Assignment 2: Grew pattern-based search exercise: http://match.grew.fr/

Computational Syntax

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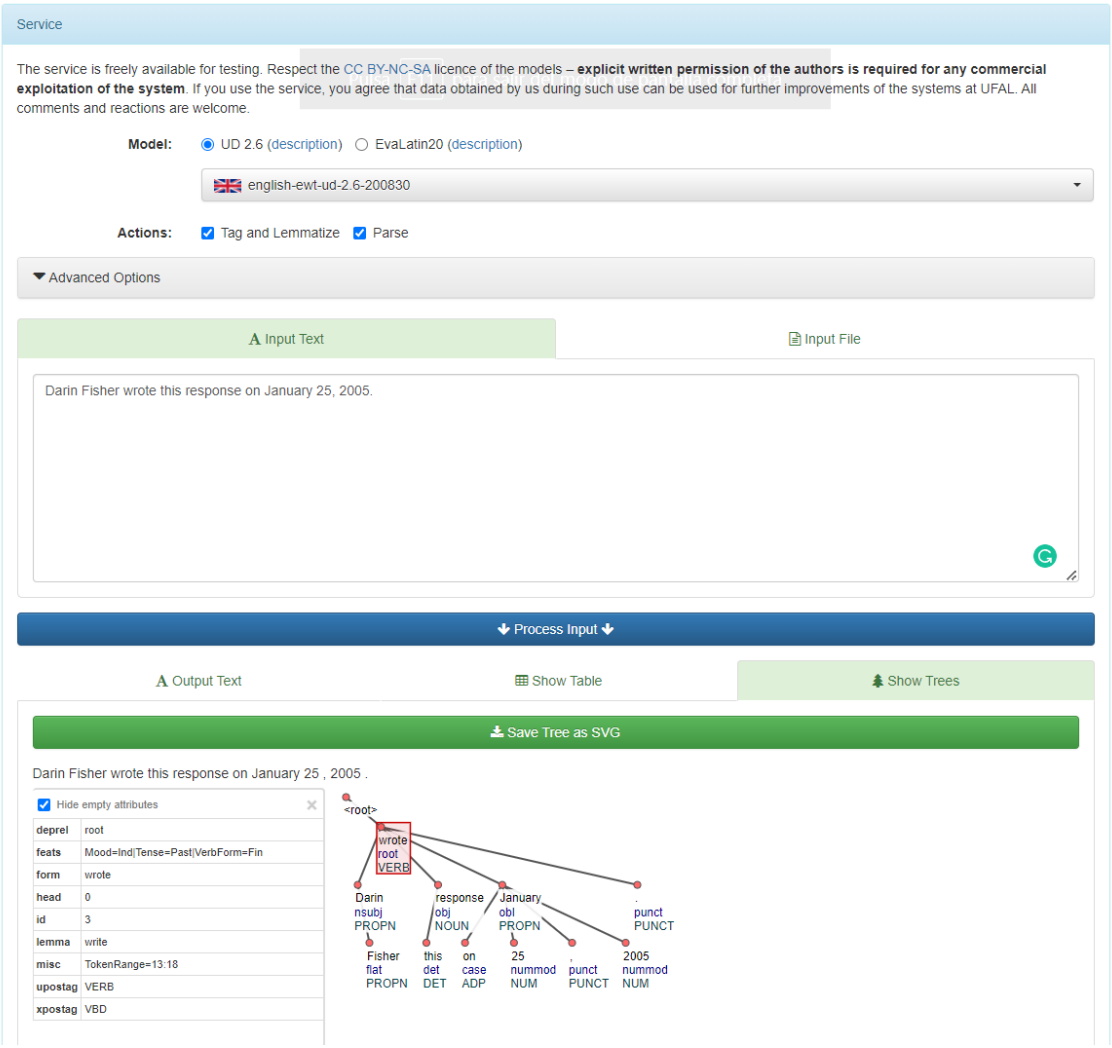
Define rules to detect the following elements:

