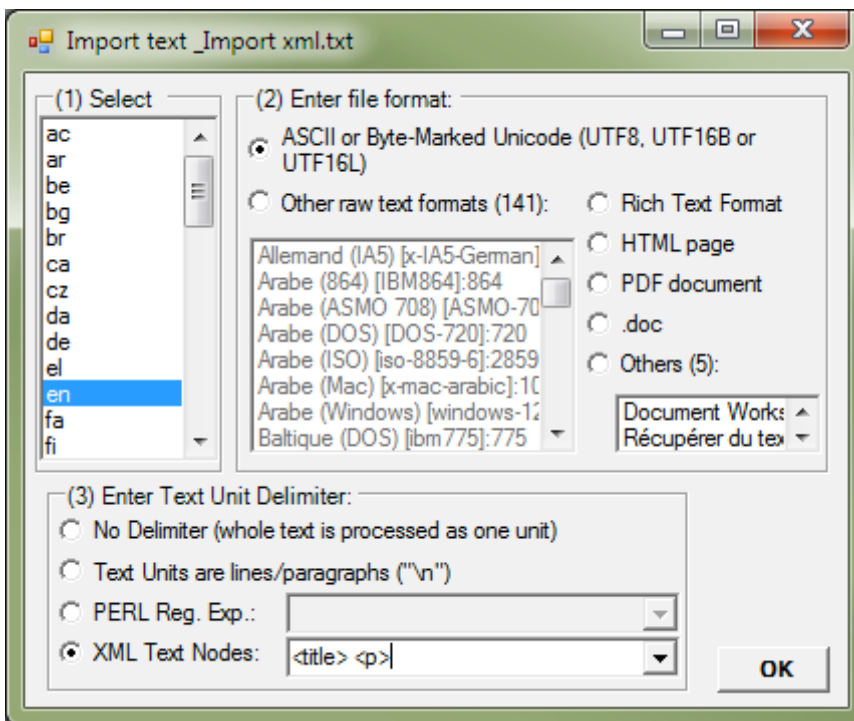
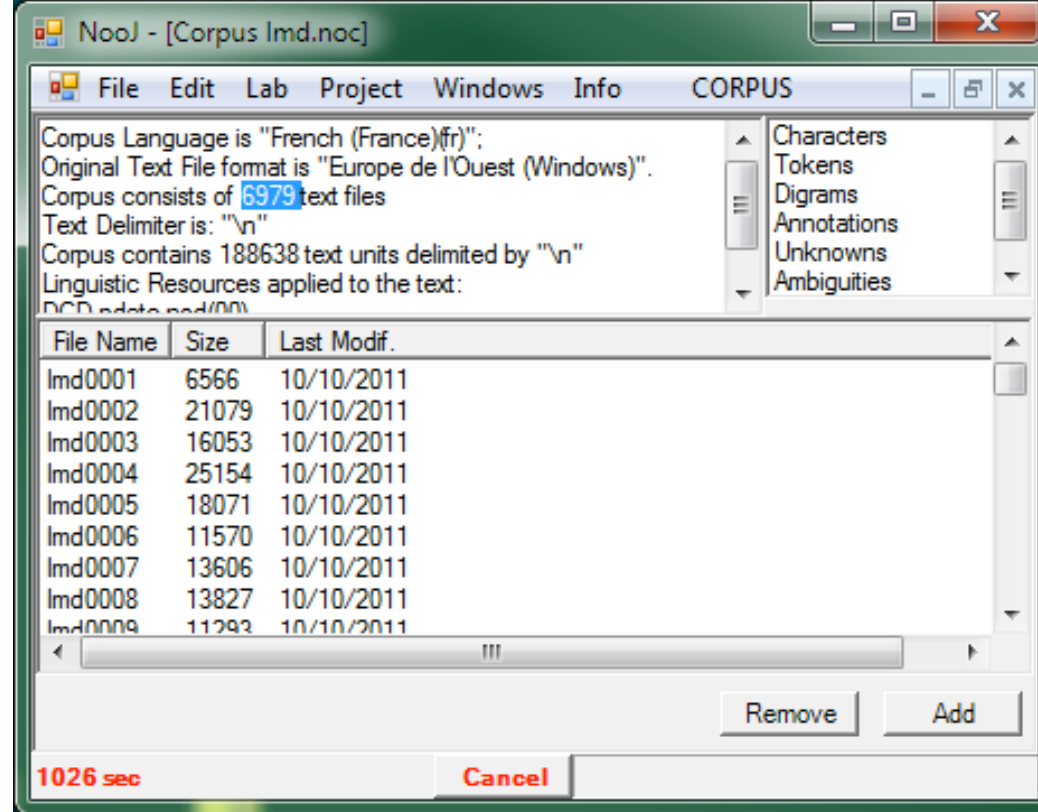


Corpus Linguistics with NooJ

Max Silberztein

max.silberztein@gmail.com



Business Intelligence
History
Literature
Medicine
Psychology
Second Language...

Various levels of linguistic phenomena

- Typography & Spelling
- Inflectional and Derivational Morphology
- Lexicons for simple words, multiword units, discontinuous expressions
- Local syntax
- Structural Syntax
- Transformational Syntax (paraphrases)

All levels interact via the Text Annotation Structure

Simple words

NooJ - [_The portrait of a lady.not]

File Edit Lab Project Windows Info TEXT

- 201 + / 4646 TUs

Characters
Tokens
Digrams
Unknowns
Ambiguities

☒ Show Text Annotation Structure

Language is "English (en)".
Text Delimiter is: \n (NEWLINE)
Text contains 4646 Text Units (TUs).
276087 tokens including:
228146 word forms

"Yes; the others are Lilian and Edith. And are you the prettiest?"

"I haven't the least idea," said the girl.

"I think you must be." And in this way the aunt and the niece made friends. The aunt had quarrelled years before with her brother-in-law, after the death of her sister, taking him to task for the manner in which he brought up his three girls. Being a high-tempered man he had requested her to mind her own business, and she had taken him at his word. For many years she held no communication with him and after his death had addressed not a word to his daughters, who had been bred in that disrespectful view of her which we have just seen Isabel betray. Mrs. Touchett's behaviour was, as usual, perfectly deliberate. She intended to go to America

1	6	10	17	21	28
yes,ADV	the,DET	others,PRO	be,V+Tense=PR+Pers=3+Nb=p	Lilian,N+FIRSTNAME+Distribution=PR+Gender=f+Nb=s	and,CONJ
yes,INTJ					

Cancel

Agglutinated forms

NooJ - [_The portrait of a lady.not [Modified]]

File Edit Lab Project Windows Info TEXT

- 870 + / 4646 TUs

Characters
Tokens
Digrams
Unknowns
Ambiguities

Language is "English (en)".
Text Delimiter is: \n (NEWLINE)
Text contains 4646 Text Units (TUs).
276087 tokens including:
229140 word forms

