# Fixing the Broken Plural in Maltese

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# Plural in Maltese

Maltese has **three different strategies** of

forming the plural of nouns (and adjectives):

1. **Suppletion** (*mara* 'woman' - *nisa* 'women', *tifel* 'boy' - *subien* 'boys')
2. **Sound Plural** (suffixation of *-i, -ijiet, -(i)n, -a, -at/-iet, -s*)

    (e.g., *omm* (sg) - *ommijiet* (pl) 'mother')
3. **Broken Plural**

# Typical broken plural forms

**Singular**   **Plural**

*borma*   - *borom*

*balla*   - *balel*

*skwerra*   - *skwerer*

*belt*   - *bliet*

*komma*   - *kmiem*

*skarpell*   - *skraapel*

*bixkilla*   - *bxiekel*

*banda*   - *bnaadi*

*xmaara*   - *xmajjar*

**Questions**

- how are they related?

- can the plural form be predicted from the singular form?

- what do they have in common? (except for the fact that the singular and plural forms share their consonantal skeleton)

# Do we need a classificatory approach?

...or can we predict how the plural will be realized if the singular is known, or vice-versa?

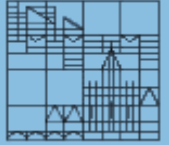| Singular | Plural | Gloss |
|---|---|---|
| *banda* | - *baned* | 'band' |
| *banda* | - *bnaadi* | 'side' |
| *nofs* | - *nfuus* | 'half' |
| *nifs* | - *nfuus* | 'breath' |
| *mariid* (m), *mariida* (f) | - *morda* | 'sick' |
| *fenek* (m), *fenka* (f) | - *fniek* | 'rabbit' |

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# Previous work

The various descriptions are mainly based...

- on historical grounds (Borg 1978; Mifsud 1994) and
- on CV structures
  - with same (Sutcliffe 1936; Aquilina 1959; Borg & Azzopardi-Alexander 1997) or
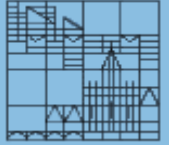  - different vowel melodies (Mifsud 1994; Schembri 2006)

...and differ in their number of different broken plural classes:

- Sutcliffe (1936): 22 classes
- Aquilina (1959): 37 classes
- Alexander Borg (1978): 15 classes
- Mifsud (1994): 13 classes (with 6 being very well represented)
- Borg and Azzopardi-Alexander (1997): 39 classes
- Schembri (2006): 11 classes

# Our approach...

- looking at the singular and plural forms of a lexeme at the same time
- going **beyond a classification into CV patterns**
- considering **syllable structure** and **phonological weight**
- asking whether there are any **generalizations** that hold for **all singular/broken plural pairs**?
- asking whether there are any **phonotactic** constraints on the proper shape of a plural form with respect to the singular?

- asking whether there are any vowel correspondences between singular and plural forms? Does stress/syllable weight have a bearing on this?

# Data

- our work is based on the data provided by Schembri (2006)
- her data collection on broken plural forms is the most recent one
- we checked the data with **native speaker intuitions** of one of the authors (M. Spagnol)
- we ended up having more than **650 broken plural forms**

# Preliminaries

- **vowels only correspond to one another from the singular to the plural if they occur in the same position** with respect to the consonantal skeleton of the forms

- for instance, the second vowels in *labra* (sg) - *labar* (pl) 'needle' do not correspond because they occur in different positions, whereas the first vowels do correspond because they both appear between *b* and *q* in both forms

- **no metathesis assumed** (unlike in other cases of Maltese [Hume 1991] or Arabic [McCarthy and Prince 1990] morphology) because in most cases the vowels in this position are not the same: *ħamra* (sg) - *ħomor* (pl) 'red', *werċa* (sg) - *wereċ* (pl) 'cross-eyed', *xoffa* (sg) - *xofof* (pl) 'lip'

# Result: Generalizations for all forms

1. **A final vowel in the SG never shows up in the PL** (*stalla* (sg) - *stalel* (pl) 'stable')

