Number marking in Jamaican

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Variation analysis in a Creole context

- Analyse variation between forms of marking number, & constraints on variation, in mesolectal Jamaican Patwa
- JP mesolect occupies broad centre of a Creole continuum, where speakers vary their choice of forms in a socially- and linguistically-constrained manner – like other dialects
- Working assumption: systematic inherent variation occurs here, as in other (non-contact) languages:
  - Where competing variants of a form exhibit the same meaning and/or function, investigate it as a linguistic variable likely to be...
  - ...Constrained by multiple factors on different linguistic levels, and
  - Compare constraints to other Creoles w/number marking variation
- Adopt a hearer-centred perspective (fuzziness, overlap), vs a speaker-centred one (strict isomorphy, precise meaning)
- Focus today on distribution of the most frequent JP form
Distinct forms mark number in JP

- Across the Jamaican creole continuum, Number is morphologically marked on nouns in two overt ways:
  - (1) suffix -z (w/usual allomorphy) on regular Ns, < English
  - (2) NP suffix -dem, a creolized form < 3pl pronoun dem ‘they’

(1) Bot di gorl-z went’u veri gud skuul-ø, they had a skuul...  (Rose)
  “Both the girls went to very good schools, there was a school...”

(2) Di people-dem dead out and lef two lickle people inna di yard  (Bess)
  “The people died and left two little people in the yard”

- A 3rd option is non- or zero-marking, as on skuul in (1)
  - Irregular forms, eg people in (2): -z does not apply but -dem may
Mixed marking patterns occur

• Unlike most English dialects, neither form is categorical in JP: referentially-plural nouns may go unmarked by -z or -dem, (3)

(3) sweep up di yard, wash di plate-ø ... carry four pan-ø of water  (Betty)
   “...sweep the yard, wash the plates... carry four pans of water”

• In JP -z and -dem may co-occur on a single plural N(P), eg (4)
  • though rarely: 1% of all data, 2% plural-marked, but 16% of -dem cases

(4) Some a di helper-s-dem in our area don't stop pon premises  (Yvonne)
   “Some of the domestic workers in our area don’t live on premises”

• Q: does mixed marking represent different Number systems?
  • Eg with two contrasting patterns w.r.t. the Animacy Hierarchy?

• Can we investigate this Q with variationist tools/assumptions?
JP number in typological perspective

- JP has a (General/Singular) vs Plural system of number
  - ie, singular and general meanings share a single (bare) form
  - Such systems more oriented to pragmatics, less to agreement

- General number: noun meaning expressed w/o reference to number (eg, generic); outside the number system (Corbett 2000)
  - In this, JP is unlike English (with its obligatory number, singular vs plural), but like many languages, eg Japanese, Turkish, or Tolai

- I’ll distinguish b/w licensing conditions for plural-marking, and pragmatic factors favoring its actual use in speech
  - The conditions are permissive for -z, restrictive for -dem; within them, variation analysis seeks to establish the favoring factors
  - JP number is obligatory in pronouns, optional elsewhere; and has morphological expression, but not syntactic (= verb agreement).
  - N-Modifier concord is optional (expressed in Mod, optional on N)
Characteristics of –dem plural marker

- A form similar to -dem appears in other Atlantic English-lexified Creoles (AtEC), eg Krio & Ndyuka den
  - Arguably a calque on WAfr substrate patterns (Holm 1990)
  - Number-word (clitic), as in Dogon (Mali) or Gur (Ghana)
- Derivation < 3pl pronoun also noted to occur in Angolar, Haitian, Negerhollands, Papiamentu, Tok Pisin, etc.
  (Yillah & Corcoran; Huttar; Lorenzino; DeGraff; de Kleine; Kouwenberg; Faracles, all in Holm & Patrick 2007)
- -dem restricted (due to incomplete grammaticalization?):
  - Cannot occur on NPs with 1pl- or 2pl-modifiers, eg (5-6)
  - Can only apply to definite NPs

(5) * Wi sista(z)-dem “We sisters”  (6) * Yu bwai(z)-dem “You boys”
Different marking rates in AtECs/English

- Compared to AtECs, even English dialects in which variation does occur show robust number-marking at a fairly high rate:
  - In contemporary African American English (AAVE) corpora, plural nouns are marked from 88% to 98% of the time

- AtECs in contrast often show much lower rates of z-marking
  - the general pattern of marking with -z and -dem is common, but marking with -dem (if any) is notably less frequent than with -z

