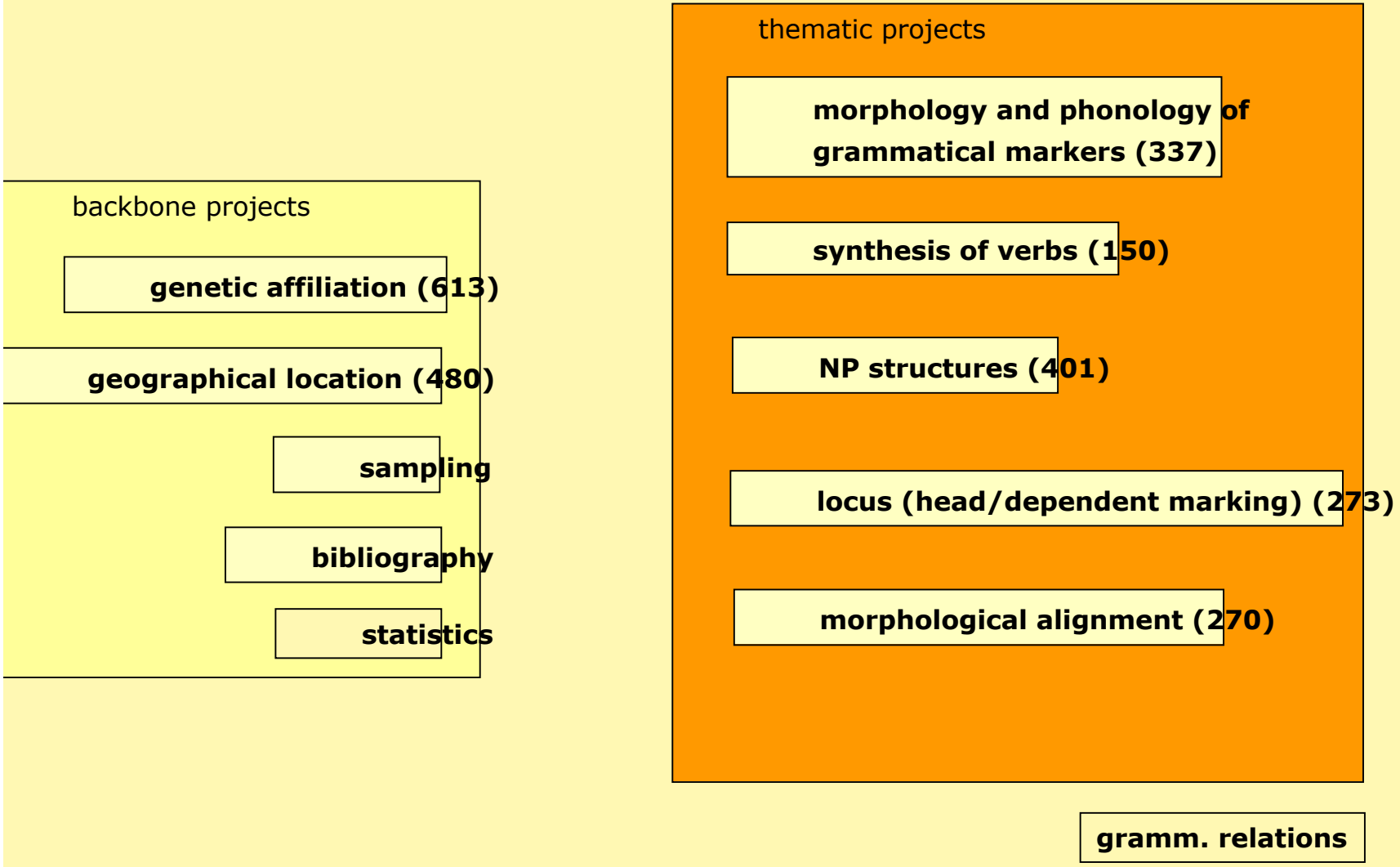
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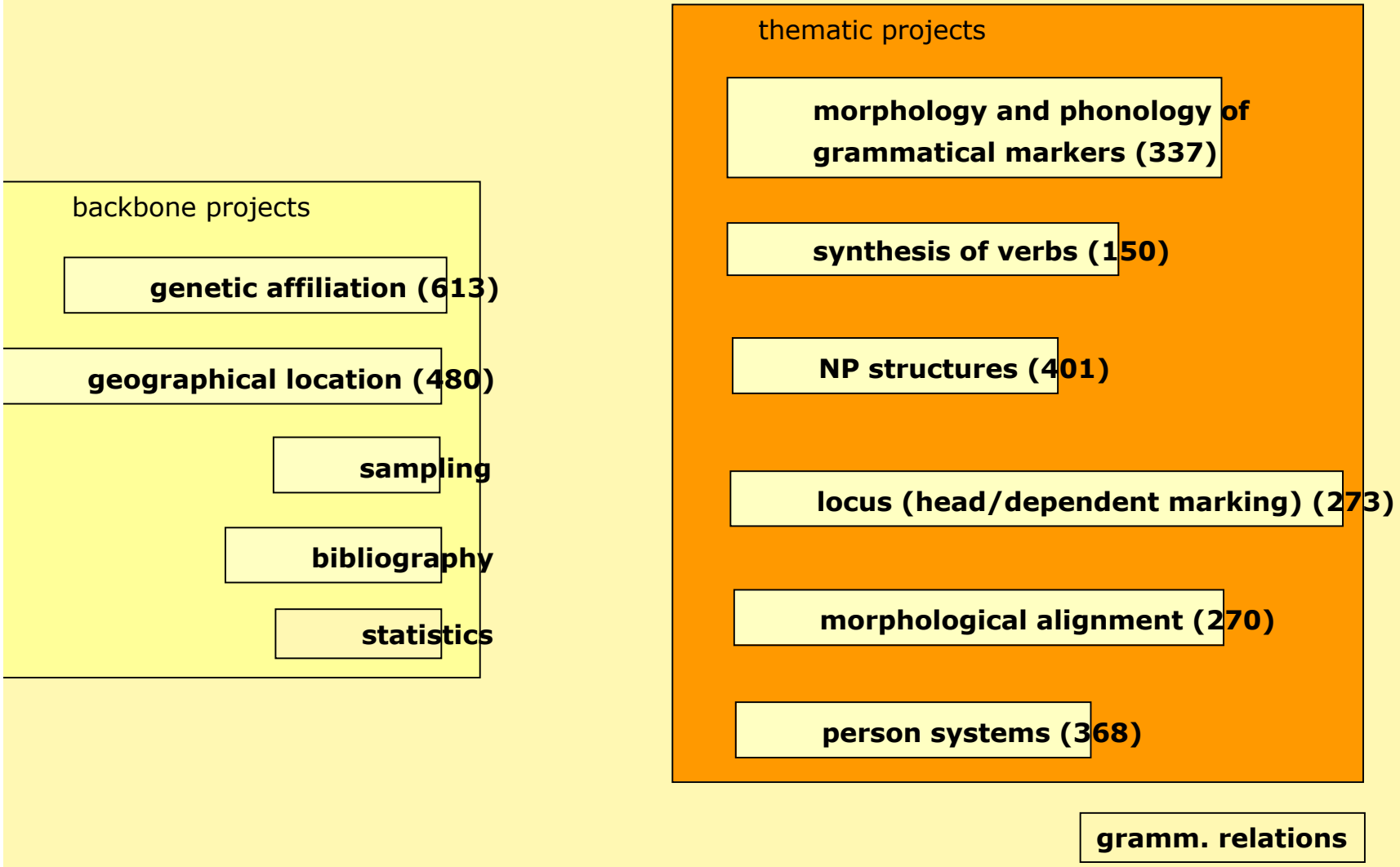
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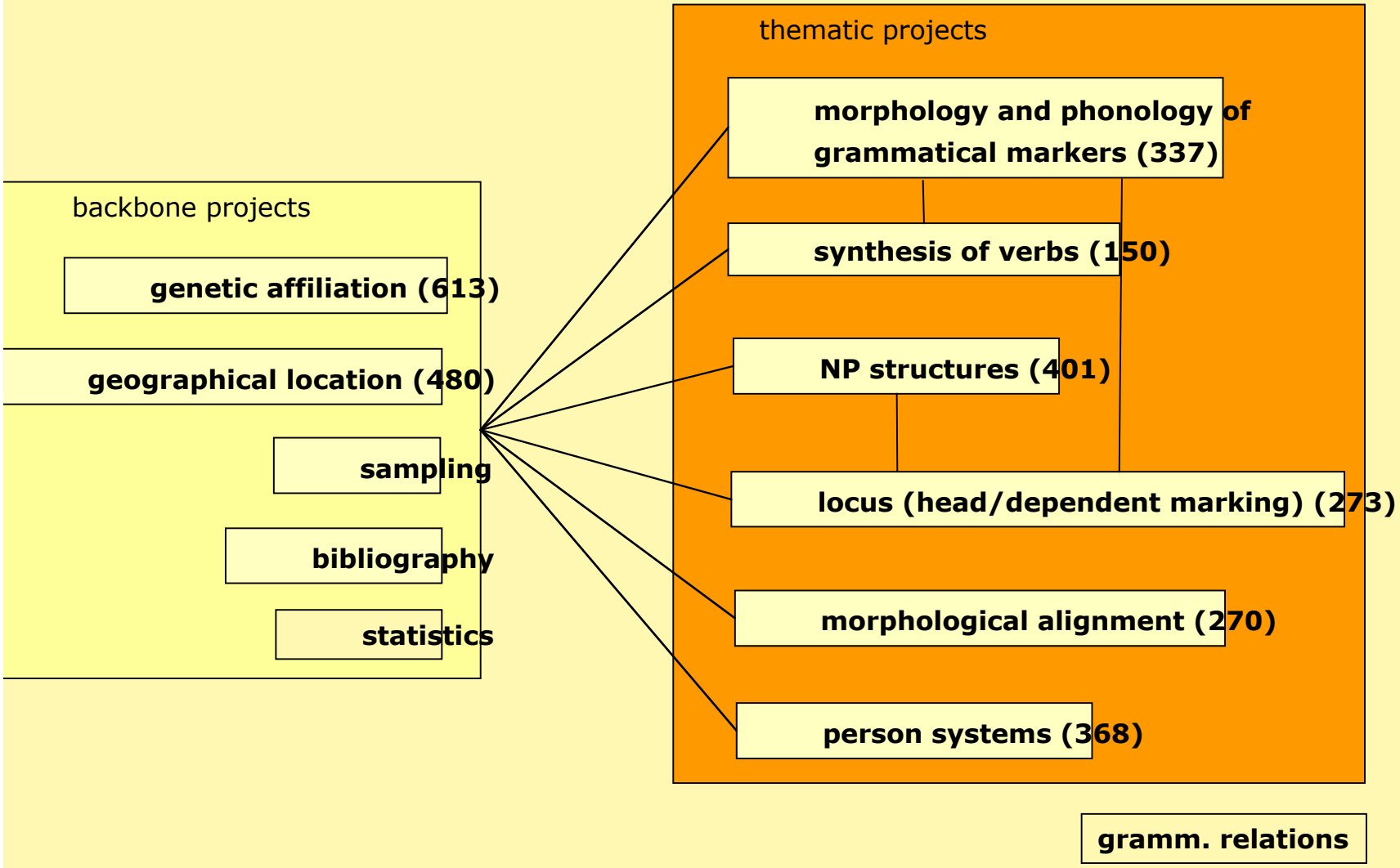
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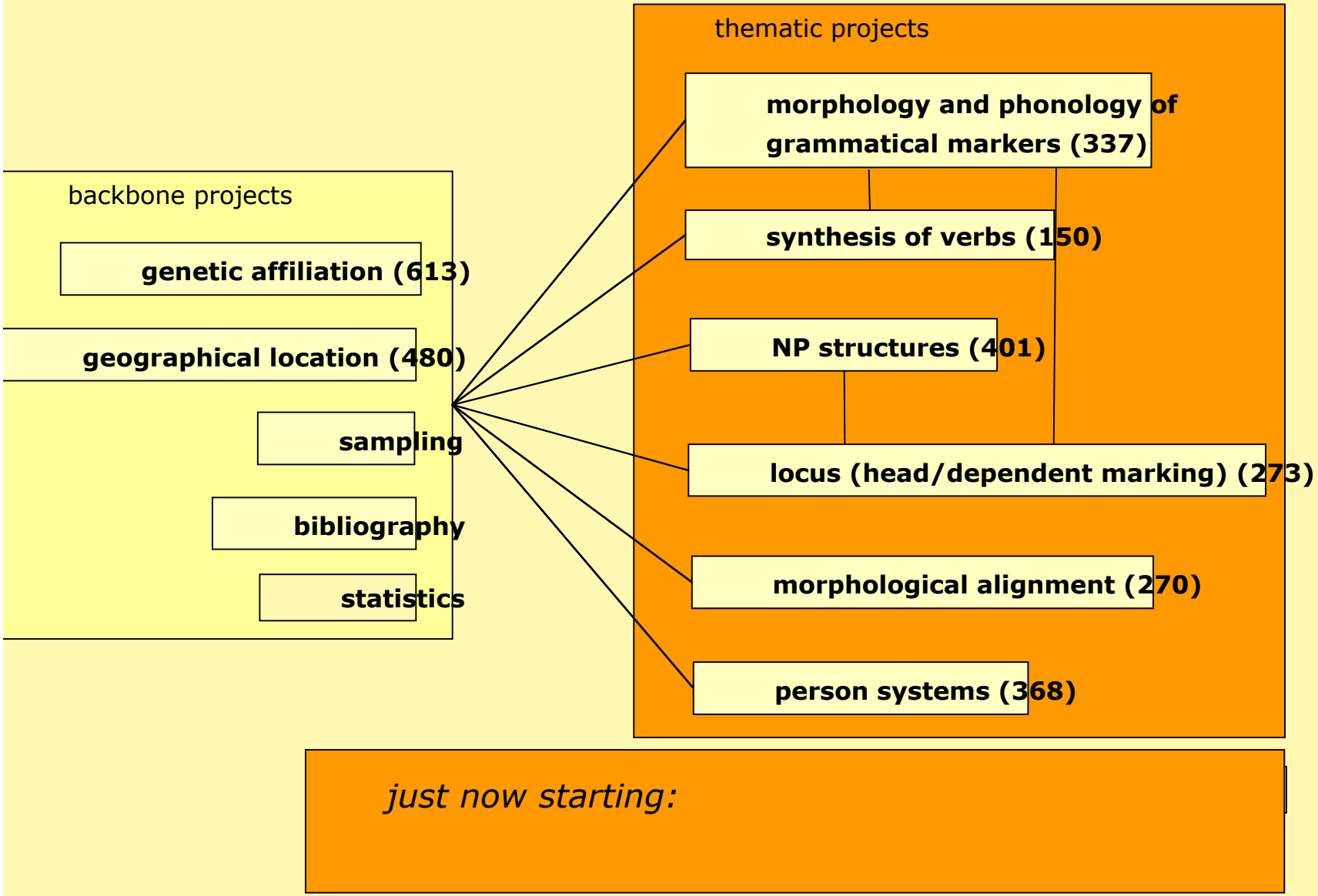
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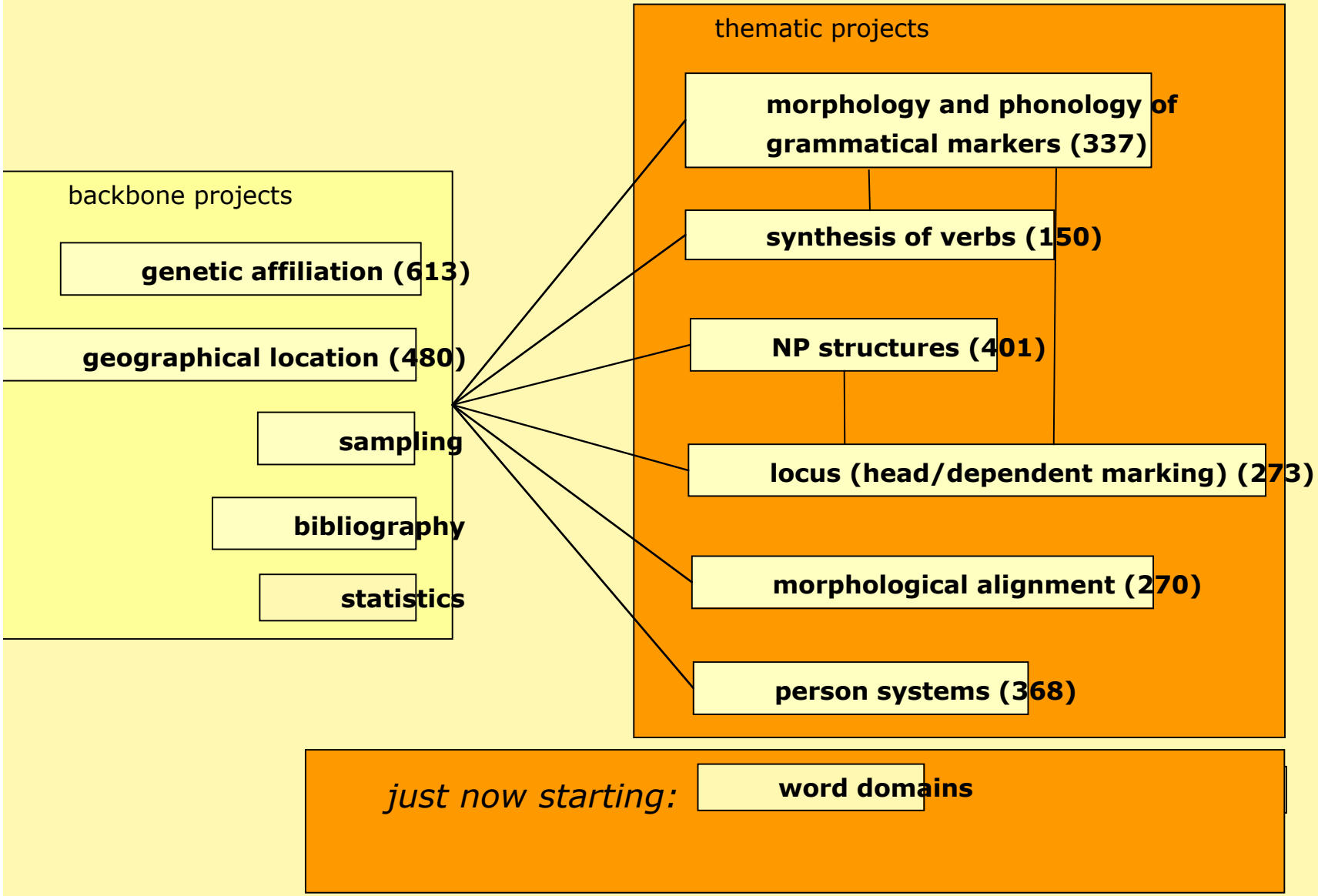
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word domains