2. In bisyllabic words (Type 3), **a final geminate in the SG gets degeminated in the PL** (*furketta* (sg) - *frieket* (pl) 'fork')

3a. **Onset clusters are never broken up in the PL** (*blokka* (sg) - *blokok* (pl) 'block')

3b. **Non-onset/other clusters in the SG are broken up in the PL** (*pizza* (sg) - *pizez* (pl) 'pizza')

4. **A vowel (or infix)** is **inserted into** the stem

5. **A long vowel in the PL** must have a **complex onset** preceding it

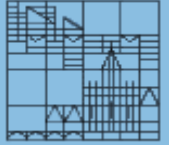| Singular | Plural |
|---|---|
| *borma* | - *borom* |
| *balla* | - *balel* |
| *skwerra* | - *skwerer* |
| *belt* | - *bliet* |
| *komma* | - *kmiem* |
| *skarpell* | - *skraapel* |
| *bixkilla* | - *bxiekel* |
| *banda* | - *bnaadi* |
| *xmaara* | - *xmajjar* |

# Generalization 1 (final vowels)

**A final vowel in the SG never shows up in the PL**

- *stalla* (sg) - *stalel* (pl) 'barn'
- *setta* (sg) - *setet* (pl) 'sect'
- *keffa* (sg) - *kfief* (pl) 'hem' etc.

Sometimes vowels do occur word-finally in the PL, yet they differ from the final vowel in the SG

(e.g., *mariid* (sg) - *morda* (pl) 'sick'; *bidwi* (sg) - *bdiewa* (pl) 'farmer')
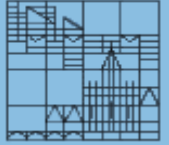
# Generalization 2 (final geminates)

In bisyllabic words (after removing final vowels), **a final geminate in the SG corresponds to a singleton in the PL**

- *skarpell* (sg) - *skraapel* (pl) 'chisel'
- *furketta* (sg) - *frieket* (pl) 'fork'
- *ġakketta* (sg) - *ġkieket* (pl) 'jacket'
- *sarvetta* (sg) - *srievet* (pl) 'napkin' etc.
- rule ordering for *furketta*:

  *furketta > furkett > furket*

  problematic cases: *umbrella, inforra, ingassa* can be accounted for in terms of Mifsud's (1994) morphological window

# Generalization 3a (onset clusters)

**Onset clusters in the SG are never broken up in the PL**

- *bl*okka (sg) - *bl*okok (pl) 'lump'
- *skw*erra (sg) - *skw*erer (pl) 'set square',
- *fq*iir (sg) - *fq*aar (pl) 'poor' etc.

exceptions only to be explained historically: there used to be a vowel that breaks up the cluster

fqiir, fqiira - foqra (Arabic: faqīr);

ktieb - kotba (Ar: kitāb);

ġdiid, ġdiida - ġodda (Ar: ġadīd)

# Generalization 3b (break CC cluster)

**Other consonant clusters in the SG are broken up in the PL**

- *pizza* (sg) - *pizez* (pl) 'pizza',
- *mazza* (sg) - *mazez* (pl) 'mace'
- *qalb* (sg) - *qluub* (pl) 'heart'
- *bixkilla* (sg) - *bxiekel* (pl) 'wicker basket' etc.

there are only **two exceptions**: *flixkuun* (sg) - *fliexken* (pl)
'bottle', *praspuura* (sg) - *praaspar* (pl) 'oddity', probably because
the clusters *flx* (cf. *\*flxieken*) and *prs* (cf. *\*prsapar*) are not
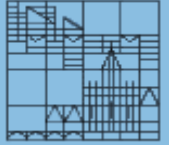permissible in Maltese.

# Generalization 4 (insert vowel)

A **vowel** (or **infix** in Type V) **is inserted into the stem**, thereby "fixing" the plural. The vowel (or vowels in Type IV) can be...