- Table 1 shows sample rates from a number of AtEC corpora for groups, as well as individuals across the creole continuum
  - Categorical performance is rare: all speakers studied for number-marking in AtECs show some use of either -z, -dem or both

  Sources: Rickford (1987:160, 233, 253); Rickford (1986a:47-8); Singler (1991, Table 36.2; 2007); Poplack & Tagliamonte (2000:90); Rickford (2006, recalculation)
### Table 1: Number-marking rates in several AtECs

<table>
<thead>
<tr>
<th></th>
<th>Guyanese Creole</th>
<th>Gullah</th>
<th>Vernac. Liberian Pidgin English</th>
<th>Nigerian Pidgin English</th>
</tr>
</thead>
<tbody>
<tr>
<td>–z</td>
<td>8% 26% 74% c.43%</td>
<td>24%</td>
<td>28%</td>
<td>59%</td>
</tr>
<tr>
<td>–dem</td>
<td>0 1/16 0 4%</td>
<td>1/128</td>
<td>12%</td>
<td>1.1%</td>
</tr>
<tr>
<td>Sample</td>
<td>25 16 19 260</td>
<td>128</td>
<td>2,039</td>
<td>1,316</td>
</tr>
<tr>
<td>Speakers</td>
<td>Anna Granny Mother Cane Walk</td>
<td>Mrs Queen</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Popular explanations for variation

• Due merely to hypercorrection or incomplete acquisition, ie, chaotic, not rule-governed, in some way ‘incorrect’
  • Guinea-Bissau Kriyol: modelled on Portuguese, but “frequent and indiscriminate use of –s, with singular and plural forms confused”

• Alternative: functionalist non-redundancy idea, number only indicated as ‘required’ for listeners’ comprehension
  • “Plural marking is only used for emphasis or as contextually necessary”
  • If Creoles derive from pidgins (?), which do not overtly express number but rely on context and shared knowledge (generally true), and
  • If superstrate morphology is lost in pidginization & later replaced by grammaticalization (e.g. -dem), with pragmatics driving the syntax, then

• The need to communicate produces sporadic number-marking, not plural redundancy (as in categorical, agreement-based grammars).

Weaknesses of categorical accounts

- Such accounts focus on explaining -dem, only, but...
- Many AtEC speakers are located within the mesolect, and
- Mesolectal Creoles show typical occurrence of both forms.
  - Accounts of an essentialized basilect ignore -z or treat it as code-switch from English w/no consequences for Creole grammar –
  - Yet -z is far more frequent, regularly occurs in Creole syntactic frame, and is attested far earlier in (at least) JP historical record.
- Based on puristic assumptions opposing “true creoles” to varieties of the superstrate or lexifier – both invariant
  - Assign co-occurring forms to separate grammars a priori, but
  - Fail to give principled or precise accounts of alternation, hence
  - Descriptively inadequate on level of form for natural speech data,
  - And rule out empirical exploration of constraints across varieties.
General plan of attack

- No prior investigation of whether -z/-dem operate on the same grammatical principles; it is either assumed that they don’t (eg Stewart 2007) or that they do (eg Poplack et al 2000)
  - NB: so variationist approaches have their faults as well!
- Investigation of constraints & systems comes in parts.
  - Examine (1) -z, then (2) -dem – separately, due to their different licensing conditions, but in each case considering the other’s occurrence as a possible independent variable, among others.
  - Consider variation w/unmarked nouns (I prefer ‘unmarked’ to ‘zero’ for a system with general number, and without agreement).
  - Compare w/relevant contact varieties, sub- & super-strates, for historical connections; and more generally, ie typologically.
    - (These elements conducted so far, and presented in part today)
Major Constraints & Questions

- Focus on constraints applying within the NP today
- Broadly similar formulations link marking w/Creole forms (e.g. -dem) to N(P)’s referential or existential status, via eg:
  - Definiteness, specificity, presupposition, individuation, genericity
  - Idea: Intended meaning fully determines syntactic form
- Functionalist assumption of non-redundancy in marking
- Both of these can be examined through ‘NP-type’ variable
- Do alternative markers from ‘competing’ grammars carve up semantic space differently? Or are competing forms during creolization reorganized into single, inherently variable grammars with (at least partially-)unified constraints? Do constraints work to ease burden on speakers/hearers, or reflect drift towards increasing agreement and reduction of variation over time?
Issues to be set aside for the moment

Animacy hierarchy proposals, general & historical

  • Phonological context, preceding & following
    - Wolfram 1969 etc.