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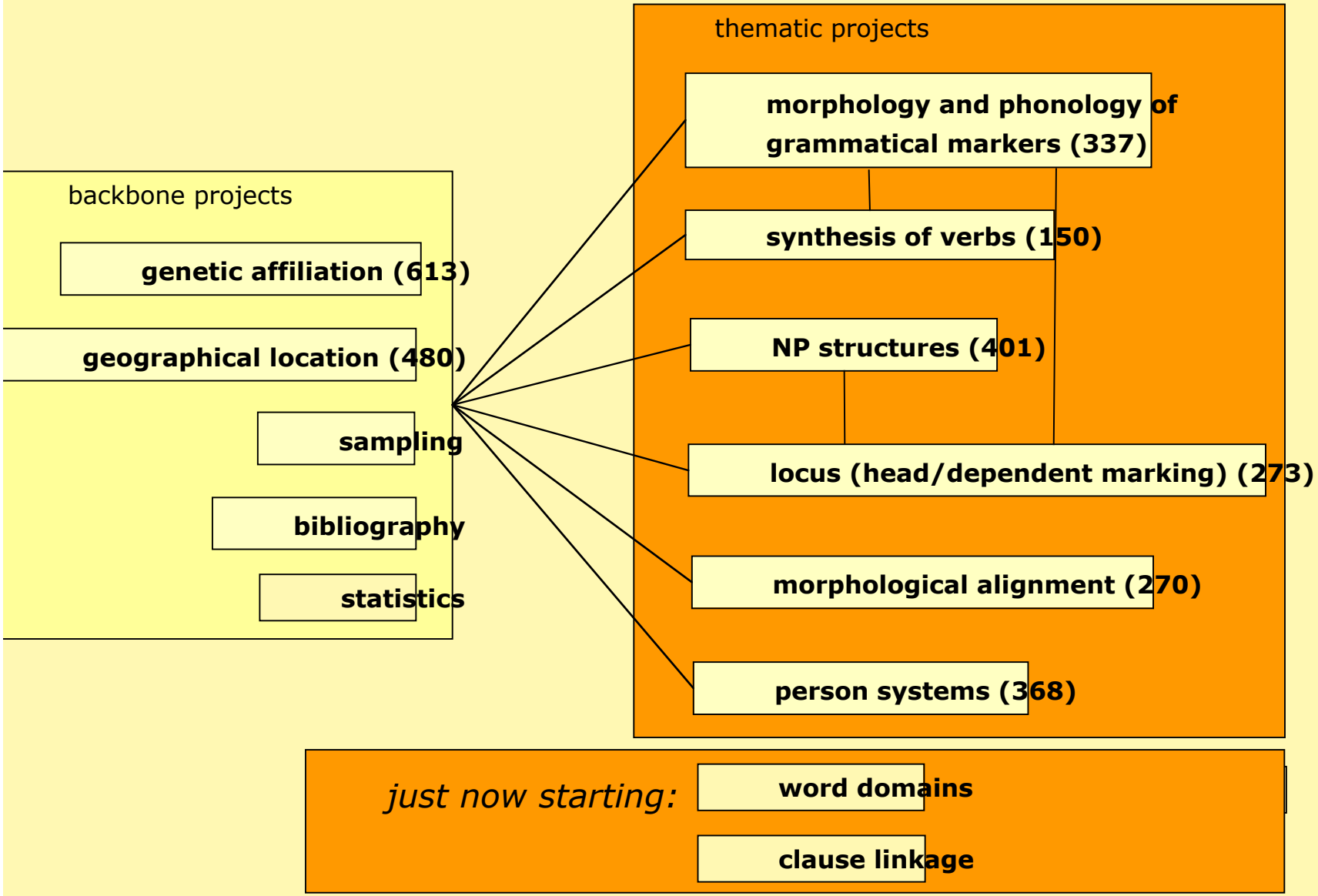
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clause linkage

AUTOTYP Principles

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- **Autotypology:** Inventory of elements, types, etc. grows out of inputting and definitions. No predefined categories (no etic grids, no conceptual spaces, etc.)

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- **High resolution:** Breakdown of descriptive notions into smallest units.
- **Modularity:** Separate thematically defined files linked relationally (via language ID code)
- **Connectivity:** Compatible with any database using some language ID codes (e.g., SIL codes)

Database structure

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- backbone module

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- backbone module
  - genetic affiliation (available on-line)

Database structure

- backbone module
  - genetic affiliation (available on-line)
  - geographical location (coordinates, zones of various sizes)

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  - samples

Sampling

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- open-ended data collection for qualitative typology — *goal:* all possible types or within types, all tokens

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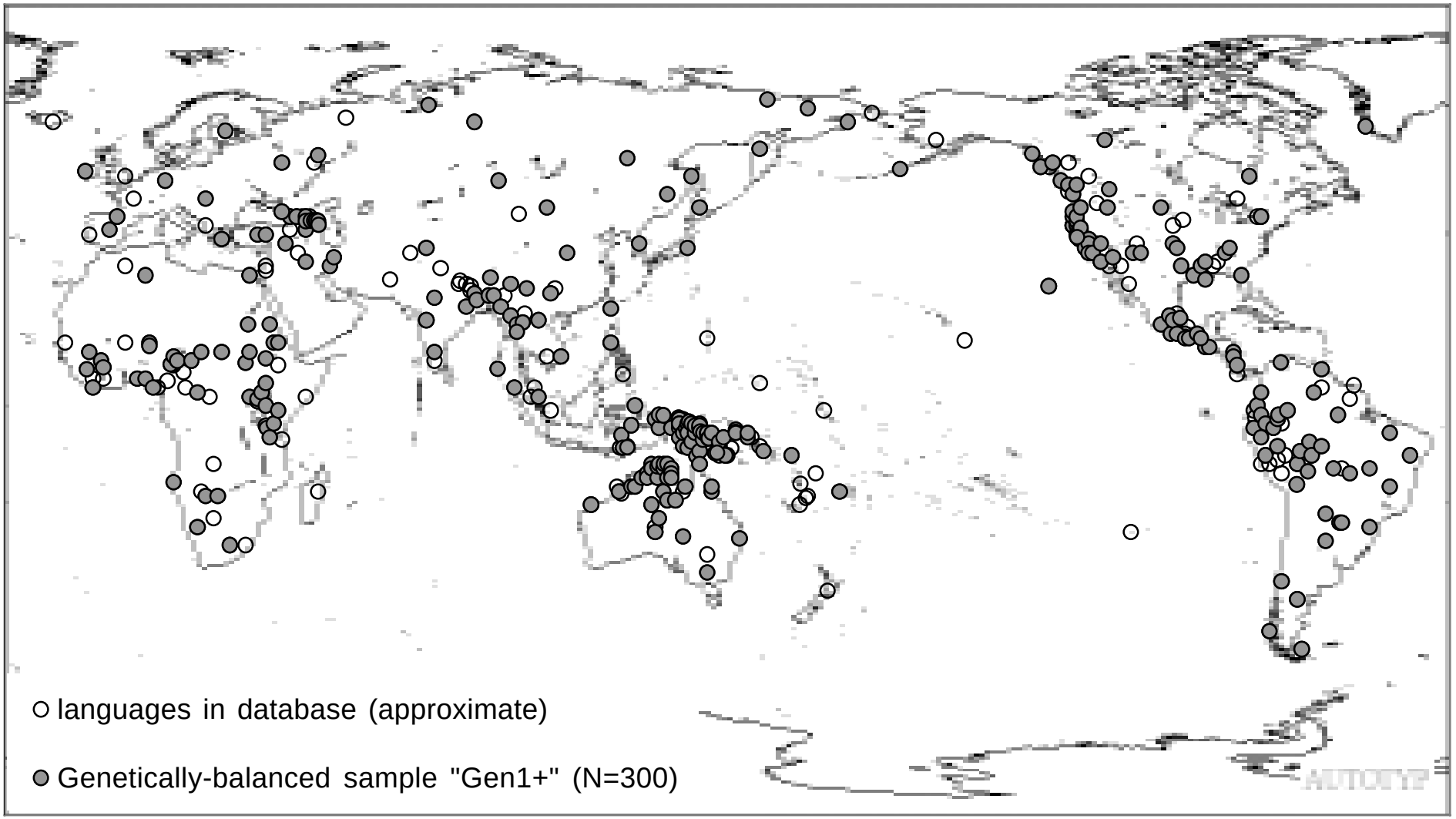
- various samples for quantitative typology — *goal:* detect and explain distributions in the world, in an area, in a stock, etc.
- Most commonly used sample for exploratory research on world-wide distributions is a genetically-balanced sample:

Sampling (*cont'd*)



Database structure (*cont'd*)

- backbone module
  - genetic affiliation (available on-line)
  - geographical location(coordinates, zones)
  - samples (allowing multiple sampling)

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  - language logs (.doc, .pdf)

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- service module
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  - database log
  - input monitor
  - survey monitor

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  (currently Excel™ scatterplots, SPSS™, R, etc.)

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- definition files

How does autotypologizing work?

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- **Data files** assign types to data

How does autotypologizing work?

- **Data files** assign types to data
  - alienability (261 languages)
  - covert categories (23 languages)
  - inclusive/exclusive (368 languages)
  - grammatical markers (337 languages)
  - locus per role (273 languages)
  - morphological alignment (270 languages)
  - NP structure (401 languages)
  - grammatical relations (22 languages)
  - synthesis (150 languages)

Under development: clause linkage, experiencer downgrading, agreement types, etc.

How does autotypologizing work? (*cont'd*)

- **Data files** assign types to data

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- **Definition files** define these types

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alignment

classification_type

cryptotypes

exemplars

exp_coding_type

flexivity

fusion

locus

morph_behavior

morph_source


np_patterns

parts_of_speech

position

poss_distinctions

sem_class

syn_constraints

syn_patterns

syn_roles

word_order

Example 1: NP structure files

np_structure: what formatives establish complex NPs?

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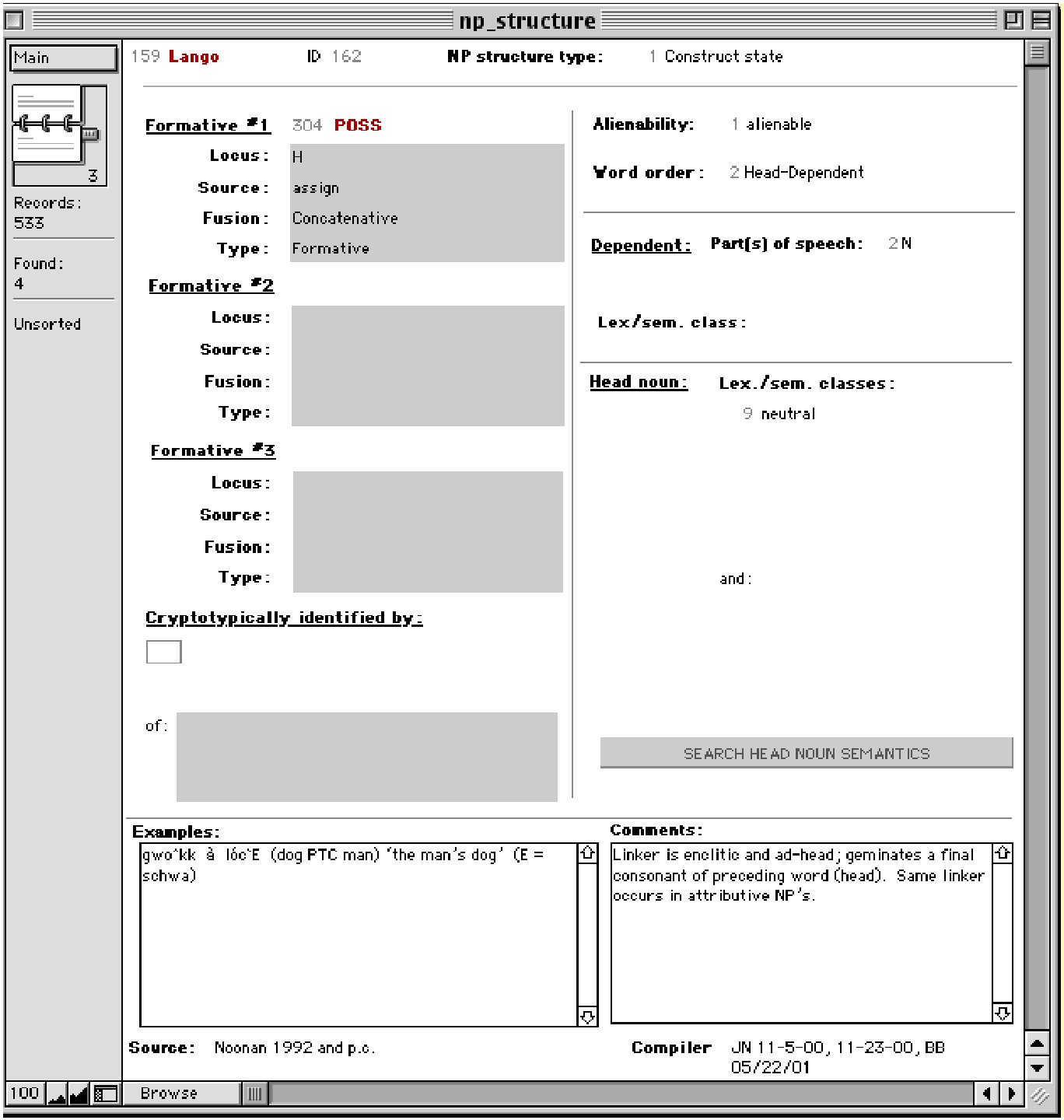
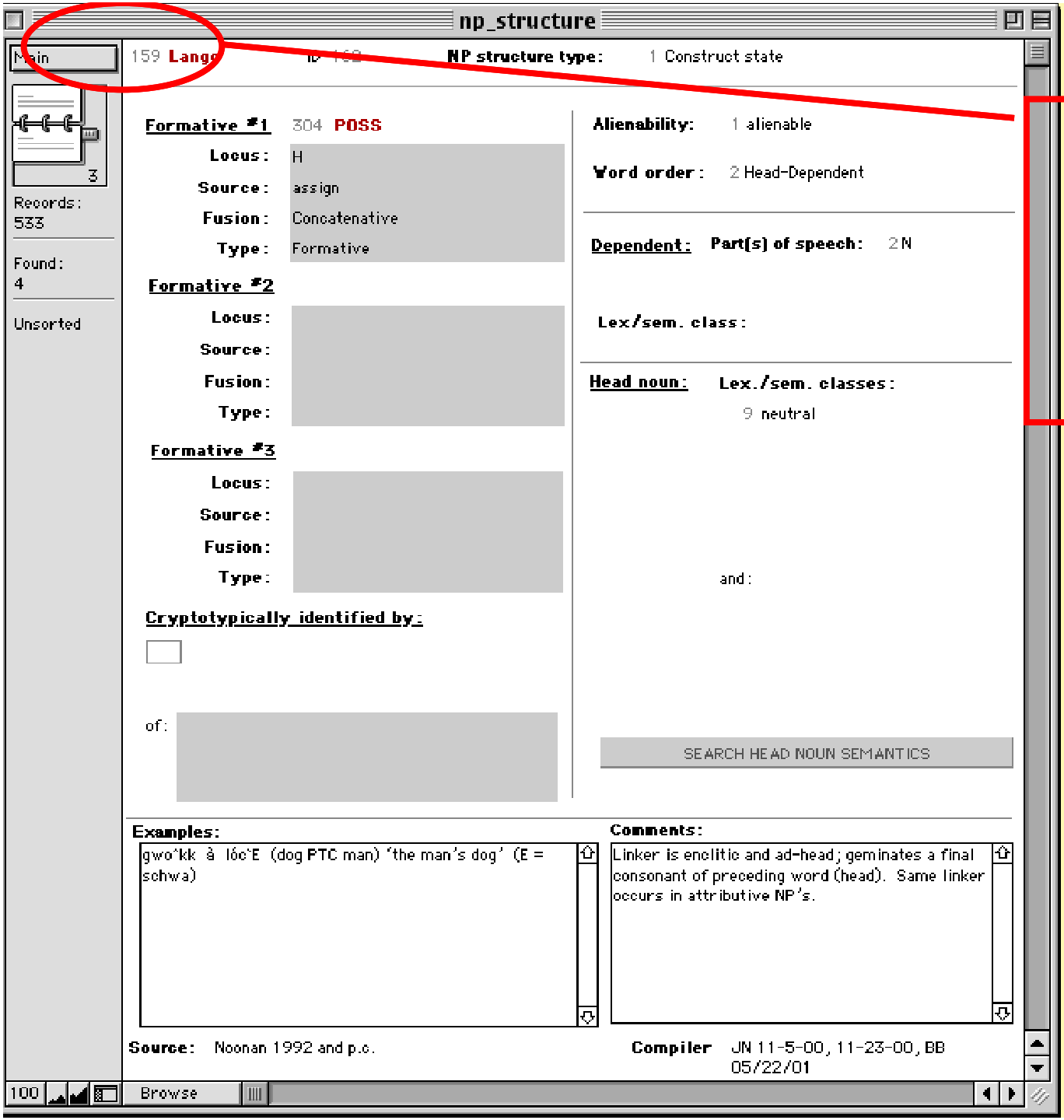
np_structure: what formatives establish complex NPs?