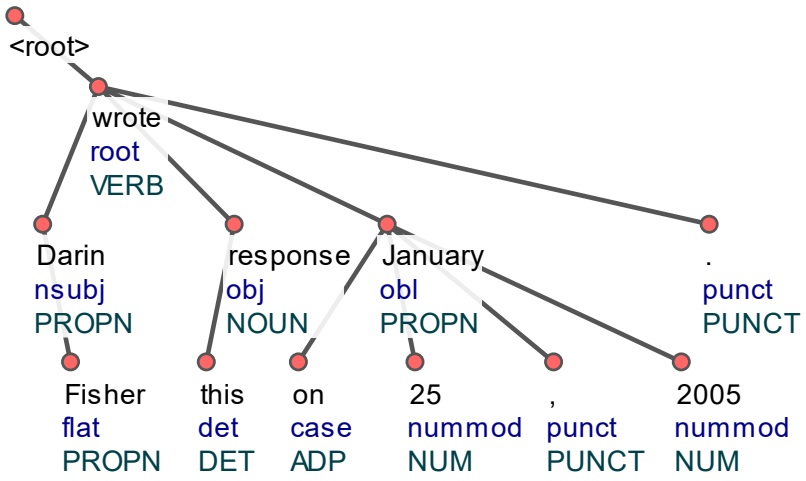
- Who write what:
    - (UD_English-EWT@2.9) Darin Fisher wrote this response on January 25, 2005.
    - (UD_English-GUM@2.9) Montalvo is holding a copy of the book Blown for Good critical of Scientology, written by Marc Headley.
- Who find what:
    - (UD_English-Atis@2.9) could you find me the cheapest fare from boston to san francisco
- Think of a pattern(s) of your interest, write rules to detect it and present the examples found.
- Hint: to write the search patterns, it will be necessary to first draw the dependency trees using udpipe: https://lindat.mff.cuni.cz/services/udpipe/
- To collect results, you can use the "Export" option (select the "pivot" or element around which the given patterns will be arranged)

1 Who write what

1.1 (UD_English-EWT@2.9) Darin Fisher wrote this response on January 25, 2005.

First, we draw the dependency tree using udpipe. We can see the dependencies and tags we must use in the pattern.