  • Discourse/clause-level constraints generally, eg:
    - Argument or topic function
    - Patterns of marking clusters, first/previous mention
    - Specificity as referent-prominence in discourse
      - (Bobyleva & Aboh, this conference)
The data set

- Two corpora combined – analyzed separately, then jointly
- Veeton: 8 speakers (4 ♂, 4 ♀) aged 14-18 /49-82 in 1989-90
- Sistren: 12 women’s life stories transcribed from tape c.1980
- Exclusions: summation plurals, fixed collocations, hypercorrections

Table 2: Characteristics of the two samples

<table>
<thead>
<tr>
<th></th>
<th>Sex</th>
<th>Age</th>
<th>Number of tokens</th>
<th>mean N</th>
<th>Rate of Marking</th>
<th>Min/Max</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>M</td>
<td>14-20</td>
<td>21-45</td>
<td>46-60</td>
<td>61-90</td>
</tr>
<tr>
<td>Veeton</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>-</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Sistren</td>
<td>12</td>
<td>-</td>
<td>-</td>
<td>12</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Joint</td>
<td>16</td>
<td>4</td>
<td>4</td>
<td>13</td>
<td>3</td>
<td>-</td>
</tr>
</tbody>
</table>
The range of variation

- Range of variable marking very similar across both samples
  - Sistren rural narratives: more 1st-person deixis, crop/plant Ns
- Number-marking w/ -z is accessible low on the continuum
  - Even lowest users do it 3x more than they past-mark with -ed

Table 3: Comparison of marking plural and past-tense – Veeton

<table>
<thead>
<tr>
<th></th>
<th>Plural marking</th>
<th>No. of tokens</th>
<th>Past marking</th>
<th>No. of tokens</th>
<th>Speaker characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roxy</td>
<td>91%</td>
<td>35</td>
<td>89%</td>
<td>54</td>
<td>Female, 14, UMC</td>
</tr>
<tr>
<td>Rose</td>
<td>88%</td>
<td>201</td>
<td>59%</td>
<td>184</td>
<td>Female, 82, LMC</td>
</tr>
<tr>
<td>Bigga</td>
<td>50%</td>
<td>100</td>
<td>12%</td>
<td>110</td>
<td>Male, 17, LWC</td>
</tr>
<tr>
<td>Mina</td>
<td>21%</td>
<td>160</td>
<td>7%</td>
<td>152</td>
<td>Female, 75, LWC</td>
</tr>
</tbody>
</table>
The NP-type constraint, I

- Referentiality often interacts w/syntactic configuration, given strong correlation of syntax/semantics in English
  - Eg, Poplack et al use Det as cue to code semantics of reference; Mufwene assumes syntactic cues reliably indicate individuation
  - But independence of category definition is required in Varbrul
  - Early studies fell victim to this (Dijkhoff 1983, Mufwene 1986, etc.)
- Detailed taxonomy of NP-type via determiner structure needed
  - can be non-circularly coded from surface strings, independent of semantics – even if correspondence to AtEC reference is opaque
- Present analysis uses 9 divisions of NP-type
  - Makes as few as possible advance assumptions about the similarity of behavior of distinct constructions under number-marking
  - Carefully examines several NP configurations whose marking patterns have not been described before.
The NP-type constraint, II

- NP-type classification:
  - *Bare*: Bare nouns w/no determiner, not under negation, eg “boys”
    
    (7) *mash op som brik, an iz han-kyaat-Ø dem yuuzin* (Matty)
    “...pounded some bricks, and they were using hand-carts”

  - *Neg*: Bare nouns in immediate scope of JP negation, e.g. “no girls”
    
    (8) *Di bos-dem...don inshor, fa dem no av no briek-Ø*. (Mina)
    “The buses aren’t insured, as they don’t have (a)(ny) brake(s)”

  - *Def*: Definite article plus noun, e.g. “the boys”
    
    (9) *A no iivn nomba- rimemba di nuots dem agen*. (Mina)
    “I don’t even rem- remember the notes anymore”

  - *Poss*: Possessive plus noun, e.g. “her books”
    
    (10) *Me friends-dem don't have dem kind a problem-Ø*. (Ava)
    “My friends don’t have those kinds of problems”
The NP-type constraint, III

- **Demons**: Demonstrative plus noun, e.g. “those girls”
  (11) Yu refa tu dem az gyangz... *diiz kruu*-ø, yu sii (Noel)
  “One calls them ‘gangs’... these crews, you see”

- **Num**: Cardinal numeral plus noun, e.g. “3 boys”
  (12) Ai get bak ileykchrisiti hiyr.. *fua dee*-ø. *fuor deez*! (Tamas)
  “I got the electricity back here... 4 days... 4 days!”