☒ Show Text Annotation Structure

DEAR LORD WARBURTON--A great deal of earnest thought has not led me to change my mind about the suggestion you were so kind as to make me the other day. I am not, I am really and truly not, able to regard you in the light of a companion for life; or to think of your home--your various homes--as settled seat of my existence. These things cannot be reasoned about, and I very earnestly entreat you not to return to the subject we discussed so exhaustively. We see our lives from our own point of view; that is the privilege of the weakest and humblest of us; and I shall never be able to see mine in the manner you proposed. Kindly let this suffice you, and do me the justice to believe that I have given your proposal the deeply respectful consideration it deserves. It is with this very great regard that I remain sincerely yours,

ISABEL ARCHER

While the author of this missive was making up her mind to despatch it Henrietta Stackpole formed a resolve which was accompanied by no demur. She invited Ralph Touchett to take a walk with her in the garden, and when he had assented with that alacrity which seemed constantly to testify to his high expectations, she informed him that she had a favour to ask of him. It may be admitted that at this information the young man flinched; for we know that Miss Stackpole had struck him as apt to push an advantage. The alarm was unreasoned, however; for he was clear about the area of her indiscretion as little as advised of its vertical depth, and he made a very civil profession of the desire to serve her. He was afraid of her and presently told her so. "When you look at me in a certain way my knees knock together, my faculties desert me; I'm filled with trepidation and I not only for strength to execute your commands. You've an address that I've never

350	361	367	374	374,01	381	384	393
existence,N+Nb=s	these,DET	thing,N+Nb=f	can,V+Tense=PR	not,ADV	be,V+Tense=INF	reason,V+Tense=PP	about,ADV
						reasoned,A	about,PART

Cancel

Multiword units

NooJ - [The portrait of a lady.not]

File Edit Lab Project Windows Info TEXT

4 / 4646 TUs

Characters
Tokens
Digrams
Unknowns
Ambiguities

☒ Show Text Annotation Structure

Language is "English (en)".
Text Delimiter is: \n (NEWLINE)
Text contains 4646 Text Units (TUs).
276087 tokens including:
328140 word forms

Under certain circumstances there are few hours in life more agreeable than the hour dedicated to the ceremony known as afternoon tea. There are circumstances in which, whether you partake of the tea or not--some people of course never do--the situation is in itself delightful. Those that I have in mind in beginning to unfold this simple history offered an admirable setting to an innocent pastime. The implements of the little feast had been disposed upon the lawn of an old English country-house, in what I should call the perfect middle of a splendid summer afternoon. Part of the afternoon had waned, but much of it was left, and what was left was of the finest and rarest quality. Real dusk would not arrive for many hours; but the flood of summer light had begun to ebb, the air had grown mellow, the shadows were long upon the smooth, dense turf. They lengthened slowly, however, and the scene expressed that sense of leisure still to come which is perhaps the chief source of one's enjoyment of such a scene at such an hour. From five o'clock to eight is on certain occasions a little eternity; but on such an occasion as this the interval could be only an eternity of pleasure. The persons concerned in it were taking their pleasure quietly, and they were not of the sex which is supposed to furnish the regular votaries of the ceremony I have mentioned. The shadows on the perfect lawn were straight and angular; they were the shadows of an old man sitting in a deep wicker-chair near the low table on which the tea had been served, and of two younger men strolling to and fro, in desultory talk, in front of him. The old man had his cup in his hand; it was an unusually large cup, of a different pattern from the rest of the set and painted in brilliant colours. He disposed of its contents with much circumspection, holding it for a long time close to his chin, with his face turned to the house. His companions had either finished their tea or were indifferent to their privilege; they smoked cigarettes as they continued to stroll. One of them, from time to time, as he passed, looked with a certain attention at the elder man, who, unconscious of observation, rested his eyes upon the rich red front of his dwelling. The house that rose beyond the lawn was a structure to repay such consideration and was the most characteristic object in the peculiarly English picture I have attempted to sketch.

111 know,V+Tense=PP 117 as,CONJ 120 afternoon tea,N+Struct=XN+z1+Nb=s 135 there,ADV 141 be,V+Tense=PR+Pers=3+Nb=p 145 circumstance,N+N

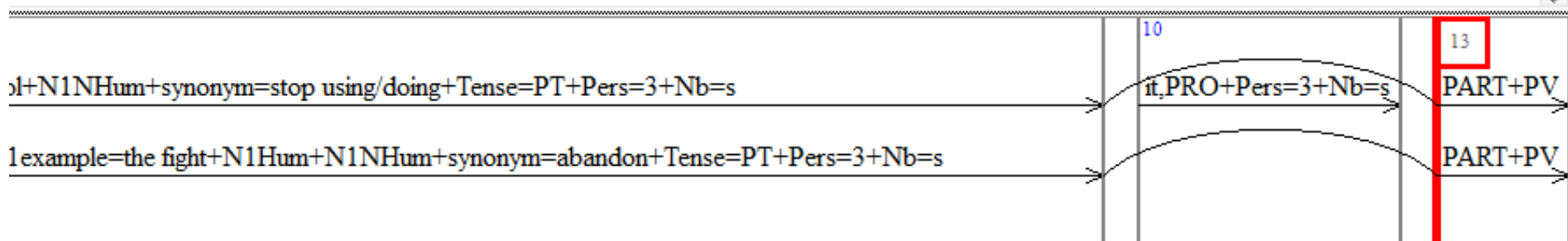
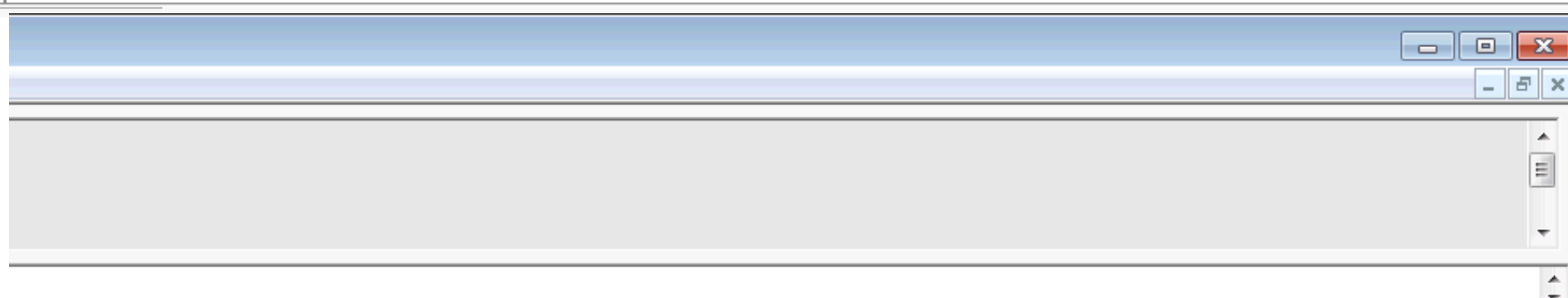
there,INTJ
there,PRO

Cancel

Discontinuous expressions

Page is "English (en)".
Delimiter is: \n (NEWLINE)
contains 3 Text Units (TUs).
tokens including:
and forms
imiters