Relationally linked to:

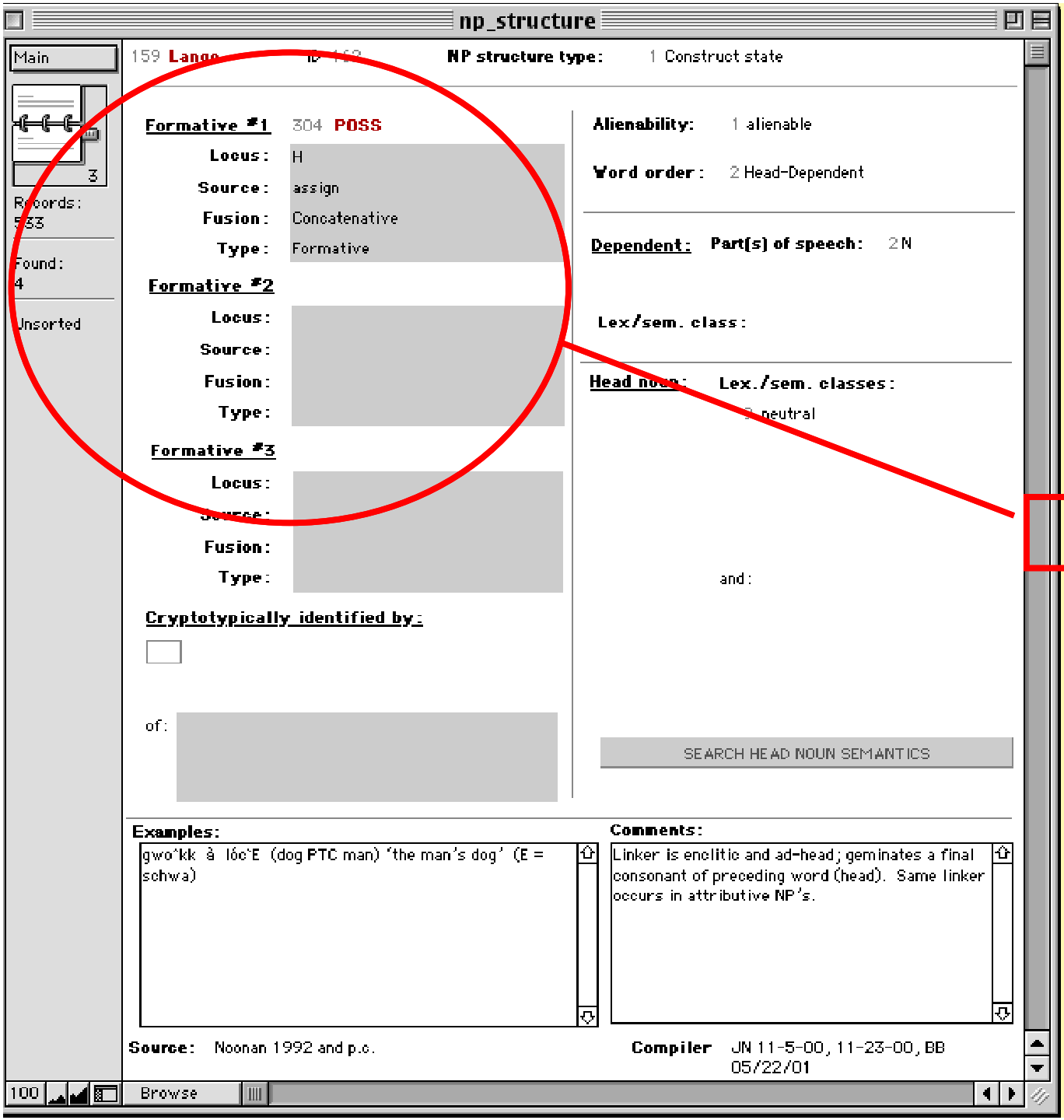
- definition files
- other data files
- backbone modules on the language


np_structure
Main
3
Records:
533
Found:
4
Unsorted
159 Lango
ID 162
NP structure type: 1 Construct state
Formative #1 304 POSS
Locus: H
Source: assign
Fusion: Concatenative
Type: Formative
Formative #2
Locus:
Source:
Fusion:
Type:
Formative #3
Locus:
Source:
Fusion:
Type:
Cryptotypically identified by:
of:
Alienability: 1 alienable
Word order: 2 Head-Dependent
Dependent: Part(s) of speech: 2 N
Lex/sem. class:
Head noun: Lex./sem. classes:
9 neutral
and:
SEARCH HEAD NOUN SEMANTICS
Examples:
gwo'kk à lóc'E (dog PTC man) 'the man's dog' (E = schwa)
Comments:
Linker is enclitic and ad-head; geminates a final consonant of preceding word (head). Same linker occurs in attributive NP's.
Source: Noonan 1992 and p.c.
Compiler JN 11-5-00, 11-23-00, BB 05/22/01
100
Browse

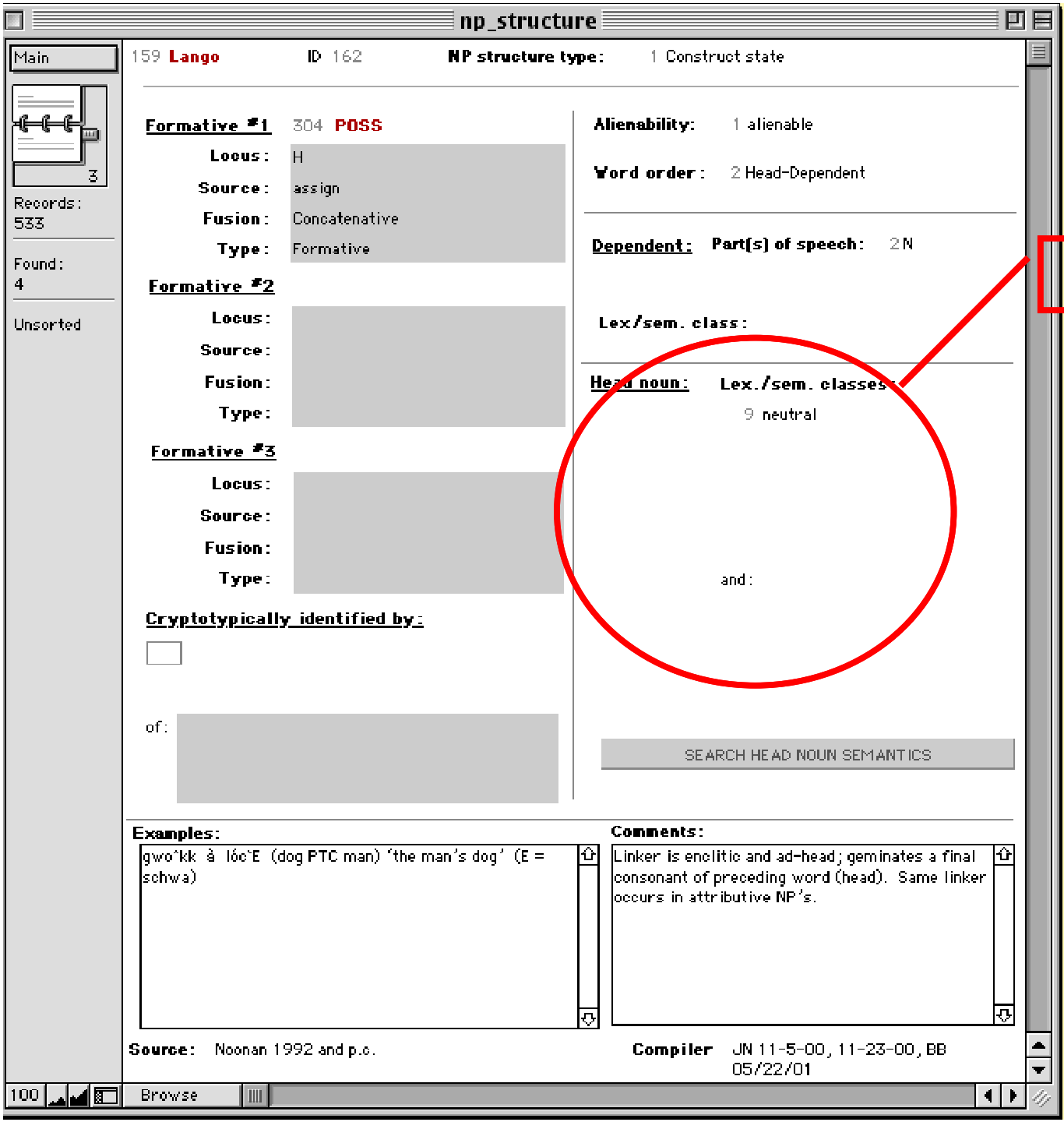


backbone modules:

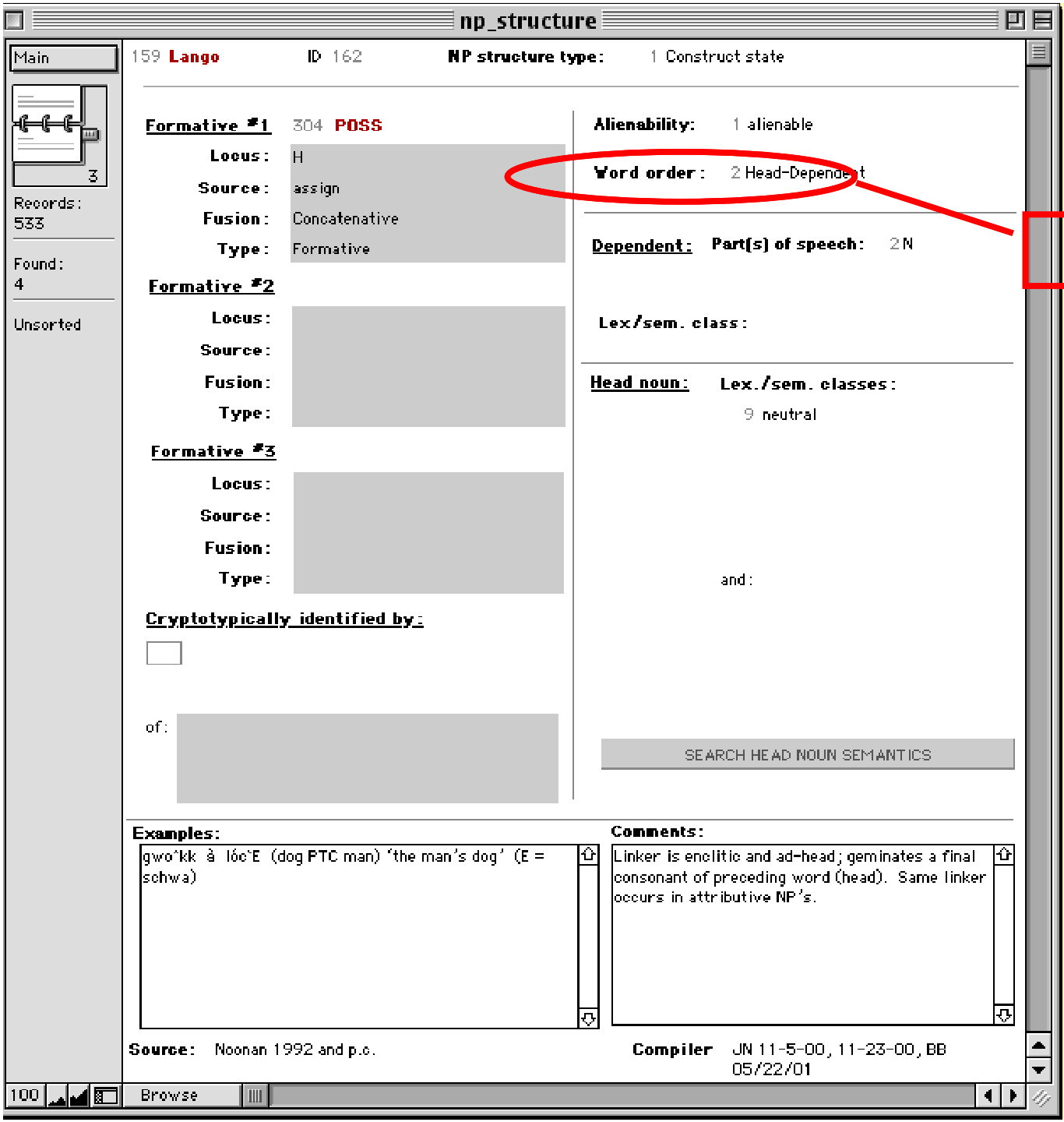
- genetic affil.
- location
- areas
- sampling



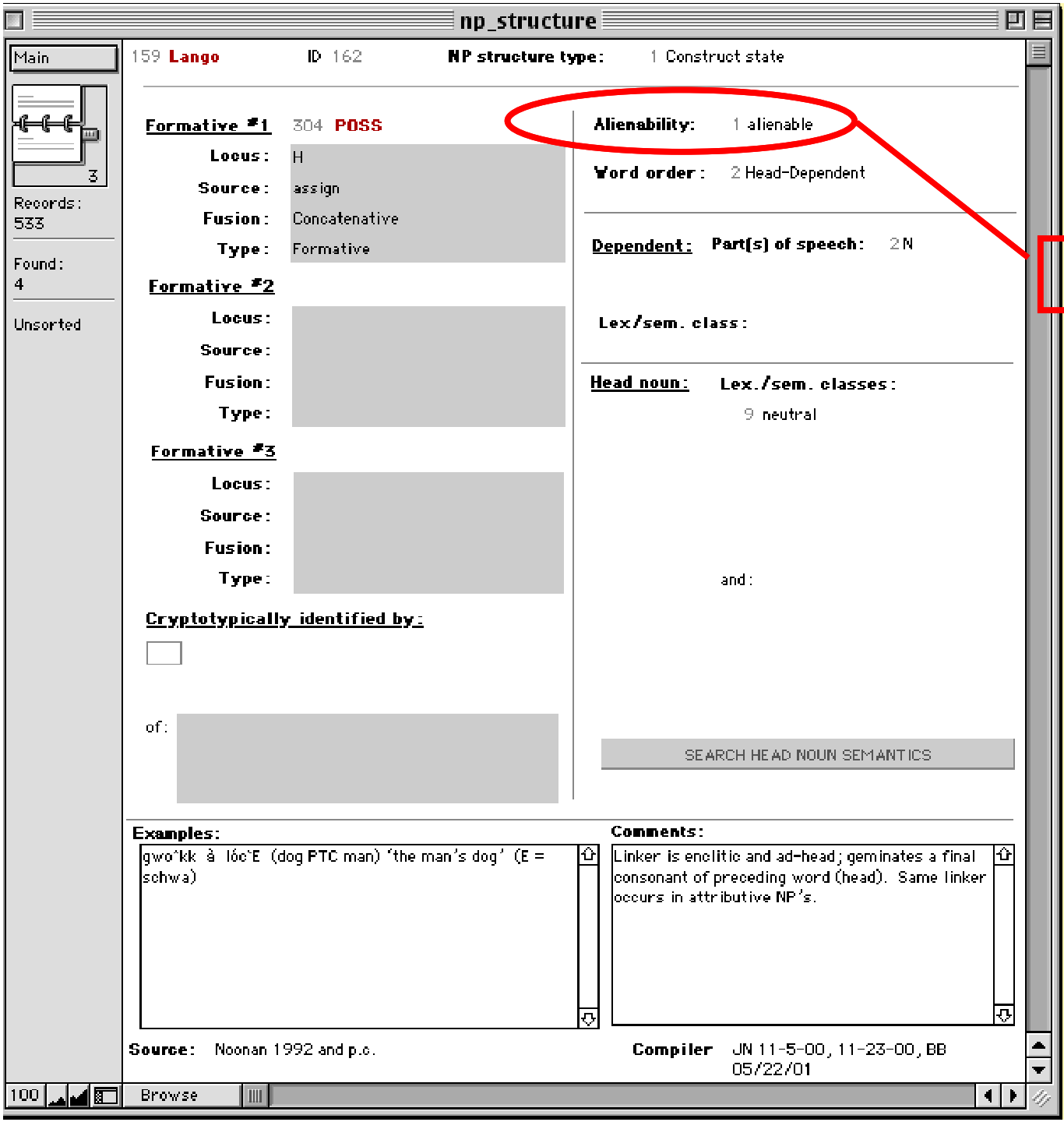
gramm_markers



sem_class.def



word_order.def



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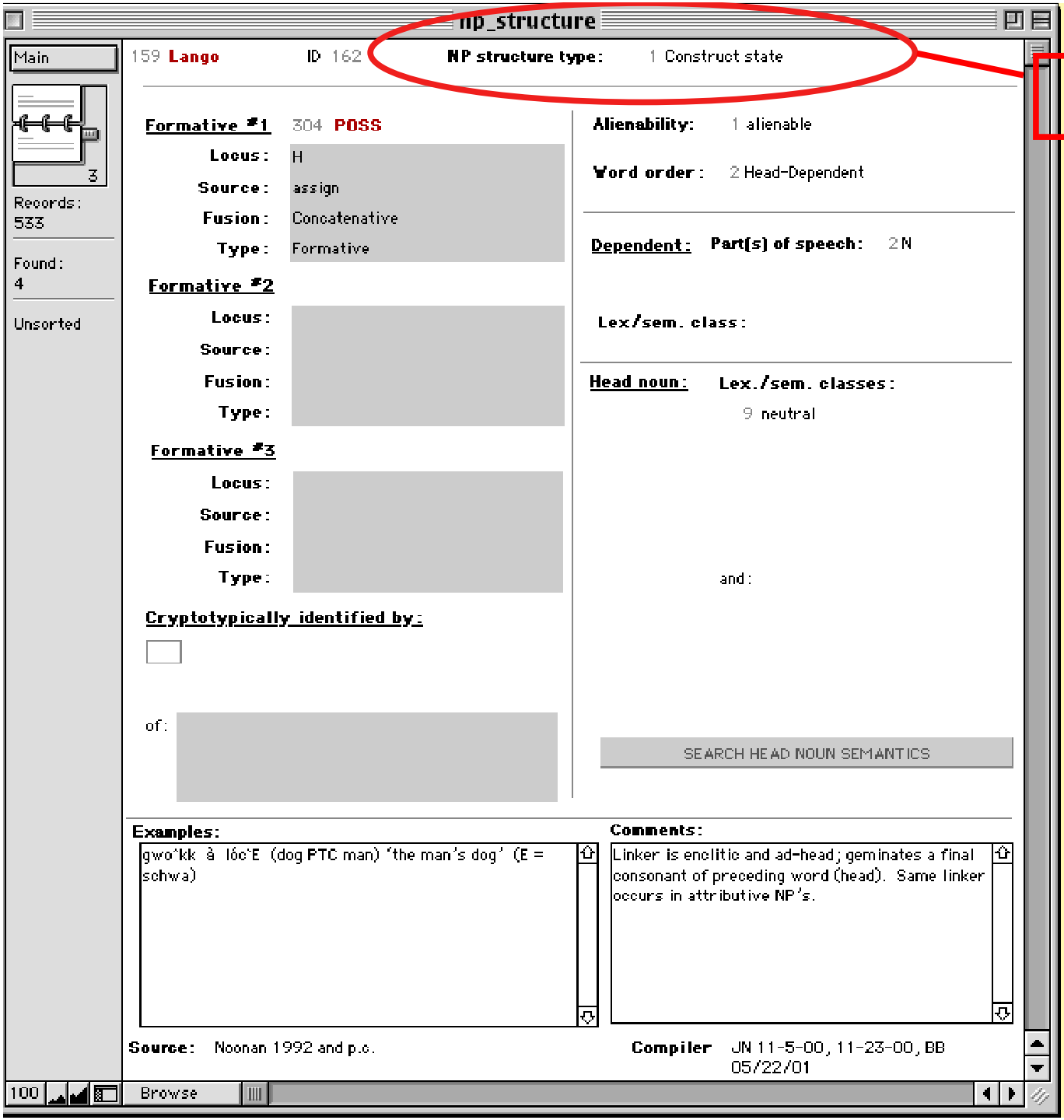

np_patterns.def

Example 1: NP structure files (*cont'd*)

