

The LinGO Grammar Matrix

Rapid Grammar Development for Hypothesis Testing (Appendix)

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Appendix

This appendix contains slides pertaining to aspects of the sample grammar not covered in the main tutorial.



Outline

1 Word Order

2 Person, number, gender

3 Tense/aspect

4 Coordination

5 Lexicon



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Main constituent order

Most permutations of O, S, and V are possible, under the appropriate information structure interpretations.

⇒ Select “free word order” on the word order page.

Norma fetñi-t-u I-bieb. (SVO)

Norma opened-3fsg-3msg df-door-msg

“Norma opened the door.” (?, 141)

Norma I-bieb fetñi-t-u. (SOV)

Fetñi-t-u Norma I-bieb. (VSO)

L-bieb Norma fetñi-t-u. (OSV)

L-bieb fetñi-t-u Norma. (OVS)

fetñi-t-u I-bieb Norma. (VOS)



Determiners

Maltese has demonstrative determiners as well as possible indefinite articles which appear pre-nominally.

⇒ Select 'has independent determiners'

⇒ Select 'determiner precedes the noun'

Pawlu kiteb dan il-ktieb

Pawlu wrote this df-book

"Pawlu wrote this book."(? , 60)

wafβda mara

INDEF-fsg woman "a woman" (? , 155)



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Number

Singular and plural markers are present in our dataset. According to wikipedia (http://en.wikipedia.org/wiki/Maltese_language, accessed 2010/05/13), Maltese also distinguishes dual on nouns. Since there is no evidence of dual on verbs, we will assume a non-singular type which subsumes dual and plural.

⇒ Define 'singular', 'non-singular', 'dual' and 'plural' on the Number page

Note

⇒ More relevant data is needed to find the correct representation of number in Maltese



Person

There are pronouns and there is subject agreement for 1st, 2nd and 3rd person

⇒ Select the option 1st, 2nd, 3rd on the person page

There are (to our knowledge) no subtypes of 1st person (inclusive/exclusive distinction)

⇒ Select 'none' for subtypes of 1st person



Gender

Maltese distinguishes masculine and feminine gender, on nouns and in subject agreement

⇒ Define masculine and feminine on gender page



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Tense/aspect Data

Pawlu	kiteb	il-lettera
Pawlu	write-3ms.perfect	def-letter
“Pawlu wrote the letter”		
Pawlu	jikteb	il-lettera
Pawlu	3ms.imperfect-write	def-letter
“Pawlu writes the letter”		
Pawlu	se jikteb	il-lettera
Pawlu	future 3ms.imperfect-write	def-letter
“Pawlu is going to write the letter”		



Tense/aspect Analysis

⇒ Select elements from common tense hierarchy

- past, future, present

⇒ Define types in section “viewpoint aspect”

- *imperfect*, subtype of *aspect*
- *perfect*, subtype of *aspect*
- *progressive*, subtype of *imperfect*



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NP and VP Coordination

Noun phrases and verb phrases can be coordinated using the word *u*. The coordinator stands in between the coordinands.

Pawlu	<i>u</i>	Norma		ħareġu
Pawlu	and	Norma		leave-perfect.3pl
“Pawlu and Norma left.” based on (?)				
Pawlu	kiel	ilmazzita	<i>u</i>	ħareġ.
Pawlu	eat-3ms.perfect	def-blutwurst.fsg	and	leave-perfect.3ms
“Pawlu ate the blutwurst and left.” based on (?)				



Coordination Analysis

The marking pattern of Maltese coordinated structures is either **monosyndeton** (A B and C)

⇒ Select 'monosyndeton' marking pattern (or 'polysyndeton')

⇒ Select marked by

- a word
- spelled "u"
- that comes before the coordinand



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Noun inflection

Common nouns can be marked for number and definiteness

⇒ Define two slots:

- The obligatory slot ‘number’, appearing after noun-type2 and noun-type3, with morphemes
 - *jiet* marking plural
 - a phonologically empty morpheme (leaving spelling blank) to indicate ‘singular’
- The optional slot ‘definite’, appearing before noun-type2, noun-type3 or the number slot



Aside Non-trivial Phenomena in Inflection

For some inflection phenomena, it is non-trivial how to capture them with the system. E.g.:

- Morphemes appearing in the same position with different syntactic properties
- Circumfixes



Circumfixes

A circumfix can be handled by the system, if it is defined as two morphemes:

- 1 Define a slot (slot1) for the part of the circumfix that precedes the stem
- 2 Define a slot (slot2) for the part of the circumfix that follows the stem
- 3 Add a constraint to slot1 that slot2 is required, and vice versa



Different syntactic constraints within slot?

- In Turkish, the paradigm for subject agreement depends on the TAM-morpheme preceding it:

stem...	-dI/-sE	paradigm1
stem...	-mEli/-mls/-...	paradigm2

- Intuitively, we would define a single slot for the TAM-morphemes, and one for the agreement morphemes
- This grammar would over-generate: the wrong agreement marker may be used



Defining Separate Slots

Solution: define 4 slots rather than two

- 1 Define two slots for the final TAM-morpheme
- 2 Forbid the slots to co-occur
- 3 Do the same for the agreement morphemes
- 4 TAM-slot 1 will require agreement from slot 3
- 5 TAM-slot 2 will require agreement from slot 4

	slot 1	slot 2	slot 3	slot 4
stem	-dl/-sE	—	AGR1	—
stem	—	-mls/mEli/....	—	AGR2



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