- short (e.g., *balla - balel*)
- long (e.g., *belt - bliet, bixkilla - bxiekel*)
- long and short (e.g., *banda - bnaadi*)
- infix (e.g., *xmara - xmajjar*)

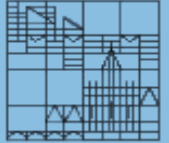exceptions: *liżar* (sg) - *lożor* (pl) 'sheet' → no vowel is inserted

# Generalization 5 (complex onset)

**A long vowel in the PL must have a complex onset preceding it**

- *qoffa* (sg) - *qfief* (pl) 'basket'
- *darsa* (sg) - *draas* (pl) 'molar tooth'
- *bandiera* (sg) - *bnaadar* (pl) 'flag' etc.

the only "exceptions" are forms with 'għ': *għoomja* (pl)

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# Generalization 5a (prosodic constraint)

**PL forms cannot be of the form *short vowel - long vowel***

- is **mostly equivalent** to the **previous generalization**
- **trochee** pattern in the plural prohibits such cases (unlike the iambic plural of Arabic, cf. McCarthy and Prince 1990; e.g., *nafs* (sg) - *nufuus* (pl) 'soul')

- long - short (e.g., *bxiekel*)
- long (e.g., *bliet*)
- short - short (e.g., *balel*)
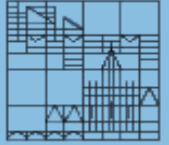- *short - long
- *short

# Then why do we need a classification at all?

Can we predict how the plural will be realized if the singular is known, or vice-versa?
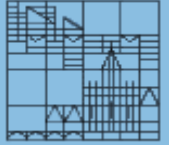
*gomma* (sg)          - *gomom* (pl)          'eraser'
                      - *\*gmiem* (pl)
*komma* (sg)          - *\*komom* (pl)          'sleeve'
                      - *kmiem* (pl)

→ **we still need a distinction into types!**

# Novel classification into types based on these generalizations

- **five major types**, grouping together lexemes based on their plural type (CV pattern) and their weight in the singular

- e.g., forms like *balluun* and *bixkilla* differ in their CV patterns (CVCCVVC vs. CVCCVCCV), yet they are nonetheless grouped together because they have the same plural type CCVVCVC and the same weight (three morae) in the singular.

- **onset consonant clusters** in the singular are **ignored** (*bir* (sg) 'well' / *kbir* (sg) 'big' - *bjar* (pl))

# Novel classification into types based on these generalizations

- types differ
    - (i)  in the **weight of singular forms** and
    - (ii)  the **"additional" vowel** in the plural
- a morphological window (Mifsud 1994) is first used to determine the relevant part of the singular form

# Our classification

Note: only vowel quantity (not quality) is considered!

- Type I: insert short vowel (e.g., *balla - balel*)
- Type II: insert long vowel (e.g., *belt - bliet*)
- Type III: insert long vowel (e.g., *bixkilla - bxiekel*)
- Type IV: insert long vowel (plus vowel suffix)

    (e.g., *banda - bnaadi*)

- Type V: insert infix 'ajja' etc.

    (e.g., *xmara - xmajjar*)

But in which position(s) is/are the vowel(s) inserted? → **the position follows from the generalizations!**

| TYPE I: short vowel blokka (sg) | | |
|---|---|---|
| blokkØ | ← | 1. Delete final vowels |
| blokk | | 2. Degeminate final geminates in bisyllabic words |
| blok_k | ← | 3. Break up internal clusters (if not in the onset) |
| blokok | ← | 4. Insert vowel |
| blokok | | 5. Long V in the plural => complex onset in the plural |
| blokok (pl) | | |

| TYPE II: long vowel<br>komma  (sg) | |
|---|---|
| kommØ | ←      1. Delete final vowels |
| komm | 2. Degeminate final geminates<br>in bisyllabic words |
| kom_m | ←      3. Break up internal clusters<br>(if not in the onset) |
| komiem | ←      4. Insert vowel |
| kømiem | ←      5. Long V in the plural =><br>complex onset in the plural |
| kmiem (pl) | |