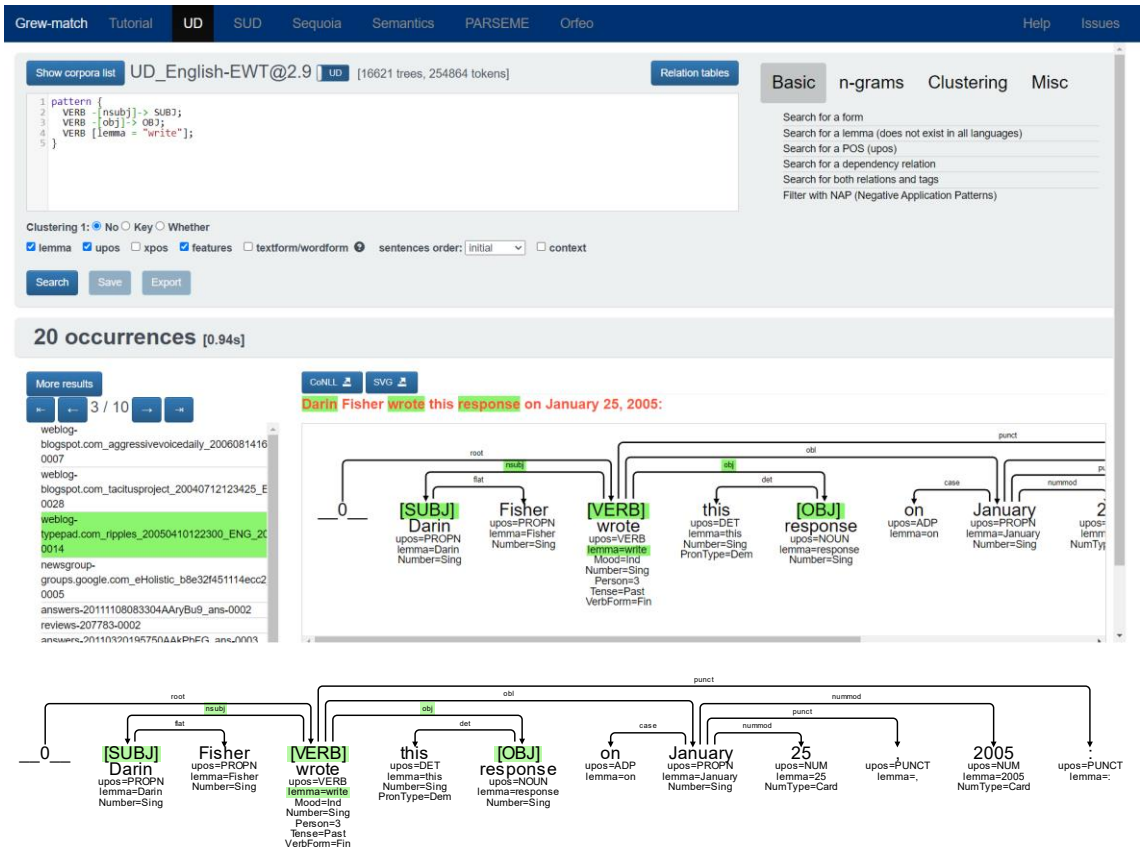


We can also export the sentence in conllu format and import it as a table.

Id	Form	Lemma	UPosTag	XPosTag	Feats	Head	DepRel	Deps	Misc
1	Darin	Darin	PROPN	NNP	Number=Sing	3	nsubj	_	TokenRange=0:5
2	Fisher	Fisher	PROPN	NNP	Number=Sing	1	flat	_	TokenRange=6:12
3	wrote	write	VERB	VBD	Mood=Ind|Tense=Past|VerbForm=Fin	0	root	_	TokenRange=13:18
4	this	this	DET	DT	Number=Sing|PronType=Dem	5	det	_	TokenRange=19:23
5	response	response	NOUN	NN	Number=Sing	3	obj	_	TokenRange=24:32
6	on	on	ADP	IN	_	7	case	_	TokenRange=33:35
7	January	January	PROPN	NNP	Number=Sing	3	obl	_	TokenRange=36:43
8	25	25	NUM	CD	NumType=Card	7	nummod	_	SpaceAfter=No|TokenRange=44:46
9	,	,	PUNCT	,	_	7	punct	_	TokenRange=46:47
10	2005	2005	NUM	CD	NumType=Card	7	nummod	_	SpaceAfter=No|TokenRange=48:52
11	.	.	PUNCT	.	_	3	punct	_	SpaceAfter=No|TokenRange=52:53

We define the pattern based on the tree and test it in grew. We get 20 occurrences of the pattern with our search. We can find the example sentence in the third position. We can see the whole dependency tree below. We can also export the sentences to a TSV file and import this file to a table.

```
pattern {
  VERB -[nsubj]-> SUBJ;
  VERB -[obj]-> OBJ;
  VERB [lemma = "write"];
}
```