The np_patterns.def file

np_patterns.def

Layout #1

Records: 25

Unsorted

NPP_ID	NP_Patterns	Definitions
1	Construct state	registers presence of dependent (includes izafet, ezafe, linkers, possessive words, sandhi, construct state)
2	Head-driven agreement	e.g. gender or number agreement, as triggered by the head noun (not by something external to the head noun)
3	Governed	i.e. cases, adpositions, case words that are assigned by a head to a dependent
4	Incorporation	e.g. possessor ascension (in verbs)
5	Juxtaposition	unmarked sequence of nouns
6	Attributive	Change of word class of possessor (usually together with agreement) (e.g. classical IE possessive pronouns)
7	Anti-construct	Registers presence of head.
8	Head-driven agr. + Governed	
9	Pronominal agreement	Including cliticized pronouns. Includes dependent-marking clitized to head.
10	Construct state + Governed	
11	Modifier-headed agreement	Adjective or other modifier is head of NP (as indicated e.g. in NP-internal agreement). Examples: Wari, Belhare.
12	External-driven agreement	= case stacking or spreading. Case spreading is the same as case agreement if it is triggered not by the head noun b
13	External-driven agr. + Governed	
14	Dep-driven agreement	e.g. possessive agreement affixes; also, isolating formatives in the form of pronoun: tiger [he skin] or tiger [his s
15	Dep-driven agr. + Governed	
16	Dep-driven agr. + Construct state	
17	Dep-driven agr. + Class/poss. noun	Agreement is not hosted by head but by a classificatory (more general) noun adjacent to it. This is a subtype of Con
18	Pronomin. agr. + Construct state	
19	Linker	Registers presence of head-dependent relation (neither ad-head nor ad-dependent, but truly ad-phrase)
20	Head-driven agr. + Construct state	
21	<?>	Uncertain. Needs further analysis
22	Class/poss. noun	A subtype of construct state but marked by a syntactic word. This syntactic word signals the presence of a depende
23	Compound	Like juxtaposition but morphophonologically bound into a single word
24	Compound + Governed	(Compound with a case-marked dependent)
25	Externally Possessed	possessor is outside NP, wherever. Example: Kiowa

100 Browse

Example 1: NP structure files (*cont'd*)

The np_patterns.def file

np_patterns.def

Layout #1

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Unsorted

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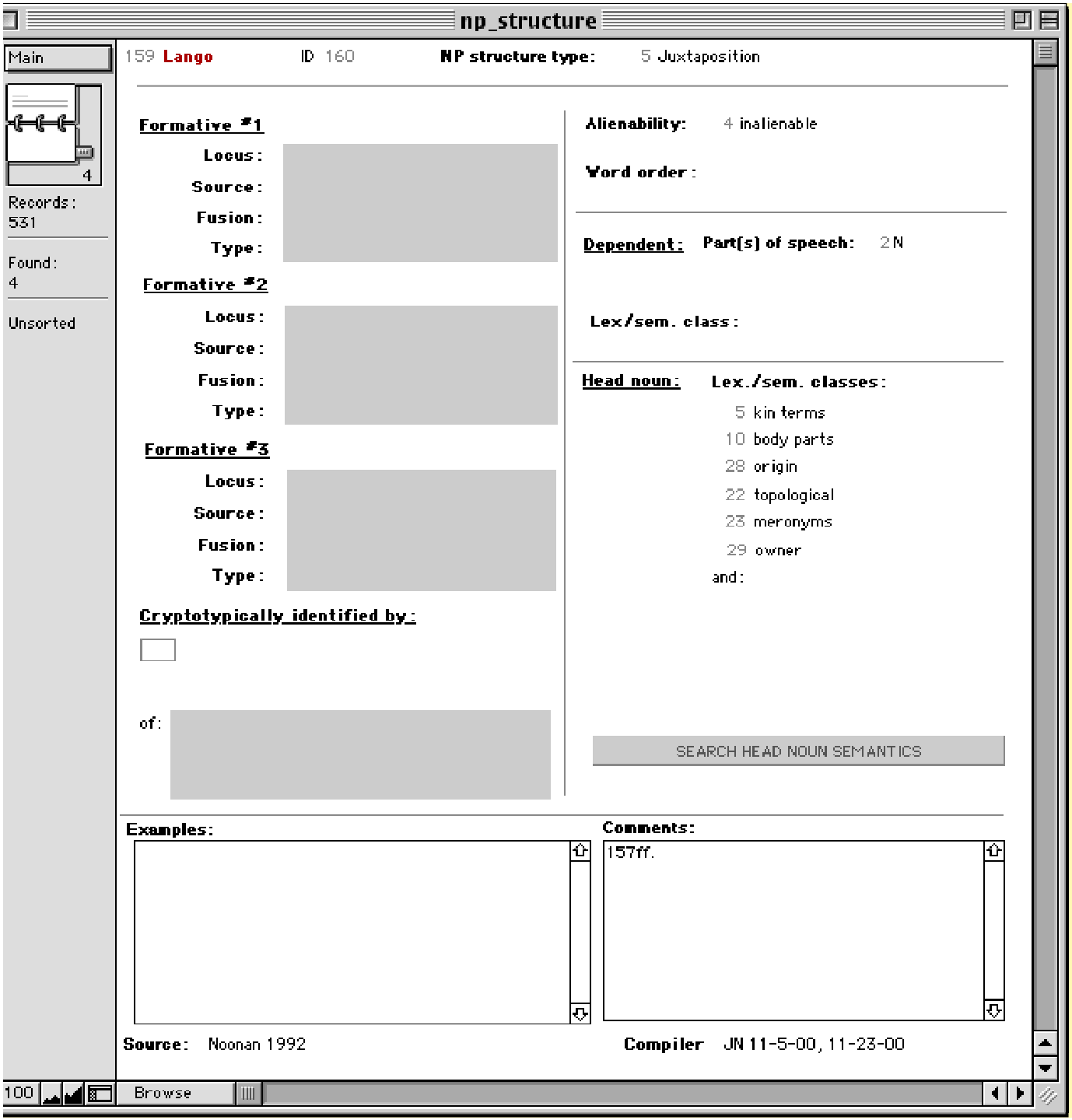
25	Externally Possessed	possessor is outside NP, wherever. Example: Kiowa

100 Browse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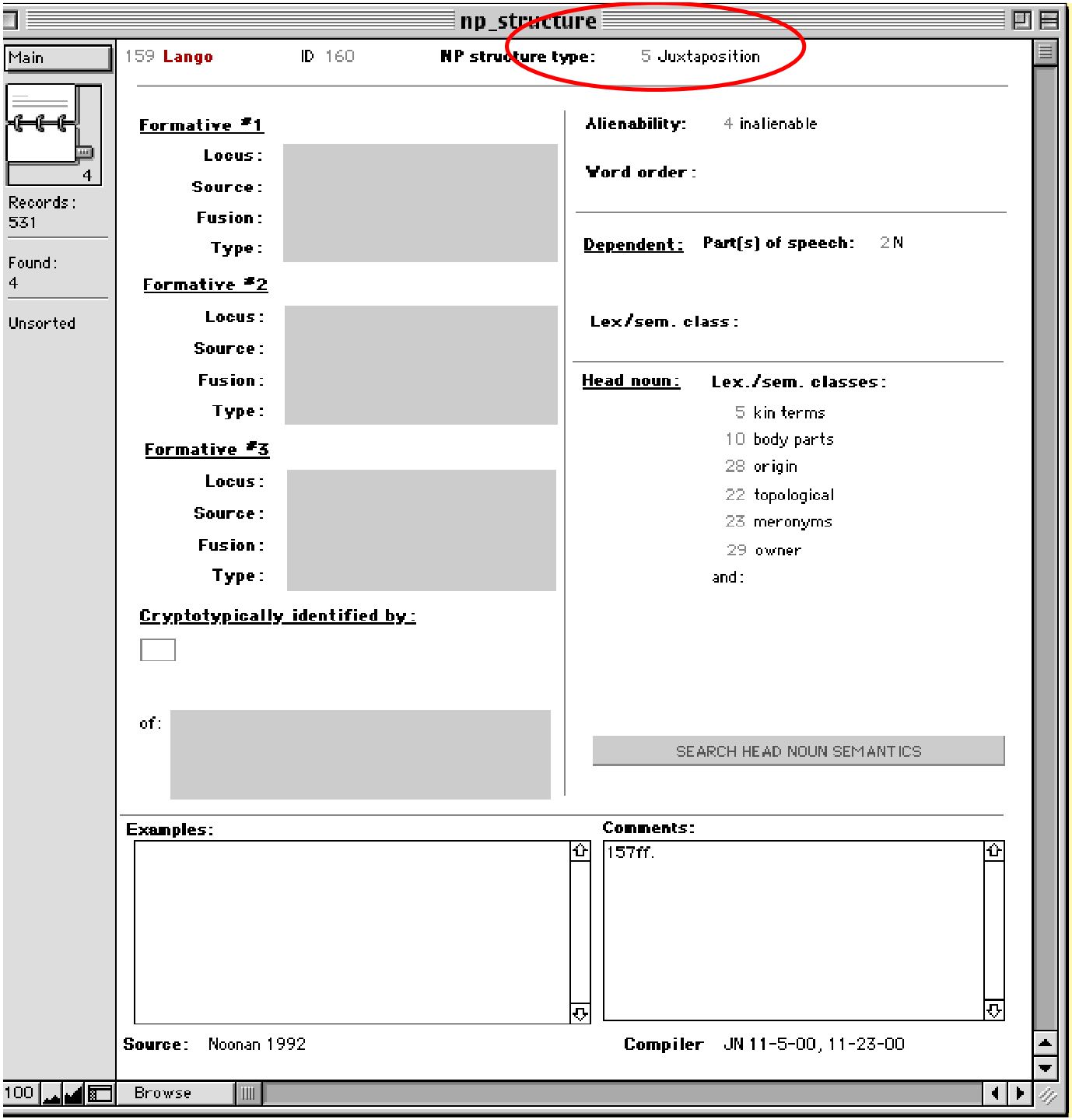
Main
4
Records:
531
Found:
4
Unsorted
159 Lango
ID 160
NP structure type:
5 Juxtaposition
Formative #1
Locus:
Source:
Fusion:
Type:
Formative #2
Locus:
Source:
Fusion:
Type:
Formative #3
Locus:
Source:
Fusion:
Type:
Cryptotypically identified by:
of:
Alienability:
4 inalienable
Word order:
Dependent:
Part(s) of speech:
2 N
Lex/sem. class:
Head noun:
Lex./sem. classes:
5 kin terms
10 body parts
28 origin
22 topological
23 meronyms
29 owner
and:
SEARCH HEAD NOUN SEMANTICS
Examples:
Comments:
157ff.
Source:
Noonan 1992
Compiler
JN 11-5-00, 11-23-00
100
Browse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Main
159 Lango
ID 160
NP structure type: 5 Juxtaposition
4
Records: 531
Found: 4
Unsorted
Formative #1
Locus:
Source:
Fusion:
Type:
Formative #2
Locus:
Source:
Fusion:
Type:
Formative #3
Locus:
Source:
Fusion:
Type:
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Alienability: 4 inalienable
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157ff.
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Compiler JN 11-5-00, 11-23-00
100
Browse

Example 1: NP structure files (*cont'd*)

The np_patterns.def file

np_patterns.def

Layout #1

Records: 25

Unsorted

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Example 1: NP structure files (*cont'd*)

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Layout #1

Records: 25

Unsorted

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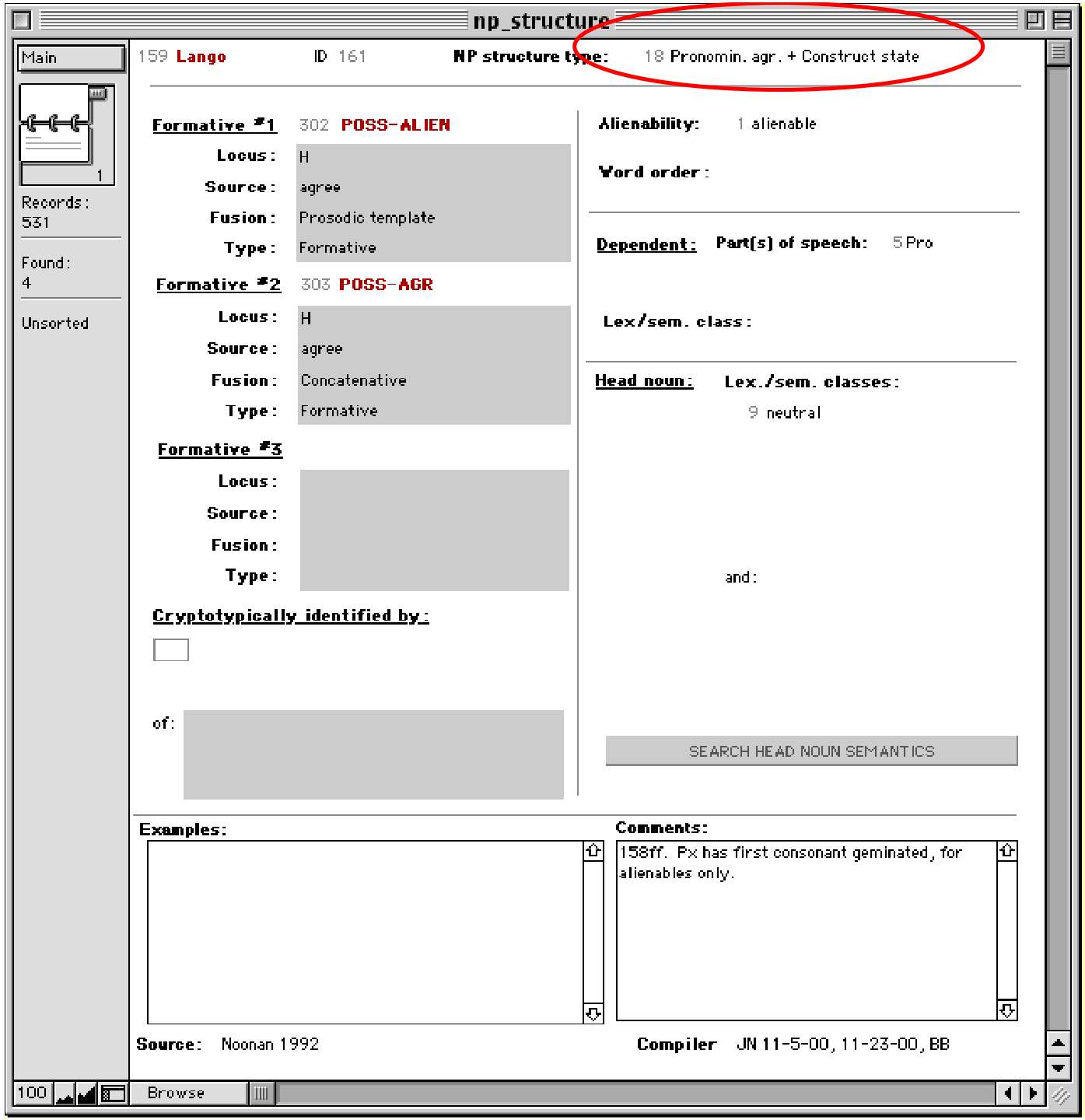
np_structure
Main
Records: 531
Found: 4
Unsorted
159 Lango
ID 161
NP structure type: 18 Pronomin. agr. + Construct state
Formative #1 302 POSS-ALIEN
Locus: H
Source: agree
Fusion: Prosodic template
Type: Formative
Formative #2 303 POSS-AGR
Locus: H
Source: agree
Fusion: Concatenative
Type: Formative
Formative #3
Locus:
Source:
Fusion:
Type:
Cryptotypically identified by:
of:
Alienability: 1 alienable
Word order:
Dependent: Part(s) of speech: 5 Pro
Lex/sem. class:
Head noun: Lex./sem. classes:
9 neutral
and:
SEARCH HEAD NOUN SEMANTICS
Examples:
Comments:
158ff. Px has first consonant geminated, for alienables only.
Source: Noonan 1992
Compiler JN 11-5-00, 11-23-00, BB
100
Browse

Example 1: NP structure files (*cont'd*)

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np_patterns.def

Layout #1

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Example 1: NP structure files (*cont'd*)

☞ **Discovery of new combinations of types as a side-effect of data collection**

Example 1: NP structure files (*cont'd*)

☞ **Discovery of new combinations of types, but also discovery of new types as side-effect of data collection**

= Autotypology

Example 1: NP structure files (*cont'd*)

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Example: Modifier-headed agreement (#11)

Example 1: NP structure files (*cont'd*)

☞ **Discovery of new combinations of types, but also discovery of new types as side-effect of data collection**

= Autotypology

Example: Modifier-headed agreement (#11)

Wari' (Everett & Kern 1997)

mixem nucun wom
black poss:3sm cotton

'dirty clothes'
(lit. 'the cotton's blackness')

Example 1: NP structure files (*cont'd*)

☞ **Discovery of new combinations of types, but also discovery of new types as side-effect of data collection**

= Autotypology

Example: Modifier-headed agreement (#11)

Wari' (Everett & Kern 1997)

Mam mao 'in-on ca mixem nucun wom-u
with go:s 1s:REALIS-3sm REALIS black poss:3sm cotton-1s

'I went with my dirty clothes'
(lit. 'with my cotton's blackness')

