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Do We Agree?

The SLA of number concepts, features, morphs and agreement

Helen Charters & Louise Jansen

University of Auckland & Australian National University

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Our Key Questions:

- Do Numeral–Noun collocations involve a syntactic process that unifies NUMBER features?

- What alternative accounts of agreement for NUMBER might explain observed emergence orders in SLA?
General vs Grammatical Number systems

- **General Number (from Corbett, 2000)**
  - Forms do not vary with quantity
  - Listeners cannot retrieve information about quantity

- **Grammatical Number**
  - Nouns (or other nominal items) have forms that vary with the quantity of referents to which they refer
  - Each form has an abstract 'NUMBER' feature
Morphological and Abstract Number

- An unmarked N
  - cannot collocate with Numerals greater than 1
    "one star" "a mouse" "*two star"
  - These N-forms have an abstract feature [NUM –PL]

- Lexical /bare plural
  - No other nominal element accompanies N
  - Grammatical Number is marked on N
    "stars" "mice"
  - These N-forms have an abstract feature [NUM +PL]
Lexical Quantifiers

A lexeme whose root denotes a quantity

- **Numeric** quantifiers (Numerals)
  - denote a *precise* quantity
  - quantify *individuated countable* entities

- **Non-numeric** quantifiers
  - denote an *imprecise* quantity
  - quantify a *mass* entity or *multiple countable* entities
Count vs Mass

- Some **non-quantifiers inflect** for Number
  
  **ENGLISH:**
  - This person
  - *These person
  - This water
  - These water+s
  - This chicken
  - These chicken+s

- **Numerals** combine only with countable entities
  
  **ENGLISH:**
  - 1 water / 5 *chicken / 1 chicken+Ø
  - 5 chickens
  - 5 cups of water
  
  **MANDARIN:**
  - 1 / 5 *shui / *ren
  - 1 ge ren
  - 5 ge ren
  - 5 bei shui
  
  **ENGLISH:**
  - 1/5 water / person
  - 1-CLASS person
  - 5-CLASS person
  - 5 cup water

- **Non-numeric** quantifiers vary with respect to count vs mass
  
  **ENGLISH:**
  - many chicken-s / much chicken
  
  **MANDARIN:**
  - yi-xie ren / *yi-xie shui
  
  **ENGLISH:**
  - a few people / *a few water

  **MANDARIN:**
  - hen duo ren / hen duo shui

  **ENGLISH:**
  - a lot of people / a lot of water

- Some **non-numeric** quantifiers **agree** for count vs mass
  
  **ITALIAN:**
  - Tant-i amic-i / tant-o pane
  
  **ENGLISH:**
  - a lot of friends / a lot of bread
Phrasal plurals

- **Without phrasal agreement:**
  - A plural form occurs with another nominal element that does not express Number
    - “the star” “the stars” regular count N
    - “the mouse” “the mice” irregular count N
    - “the cheese” “the cheese-s” mass N

- **With phrasal agreement:**
  - A PL-marked N occurs with another nominal element that also expresses quantity
    - “three *star/star-s” “three *cheese/cheese-s” numeric Q
    - “these *star/star-s” “these *cheese/cheese-s” inflecting Dem.
    - “some *star/star/stars” “some cheese/cheeses” non-numeric Q
Intrinsic vs Extrinsic Features

- **Semantically intrinsic features**
  - marked morphologically on an item
  - naturally or logically associated with that item’s semantic core
    - e.g. Noun + Natural Gender / Count Noun + PL

- **Semantically extrinsic features**
  - marked morphologically on an item
  - not logically related to its semantic core
    - e.g. Demonstrative + Number, Demonstrative + Gender
Quantity is extrinsic to location

Demonstrative-N agreement in German

Dies ist mein Buch  (This is my book)
Dies sind meine Bücher  (These are my books)
Ich mag dieses Buch-Ø  (I like this book)
Ich mag diese Bücher  (I like these books)
Agreement and Emergence in SLA

- Processability Theory assumes:
  - Lexical PL requires direct activation of PL N
  - Agreement involves unification of features
  - That process is not required for lexical PL
  - So lexical PL should emerge before phrasal PL
Empirical Research Findings
Number Agreement in Italian SLA
Di Biase & Kawaguchi (2002)

- Characteristics of L2
  - “Nominal modifiers obligatorily agree in GEN(der) and NUM(ber) with the NP head.” (p 280)
  - Number and gender are portmanteau forms
    - SING       PL
      MASC libro  libri  ('book', 'books')
      FEM  casa    case    ('house', 'houses')

- Research Design
  - Cross-sectional
  - L1 English L2 Italian - instructed setting
  - 6 adult learners
  - Lexical & Numeric Pl vs other Phrasal PL
  - Errors in Gender were ignored
Results