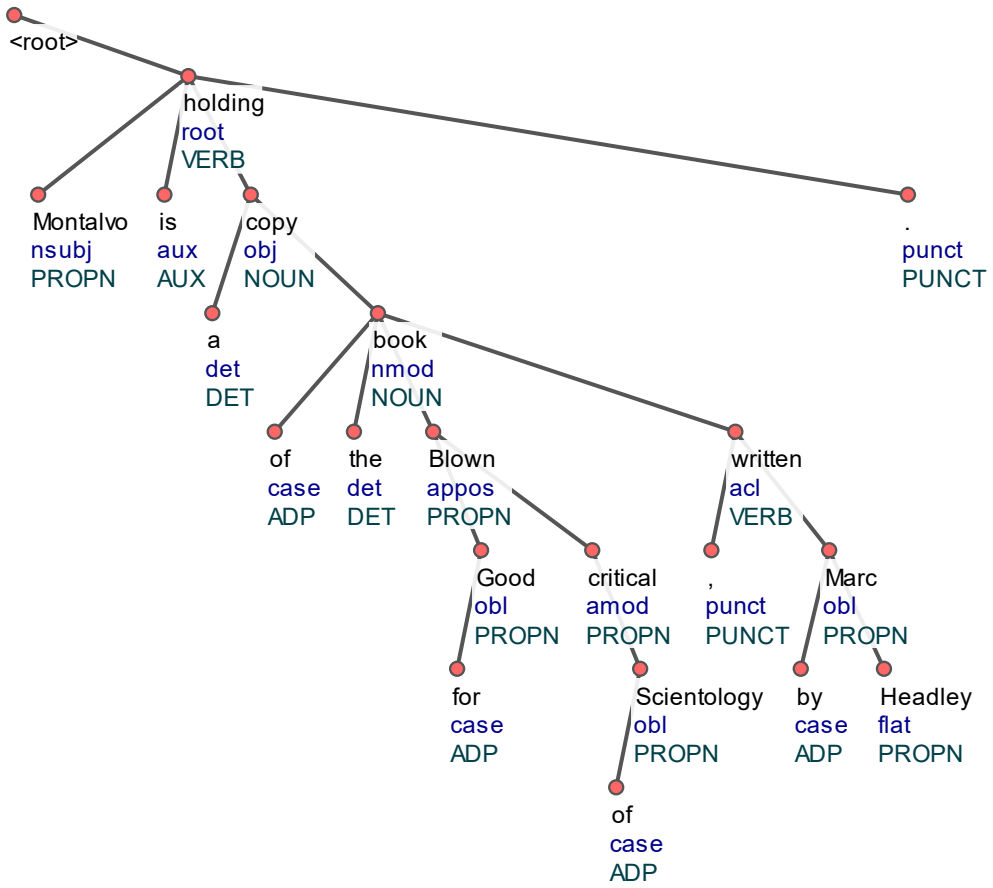


left_context	pivot	right_context
"	They	can freely write anything they like about our prophet, but if one raises doubts about the Holocaust he is either fined or sent to prison, he added.
	One	of the Wesley boys wrote the hymn.
	Darin	Fisher wrote this response on January 25, 2005:
Currently,	I	am writing a book on natural supplements to aid weight loss, with Harry Preuss, MD, a Professor of Medicine at Georgetown University; it is scheduled for publication by Broadway (Random House) in January 2007.
	I'm	writing an essay for school and I need to know if the iPhone was the first Smart Phone.
Be more careful when	you	write reviews- this is an accounting group, not Hollister the clothing store.
I know its in the wrong catagory, but still,	I	wrote this question for a reason, not for you to critisize me.
I think it is mine but I forgot to write it in the blue FX book (	I	only wrote it in my red book).
Sorry	I	haven't written you guys in a while to keep you properly updated.
	I	have written a lot recently about healing the self so today here are a few words on healing our collective body, mind and soul.
	I	am writing you in absolute confidence primarily to seek your assistance in acquiring oil funds that are presently trapped in the republic of Iraq.
The main reason	I	wrote this post is to ask anyone reading this if they know of some way I can help put a stop to this Cat Holocaust.

In 1594	PEREZ	wrote & published a book under the assumed name of "RAPHAEL PEREGRINO."
1561	Ruy	Lopez writes his book on chess.
Lopez addressed the note which	I	had written, sealed it with his sleeve-link, and sent it by the hand of the servant, Jose.
Hello my name is Vera and	I'm	writing a review about my own counseling practice in Bellevue, WA. and in Renton WA.
	I	normally don't write reviews but seeing that I considered Dillards a distinguished, upscale place to shop, this one won't be getting my business, nor my family's , nor my co-workers.
The excellent windows have performed without any problems, but that's not why	I'm	writing my review.
	I	rarely write reviews such as this one, but they certainly deserve anyone's business!
The worst thing that can happen for any restaurant like Zahav is to have too many	people	write hyperbolic reviews making claims that "everyone" is going to "love" the food, decor and service.