Example: NP structure files (*cont'd*)

np_patterns.def

Layout #1

Records: 25

Unsorted

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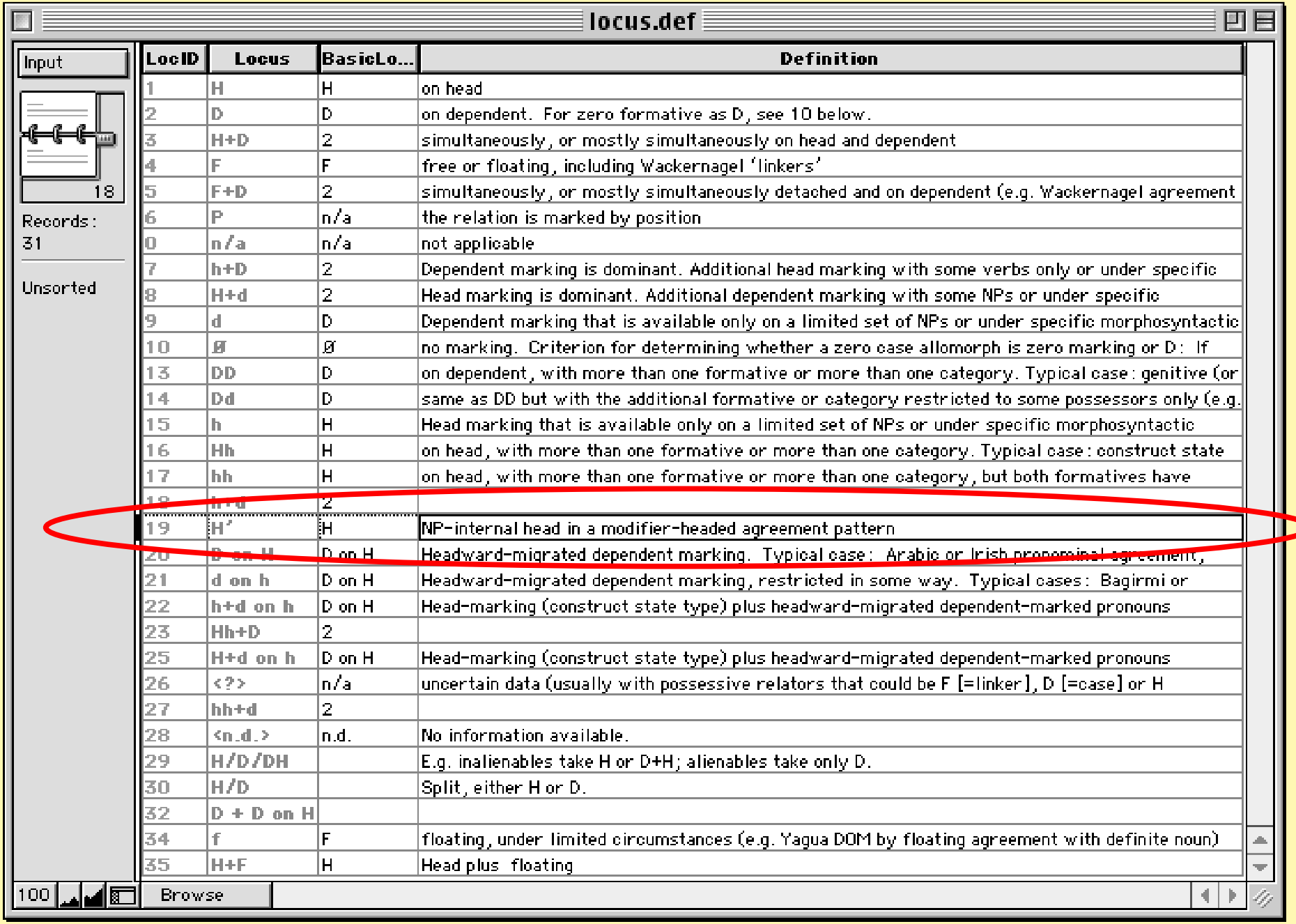
☞ **Also necessitates new type in locus.def**



LocID	Locus	BasicLo...	Definition
1	H	H	on head
2	D	D	on dependent. For zero formative as D, see 10 below.
3	H+D	2	simultaneously, or mostly simultaneously on head and dependent
4	F	F	free or floating, including Wackernagel 'linkers'
5	F+D	2	simultaneously, or mostly simultaneously detached and on dependent (e.g. Wackernagel agreement
6	P	n/a	the relation is marked by position
0	n/a	n/a	not applicable
7	h+D	2	Dependent marking is dominant. Additional head marking with some verbs only or under specific
8	H+d	2	Head marking is dominant. Additional dependent marking with some NPs or under specific
9	d	D	Dependent marking that is available only on a limited set of NPs or under specific morphosyntactic
10	Ø	Ø	no marking. Criterion for determining whether a zero case allomorph is zero marking or D: If
13	DD	D	on dependent, with more than one formative or more than one category. Typical case: genitive (or
14	Dd	D	same as DD but with the additional formative or category restricted to some possessors only (e.g.
15	h	H	Head marking that is available only on a limited set of NPs or under specific morphosyntactic
16	Hh	H	on head, with more than one formative or more than one category. Typical case: construct state
17	hh	H	on head, with more than one formative or more than one category, but both formatives have
18	h+d	2	
19	H'	H	NP-internal head in a modifier-headed agreement pattern
20	D on H	D on H	Headward-migrated dependent marking. Typical case: Arabic or Irish pronominal agreement,
21	d on h	D on H	Headward-migrated dependent marking, restricted in some way. Typical cases: Bagirmi or
22	h+d on h	D on H	Head-marking (construct state type) plus headward-migrated dependent-marked pronouns
23	Hh+D	2	
25	H+d on h	D on H	Head-marking (construct state type) plus headward-migrated dependent-marked pronouns
26	<?>	n/a	uncertain data (usually with possessive relators that could be F [=linker], D [=case] or H
27	hh+d	2	
28	<n.d.>	n.d.	No information available.
29	H/D/DH		E.g. inalienables take H or D+H; alienables take only D.
30	H/D		Split, either H or D.
32	D + D on H		
34	f	F	floating, under limited circumstances (e.g. Yagua DOM by floating agreement with definite noun)
35	H+F	H	Head plus floating

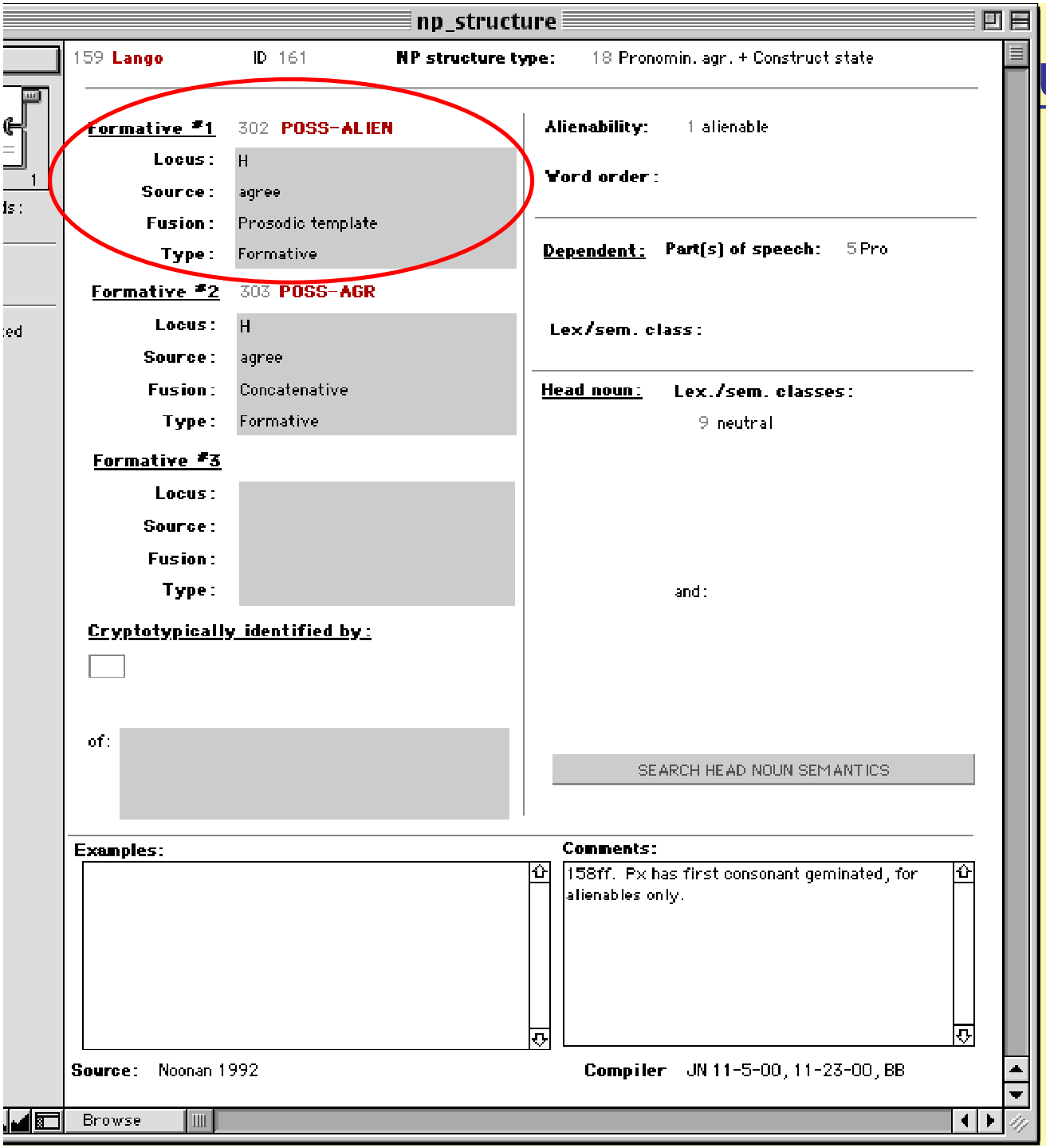
Example 1: NP structure files (*cont'd*)

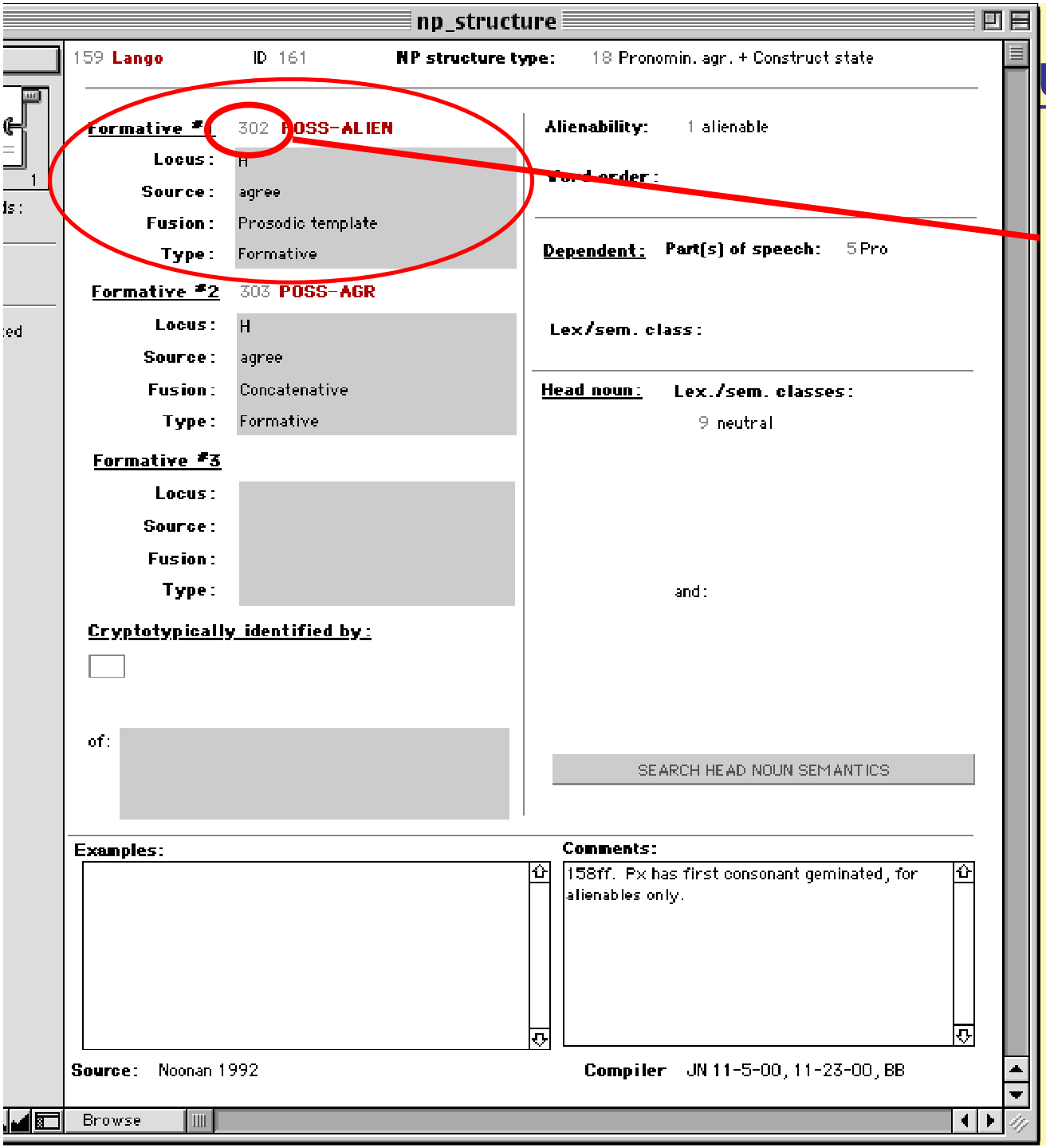
Other instances of type #11 modifier-headed NPs:

- Amharic
- Komi (and other Uralic languages)
- Japanese (?)
- Limbu (frozen forms, non-productive)

