

CORPORART SEMANTIC WORD SKETCH GRAMMAR FOR EUROPEAN PORTUGUESE -
NOUNS, VERBS & ADJECTIVES CQL EXPRESSIONS FOR SEMANTIC RELATIONS
EXTRACTION

CORPORART_GRAMM_PT_1.1.wsdef.m4

```
# CORPORART Semantic Word Sketch Grammar for European  
Portuguese - Nouns, verbs & adjectives CQL expressions for  
semantic relations extraction  
# Version 1.1  
# Portuguese FreeLing part-of-speech tagset  
(https://www.sketchengine.eu/portuguese-freeling-part-of-  
speech-tagset/)  
#  
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#  
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(CLUNL), and by the PhD grant (PD/BD/128131/2016).  
#  
#Version 1.1 differs from version 1.0 in the simplification  
of the CQL expressions and further refinement of the  
expressions 28, 29 and 36, resulting in the total set of 39  
expressions.  
# More info:  
# Barbero, C. (2024). ArtNet: para um modelo de integração  
de léxico de especialidade numa rede relacional de léxico  
comum, PhD dissertation, NOVA University Lisbon (forth.).  
#Barbero, C. (2022). CQL Grammars for Lexical and Semantic  
Information Extraction for Portuguese and Italian. In:  
Pinheiro, V., et al. Computational Processing of the  
Portuguese Language. PROPOR 2022. Lecture Notes in Computer  
Science, vol 13208. Springer, Cham.  
https://doi.org/10.1007/978-3-030-98305-5\_35  
#  
# URL: https://clunl.fcsh.unl.pt/en/online-  
resources/outros/corporart\_gramm\_pt\_1-0/  
#  
# How to cite: Barbero, Chiara & Amaro, Raquel (2024)  
#CORPORART_GRAMM_PT_1.1: a semantic Word Sketch Grammar for  
#European Portuguese, DOI: https://doi.org/10.34619/j2xi-  
#fxfo
```

```
*STRUCTLIMIT s
```

```
*DEFAULTATTR tag
```

```
divert(-1)
```

```
define(`np1',`1:"N.*"[tag="A.*"]?[tag="S.*"]?[tag="N.*"]?[tag="S.*"]?[tag="N.*"]?[tag="A.*"]?')
```

```
define(`np2',`2:"N.*"[tag="A.*"]?[tag="S.*"]?[tag="N.*"]?[tag="S.*"]?[tag="N.*"]?[tag="A.*"]?')
```

```
divert
```

```
*DUAL
```

```
="%w" is troponym of/"%w" has troponym
```

```
#1 VERB_INFINITIVE_allcaps is VERB_INFINITIVE_allcaps
```

```
1:[word="[A-Z]*r"& tag="V.*"] [word="é"] 2:[word="[A-Z]*r"& tag="V.*"]
```

```
#2 VERB_INFINITIVE is VERB_INFINITIVE
```

```
1:[word="[a-zA-Z]*r"& tag="V.*"] [word="é"] 2:[word="[a-zA-Z]*r"& tag="V.*"]
```

```
*DUAL
```

```
="%w" is hyponym of.../"%w" is hyperonym of...
```

```
#3 HYPONYM é um/uma HYPERONYM
```

```
"D.*" np1 [lemma="ser"] "DI.*" 2:"N.*"
```

```
#4 HYPONYM é, portanto|então um tipo|exemplo|forma de HYPERONYM
```

```
np1 [lemma="ser"] "F.*"? [word="portanto|então"]? "F.*"?  
"DI.*"? [lemma="tipo|exemplo|forma"] [lemma="de"]? "D.*"?  
2:"N.*"
```

```
#5 HYPONYM enquanto HYPERONYM
```

```
np1 "F.*"? [word="enquanto"] np2
```

```
#6 HYPONYM ou seja HYPERONYM
```

```
np1 "F.*"? [word="ou"] [word="seja"] "F.*"? "D.*"? 2:"N.*"  
"A.*"?
```

```
#7 declarative verb HYPONYM como HYPERONYM
```

```
"V.*" "S.*"? "D.*"? np1 "F.*"? [word="como"] "F.*"? "D.*"?  
np2
```

```
[lemma="apontar|apresentar|definir|descrever|identificar|indicar"] "D.*"? np1 [word="como"] "D.*"? np2
```

[lemma="classificar|conceber|considerar|entender|qualificar
"] D.*"? np1 [word="como"] "D.*"? np2

[lemma="tomar"] "D.*" np1 [word="como"] "D.*"? np2

[lemma="aludir|confirmar|consagrar|reconhecer"] "S.*"?
"D.*"? np1 [word="como"] "D.*"? np2

[lemma="estabelecer|impor|instituir|proclamar"] "D.*"?
np1 [word="como"] "D.*"? np2

**DUAL*

="%w" is hyperonym of.../"%w" is hyponym of...