5
give_up,V+PV+N0Hum+Part=up+FR=arrêter+N1example=alcohol+N1NHum+synonym=stop using/doing+Tense=PT+Pers=3+Nb=s
give_up,V+PV+N0Hum+N0NHum+Part=up+FR=abandonner+N1example=the fight+N1Hum+N1NHum+synonym=abandon+Tense=PT+Pers=3+Nb=s



```
# NooJ V2
#
# Syntactic grammar
#
# Input Language is: en
# Output Language is: en
#
# Special Characters: '=' '<' '>' '\\' '"' ':' '+' '/' '#' ';'
#
# Special Start Rule: Main
#

Verbs = <die> | <perish> | <kill> | <assassinate> ;

Nouns = <death> | <corpse> | funerals | <widower> ;

Adjectives = fatal | deadly | mortal;

Expressions = <kick> the bucket | <buy> the farm;

Main = :Verbs | :Nouns | :Adjectives | :Expressions ;
```


_The portrait of a lady.not

- 1 + / 4646 TUs

Characters
Tokens
Digrams
Unknowns
Ambiguities

Language is "English (en)".
Text Delimiter is: \n (NEWLINE)
Text contains 4646 Text Units (TUs).
276087 tokens including:
222440 word forms

☐ Show Text Annotation Structure

The Portrait of a Lady

by Henry James, 1881

CHAPTER 1

Under certain circumstances there are few hours in life more agreeable than the hour dedicated to the ceremony known as afternoon tea. There are circumstances in which, whether you partake of the tea or not--some people of course never do--the situation is in itself delightful. Those that I have in mind in beginning to unfold this simple history offered an admirable setting to an innocent pastime. The implements of the little feast had been disposed upon the lawn of an old English country-house, in what I should call the perfect middle of a splendid summer afternoon. Part of the afternoon had waned, but much of it was left, and what was left was of the finest and rarest quality. Real dusk would not arrive for many hours; but the flood of summer light had begun to

Locate a pattern in _The portrait of a lady

Pattern is:

- ☐ a string of characters:
- ☐ a PERL regular expression:
- ☐ a NooJ regular expression:

☒ a NooJ grammar:

Documents\NooJ\en\Syntactic Analysis_death.not

Set

☐ Syntactic Analysis

Index

- ☐ Shortest matches
- ☒ Longest matches
- ☐ All matches

Limitation

- ☒ All occurrences
- ☐ Only: 100 occ.
- ☐ 1 occ. per match

☒ Reset Concordance



Concordance for Text _The portrait of a lady.not

Reset

Display: 10

☐ characters
☒ word forms

before, and

10

after. Display:

☒ Matches

☐ Outputs

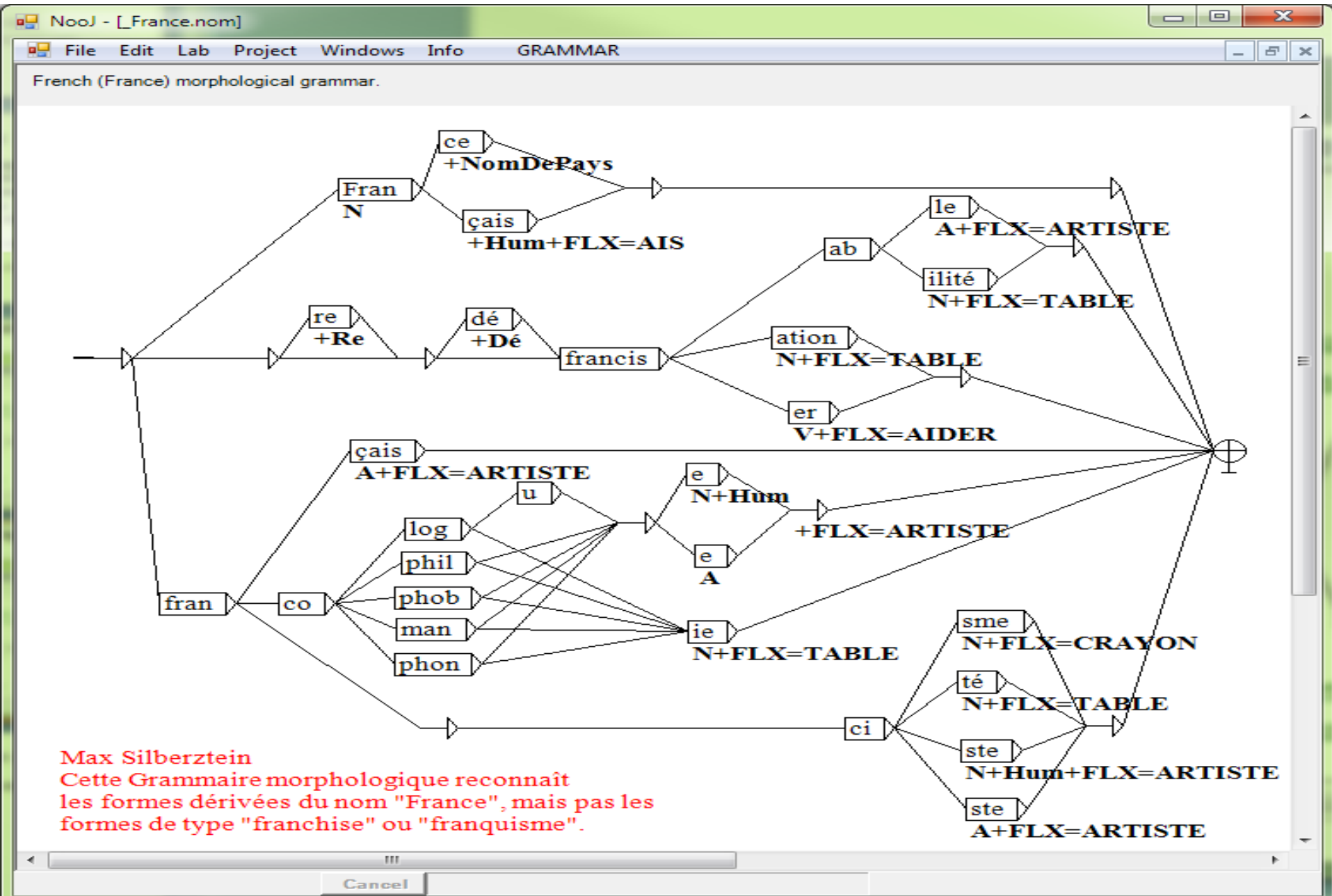
Text	Before	Seq.	After
very bad, impudent clerk, address here. Taken sister's girl,	died		last year, go to Europe, two sisters, quite independent.' Over
He can say, 'Oh, I do nothing; I'm too	deadly		lazy. You can do nothing to-day unless you get
to go away!" "Ah, don't say that. Don't	kill		me!" he cried. She clasped her hands; her eyes were
have seen them going off; I think it would have	killed		me. But I put them into good hands, and they
won't say that if you refuse me you'll	kill		me; I shall not die of it. But I shall
of the situation, but reputed originally rich and wild, having	died		much earlier. One could see this in Gilbert Osmond, Madame
But I don't wish you to live; I would	die		myself, not to lose you." Her voice was as broken

Query

120/120

Cancel

Derivational Morphology



All NooJ Grammars are reversible (parse/generation)

The screenshot displays the NooJ software interface. The main window, titled "_France.nom", shows a French (France) morphological grammar. The grammar is represented as a directed graph with nodes and edges. Nodes include "Fran" (N), "ce", "çais" (+FLX=AIS), "re", "dé", "francis", "ation" (N+FLX=TABLE), "le" (A+FLX=ARTISTE), "ab", "ilité" (N+FLX=TABLE), "fran", "co", "log", "phil", "phob", "man", "phon", "u", "e" (N), "e" (A), and "ie" (N+FLX=TABLE). The graph illustrates the morphological structure of the word "France" and its derivatives.