TYPE III: long vowel
bixkilla  (sg)

| | |
|---|---|
| bixkillØ | ←     1. Delete final vowels |
| bixkilØ | ←     2. Degeminate final geminates in bisyllabic words |
| bix_kil | ←     3. Break up internal clusters (if not in the onset) |
| bixiekil | ←     4. Insert vowel |
| bØxiekel | ←     5. Long V in the plural => complex onset in the plural |

bxiekel (pl)

| TYPE IV: long vowel & final vowel | | |
|---|---|---|
| banda (sg) | | |
| bandØ | ← | 1. Delete final vowels |
| band | | 2. Degeminate final geminates in bisyllabic words |
| ban_d | ← | 3. Break up internal clusters (if not in the onset) |
| banaadi | ← | 4. Insert vowel |
| bØnaadi | ← | 5. Long V in the plural => complex onset in the plural |
| bnaadi (pl) | | |

| TYPE V: insert infix 'ajja'/'ajje' etc. | |
| xmaara (sg) | |
|---|---|
| xmaar∅ | ←      1. Delete final vowels |
| xmaar | 2. Degeminate final geminates in bisyllabic words |
| xmaar | 3. Break up internal clusters (if not in the onset) |
| xmajjar | ←      4. Insert vowel |
| xmajjar | 5. Long V in the plural => complex onset in the plural |
| xmajjar (pl) | |

# So, what is a broken plural?

- *fenek* (m) - *fenka* (f) 'rabbit' (sound suffix; *fenek-a > fenka*) vs.
- *trinka* (sg) - *trinek* (pl) 'trench' (broken plural)

what makes a plural form broken?

"It is safe to say that most plurals of Arabic nouns and adjectives are broken. By this is meant a **vowel gradation** (Ablaut or Umlaut, such as English dive-dove, opaque-opacity, or man-men) type by which there is **internal modification** with or without an affix." (Kaye, Alan S., Arabic morphology, in Morphologies of Asia and Africa, 2007: 233)

# What is a broken plural?

**Towards a definition for Maltese:**

In broken plurals...

1. an element (vocalic infix) is inserted into the stem,
2. thereby **breaking up a cluster** that has to be **fixed** (and/or preserving an onset cluster)
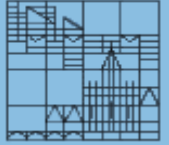3. in order to satisfy certain constraints from the singular to the plural.

Loanwords with broken plurals (cf. Borg and Azzopardi-Alexander 1997: 184ff):

Romance: *forn - fran, serp - sriep, faxxa - faxex*, etc.

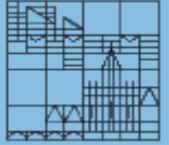English: *kitla - ktieli, plakka - plakek, senter - snieter*, etc.

| Singular | Plural |
|---|---|
| *bor\|ma* | - *borom* |
| *bal\|la* | - *balel* |
| *skwer\|ra* | - *skwerer* |
| *bel\|t* | - *bliet* |
| *kom\|ma* | - *kmiem* |
| *skar\|pell* | - *skraapel* |
| *bix\|killa* | - *bxiekel* |
| *ban\|da* | - *bnaadi* |
| *xmaara* | - *xmajjar* |

# Conclusions

- we presented a novel classification of broken plural forms into **five major** types considering

  - **syllable structure**

  - phonological weight

  - vowel quantity

  providing a **tentative definition** of what makes a plural broken in Maltese

- our approach can predict what the CV pattern (incl. vowel quantity) of the plural form looks like given the type and the form of the singular (for about 600 out of 650 forms in Schembri's list)

- we do not consider vowel quality in this presentation (but there are clear tendencies that can be observed)

# Grazzi ta' l-attenzjoni!

# Thank you for your attention!

Acknowledgements: Frans Plank, Miriam Butt

# Vowel quality

- there are clear tendencies for the vowel quality in the plural, although strict rules are hard to maintain

- for instance, in Type III:

  – if the stressed vowel in the singular is an /e/, the long vowel in the plural is an /i:/ (<ie>) (exceptions: *skarpell*, *ċappella*)