

# Multilingual Resources

Daniel Zeman

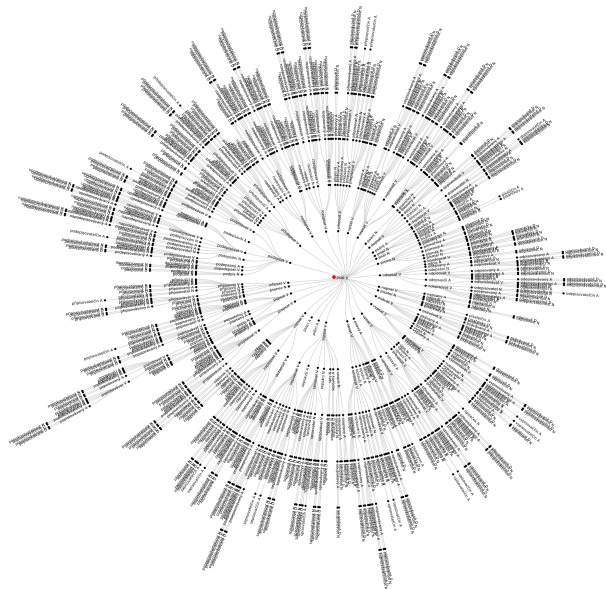
📅 July 24, 2026



- Universal Dependencies

# Multilingual Language Resources

- Universal Dependencies
- UniMorph, DeriNet, UniSegments



# Multilingual Language Resources

- Universal Dependencies
- UniMorph, DeriNet, UniSegments
- Universal NER (Named Entities)



|    |                                                                                          |
|----|------------------------------------------------------------------------------------------|
| EN | The expedition was led by General Joseph Burgoyne who intended to reach Albany.          |
| DE | Die Expedition wurde angeführt von General Joseph Burgoyne, der Albany erreichen wollte. |
| RU | Поход возглавлял генерал Джон Бергойн, который намеревался достичь Олбани.               |
| ZH | 約翰·伯戈因將軍領導了這次遠征，他希望能到達奧爾巴尼。                                                              |

# Multilingual Language Resources

- Universal Dependencies
- UniMorph, DeriNet, UniSegments
- Universal NER (Named Entities)
- CorefUD



Egy nappal **a menyegző** után **Oroszország** leghíresebb korrupcióellenes **aktivistája**, **Alekszej Navalnij** is csatlakozott a **Peszkovot** támadók csoportjához.

**Navalnij** a weboldalán **■** közzétett bizonyítékokat arról, hogy **Peszkov** **egy legalább 620 000 dollárt érő karórát** visel, **egy Richard Mille RM 52-01-et**, **amely** éves fizetésének **■** a négyszeresébe kerül.

**Peszkov** a vagyonnyilatkozata alapján nem kapott ilyen értékű ajándékot, fizetése **■** pedig túl alacsony ahhoz, hogy megengedhessen **■** **magának** egy ilyen karórát.

**Navalnij** szerint ez a felfedezés **Peszkov** politikai karrierjének a végét jelentené, ha **Oroszország** egy átláthatóbb ország lenne.

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- CorefUD
- PARSEME



P A R S E M E



• (DE)  *sich enthalten* ≠ entha

• (EN)  *to find oneself in a m*  
*to to help oneself to th*

• (FR)    *s'apercevoir* ≠ aperce

• (PT)    *encontrar-se* ≠ encon

• (SV)  *att känna sig ledsen/a*

**Edit example:**

5.4\_B\_irv-uses-diffmeaning\_\*(P

- Select sub example to edit :

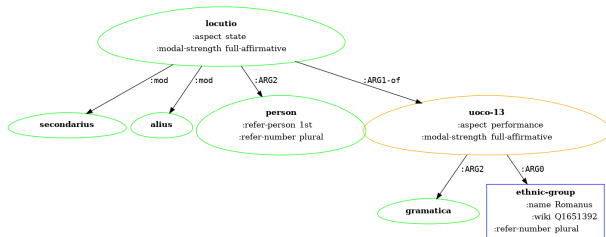
# Multilingual Language Resources

- Universal Dependencies
- UniMorph, DeriNet, UniSegments
- Universal NER (Named Entities)
- CorefUD
- PARSEME
- Universal Proposition Banks



# Multilingual Language Resources

- Universal Dependencies
- UniMorph, DeriNet, UniSegments
- Universal NER (Named Entities)
- CorefUD
- PARSEME
- Universal Proposition Banks
- Uniform Meaning Representation

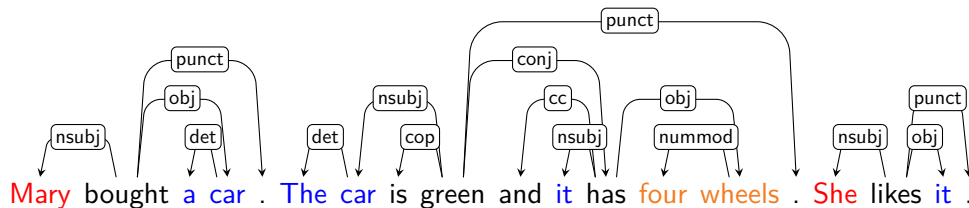


# Coreference Mentions vs. Dependency Syntax

## Coreference mentions:

*Mary* bought *a car*. *The car* is green and *it* has *four wheels*. *She* likes *it*.

- Mentions often correspond to syntactically meaningful units (noun phrase, subject, ...)