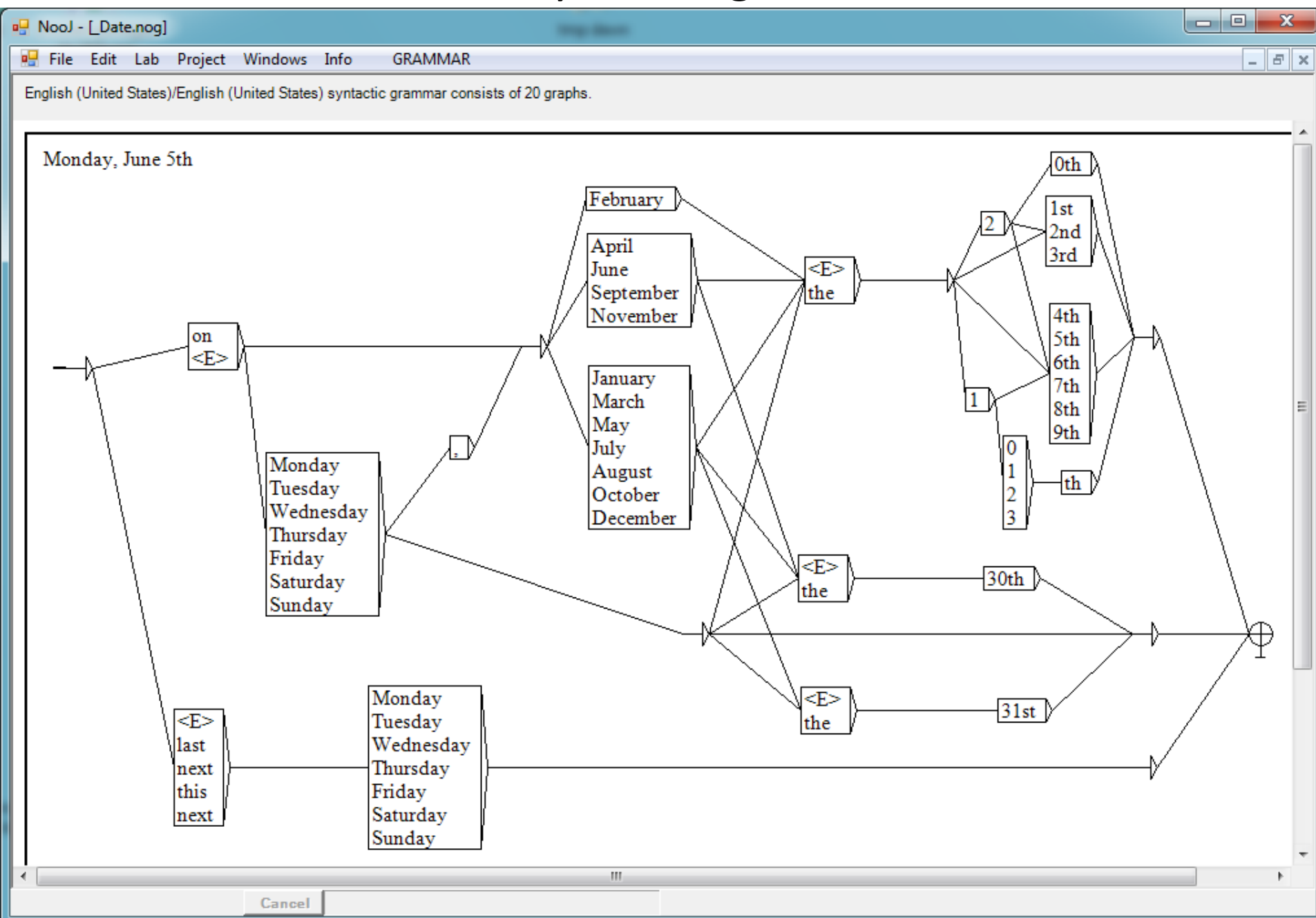
An "Explore graph Main in grammar..." dialog box is open, showing options to explore embedded graphs and stop after a specified number of seconds or sequences. The "Explore all paths" button is visible.

An "Untitled [Modified]" window displays the generated dictionary, listing 38 entries. The entries are as follows:

```
# Dictionary was generated automatically: 38 entries.
#
défranciser, V+FLX=AIDER
défrancisation, N+FLX=TABLE
défrancisable, A+FLX=ARTISTE
défrancisabilité, N+FLX=TABLE
Français, N+FLX=AIS
France, N
redéfranciser, V+FLX=AIDER
redéfrancisation, N+FLX=TABLE
redéfrancisable, A+FLX=ARTISTE
redéfrancisabilité, N+FLX=TABLE
refranciser, V+FLX=AIDER
refrancisation, N+FLX=TABLE
refrancisable, A+FLX=ARTISTE
```

Max Silberztein
Cette Grammaire morphologique reconnaît
les formes dérivées du nom "France", mais pas les
formes de type "franchise" ou "franquisme".

A local syntactic grammar...



... is typically reused in other, more general grammars

NooJ

File Edit Lab Project Windows Info GRAMMAR

Structure of _Date

Expand Collapse Refresh

Main

- a few days ago
 - Dnums
 - Dnum1000-999999
 - Dnum100-999
 - Dnum2-99
- a few years ago
 - Dnums
 - at 1532
 - at 7:10 am
 - at seven o'clock
- in a few days
 - Dnums
- in a few years
 - Dnums
 - in May 2002
 - in the afternoon
 - Mon, 16 Mar 2003
 - Monday, June 5th
 - on the 3rd of June
 - once
 - tomorrow

_Date.nog

English (United States)/English (United States) syntactic grammar consists of 20 graphs.