- **Qf**: Non-numeral individuating quantifier + noun, e.g. “some girls”
  (13) *Mi start earn few shillings from di wərk* (Ava)
  “I started to earn a few shillings from the work”

- **PQf**: Partitive non-individuating quantifier + N, eg “loads of books”
  (14) siddung an study fi *how-much-how-much years* (Cammy)
  “…sit down and study for years and years”

- **MxN**: Mixed determiners containing numerals or quantifiers
  (15) A put it an *wan a di ada trii chien*-ø (Rose)
  “I put it on one of the other three chains”
Animacy Hierarchy Constraint

- Human
- Animal
- Inanimate
  - Crops/plants
  - Measure nouns:
    - *Day* and *time* (combined n= 143)
    - Other measure words of time, e.g. *year*, *hour*
    - Measures of weight and quantity, e.g. *pound*, *pint*
    - Measures of distance, e.g. *mile*, *acre*
    - Units of currency, e.g. *shilling*, *quattie*
  - *Thing* (n= 193)
  - All other inanimates
- Measure Ns often unmarked in English dialects; correlated w/numerals
- Check on frequency effects with *day*, *time*, *thing*
### Table 4: –z marking in JP regular plural nouns

<table>
<thead>
<tr>
<th>Sample size:</th>
<th>Sistren 1,554</th>
<th>Vecton 1,167</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input probability:</td>
<td>0.431</td>
<td>0.625</td>
</tr>
<tr>
<td>Marking rate:</td>
<td>43.2%</td>
<td>59.2%</td>
</tr>
<tr>
<td>Chi² /cell:</td>
<td>1.13</td>
<td>1.15</td>
</tr>
</tbody>
</table>

#### Rank:

<table>
<thead>
<tr>
<th>Factor group:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Animacy</strong></td>
</tr>
<tr>
<td>Individual</td>
</tr>
<tr>
<td>–dem</td>
</tr>
<tr>
<td>NP-type</td>
</tr>
<tr>
<td>Final seg</td>
</tr>
<tr>
<td>(Foll seg)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Rank:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rank 1</td>
</tr>
<tr>
<td>Rank 2</td>
</tr>
<tr>
<td>Rank 3</td>
</tr>
<tr>
<td>Rank 4</td>
</tr>
<tr>
<td>Rank 5</td>
</tr>
<tr>
<td>n.s.</td>
</tr>
<tr>
<td>n.s.</td>
</tr>
<tr>
<td>n.s.</td>
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</tbody>
</table>
### Table 5: –z marking in JP, reduced data sets

<table>
<thead>
<tr>
<th></th>
<th>Sistren</th>
<th>Veeton</th>
<th>Joint analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sample size:</strong></td>
<td>1,168</td>
<td>941</td>
<td>2,721/2,109</td>
</tr>
<tr>
<td><strong>Input probability:</strong></td>
<td>0.294</td>
<td>0.588</td>
<td>0.435</td>
</tr>
<tr>
<td><strong>Marking rate:</strong></td>
<td>33.8%</td>
<td>58.1%</td>
<td>50.1%</td>
</tr>
<tr>
<td><strong>Chi² / cell:</strong></td>
<td>1.09</td>
<td>1.05</td>
<td>1.10</td>
</tr>
</tbody>
</table>

**Factor group:**

<table>
<thead>
<tr>
<th>Individual</th>
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<th>Individual</th>
<th>1</th>
<th>Individual</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>–dem</td>
<td>2</td>
<td>Animacy</td>
<td>2</td>
<td>Animacy</td>
<td>2</td>
</tr>
<tr>
<td>Animacy</td>
<td>3</td>
<td>(–dem n.s.)</td>
<td>--</td>
<td>–dem</td>
<td>3</td>
</tr>
<tr>
<td>Final seg</td>
<td>4</td>
<td>Foll seg</td>
<td>3</td>
<td>Final seg</td>
<td>5</td>
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<tr>
<td>(Foll seg n.s.)</td>
<td>--</td>
<td>Final seg</td>
<td>4</td>
<td>Foll seg</td>
<td>6</td>
</tr>
</tbody>
</table>
### Table 6: Animacy effects on -z marking