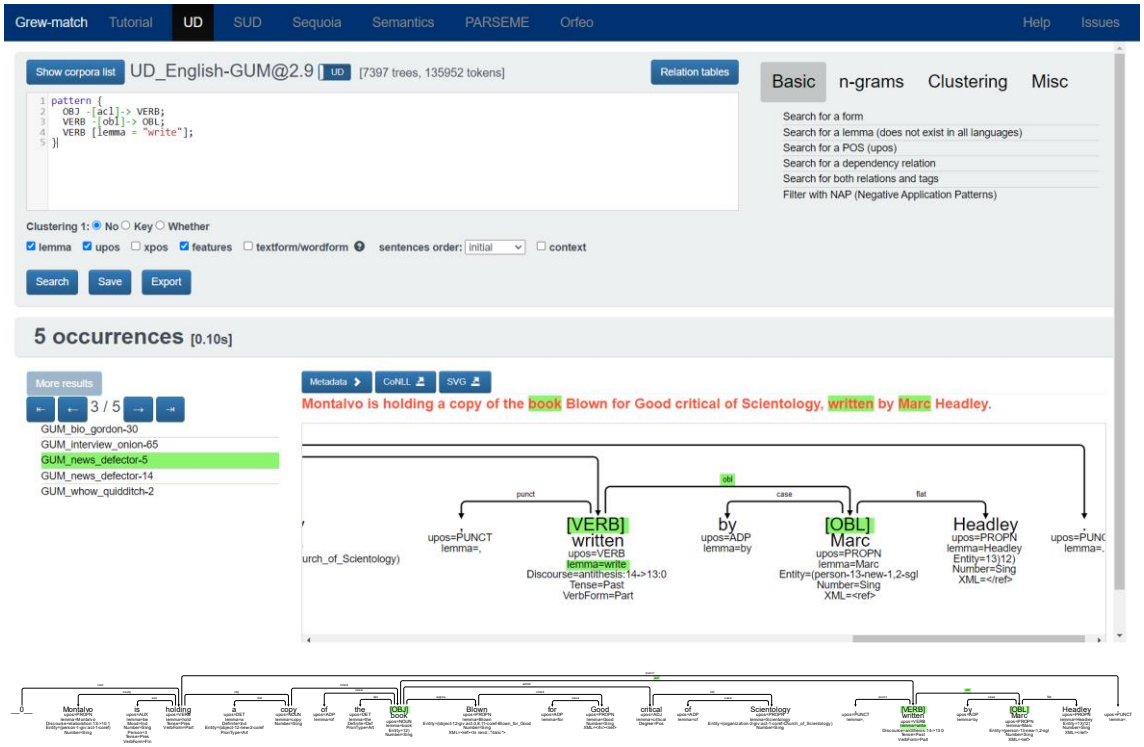
1.2 (UD_English-GUM@2.9) Montalvo is holding a copy of the book Blown for Good critical of Scientology, written by Marc Headley.

First, we draw the dependency tree using udpipe. We can see the dependencies and tags we must use in the pattern.



We define the pattern based on the tree and test it in grew. We get 5 occurrences of the pattern with our search. We can find the example sentence in the third position. We can see the whole dependency tree below.

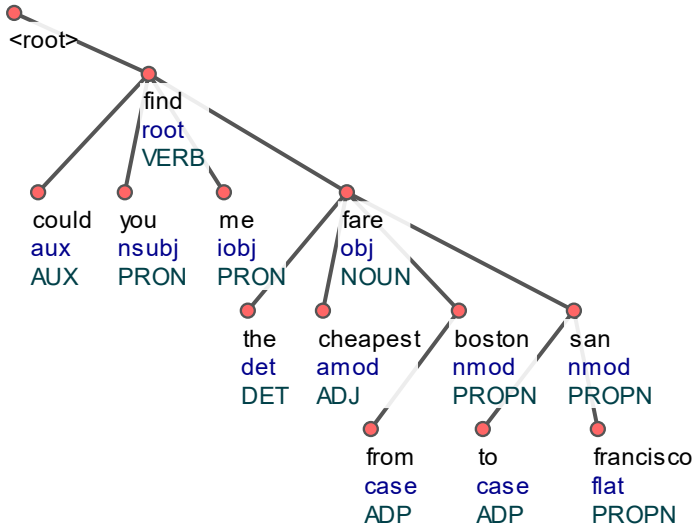
```
pattern {
  OBJ -[acl]-> VERB;
  VERB -[obl]-> OBL;
  VERB [lemma = "write"];
}
```