<ADV+Date

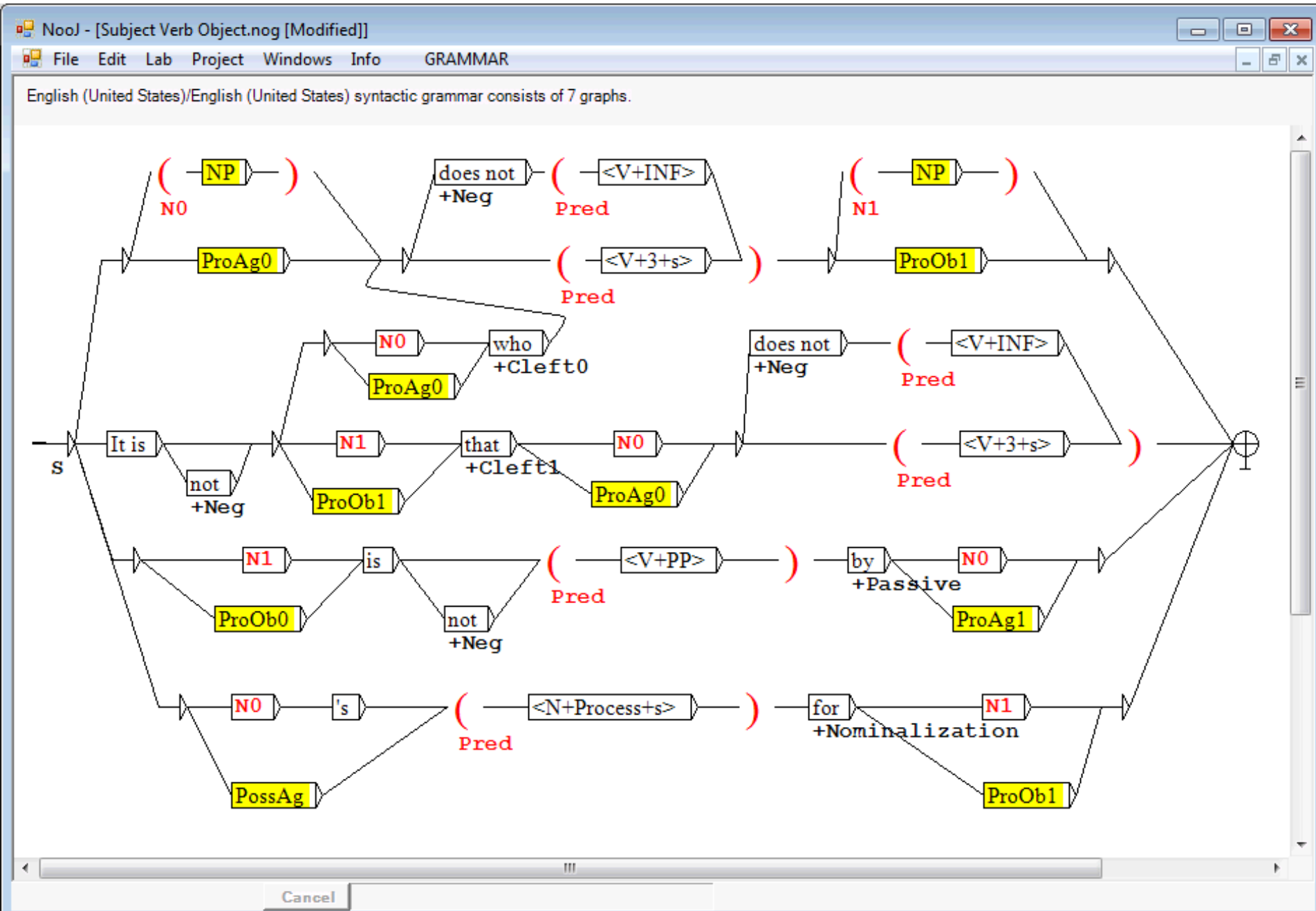
Contract for _Date

Check

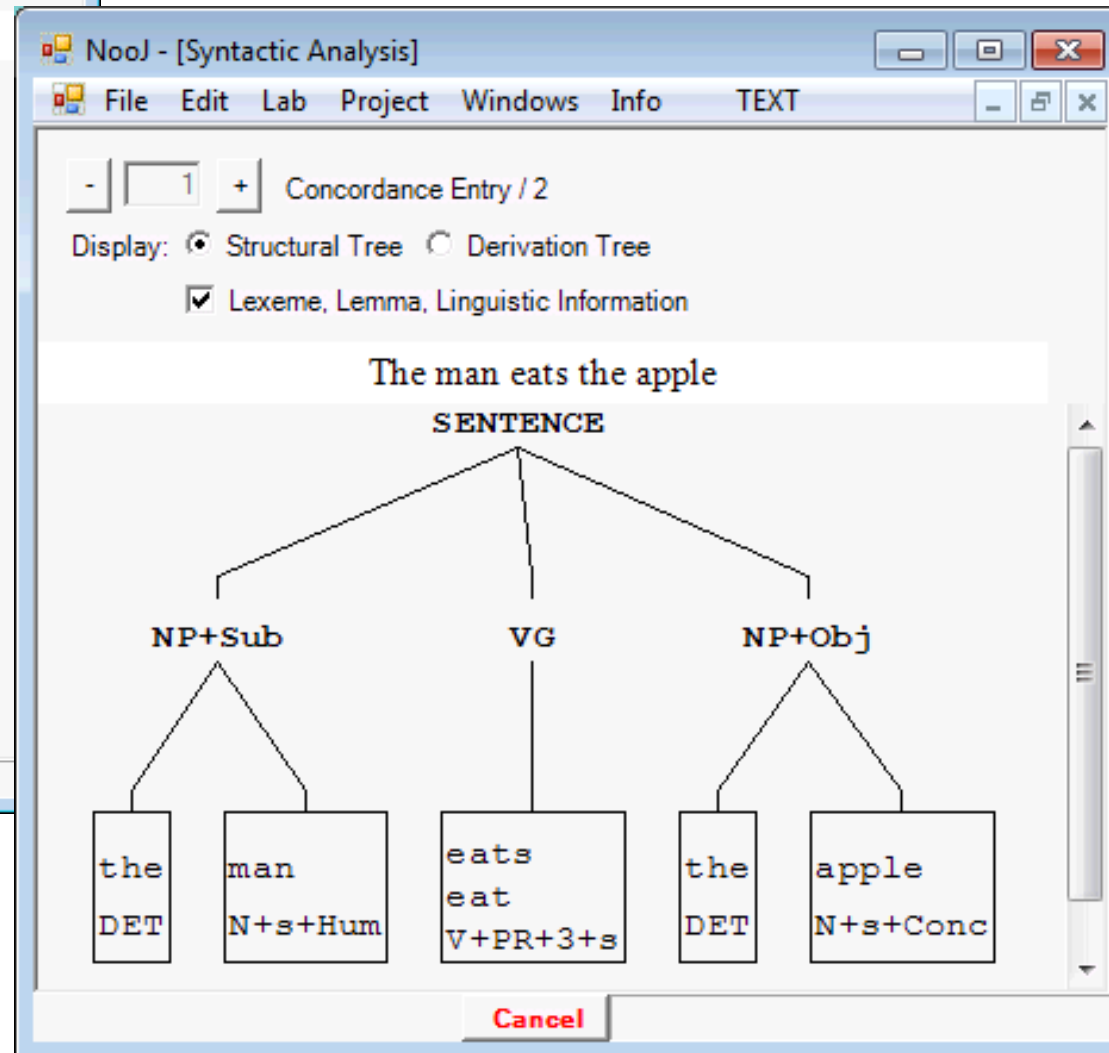
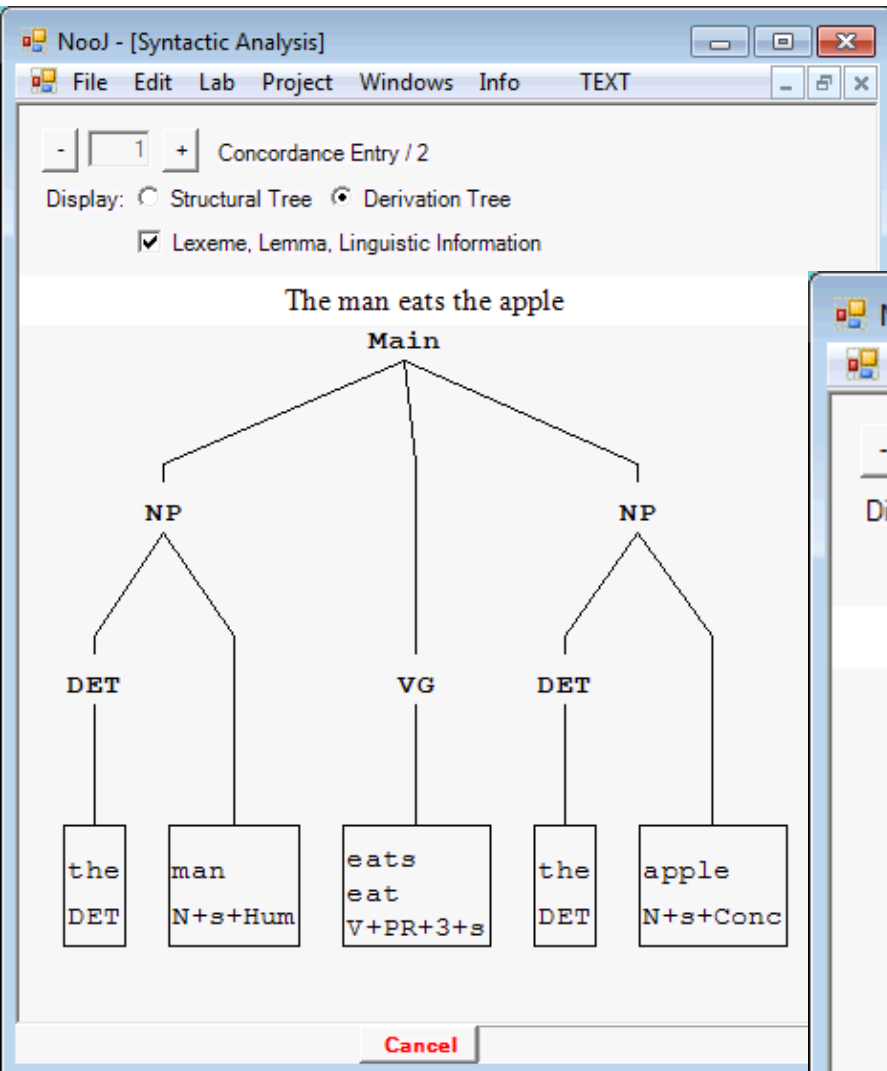
March 23rd
*Tuesday, February the 30st
on Monday 14th
on the 22nd of May, 2002
a long time ago
a couple of years ago
two years ago
two months ago