- 1 learner acquired no plurals
- 1 learner acquired lexical but not phrasal plural
- All 4 learners who had acquired phrasal plurals had also acquired lexical plurals

Conclusion:

- Lexical and Numeric plurals are acquired before other phrasal plurals.
Lexical vs Numeric PL in English SLA
Dao (2007)

- Characteristics of L1 (Vietnamese)
  - Classifier Language with General Number
    - *hai hoa hai bông hoa*
    - two flower two CLASS flower

- Research Design
  - Cross-sectional
  - Spontaneous oral production, elicited by tasks
  - L1 Vietnamese L2 English - instructed setting
  - 36 school learners, aged 13-18
Results

- 2 learners acquired lexical but not numeric PLs
- 6 learners acquired numeric but not lexical PLs!
- 3 Stages in use of PL Nouns in plural contexts:
  - Stage 1  \textit{book}  \textit{five book / one book}  No PL
  - Stage 2  \textit{book}  \textit{five books / one book}  Numeric PL
  - Stage 3  \textit{books}  \textit{five books / one book}  Lexical PL
- Numeric PL PL was acquired first
A Transfer Account: Weaver ++

SLA requires development of new links between conceptual-grammatical and formal interfaces.

Conceptual Stratum

Star \[\text{Concepts}\]

N \[\text{Grammatical features}\]

[sta:] \[\text{Forms}\]

N

L

[sta:]
L1 state: Numeric expression
No Plural Concept

Conceptual Stratum

Lemma Stratum

Form Stratum
Transfer to L2: Numeric expression

No Plural Concept

Conceptual Stratum

Lemma Stratum

Form Stratum

TWO

COUNT

BOOK

Q

two

book

<intwo>

<-s>

<book>
Emergent Plural
Activation of *Count Concept and Lemma* by Numbers

Conceptual Stratum

Lemma Stratum

Form Stratum
3. TL structure: Numeric
Phrasal processing

1) non ho tant-i amic-i ....
not have-1/SING such a lot of-PL friends-.PL
maschil-i (native:maschi) (Ann)
masculine.PL
‘I don’t have many male friends.’

- In (1) “both modifiers agree with the noun” (DiBiase and Kawaguchi p 288)

- "The search for the lexical item amici is instigated (according to Levelt’s model) by conceptual structure, which would specify the number and gender information for this item (e.g., amici rather than amico, etc.)"

- “The specific value of the features of the noun… are then unified with the other components of the phrase, i.e., the Determiner and the Adjective.” (DiBiase and Kawaguchi p 281)
Lexical PL: Feature Mapping in Syntax

NP → Pred: friend, Num SG | f-structure

Amico [PRED ‘friend’ ↑ Num = SG ] Lexical structure

NP → Pred: friend, Num PL | f-structure

Amici [PRED ‘friend’ ↑ Num = PL ] Lexical structure
PL Agreement through unification

N and Q each contribute the feature [Num = PL] to NP/DP.
When is unification involved?
Our proposal

- Co-activation is involved when two items agree for intrinsic features.

- Syntactic Unification is involved when the agreement feature is semantically extrinsic to one item.

- Languages differ as to which intrinsic features enter into agreement with extrinsic features.

- These differences may be related to typological differences such as that between classifier and non-classifier languages or general and grammatical number systems.
To Further This Research we need…

- Studies from various L1/L2 combinations
  - similar NP/DP typology and Number system
  - different NP/DP typology and Number system
  - Longitudinal as well as cross-sectional designs

- Emergence Orders for Nominal Structures
  - Emergence Orders for individual learners
  - Spontaneous, meaning-focused oral production data
In analysis, to separate

- **Lexical plural**
  "stars" "mice"

- **Phrasal plural**
  - Without agreement
    "the stars"
  - With agreement
    - Numeric Pl: *three stars*
    - Non-Numeric PL: *many stars, some stars, these stars*
To differentiate

- **Semantic co-activation**
  - Two items are activated simultaneously by the same conceptual content
  - No conflict of feature values is possible
  - No unification is required

- **Syntactic unification**
  - Of two items, A and B only A is activated by a plural concept but
  - B has two competing forms, which vary with the value of A
  - The value of B must be retrieved syntactically from A
To investigate number agreement between

- Num and N (coactivation)
- Non-numeric Q & N (coactivation/ unification)
- Adj and N (unification)
- Articles and N (unification)
- Demonstratives and N (unification)

And to consider Number combined with other features
Conclusions

- Phrasal agreement is too simple a notion
- Learners start with different conceptualisations of Quantity
  - Mass/Count
  - Sg/PL
- Conceptual coactivation precedes syntactic unification
References