2 Who find what

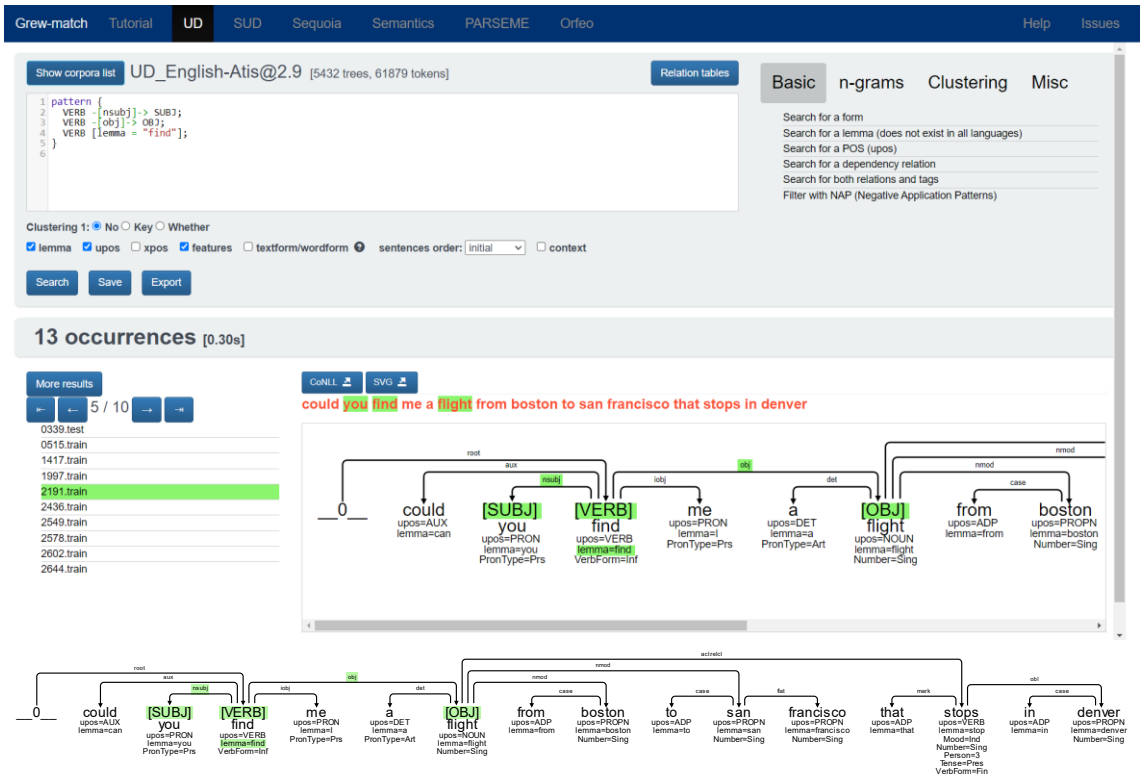
2.1 (UD_English-Atis@2.9) could you find me the cheapest fare from boston to san Francisco

First, we draw the dependency tree using udpipe. We can see the dependencies and tags we must use in the pattern.



We define the pattern based on the tree and test it in grew. We get 13 occurrences of the pattern with our search. We can find the example sentence in the 5th position. We can see the whole dependency tree below.

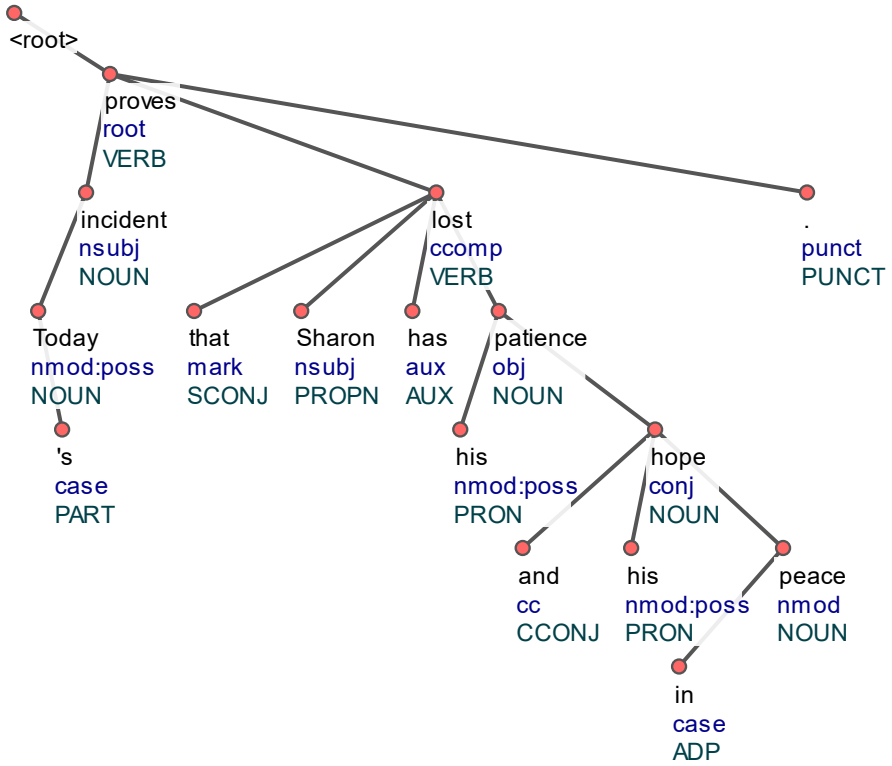
```
pattern {

  VERB -[nsubj]-> SUBJ;

  VERB -[obj]-> OBJ;

  VERB [lemma = "find"];

}
```