Cancel

A syntactic grammar: N0 V NI



Grammar Structure ≠ Sentence Structure



... parse text sentences, or generate all possible sentences

NooJ

File Edit Lab Project Windows Info DICTIONARY

Transformation for grammar: Subject Verb Object.nog

Enter a phrase to parse:

Paul loves Eva

Transformations

☐ Name a transformation

+Passive-Neg

☒ Perform All Transformations

☐ display lexemes

Produce Paraphrases

Cancel

Untitled [Modified]

she is not loved by Paul, S+Pro1+Neg+Passive
she is not loved by him, S+Pro1+Neg+Passive+Pro1
she is loved by Paul, S+Pro1+Passive
she is loved by him, S+Pro1+Passive+Pro1
he does not love her, S+Pro0+Neg+Pro1
he loves her, S+Pro0+Pro1
Eva is not loved by Paul, S+Neg+Passive
Eva is not loved by him, S+Neg+Passive+Pro1
Eva is loved by Paul, S+Passive
Eva is loved by him, S+Passive+Pro1
It is her that he does not love, S+Pro1+Cleft1+Pro0
It is her that he loves, S+Pro1+Cleft1+Pro0
It is her that Paul does not love, S+Pro1+Cleft1+Ne
It is her that Paul loves, S+Pro1+Cleft1
It is he who does not love her, S+Pro0+Cleft0+Neg+P
It is he who loves her, S+Pro0+Cleft0+Pro1
It is Eva that he does not love, S+Cleft1+Pro0+Neg
It is Eva that he loves, S+Cleft1+Pro0
It is Eva that Paul does not love, S+Cleft1+Neg
It is Eva that Paul loves, S+Cleft1
It is Paul who does not love her, S+Cleft0+Neg+Pro1
It is Paul who loves her, S+Cleft0+Pro1
It is not her that he does not love, S+Neg+Pro1+Cl
It is not her that he loves, S+Neg+Pro1+Cleft1+Pro0

Paraphrases in Italian (Vietri 2010)

The screenshot displays the NooJ software interface, which is used for linguistic processing. The main window is titled "NooJ" and contains a menu bar (File, Edit, Lab, Project, Windows, Info) and a toolbar. The "DICTIONARY" tab is active, showing a list of transformations for the grammar "Soggetto Verb...".

The "Transformation for grammar: Soggetto Verb..." panel on the left includes a text input field with the phrase "Maria osserva il ragazzo". Below this, there are two radio buttons for "Transformations": "Name a transformation" (selected) and "Perform All Transformations". A text field next to "Name a transformation" contains "+Passivo-Neg". There is also a checkbox for "display lexemes" and a button labeled "Produce Paraphrases".

The "NO V N1.dic" panel on the right shows the dictionary contents, which include 1690 entries. The entries are listed in a scrollable area, showing various grammatical transformations of the input phrase. The first entry is "è Maria che riosserverebbe lui ?,S+Cleft0+C+Pro1+Question". The list continues with many other entries, including "è Maria che riosservi il ragazzo ?,S+Cleft0+IMP+Question", "è Maria che riosservi il ragazzo ?,S+Cleft0+S+Question", "è Maria che riosservi il ragazzo,S+Cleft0+IMP", "è Maria che riosservi il ragazzo,S+Cleft0+S", "è Maria che riosservi lui ?,S+Cleft0+IMP+Pro1+Question", "è Maria che riosservi lui ?,S+Cleft0+S+Pro1+Question", "è Maria che riosservi lui,S+Cleft0+IMP+Pro1", "è Maria che riosservi lui,S+Cleft0+S+Pro1", "è Maria che riosservò il ragazzo ?,S+Cleft0+PA+Question", "è Maria che riosservò il ragazzo,S+Cleft0+PA", "è Maria che riosservò lui ?,S+Cleft0+PA+Pro1+Question", "è Maria che riosservò lui,S+Cleft0+PA+Pro1", "è osservato ?,S+Delet1+Delete0+Question", "è osservato da lei ?,S+Delet1+Passivo+Pro0+Question", "è osservato da lei,S+Delet1+Passivo+Pro0", "è osservato da Maria ?,S+Delet1+Passivo+Question", "è osservato da Maria,S+Delet1+Passivo", "è osservato,S+Delet1+Delete0", "è riosservato ?,S+Delet1+Delete0+Question", "è riosservato da lei ?,S+Delet1+Passivo+Pro0+Question", "è riosservato da lei,S+Delet1+Passivo+Pro0", "è riosservato da Maria ?,S+Delet1+Passivo+Question", "è riosservato da Maria,S+Delet1+Passivo", "è riosservato,S+Delet1+Delete0", "il ragazzo è osservato ?,S+Delete0+Question", "il ragazzo è osservato da lei ?,S+Passivo+Pro0+Question", "il ragazzo è osservato da lei,S+Passivo+Pro0", "il ragazzo è osservato da Maria ?,S+Passivo+Question", "il ragazzo è osservato da Maria,S+Passivo", "il ragazzo è osservato,S+Delete0", "il ragazzo è riosservato ?,S+Delete0+Question".