<table>
<thead>
<tr>
<th>Animacy</th>
<th>-z Probability</th>
<th>No. marked</th>
<th>Total</th>
<th>Marking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human</td>
<td>.641</td>
<td>362</td>
<td>659</td>
<td>54.9%</td>
</tr>
<tr>
<td>Animal*</td>
<td>.195*</td>
<td>13</td>
<td>102</td>
<td>12.7%</td>
</tr>
<tr>
<td>Crops/plants*</td>
<td>.195*</td>
<td>12</td>
<td>106</td>
<td>11.3%</td>
</tr>
<tr>
<td>Inanimate</td>
<td>.484</td>
<td>599</td>
<td>1,353</td>
<td>44.3%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>986</td>
<td>2,220</td>
<td>44.4%</td>
</tr>
</tbody>
</table>

- Animacy hierarchy: should be Human > Animals > Inanimate
- But here, Animals are significantly *least* likely to be inflected
  - * Best probability analysis merges these; Animacy not affected
Range of variation: Joint analysis, reduced data

All variables significant
### Categorical predictions for NP-Type versus variationist results

<table>
<thead>
<tr>
<th>NP-type</th>
<th>Mufwene claim</th>
<th>Re-stated</th>
<th>JP</th>
<th>VLE</th>
<th>NPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Def</td>
<td>Categorical mark</td>
<td>++</td>
<td>+</td>
<td>+</td>
<td>+/X</td>
</tr>
<tr>
<td>Poss/Dem</td>
<td>Categorical mark</td>
<td>++</td>
<td>XX</td>
<td>N</td>
<td>N/X</td>
</tr>
<tr>
<td>PQf</td>
<td>Categorical zero</td>
<td>XX</td>
<td>+</td>
<td>N</td>
<td>X/na</td>
</tr>
<tr>
<td>Bare</td>
<td>Categorical zero</td>
<td>XX</td>
<td>+</td>
<td>X</td>
<td>X/X</td>
</tr>
</tbody>
</table>

#### Prediction for Marking -z:

- **++ favor strongly**
- **+ favor weakly**
- **N= neutral**
- **X disfavor weakly**
- **XX disfavor strongly**
### Variationist predictions for NP-Type: Overt number in Det $\rightarrow$ Absence of $-z$

<table>
<thead>
<tr>
<th>NP-type</th>
<th>Overt no. in Det?</th>
<th>Predicts</th>
<th>JP</th>
<th>V</th>
<th>L</th>
<th>E</th>
<th>N</th>
<th>P</th>
<th>E</th>
<th>Prediction for Marking $-z$:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demons Num</td>
<td>Yes</td>
<td>X(X)</td>
<td>XX</td>
<td>+</td>
<td>++/N</td>
<td>++ favor strongly</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>X(X)</td>
<td>N</td>
<td>X</td>
<td>+++</td>
<td>+ favor weakly</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Qf</td>
<td>Yes</td>
<td>X(X)</td>
<td>N</td>
<td>+</td>
<td>N/+</td>
<td>N neutral</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PQf Bare</td>
<td>Yes</td>
<td>X(X)</td>
<td>+</td>
<td>N</td>
<td>X/na</td>
<td>X disfavor weakly</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>++(+), XX</td>
<td>XX</td>
<td>++</td>
<td>N</td>
<td>+/X</td>
<td>XX disfavor strongly</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Def</td>
<td>No</td>
<td>++(+), XX</td>
<td>XX</td>
<td>++</td>
<td>N</td>
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<td>Poss</td>
<td>No</td>
<td>++(+), XX</td>
<td>XX</td>
<td>++</td>
<td>N/X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: The table represents the predictions for different NP-types based on their overt number in Det and their effect on the marking of $-z$. The predictions are categorized into favoring strongly, favoring weakly, neutral, disfavoring weakly, and disfavoring strongly.
Conclusions: marking –z in JP

- Number-marking of regular nouns with –z is common in AtECs, alongside restricted creolized forms (-dem).
- Standard accounts of -z in terms of noun referentiality (Alleyne, Bickerton, Dijkhoff, Mufwene, etc.) prove inadequate when faced with empirical data.
- Detailed taxonomy of Det. type/structure is required.
- Functionalist accounts emphasizing non-redundancy, based in NP syntax, fail to account for distribution of –z.
  - Animacy is actually a stronger constraint than NP-type.
  - Phonological conditioning plays a role but relatively weak.
- We can use variationist methods to place Creole number systems in broader typological perspective.
Thank you

This powerpoint is available from my website:

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