## UMR: Uniform Meaning Representation

# Uniform Meaning Representation

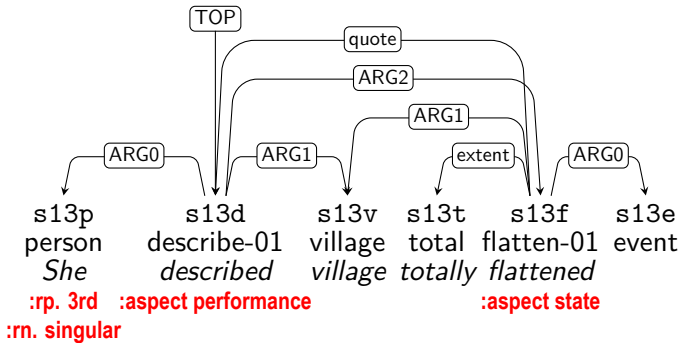
- Sentence level graph
- Document level relations
- Node-token alignment
- (Morphemic segmentation and glosses)



# UMR: Sentence Level Graph

*She described the village as totally flattened.*

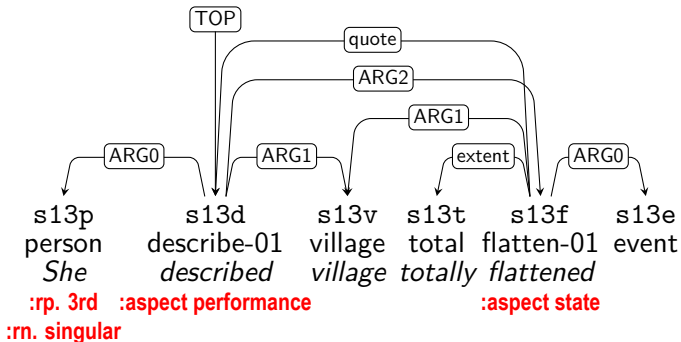
```
(s13d / describe-01
:ARG0 (s13p / person
:refer-person 3rd
:refer-number singular)
:ARG1 (s13v / village)
:ARG2 (s13f / flatten-01
:ARG0 (s13e / event)
:ARG1 s13v
:extent (s13t / total)
:aspect state
:quote s13d)
:aspect performance)
```



# UMR: Alignment (Nodes to Tokens)

1        2        3        4        5        6        7        8  
*She    described   the    village   as    totally   flattened   .*

s13p: 1-1  
s13d: 2-2  
s13v: 4-4  
s13t: 6-6  
s13f: 7-7  
s13e: 0-0

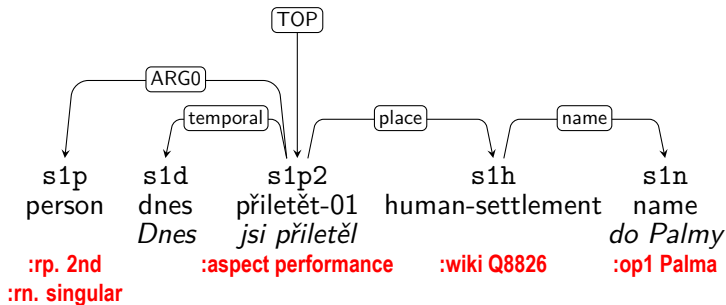


# UMR: Discontinuous Alignment

|             |            |           |              |                 |   |
|-------------|------------|-----------|--------------|-----------------|---|
| 1           | 2          | 3         | 4            | 5               | 6 |
| <i>Dnes</i> | <i>jsi</i> | <i>do</i> | <i>Palmy</i> | <i>přiletěl</i> | . |
| Today       | you have   | to        | Palma        | flown in        | . |

'You arrived in Palma today.'

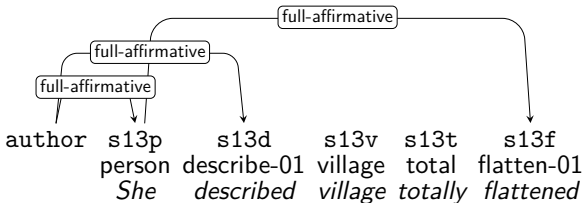
s1p: 0-0  
s1d: 1-1  
s1p2: 2-2,5-5  
s1h: 0-0  
s1n: 3-4



## UMR: Document Level Relations

- *Leyte Governor Rosette Lerias said the latest census indicated there were 375 houses with 3,000 people living in Guinsaugon before the landslide.*
- *She described the village as totally flattened.*

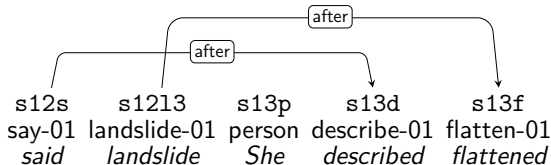
```
(s13s0 / sentence
  :modal ((root :modal author)
    (author :full-affirmative s13d)
    (author :full-affirmative s13p)
    (s13p :full-affirmative s13f))
  :temporal ((s12s :after s13d)
    (s12l3 :after s13f))
  :coref ((s2t :subset-of s13d)
    (s12p :same-entity s13p)
    (s12h2 :same-entity s13v)
    (s12l3 :same-event s13e)))
```



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```

|             |                |             |              |
|-------------|----------------|-------------|--------------|
| s2t         | s12p           | s12h2       | s12l3        |
| thing       | person         | hum.-settl. | landslide-01 |
|             | Rosette Lerias | Guinsaugon  | landslide    |
| subset-of   | s.ent.         | s.ent.      | s.ev.        |
| s13d        | s13p           | s13v        | s13e         |
| describe-01 | person         | village     | event        |
| described   | She            | village     |              |

## Uniform Meaning Representation release 2.1

-  Arapaho
-  Chinese
-  Czech
-  English
-  Kukama
-  Latin
-  Navajo
-  Sanapaná

## Parallel Universal Dependencies (subset 100 sentences)

-  Czech
-  English
-  Italian