At the bottom of the interface, there is a status bar showing "0.5 sec" and a "Cancel" button.

Locate a pattern in Im2002.noc

Pattern is:

- ☐ a string of characters:
- ☐ a PERL regular expression:
- ☒ a NooJ regular expression:

<ADV+P> | <ADV+N>
- ☐ a NooJ grammar:

Set

☐ Syntactic Analysis

Index

- ☐ Shortest matches
- ☒ Longest matches
- ☐ All matches

Limitation

- ☐ Only:

100

 matches
- ☒ All matches
- ☐ 1 example per match

☐ Reset Concordance

N

e

e

J

Concordance for Corpus Corpus Im2002.noc

Reset

 Display:

5

☐ characters

☒ word forms

 before, and

5

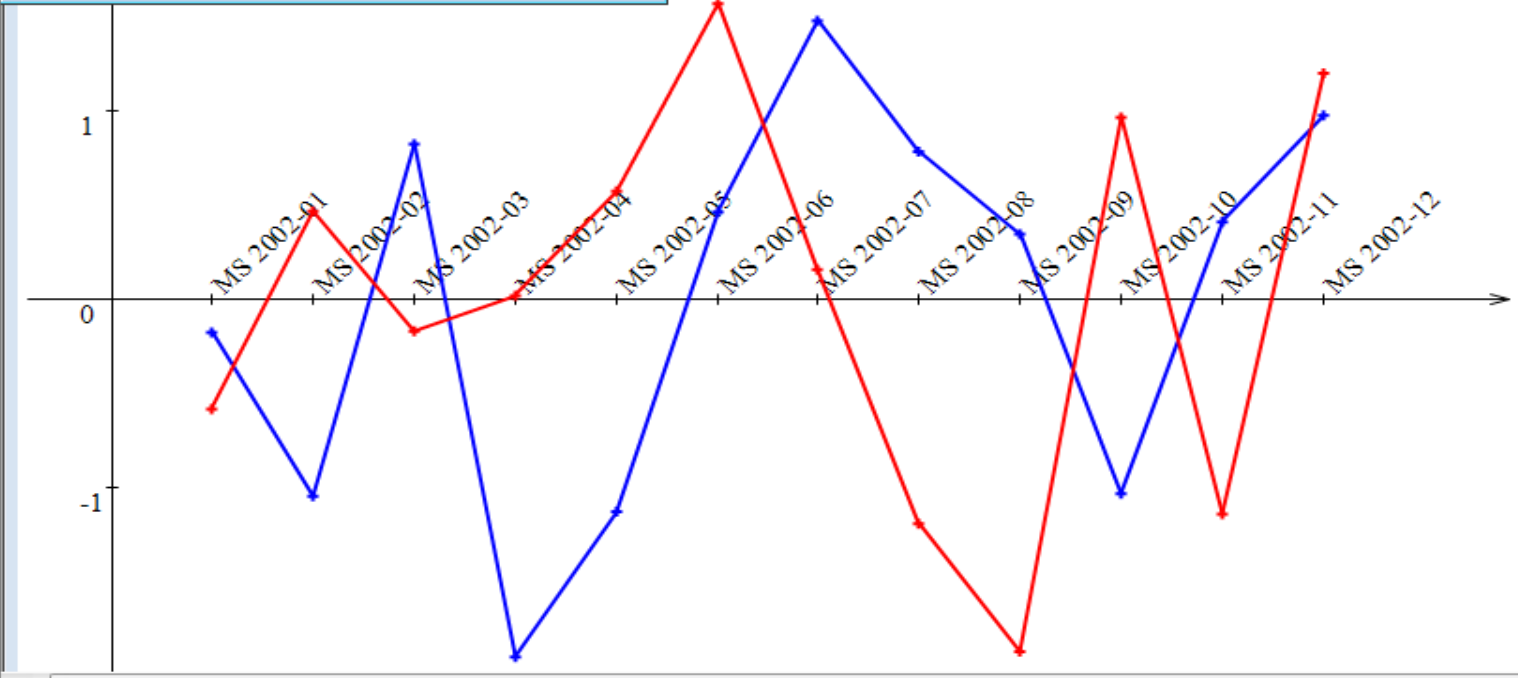
 after. Display: ☒ Matches ☐ Outputs

Text	Before	Seq.	After
MS 2002-12.not	s'est ouverte au tourisme	prudemment	, après av
MS 2002-12.not	au Festival de Cannes, manie	habilement	l'art du po
MS 2002-12.not	une sonde martienne, en précisant	prudemment	: " Les va
MS 2002-12.not	Irak, ainsi que le fonds	généreusement	mis à sa
MS 2002-12.not	la Cinémathèque française s'articule	adroitement	autour de
MS 2002-12.not	de les indemniser en jouant	habilement	de ces o
		courageusement	chaque j
		sagement	coupé. J
		cruellement	éprouvée
		cruellement	de donn
		cruellement	la vie int
		Imprudemment	avancé,
		cruellement	d'eau. Le
		bêtement	au milieu
		cruellement	la supér
		cruellement	défaut au
		cruellement	d'équiper
		imprudemment	déclaré C
		bêtement	, dans l'ar
		cruellement	. Chacun
		"	"

Inverse Document Frequency

Export Report

5/925



Les Verbes Français

- Maurice Gross' lexicon-grammar for Verbs
- Jean Dubois & Françoise Dubois-Charlier
- 25.609 different senses
- Each sense is associated with 10 properties

10 properties in *LVF*

- **MOT** : lexical entry
- **DOMAINE** : semantic domain, ex. « MED »
- **CLASSE** : semantic class, ex. « P1c ».
- **OPERATEUR** : semantic predicate « st dat abs to so »
- **SENS** : a synonym
- **PHRASE** : an example
- **CONJUGAISON** : Conjugation model, ex. « 1jZ »
- **CONSTRUCTION** : Syntactic Structure (LG), ex. « T1306 »
- **DERIVATION** : Derivation model
- **NOM** : Base noun
- **LEXIQUE** : level of language

NooJ's lvf.dic contains all verbs' senses as ONE object

NooJ - [LVF.dic]