Grew-match
Tutorial
UD
SUD
Sequoia
Semantics
PARSEME
Orfeo
Help
Issues
Show corpora list
UD_English-Atis@2.9 [5432 trees, 61879 tokens]
Relation tables
Basic
n-grams
Clustering
Misc
pattern {
VERB -[nsubj]-> SUBJ;
VERB -[obj]-> OBJ;
VERB [lemma = "find"];
}
Search for a form
Search for a lemma (does not exist in all languages)
Search for a POS (upos)
Search for a dependency relation
Search for both relations and tags
Filter with NAP (Negative Application Patterns)
Clustering 1: No Key Whether
lemma upos xpos features textform/wordform sentences order: initial context
Search
Save
Export
13 occurrences [0.30s]
More results
5 / 10
0339.test
0515.train
1417.train
1997.train
2191.train
2436.train
2549.train
2578.train
2602.train
2644.train
CoNLL
SVG
could you find me a flight from boston to san francisco that stops in denver
root
aux
nsubj
obj
iobj
det
nmod
case
__0__
could
upos=AUX
lemma=can
[SUBJ]
you
upos=PRON
lemma=you
PronType=Prs
[VERB]
find
upos=VERB
lemma=find
VerbForm=Inf
me
upos=PRON
lemma=I
PronType=Prs
a
upos=DET
lemma=a
PronType=Art
[OBJ]
flight
upos=NOUN
lemma=flight
Number=Sing
from
upos=ADP
lemma=from
boston
upos=PROPN
lemma=boston
Number=Sing
acl:relcl
to
san
francisco
that
stops
in
denver

3 Who lose what

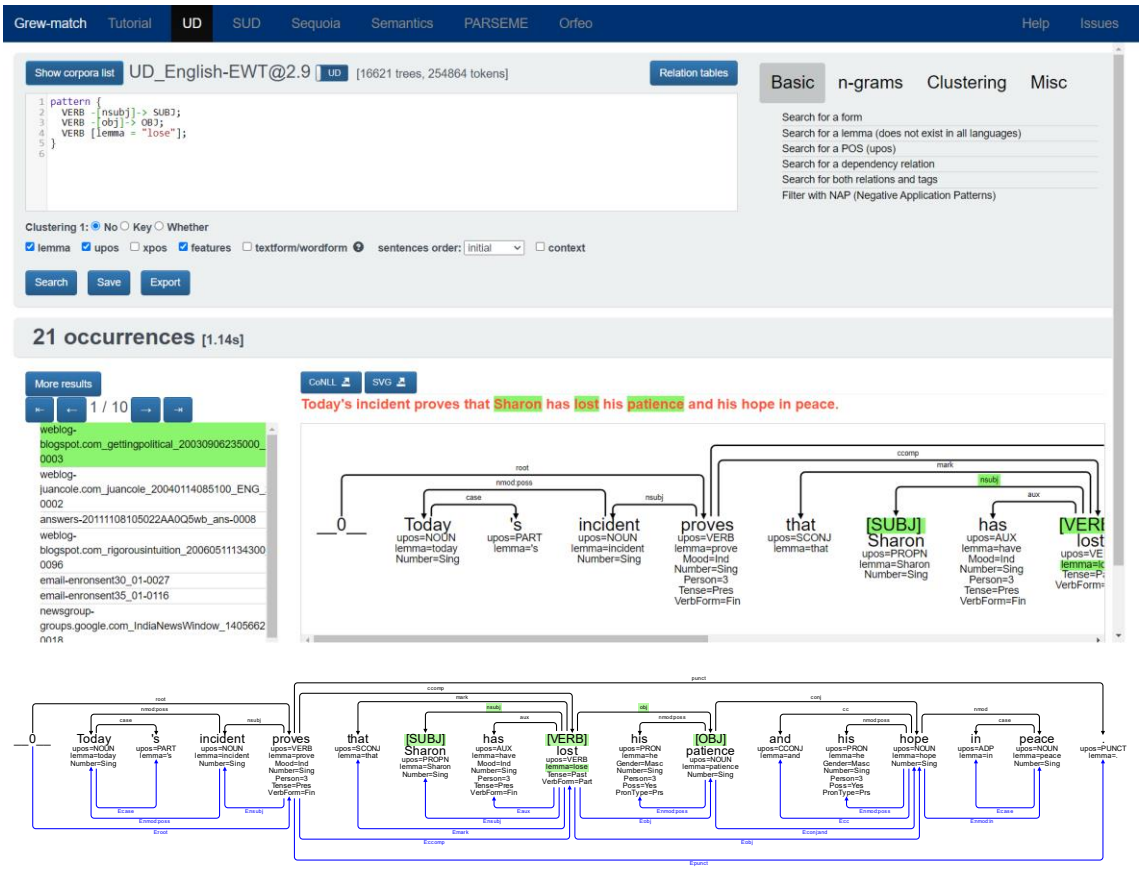
3.1 (UD_English-EWT@2.9) Today's incident proves that Sharon has lost his patience and his hope in peace.

