

Participants:

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Fahad: approach we took to modelling Italian morphology using SWRL

https://docs.google.com/presentation/d/1pHt8IG0ni5x9AkoPCsCCccRPEFleObW7eR-PxY1JN7A/edit#slide=id.g226f12152c_0_4

Christian and Max: Proposal for automatic generation of forms

https://docs.google.com/document/d/1g6wcYKdPjgNvMrSrbVg44ja-i0OEtqqdgvG6AVlt_Hc/edit

Finnish example

Expected forms:

Nom.SG: kissa
Nom.PL: kissa-t
Ine.SG: kissa-ssa
Ine.PL: kisso-i-ssa

```
<#kissa>      a ontolex:Word ;  
                ontolex:canonicalForm [ontolex:writtenRep "kissa"@fi];  
                morph:inflectionType <#finnish_noun_type_kala> ;  
# the first category after the stem; the stem which works for a part of the  
forms  
                morph:inflectionType <#finnish_noun_type_kala_oblique> .  
# the first category after the stem; the alternative stem which works only  
for a part of the forms
```

```
# Inflection types  
# They are combined with the `:next` property.  
# This is actually quite usual for linguists: the same approach is used in  
the `lexc` formalism widely used in computational morphology (incl. xfst  
and foma)
```

```
<#finnish_noun_type_kala> a morph:InflectionType ;  
                        a morph:paradigm <#finnish_noun_type_9> ;  
                        morph:next <#finnish_noun_type_kala_number> ; #  
this means that there will be more grammatical categories
```

```
<#finnish_noun_type_kala_oblique> a morph:InflectionType ;  
                                morph:paradigm <#finnish_noun_type_9> ;
```

```

                                morph:next
<#finnish_noun_type_kala_number_oblique>
                                morph:example "kisso"@fi ; # optional

<#finnish_noun_type_kala_number> a morph:InflectionType ;
                                morph:paradigm <#finnish_noun_type_9> ;
                                morph:next <#finnish_noun_type_kala_case>
                                morph:example "kissa"@fi ; # optional

<#finnish_noun_type_kala_number_oblique> a morph:InflectionType ;
                                morph:paradigm <#finnish_noun_type_9> ;
                                morph:next <#finnish_noun_type_kala_case>
                                morph:example "kissoissa"@fi ; # optional

<#finnish_noun_type_9> a morph:Paradigm ;
...
.

<#finnish_noun_type_kala_case> a morph:InflectionType ;
                                morph:paradigm <#finnish_noun_type_9> ;
                                morph:example "kissossa"@fi ; # optional

<#finnish_noun_type_kala_nom> a morph:Rule ;
morph:inflectionType <#finnish_noun_type_kala> ;
lexinfo:case lexinfo:nominative ;
morph:example "kissa"@fi ; # optional
morph:replacement [morph:source "$", morph:target ""] . # we can actually
create nodes for widely used replacements, like _no replacement_. Or just
leave this empty

<#finnish_noun_type_kala_sg> a morph:Rule ;
morph:inflectionType <#finnish_noun_type_kala_number> ;
lexinfo:number lexinfo:singular ;
morph:example "kissat"@fi ; # optional
morph:replacement [morph:source "$", morph:target ""] .

<#finnish_noun_type_kala_oblique> a morph:Rule ;
                                morph:inflectionType
<#finnish_noun_type_kala> ;
                                morph:replacement [morph:source "a$",
morph:target "o"] .

<#finnish_noun_type_kala_ine> a morph:Rule ;
morph:inflectionType <#finnish_noun_type_kala_oblique> ;
lexinfo:case lexinfo:inessive ; # it's a convenient example even though the
inessive of a cat is weird a bit
morph:example "kissassa"@fi ;
morph:replacement [morph:source "$", morph:target "ssa"] .

<#finnish_noun_type_kala_pl> a morph:Rule ;

```

```

morph:inflectionType <#finnish_noun_type_kala_number> ;
lexinfo:number lexinfo:plural ;
morph:example "kissat"@fi ; # optional
morph:replacement [morph:source "$", morph:target "t"] ;

<#finnish_noun_type_kala_pl_obl> a morph:Rule ;
morph:inflectionType <#finnish_noun_type_kala_number_oblique> ;
lexinfo:number lexinfo:plural ;
morph:example "kissaissa"@fi ; # optional
morph:replacement [morph:source "$", morph:target "i"] ;

```

Bettina:

Two issues to be discussed after the summer break:

- 1) Make clear what kind of instance data goes into the three classes :Paradigm, :InflectionType and :Rule. This is not so clear from looking at the URI design of the example code above, e.g.:

```

<#finnish_noun_type_kala_pl> a morph:Rule .
<#finnish_noun_type_9> a morph:Paradigm .
<#finnish_noun_type_kala_case> a morph:InflectionType .

```

What is the difference between them? They look very similar to me here.

- 2) It would be great to either REUSE or CREATE morph:Morph instance data with this modelling. E.g.:

```

morph:replacement [morph:source "$", morph:target "ssa"]

```

The string “ssa” should be either the representation of an existing morph:SuffixMorph instance or it should be created as one together with the morph:SuffixMorph instance. Even better would be to also arrive at statements decomposing the created ontolex:Form instances again, e.g.

```

:kissasssa a ontolex:Form ;
      morph:consistsOf :stem_kissa , :suffix_ssa .

```

Maria:

About order of morphemes, take into account the behavior of pronominal verbs in romance languages wrt clitic position and concatenation.

Some pro-drop languages have pronouns as inflectional attached affixes in the canonical form while in the inflected forms pronouns become clitics. Their position within the clitic cluster is fixed, but still there is not a clear relation between the order of the phrasal complements within a sentence and that of the clitics which represent the same complements.

Below some examples in Italian.

In Italian there are three different phenomena:

1. **Reflexive and reciprocal verbs** (a clitic marks the reflexive or reciprocal construction, that is, the clitic plays the role of *self* in English. Inflectional attached affix in the canonical form -> clitic in some inflected forms)

1a. *Pettinarsi* (canonical form)

1b. *Mi* pettino (first person singular, present)

This behavior is not regular and may change on the basis of tenses/moods (e.g., 1c. *Pettinati* - imperative)

2. **Pronominal verbs** (one or two affixes, direct and indirect objects, in the canonical form -> particles may be partially or totally detached in some inflected forms).

verb + [-ne]

verb + [-ci]

verb + [-la]

verb + [-si] + [la] → verb + [-sela]

verb + [-si] + [ne] → verb + [-sene]

verb + [-ci] + [la] → verb + [-cela]

2a. *Prendersela* (canonical form)

2b. *Me la* prendo (first person singular, present)

2c. *Prenditela* (imperative)

2d. Non *te la* prendere or Non *prendertela* (negative imperative)

In pronominal verbs, when the first pronoun particle combines with a second one, the phonological shape changes. Thus, in the previous example *si* changes into *se* because it's affected by the presence of other clitics starting with *-l* or *-n*.

3. **Multiword pronominal verbs**

Some pronominal verbs may be used in producing multiword units adding adverbs, adjectives or nouns. These new verbs have different semantic value.

3a. *prendersela* → *prendersela* + *comoda* (inflected form: *se la prende comoda*)

3b. *andarci* → *andarci* + *piano* (inflected form: *ci andava piano, vacci piano*)

3c. *vederci* → *vederci* + *chiaro*

In some cases, the multiword pronominal verb is derived from a simple verb, which presents the particle pronoun as intensifier referring to the subject

3d. **dormirci* (derived from *dormire*) -> *dormirci* + *sopra*