#8 *HYPERNYM especialmente|nomeadamente HYPONYM*
np1 "F.*"? [word="especialmente|nomeadamente"] "D.*"? np2

#9 *HYPERNYM em particular HYPONYM*
np1 "C.*"? "F.*"? [word="em"] [word="particular"] "D.*"? np2

#10 *HYPERONYM ou seja HYPONYM*
np1 "C.*"? "F.*"? [word="ou"] [word="seja"] "F.*"? "D.*"?
np2

**SYMMETRIC*

="%w" is synonym of...

#11 *SYNONYM também dito|chamado|designado|denominado
de|como SYNONYM*
np1 "F.*"?
[word="também"] [lemma="dizer|chamar|designar|denominar"] [le
mma="de|como"]? "D.*"? **2:** "N.*"

#12 *SYNONYM (N) equivale a SYNONYM (N)*
np1 [lemma="equivaler"] [lemma="a"] "S.*|D.*"? np2

#13 *SYNONYM (V) equivale a SYNONYM (V)*
1: "V.*" "N.*|V.*" "A.*"? "S.*"? "N.*"? "S.*"? "N.*"?
"A.*"? [lemma="equivaler"] [lemma="a"] "S.*|D.*"? **2:** "V.*"
"A.*"? "S.*"? "N.*"? "S.*"? "N.*"? "A.*"?

**SYMMETRIC*

="%w" is co-hyponym of...

#14 *CO-HYPONYM e outro CO-HYPONYM*
np1 [word="e"] [lemma="outro"] np2

#15 CO-HYPONYM e|ou CO-HYPONYM são...

np1 "F.*"?[word="e|ou"] "D.*"? np2 [lemma="ser"]
"D.*|S.*|R.*|Z.*"{0,2} "N.*"

#16 CO-HYPONYM ,|e CO-HYPONYM

1:"N.*" ("A.*"? "S.*"? "N.*"? [word=","]) {1,5} [word="e"]
np2

**DUAL*

="%w" is meronym of.../"%w" is holonym of...

#17 MERONYM pertence à

categoria|família|espécie|classe|grupo HOLONYM

np1 [lemma="pertencer"] [lemma="a"] "D.*"? "S.*"?
[lemma="categoria|família|espécie|classe|grupo"] "S.*" ?
"D.*"? 2:"N.*"

#18 MERONYM faz parte de HOLONYM

np1 [lemma="fazer|ser"] [word="parte"] [lemma="de"] "D.*"?
"S.*"? 2:"N.*"

#19 MERONYM integra|insere-se|compõe|constitui|forma

HOLONYM

np1 "F.*"?
[lemma="integrar|inserir|incluir|compor|constituir|formar"]
"D.*"? np2

#20 MERONYM forma|faz|é

parte|peça|fração|componente|constituente|porção|percentagem
m de HOLONYM

np1 [lemma="formar|fazer|ser"] "D.*"?
[lemma="parte|peça|fração|componente|constituente|porção|pe
rcentage"] "A.*"? [lemma="de"] np2

**DUAL*

="%w" is holonym of.../"%w" is meronym of...

#21 HOLONYM é|está constituído|composto|feito de|com|por
MERONYM

np1 "F.*"?
[lemma="ser|estar"] [lemma="constituir|compor|fazer"] [lemma=
"de|com|por"]? "D.*"? np2

#22 dividir HOLONYM em MERONYM

[lemma="dividir"] "D.*" np1 [lemma="em"] "D.*|Z.*"? np2

#23 HOLONYM é o|um conjunto de MERONYM

"D.*" np1 [lemma="ser"] "D.*"
[lemma="conjunto"] [lemma="de"] 2:"N.*"

**DUAL*

="%w" causes.../"%w" is caused by-effect of...