First, we draw the dependency tree using udpipe. We can see the dependencies and tags we must use in the pattern.



We define the pattern based on the tree and test it in grew. We get 21 occurrences of the pattern with our search. We can find the example sentence in the first position. We can see the whole dependency tree below.

```
pattern {

  VERB -[nsubj]-> SUBJ;

  VERB -[obj]-> OBJ;

  VERB [lemma = "lose"];

}
```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Relation tables
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n-grams
Clustering
Misc
Search for a form
Search for a lemma (does not exist in all languages)
Search for a POS (upos)
Search for a dependency relation
Search for both relations and tags
Filter with NAP (Negative Application Patterns)
pattern {
VERB -[nsubj]-> SUBJ;
VERB -[obj]-> OBJ;
VERB [lemma = "lose"];
}
Clustering 1: No Key Whether
lemma upos xpos features textform/wordform sentences order: initial context
Search
Save
Export
21 occurrences [1.14s]
More results
1 / 10
weblog-blogspot.com_gettingpolitical_20030906235000_0003
weblog-juancole.com_juancole_20040114085100_ENG_0002
answers-20111108105022AA0Q5wb_ans-0008
weblog-blogspot.com_rigorousintuition_20060511134300_0096
email-enronsent30_01-0027
email-enronsent35_01-0116
newsgroup-groups.google.com_IndiaNewsWindow_1405662_0018
CoNLL
SVG
Today's incident proves that Sharon has lost his patience and his hope in peace.
root
nmod:poss
case
nsubj
ccomp
mark
aux
Today
upos=NOUN
lemma=today
Number=Sing
's
upos=PART
lemma='s
incident
upos=NOUN
lemma=incident
Number=Sing
proves
upos=VERB
lemma=prove
Mood=Ind
Number=Sing
Person=3
Tense=Pres
VerbForm=Fin
that
upos=SCONJ
lemma=that
[SUBJ]
Sharon
upos=PROPN
lemma=Sharon
Number=Sing
has
upos=AUX
lemma=have
Mood=Ind
Number=Sing
Person=3
Tense=Pres
VerbForm=Fin
[VERB]
lost
upos=VERB
lemma=lose
Tense=Past
VerbForm=Part
his
upos=PRON
lemma=he
Gender=Masc
Number=Sing
Person=3
Poss=Yes
PronType=Prs
[OBJ]
patience
upos=NOUN
lemma=patience
Number=Sing
and
upos=CCONJ
lemma=and
his
upos=PRON
lemma=he
Gender=Masc
Number=Sing
Person=3
Poss=Yes
PronType=Prs
hope
upos=NOUN
lemma=hope
Number=Sing
in
upos=ADP
lemma=in
peace
upos=NOUN
lemma=peace
Number=Sing
punct
conj
cc
obj