Example 2: Formative fusion

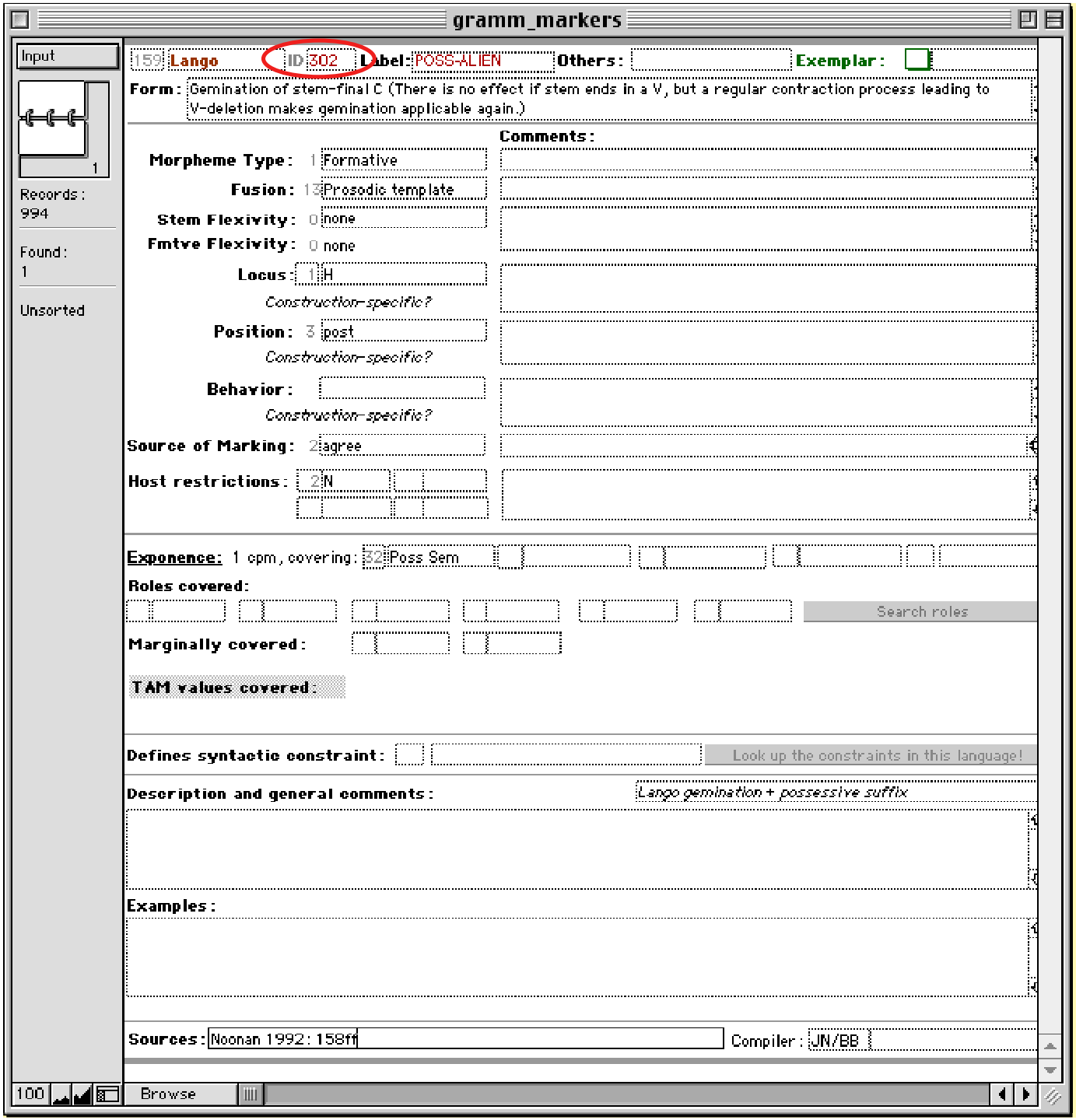
usion

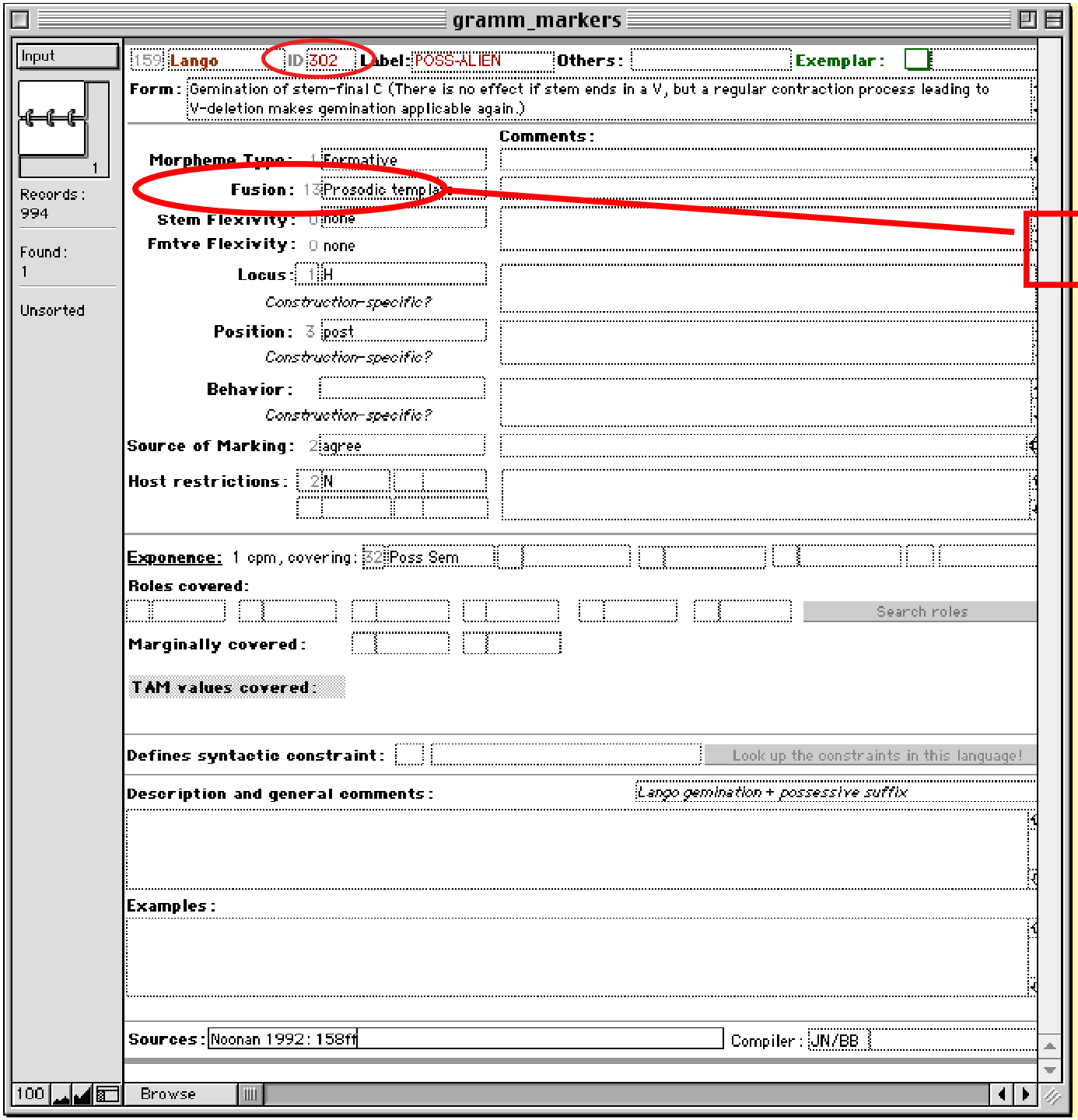

np_structure
159 Lango
ID 161
NP structure type: 18 Pronomin. agr. + Construct state
Formative #1 302 POSS-ALIEN
Locus: H
Source: agree
Fusion: Prosodic template
Type: Formative
Formative #2 303 POSS-AGR
Locus: H
Source: agree
Fusion: Concatenative
Type: Formative
Formative #3
Locus:
Source:
Fusion:
Type:
Cryptotypically identified by:
of:
Alienability: 1 alienable
Word order:
Dependent: Part(s) of speech: 5 Pro
Lex/sem. class:
Head noun: Lex./sem. classes:
9 neutral
and:
SEARCH HEAD NOUN SEMANTICS
Examples:
Comments:
158ff. Px has first consonant geminated, for alienables only.
Source: Noonan 1992
Compiler JN 11-5-00, 11-23-00, BB
Browse



usion

gramm_markers


gramm_markers
Input
Records: 994
Found: 1
Unsorted
159 Lango ID 302 Label: POSS-ALIEN Others: Exemplar:
Form: Gemination of stem-final C (There is no effect if stem ends in a V, but a regular contraction process leading to V-deletion makes gemination applicable again.)
Comments:
Morpheme Type: 1 Formative
Fusion: 13 Prosodic template
Stem Flexivity: 0 none
Fmtve Flexivity: 0 none
Locus: 1 H
Construction-specific?
Position: 3 post
Construction-specific?
Behavior:
Construction-specific?
Source of Marking: 2 agree
Host restrictions: 2 N
Exponence: 1 cpm, covering: 32 Poss Sem
Roles covered:
Search roles
Marginally covered:
TAM values covered:
Defines syntactic constraint:
Look up the constraints in this language!
Description and general comments:
Lango gemination + possessive suffix
Examples:
Sources: Noonan 1992: 158ff
Compiler: JN/BB
100
Browse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Examples:
Sources: Noonan 1992: 158ff
Compiler: JN/BB
100
Browse

fusion.def

fusion.def

List

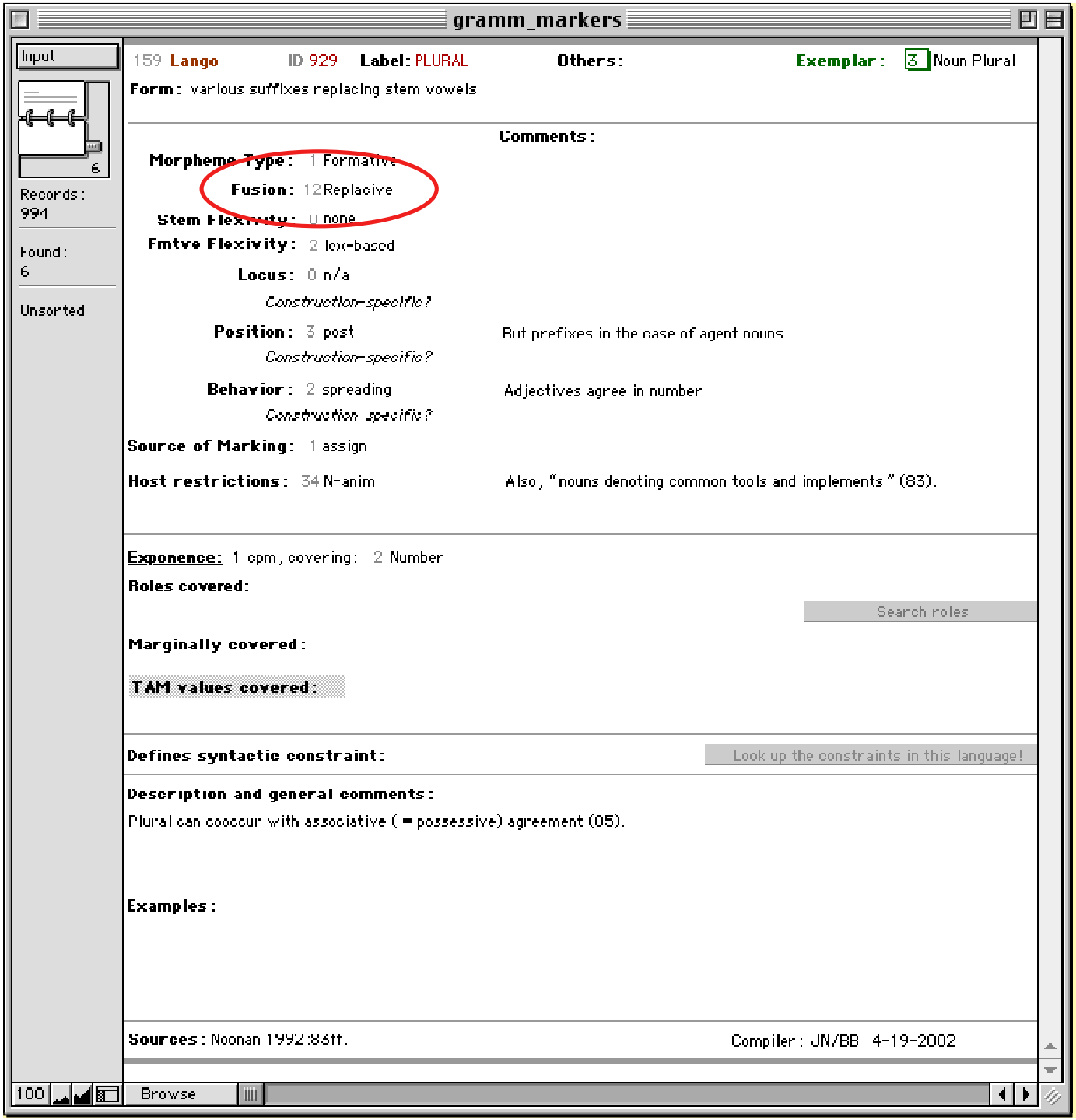
13

Records: 13

Unsorted

ID	Fusion Type	Definition
1	Isolating	The formative is a free phonological word. If it is, it is likely to be written as a separate word, though this is not always true: non-isolating formatives like clitics are often written as separate words, and isolating formatives are written with hyphens or clitic boundary markers. Therefore
2	Concatenative	The formative is a clitic or segmentable affix. Word-level phonological processes (such as vowe harmony), word-internal kinds of sandhi, prosodic phenomena (such as word stress) or general inability to stand alone, identify a formative as concatenative.
3	Nonconcatenative	No longer used. Instead, use the more specific type of nonconcatenative marking (Fusion ID#s 5ff See log#40
0	n/a	
4	<?>	don't know
5	Isol/concat	Isolating wrt stress, concatenative wrt segmental rules -- or vice versa
6	Reduplication	
7	Tone changes	Not sandhi but true internal tone changes.
8	Concat + redupl	Concatenative formative plus reduplication (usually reduplication of stem). If some nouns take just the affix and others take the affix plus the reduplication, choose this entry (#8) from this menu and code for lexeme-based formative flexivity. (The flexivity lies in whether they do or
9	Concat + ablaut	Concatenative formative plus ablaut (usually stem ablaut).
11	Concat / ablaut	Concatenative formative or ablaut, neither one clearly primary (or both equally primary).
12	Replacive	The formative replaces a stem (or theme or base) segment. This is different from regularly concatenative formatives which alternate with other formatives, and not with stem segments. Example: Ingush agreement prefixes replace stem consonants (which are not themselves
13	Prosodic template	Superimposition of a syllable or foot template onto the stem, resulting in such processes as lengthening, gemination etc. Example: Lango alienable possesse marking, Semitic voice marking, etc.

100 Browse


gramm_markers
Input
6
Records:
994
Found:
6
Unsorted
159 Lango ID 929 Label: PLURAL Others: Exemplar: 3 Noun Plural
Form: various suffixes replacing stem vowels
Comments:
Morpheme Type: 1 Formative
Fusion: 12Replacive
Stem Flexivity: 0 none
Fmtve Flexivity: 2 lex-based
Locus: 0 n/a
Construction-specific?
Position: 3 post
But prefixes in the case of agent nouns
Construction-specific?
Behavior: 2 spreading
Adjectives agree in number
Construction-specific?
Source of Marking: 1 assign
Host restrictions: 34 N-anim
Also, "nouns denoting common tools and implements" (83).
Exponence: 1 cpm, covering: 2 Number
Roles covered:
Search roles
Marginally covered:
TAM values covered:
Defines syntactic constraint:
Look up the constraints in this language!
Description and general comments:
Plural can cooccur with associative (= possessive) agreement (85).
Examples:
Sources: Noonan 1992:83ff.
Compiler: JN/BB 4-19-2002
100
Browse

fusion.def

List

Records: 13

Unsorted

ID	Fusion Type	Definition
1	Isolating	The formative is a free phonological word. If it is, it is likely to be written as a separate word, though this is not always true: non-isolating formatives like clitics are often written as separate words, and isolating formatives are written with hyphens or clitic boundary markers. Therefore
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13	Prosodic	Superimposition of a syllable or foot template onto the stem, resulting in such processes as lengthening, gemination and the like. Example: Lango alienable possesse marking, Semitic agreement and tense marking, etc.

100 Browse

Example 3: inflectional categories

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- Surveyed for formative exponence and synthesis

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- No predefined list of what can show up

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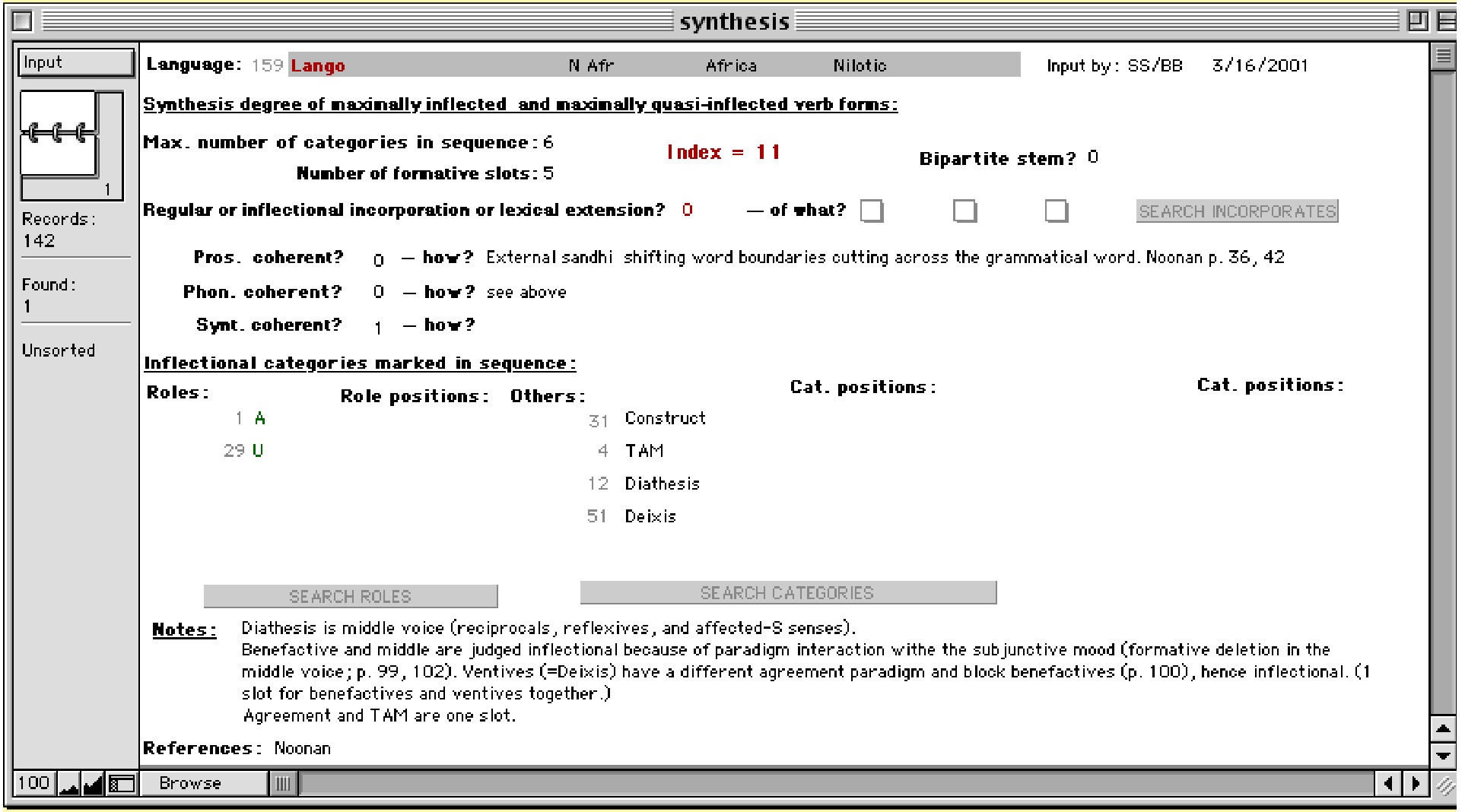
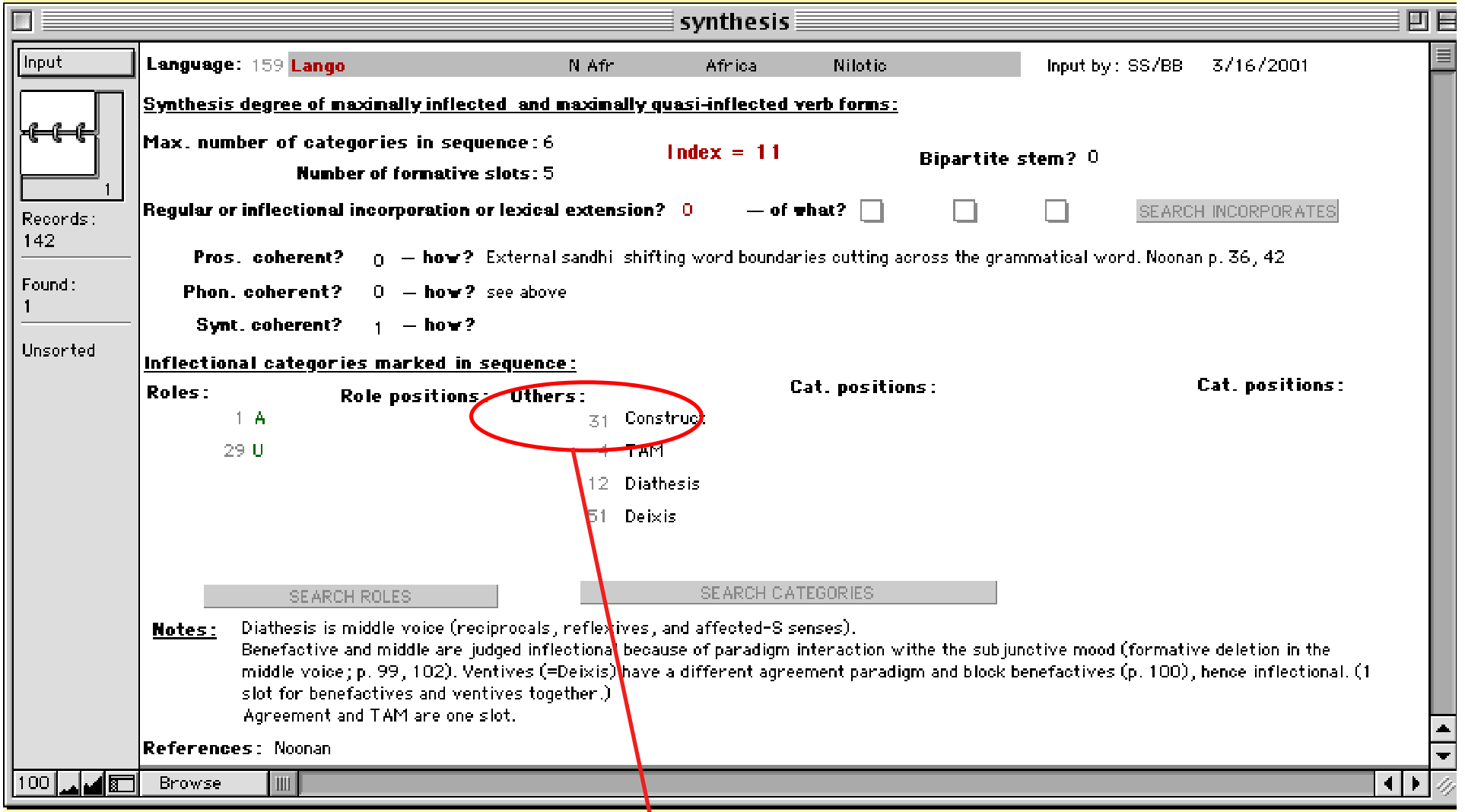
- No predefined list of what can show up