#24 CAUSE *causa|provoca* RESULT-EFFECT

np1 [lemma="ser"]? [lemma="causar|provocar"&tag!="V.P.*"]
"S.*|D.*"{0,2} np2

#25 CAUSE *resulta em* RESULT-EFFECT

np1 [lemma="resultar"][lemma="em"] "D.*"? np2

**DUAL*

="%w" is caused by-effect of.../"%w" causes...

#26 RESULT-EFFECT *resulta de* CAUSE

np1 [lemma="resultar"][lemma="de"] "D.*"? np2

#27 RESULT-EFFECT *deve-se a* CAUSE

np1 [lemma="dever"][lemma="a"] "D.*"? np2

#28 RESULT-EFFECT *é causado/provocado por* CAUSE

np1 [lemma="ser"]? [lemma="causar|provocar"&tag="V.P.*"]
"S.*|D.*"{0,2} np2

**DUAL*

="%w" is instrument for.../"%w" results from the use of...

#29 INSTRUMENT *que é|tem utilizado|servido para* EVENT

np1((([word="que"] [lemma="ter|ser"] [lemma="ter|ser"]?)? [word="utilizad(o|a)s?|servid(o|a)s?"])| ([word="que"] [lemma="utilizar|servir"]))) [lemma="para"] 2:"V.*"

#30 INSTRUMENT *que é|tem utilizado|servido para* RESULT

np1((([word="que"] [lemma="ter|ser"] [lemma="ter|ser"]?)? [word="utilizad(o|a)s?|servid(o|a)s?"])| ([word="que"] [lemma="utilizar|servir"]))) [lemma="para"] 2:"N.*"

#31 INSTRUMENT *tem como|por função|objetivo|resultado|papel* EVENT

np1 [lemma="ter"] [lemma="como|por"] [lemma="função|objetivo|resultado|papel"] 2:"V.*" "A.*"? "S.*"? "N.*"? "S.*"? "N.*"? "A.*"?

#32 INSTRUMENT *tem como|por função|objetivo|resultado|papel* RESULT

```
np1[lemma="ter"][lemma="como|por"][lemma="função|objetivo|resultado|papel"] "A.*"? "D.*"? np2
```

```
#33 OBJETO/PACIENTE funciona como INSTRUMENTO
```

```
np1[lemma="funcionar"][lemma="como"] np2
```

```
*DUAL
```

```
="%w" results from the use of.../"%w" is instrument for...
```

```
#34 EVENT implica|envolve INSTRUMENT
```

```
1: "V.*" "S.*"? "N.*"? "S.*"? "N.*"? "A.*"?
```

```
[lemma="implicar|envolver"] "D.*|Z.*"? np2
```

```
#35 RESULT implica|envolve INSTRUMENT
```

```
np1[lemma="implicar|envolver"] "D.*|Z.*"? np2
```

```
#36 EVENT
```

```
usar|precisar|requerer|utilizar|necessitar|empregar
```

```
INSTRUMENT
```

```
1: "V.*" "S.*"? "N.*"? "S.*"? "N.*"? "A.*"?
```

```
[lemma="usar|precisar|requerer|utilizar|necessitar|empregar"] "S.*"? "D.*|Z.*"? np2
```

```
*DUAL
```

```
="%w" uses as instrument.../"%w" is used as instrument by...
```

```
#37 AGENT
```

```
usar|precisar|requerer|utilizar|necessitar|empregar
```

```
INSTRUMENT
```

```
np1
```

```
[lemma="usar|precisar|requerer|utilizar|necessitar|empregar"] & tag!="V.P.*"] "S.*"? "D.*|Z.*"? np2
```

```
*DUAL
```

```
="%w" is instrument for obtaining.../"%w" results from the use of...
```

```
#38 RESULT
```

```
usar|precisar|requerer|utilizar|necessitar|empregar
```

```
INSTRUMENT
```

```
np1
```

```
[lemma="ter|ser"][lemma="ter|ser"]?[lemma="usar|precisar|requerer|utilizar|necessitar|empregar"] & tag="V.P.*"] "S.*"? "D.*|Z.*"? np2
```

```
*DUAL
```

="%w" has as characteristic.../"%w" is a characteristic of...

#39 SOMETHING é CHARACTERISTIC
np1[lemma="ser"] "R.*"? **2**:"A.*"