File Edit Lab Project Windows Info DICTIONARY

Dictionary contains 25609 entries

Entrée	Catégorie	Emploi	DOMAINE	AUX	FLX	SynSem	LEXI
abaisser	V	01	LOC	AVOIR	CHANTER	T1308+P3008	2
abaisser	V	02	TEC	AVOIR	CHANTER	T13g0+P30g0	2
abaisser	V	03	QUA	AVOIR	CHANTER	T1306+P3006	2
abaisser	V	04	MON	AVOIR	CHANTER	T1306+P3006	2
abaisser	V	05	MED	AVOIR	CHANTER	T1308+P3008	5
abaisser	V	06	PSYt	AVOIR	CHANTER	T1108+P1000	5
abaisser	V	07	PSY	AVOIR	CHANTER	P10a0	5
abaisser	V	08	VEH	AVOIR	CHANTER	P3001	5
abaisser	V	09	PSY	AVOIR	CHANTER	P10a0+T11a0	5
abalourdir	V	-	PSYt	AVOIR	FINIR	P1000+T9106	6
abandonner	V	01	DRO	AVOIR	CHANTER	T13a0	1
abandonner	V	02	MAR	AVOIR	CHANTER	T13a8+P30a8	5
abandonner	V	03	EQU	AVOIR	CHANTER	T1300	5
abandonner	V	04	PSY	AVOIR	CHANTER	T1300	1
abandonner	V	05	SOC	AVOIR	CHANTER	T1300+A10	1
abandonner	V	06	SPO	AVOIR	CHANTER	T1300+A10	1
abandonner	V	07	COM	AVOIR	CHANTER	T13k0	5
abandonner	V	08	SOC	AVOIR	CHANTER	T1307	5
abandonner	V	09	LOC	AVOIR	CHANTER	T1101	5
abandonner	V	10	SOC	AVOIR	CHANTER	T1300+A10	5
abandonner	V	11	SOC	AVOIR	CHANTER	T3100	5
abandonner	V	12	PSY	AVOIR	CHANTER	P10a0	5
abandonner	V	13	LANt	AVOIR	CHANTER	P1006	5

Cancel

Syntactic Structures

- 318 syntactic structures

- Axx : Intransitive structures

Luc arrive à Lyon

- Nxxxx : Indirect transitive structures

Les échecs alternent avec les succès

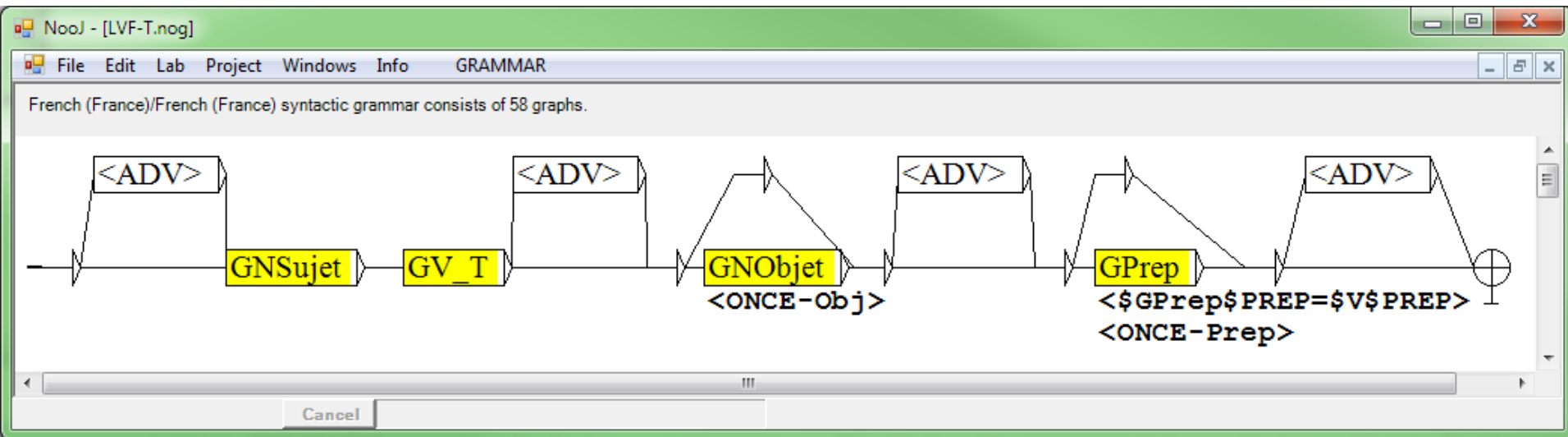
- Pxxxx : Pronominal structures

Eva s'accommode de la situation

- Txxxx : Direct transitive structures

La chaleur accable les estivants

Structure Txxxx



Semantic Disambiguation

abriter1 (T11b8, P10b8) :

Luc abrite Eva de la pluie avec un parapluie

abriter2 (T1101, P1001) :

Eva abrite des réfugiés chez elle

abriter3 (T3100) :

Cet immeuble abrite les services du ministère

abriter4 (P10b1) :

Luc s'abrite des ennuis derrière son chef

abriter5 (T13b8) :

On a abrité le port des vagues avec des digues

abriter in structure T3100

centre de Pristina	, il abritait plusieurs partis politiques des minorités ethniques	. L'attentat visait
selon vous, Monsieur	, le bâtiment qui abrite la plus grande quantité de rêves	? L'école? Le
chimiques et bactériologiq...	Ce pays abrite le plus grand réseau mondial de drogue	, et ses banques
froideur presque menaçante	, il abrite des banques	et un inévitable
de produits nucléaires...	Chaque pays abrite ses milieux criminels	. Les principales orga
journée pour 5 livres (6)	: elle abrite un cirque	(sans animaux), un
Alexandra et Lenasia	, elle abrite deux millions cinq cent mille personnes	. Un grand bidonville
'Etat de droit.	Le Cambodge abrite une société structurée	non pas en
ses contradictions internes.	Ce pays montagneux abrite un grand nombre de groupes ethniques	, y compris parmi
terre de Flandre	, la ville qui abrite la Commission européenne	suscite bien des

→ sense #3

abriter in structure P10b1

première fois aussi
désamé. En Europe
la corruption endémique.
prend pas parti.
dissimuler le fond
système financier international.
à visage découvert

, le premier ministre israélien ne s'abrita pas derrière les slogans traditionnels
, il s'abrite derrière les pressions exercées
Les responsables politiques s'abritent derrière le carcan traditionnel
Il s'abrite derrière sa tâche d'homme
, il s'abrite en général derrière des considérations de forme,
Il s'abrite derrière le contentieux colonial,
, ils s'abritent derrière des notables traditionnels

- "Jérusalem un
par le Luxembourg
des "valeurs a
de théâtre qui
et remet tout
dont il exige
qui les utilisent

→ sense #4

N o o J

acadian

arabic

armenian

belarusian

bulgarian

catalan

croatian

french

english

german

greek

hebrew

hungarian

italian

latin

polish

portuguese

russian

serbian

spanish

turkish

vietnamese

resources

Here are a few linguistic modules available for download.

There are dozens of other, smaller resources for NooJ: tutorials, documentations, articles, linguistic resources (specific dictionaries, named-entities extractors), texts and corpora, educational tools (projects or labs), etc.

Contact max.silberztein@univ-fcomte.fr to find out if something you need is available.

If you think your work could be useful to NooJ users, you can contribute too! NooJ contributors have access to the enhanced "Community Edition" of NooJ, which grants them access to several goodies and unlimited help!



Hvala Vam!