☞ **Again, it is possible to discover new categories**

Example 3: inflectional categories (*cont'd*)

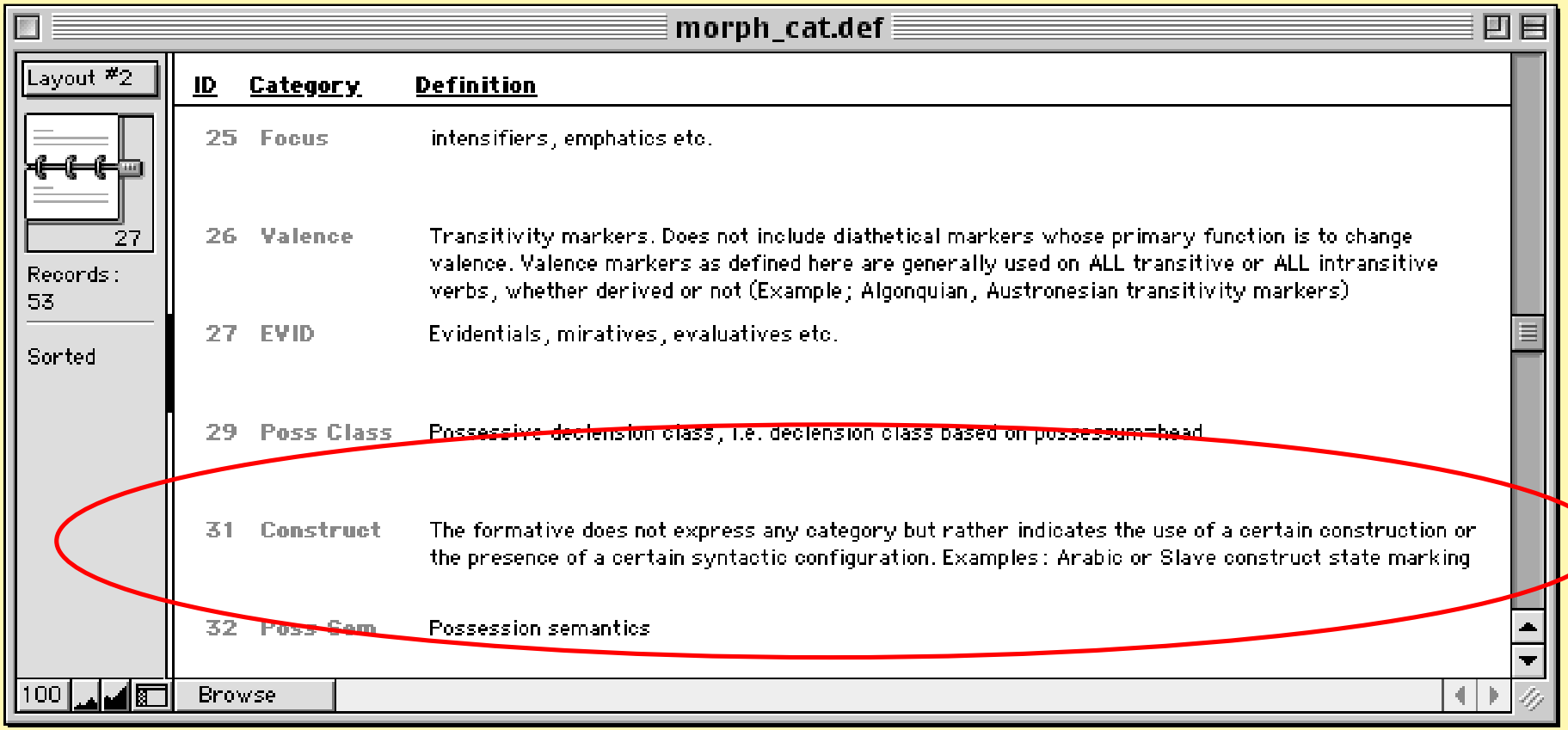


Example 3: inflectional categories (*cont'd*)



morph_cat.def

Example 3: inflectional categories (*cont'd*)



Example 3: inflectional categories (*cont'd*)

Lango: type #31 verbal construct forms
with overt pronominal or relativized subject NPs

a. ɛ́n **ò**cá**m**ò.
s/he **3SG.**eat.**PFV.CONSTRUCT**
'He ate it.'

b. **ò**càmò.
3SG.eat.**PFV**
'He ate it.'

c. **á**cà**mm**ò.
3SG.eat.**PROGR**
'He is eating it.'

(examples from Noonan 1992:137)

Example 3: inflectional categories (*cont'd*)

another example of a type #31 verbal construct form

Supyire (Gur): intransitive prefix on verbs after tense/aspect formatives iff these formatives immediately precede the verb.

a. mìì ná ǹpà ta.
I PAST sheep get
'I got a sheep'

b. mpà mìì ná ń-tá
sheep I PAST **CONSTR**-get
'It's a sheep I got.'

(examples from Carlson 1994: 127)

Example 3: inflectional categories (*cont'd*)

#31 verbal construct forms also found in:

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- Hausa (Chadic: Afroasiatic)

Example 3: inflectional categories (*cont'd*)

#31 verbal construct forms also found in:

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- Fiji (Central-Eastern Malay-Polynesian: Austronesian)

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- Nisgha (Tsimshianic)

☞ **only 7 out of 141 languages surveyed for synthesis**

Interim summary

Autotypologizing databases

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- systematically provide for the discovery of new types

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- are ready to receive input *from* fieldwork

Disadvantage of autotypologizing databases:

- they slow down data collection (in the beginning)

Using AUTOTYP modules in surveys

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Common problem: heterogenous paradigms

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Example: Survey of TAM coexponents

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Lango: verbal construct marking only with the perfective, not with other TAM forms

Using AUTOTYP modules in surveys

Common problem: heterogenous paradigms

Example: Survey of TAM coexponents

Lango: verbal construct marking only with the perfective, not with other TAM forms

	Perfective	Progressive	Imperfective
3SG	*òcàmò*	*àcàmmò*	*cámô*
3SG.CONSTR	*òcámò*		

(Noonan 1992: 136)

Using AUTOTYP modules in surveys (cont'd)

- **Solution: Exemplar-based Method**

Using AUTOTYP modules in surveys (cont'd)

☞ **Solution: Exemplar-based Method**

Exemplar definition of TAM:

"If any of the TAM markers differs from others in their morphological behavior (*here:* exponence), pick TENSE; within TENSES, pick PAST (or whatever is chiefly used for simple, independent, past time reference); if there is none, pick FUTURE. If there is no TENSE, pick the closest ASPECT equivalent of past tense (e.g. perfective aspect). If there is no ASPECT, pick that MOOD, STATUS, or EVIDENTIALITY marker that is mostly used for past time reference (e.g. realis status)."

Using AUTOTYP modules in surveys (*cont'd*)

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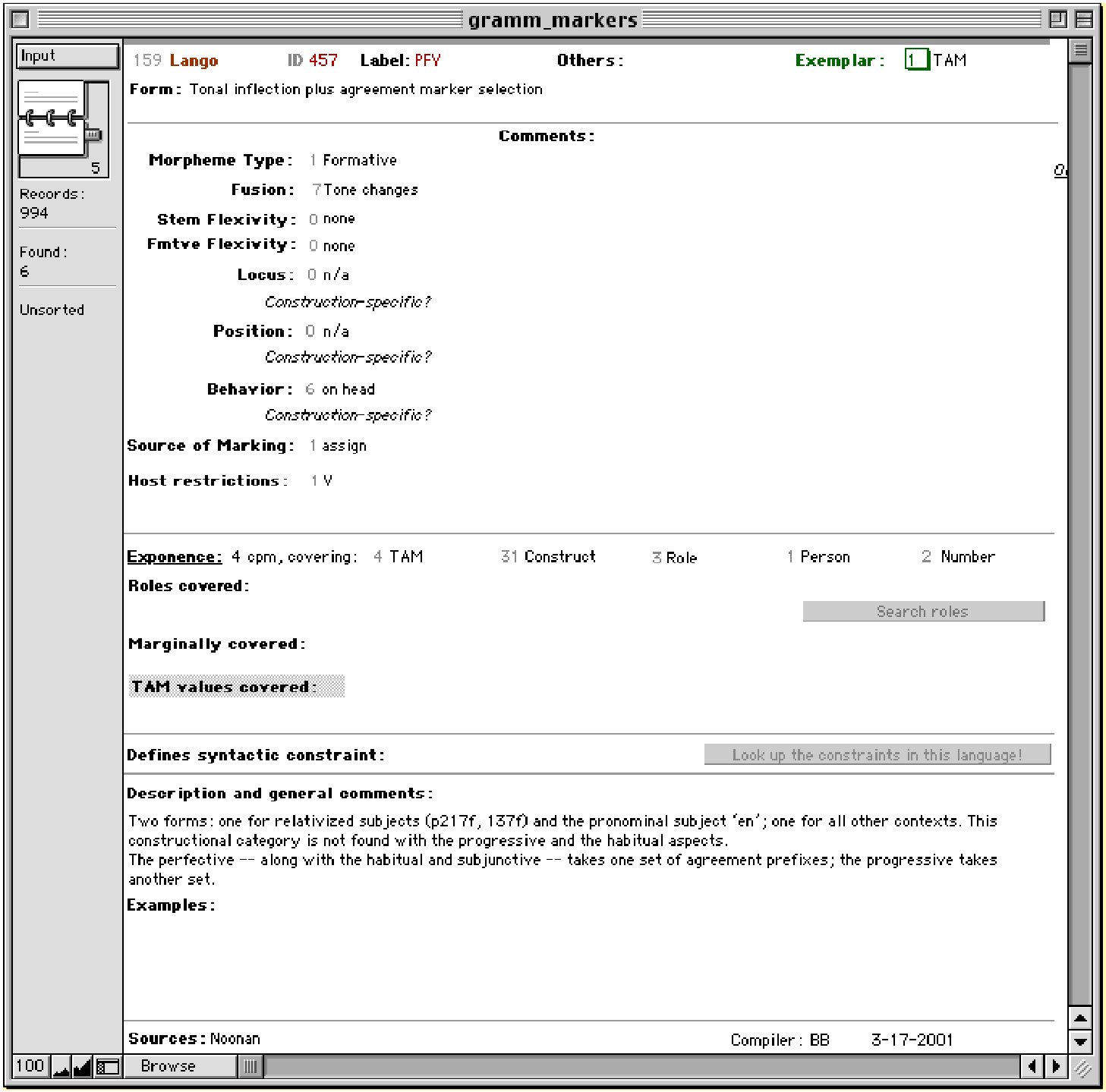
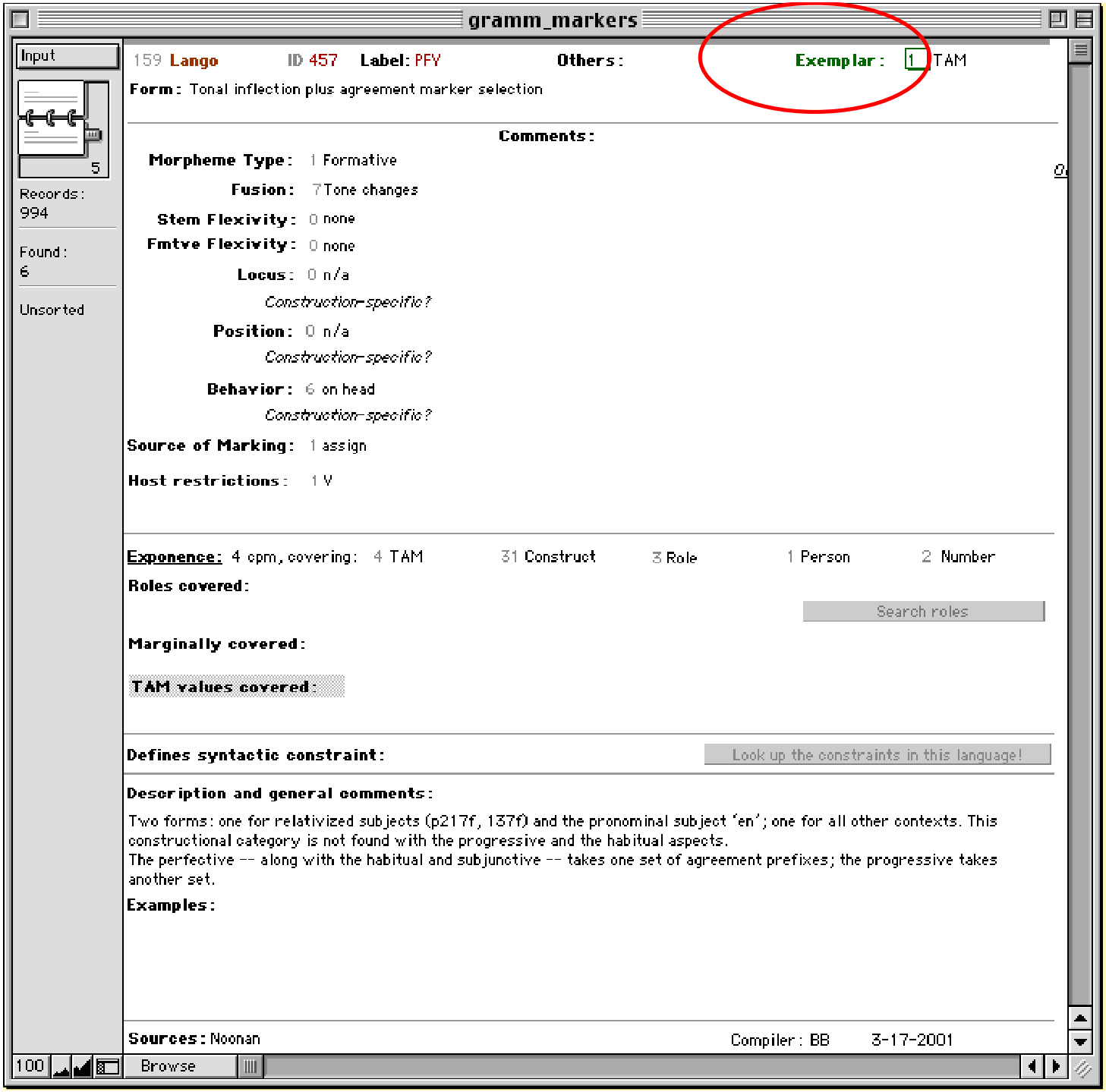

gramm_markers
Input
5
Records:
994
Found:
6
Unsorted
159 Lango ID 457 Label: PFV Others: Exemplar: 1 TAM
Form: Tonal inflection plus agreement marker selection
Comments:
Morpheme Type: 1 Formative
Fusion: 7 Tone changes
Stem Flexivity: 0 none
Fmtve Flexivity: 0 none
Locus: 0 n/a
Construction-specific?
Position: 0 n/a
Construction-specific?
Behavior: 6 on head
Construction-specific?
Source of Marking: 1 assign
Host restrictions: 1 V
Exponence: 4 cpm, covering: 4 TAM 31 Construct 3 Role 1 Person 2 Number
Roles covered:
Search roles
Marginally covered:
TAM values covered:
Defines syntactic constraint:
Look up the constraints in this language!
Description and general comments:
Two forms: one for relativized subjects (p217f, 137f) and the pronominal subject 'en'; one for all other contexts. This constructional category is not found with the progressive and the habitual aspects.
The perfective -- along with the habitual and subjunctive -- takes one set of agreement prefixes; the progressive takes another set.
Examples:
Sources: Noonan
Compiler: BB 3-17-2001
100
Browse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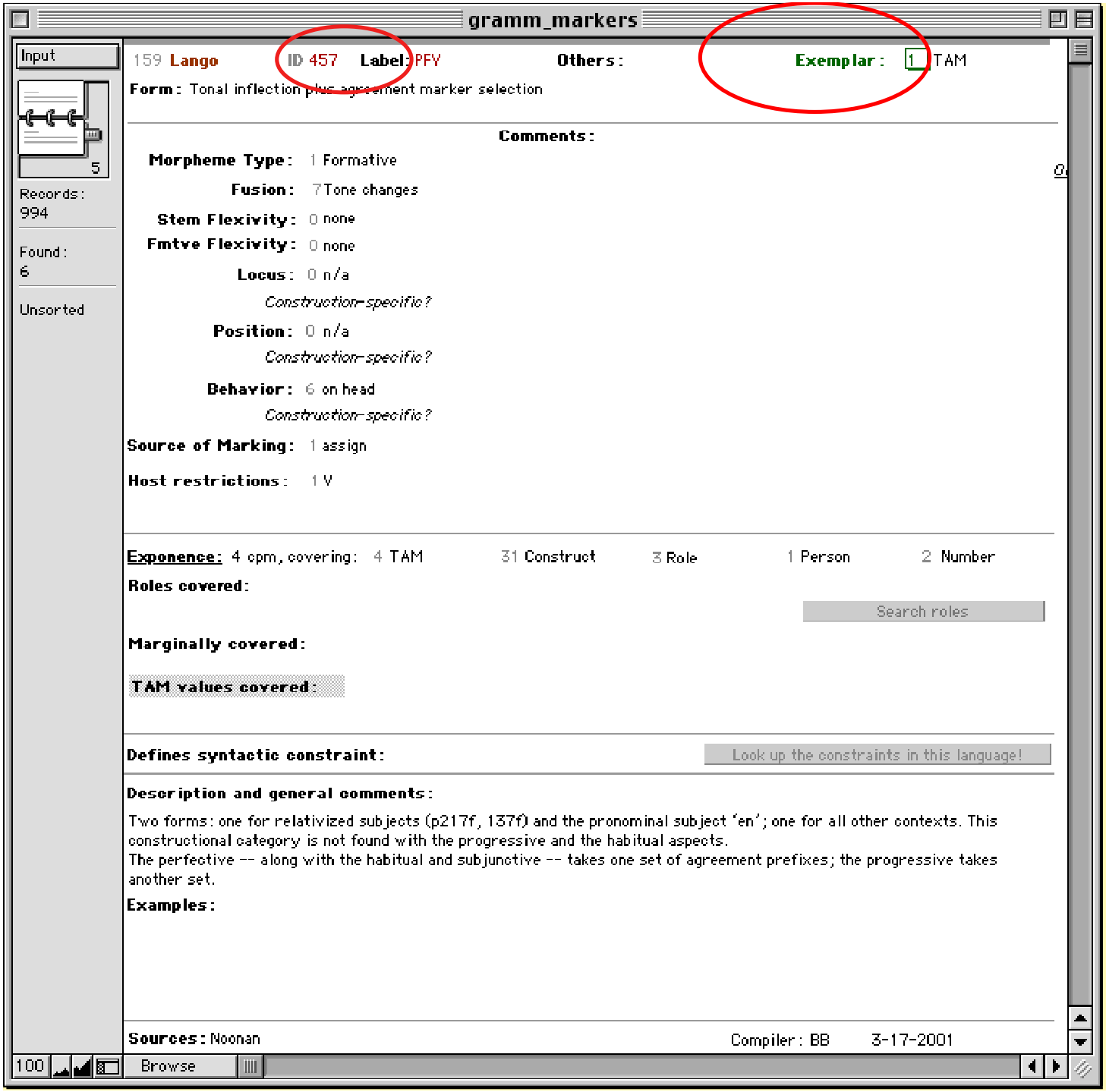
gramm_markers
Input
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Records:
994
Found:
6
Unsorted
159 Lango
ID 457
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Exemplar: 1 TAM
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Fusion: 7 Tone changes
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Locus: 0 n/a
Construction-specific?
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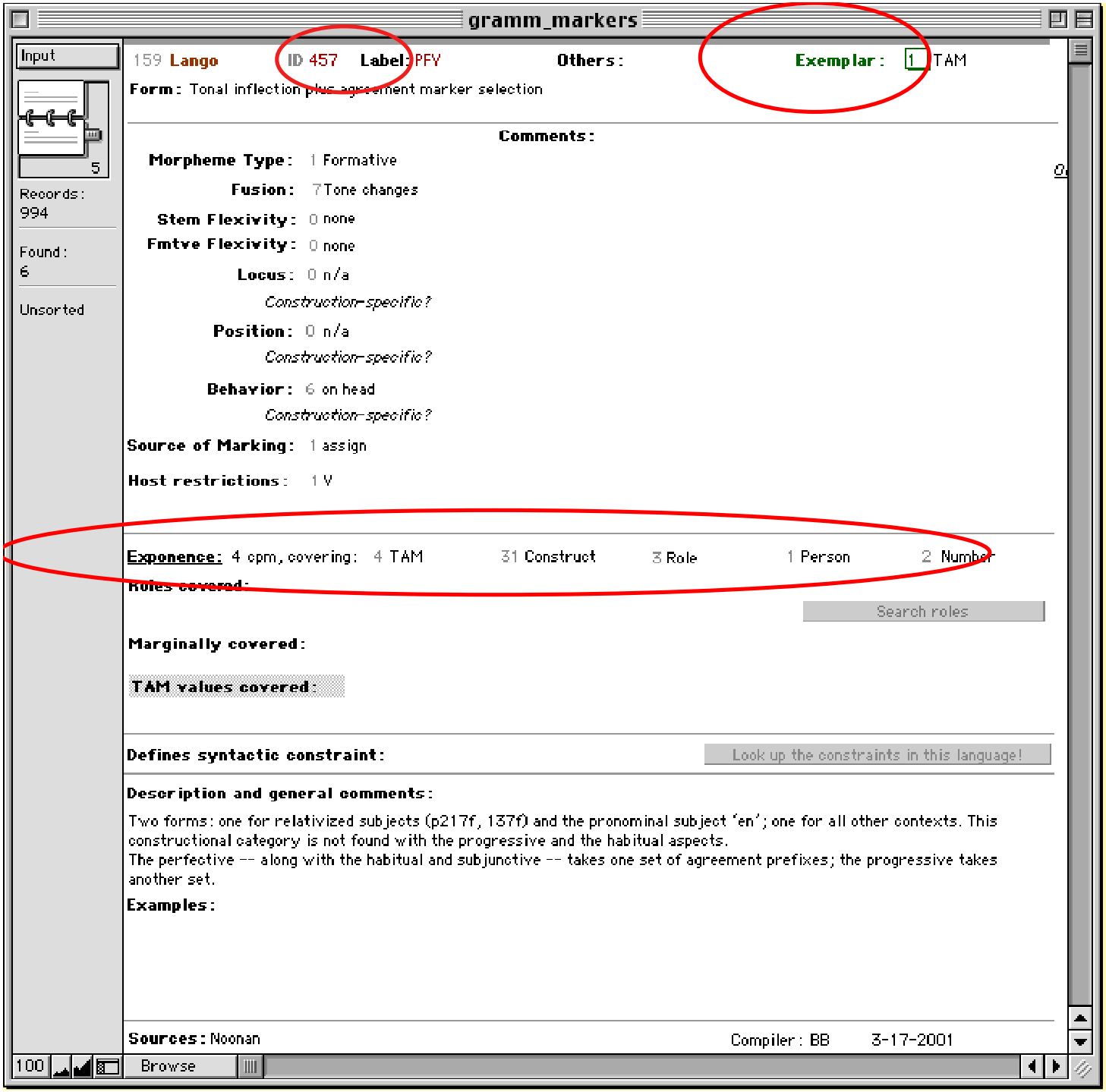
gramm_markers
Input
5
Records:
994
Found:
6
Unsorted
159 Lango
ID 457
Label: PFV
Others:
Exemplar: 1 TAM
Form: Tonal inflection plus agreement marker selection
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Compiler: BB 3-17-2001
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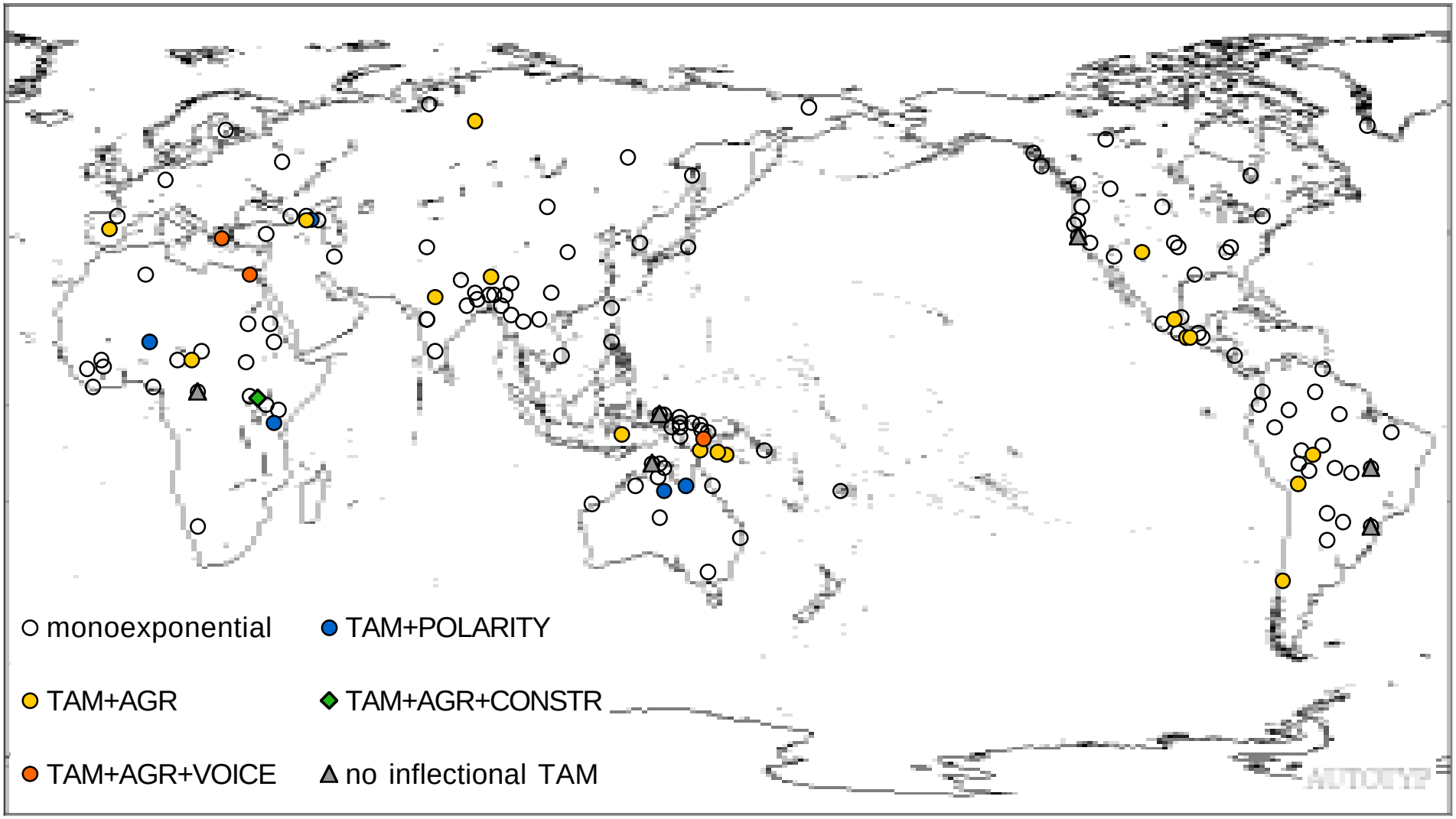
Browse

Survey Example 1: TAM exponence



(*N* = 149 from Gen1 sample)

Survey Example 1: TAM exponence (*cont'd*)

Results:

Survey Example 1: TAM exponence (*cont'd*)

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- No evidence for large-scale arealities.

Survey Example 1: TAM exponence (*cont'd*)

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  (TAM+AGR± tested in 4 macro-areas: χ^2 (3, 149) =1.20, p=.99)

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  - *H:* Mangarayan and Tangkic?
  - *H:* Songhai and Nilotic? (Nilosaharan?)

Survey Example 2: Synthesis

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Exemplar definition:

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- maximum *N* (categories) on verb

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Survey Example 2: Synthesis

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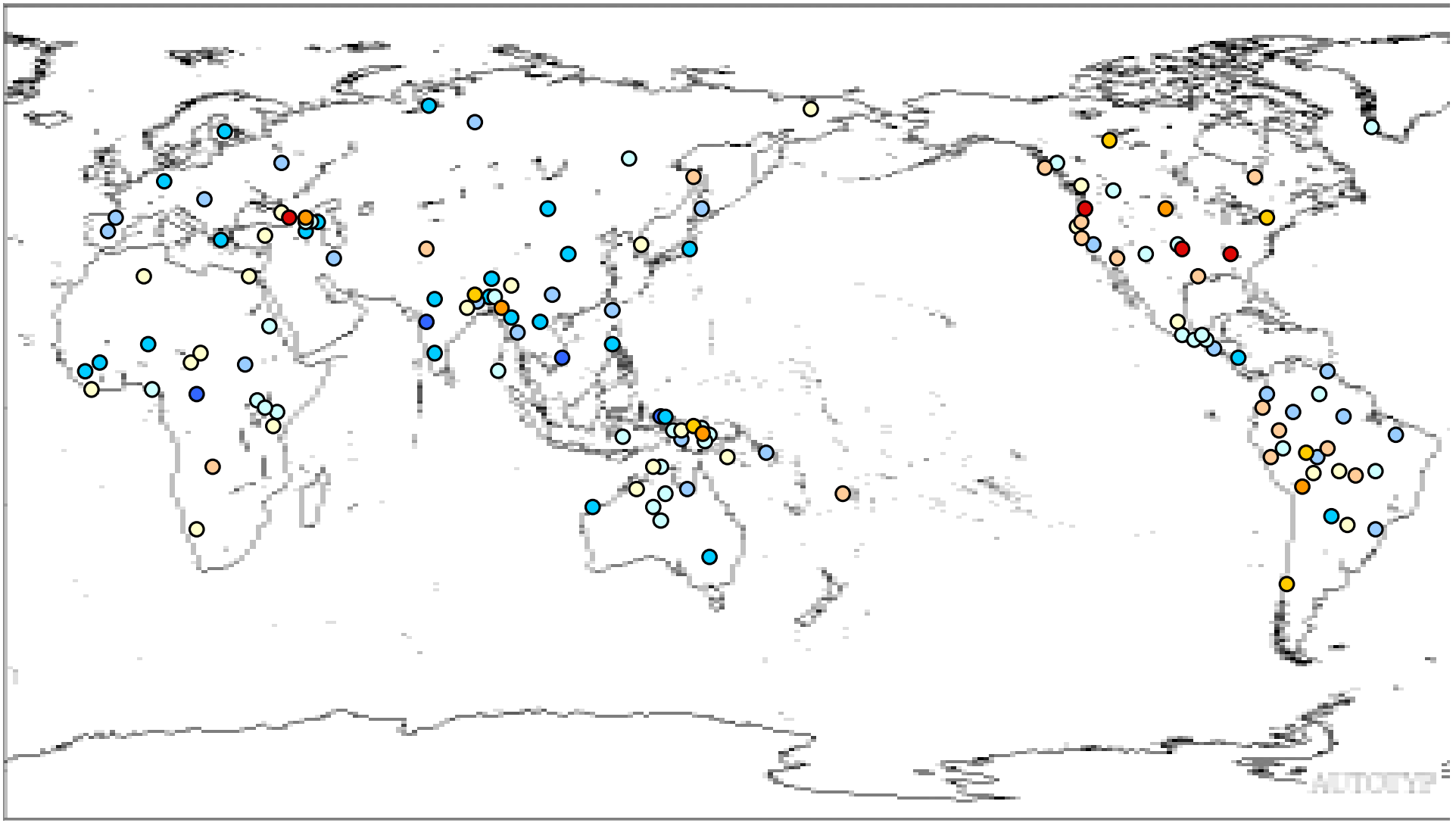
- verb categories only (i.e., no trans-category clitics such as Turkish interrogatives)
- synthetic categories only (i.e., no auxiliaries like Finnish negation markers)
- phonologically bound (negation in Turkish) ***or*** free (negation in Hmong)

Survey Example 2: Synthesis (*cont'd*)

Synthesis Index:

$SYN = N_{max}$ (categories) + N_{max} (formatives)

Survey Example 2: Synthesis (*cont'd*)



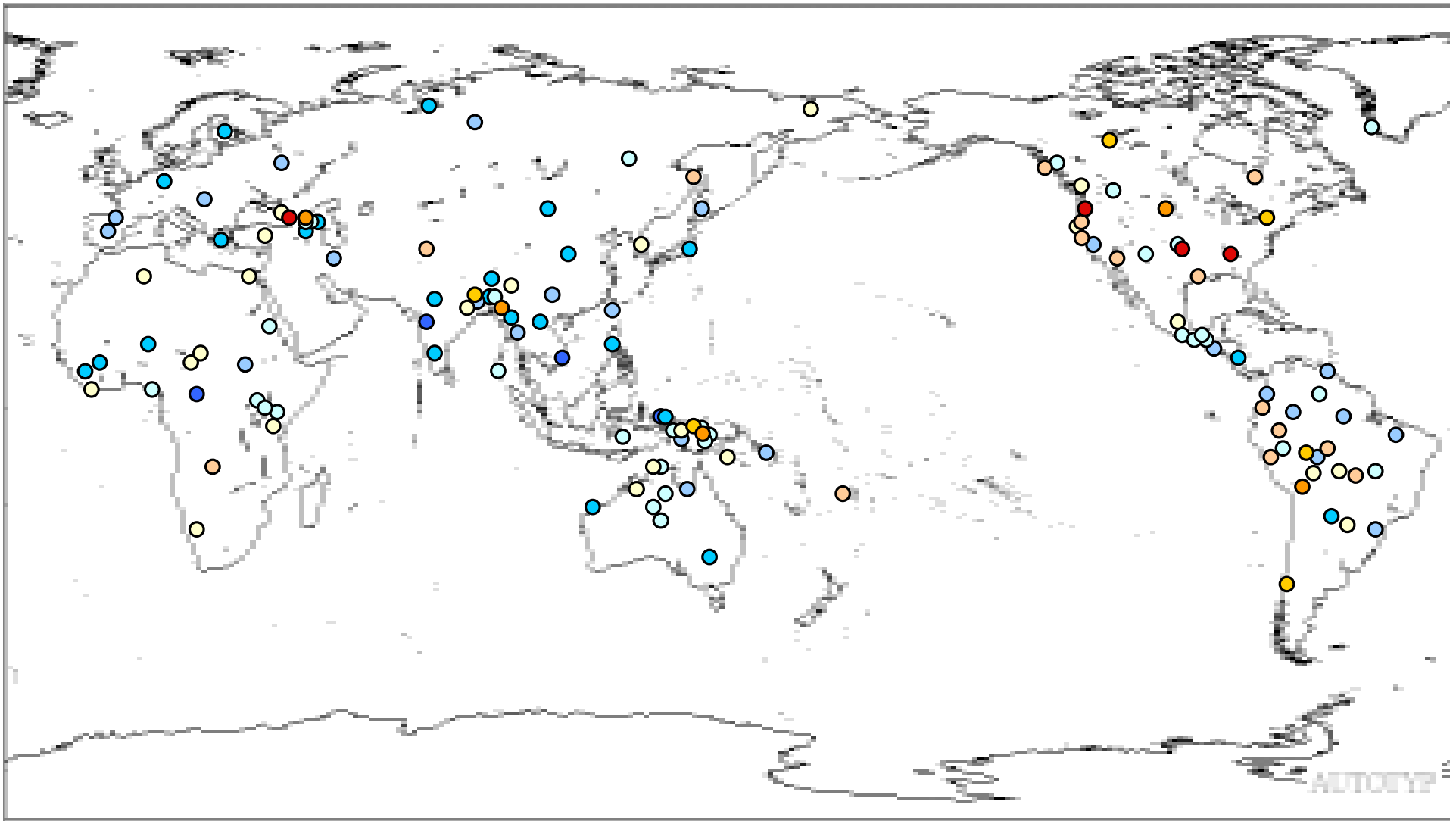
(*N* = 136 from Gen1 sample)

Survey Example 2: Synthesis (*cont'd*)

Results:

- Subcontinent-sized areality.
  (Kruskal-Wallis χ^2 (9, 136) = 29.80, $p < .001$)
- Himalayan and Caucasian enclaves in Eurasia.
  (Mann-Whitney U (1, 42) = 89.00, $p = .036$)
- Enclaves have the same profile as Circum-Pacific populations ("Ancient Sunda" population).
  (Mann-Whitney U (1, 99) = 402.50, $p = .621$)

Survey Example 2: Synthesis (*cont'd*)



(*N* = 136 from Gen1 sample)

Survey Example 2: Synthesis (*cont'd*)

- *Hypothesis:* Enclaves preserve the typological profile of Eurasia at the time of early American colonia-lization(s), i.e., before the great spreads in Eurasia (SEA, Silk Road) changed this profile.

Conclusions

- The **Autotypologizing Method** develops analytical notions that are guaranteed to be crosslinguistically viable and that directly feed into field research, quantitative typology, and theoretical linguistics.

- The **Exemplar-Based Method** allows for systematic assessment and statistical analysis of typological profiles.

Credits

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  - Michael Riessler (RA, Leipzig)
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