Functions of gender and numeral classifiers in Nepali

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A story: Back to the source and the WHY

- What is happening in the human brain?
- What makes humans different from other animals?
- Capacity of communication: Language
- The capacity to store and retrieve almost endless information from the environment
- CATEGORIZATION

Figure 1: An example of categorization
An example of categorization in language

- Nominal classification
- How languages classify referents via nouns of the lexicon
- Grammatical gender (e.g., French: one.F big.F table)
- Numeral classifier (e.g., Mandarin Chinese: one CLF.flat table)

Figure 2: Corbett, 2013; Gil, 2013
How to look at nominal classification?

- The way we define categories matters

RESEARCH

Gender and classifiers in concurrent systems: Refining the typology of nominal classification

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Figure 3: Example of categorizing linguistic features
How to look at nominal classification?

- The way we define categories matters
- The way we quantify categories also matters

**Figure 4:** Example of quantifying linguistic features
Nominal classification: Why Nepali?

- Funded project: LINGUISTIC DIVERSITY (Uppsala University, Sweden - UFV-PA 2016/536)
- A typology of classifiers and gender: From description to computation

<table>
<thead>
<tr>
<th>Classifier</th>
<th>Gender</th>
</tr>
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<tbody>
<tr>
<td>Description</td>
<td>II (Assamese), III (Nepali)</td>
</tr>
<tr>
<td>Worldwide</td>
<td>IV, V, VII</td>
</tr>
<tr>
<td>In family</td>
<td>VI (SMATTI)</td>
</tr>
<tr>
<td>Individually</td>
<td>-</td>
</tr>
</tbody>
</table>
Contributions

A fine-grained functional typology (Contini-Morava and Kilarski, 2013)

- If nominal classification systems co-occur, they are likely to have different functions.
- If different types of classification are exploited for the same type of function, this is expected to happen with respect to different types of nouns and referents.
- As a consequence, in both cases we deal with a complementary distribution of functions.
Contributions

A fine-grained functional typology (Contini-Morava and Kilarski, 2013) that relates to linguistic complexity.

- Sinnemäki (in press) interpreted the complementary distribution of gender and classifiers in terms of a complexity trade-off and a probabilistic universal.
- Further developing this observation, we attribute this distribution to the complementary nature of the functions of the two systems.
Nominal classification: Why Nepali?

Contributions

A fine-grained functional typology (Contini-Morava and Kilarski, 2013) that relates to linguistic complexity and provides diversity of data

<table>
<thead>
<tr>
<th></th>
<th>Languages</th>
<th>Ratio</th>
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<tr>
<td>Americas</td>
<td>14</td>
<td>82.4%</td>
</tr>
<tr>
<td>Africa</td>
<td>2</td>
<td>11.8%</td>
</tr>
<tr>
<td>Asia</td>
<td>1</td>
<td>5.8%</td>
</tr>
</tbody>
</table>
Nominal classification in Nepali: An overview

The literature is rather inconclusive...

**How many gender systems?**

- 4 (Manders 2007: 52)
- 11 (Pokharel 2010: 40).

**How many classifiers?**

- 200< (Pokharel 2010:53)

*Different varieties of Nepali?*
Nominal classification in Nepali: Our method

- Data source: ~10 native speakers
- Framework: Fedden and Corbett + Functional typology

Figure 5: Languages in Nepal
Nominal classification in Nepali: Gender 1

**masculine/feminine**

1. *Mer-o ramr-o keto nepali bolcha.*
   my-M beautiful-M boy(M) Nepali speak.PRS.3SG.M
   ‘My handsome boyfriend speaks Nepali.’

2. *Mer-i ramr-i keti nepali bolche.*
   my-F beautiful-F girl(F) Nepali speak.PRS.3SG.F
   ‘My beautiful girlfriend speaks Nepali.’

3. *Mer-o kitaab yahan cha.*
   my-M book(M) here be.PRS.3SG.M
   ‘My book is here.’
**Nominal classification in Nepali: Gender 2**

**human/non-human** (Pronominal gender system)

1. *U ramr-i che.*
   he/she beautiful-F be.PRS.3SG.F
   ‘She is beautiful.’

2. *U ramr-o cha.*
   he/she beautiful-M be.PRS.3SG.M
   ‘He is handsome.’

3. *Tyo ramr-o cha.*
   it beautiful-M be.PRS.3SG.M
   ‘It (e.g., a house) is beautiful.’
Nominal classification in Nepali: Classifiers (~10)

1. *tin jana manche*
   three CLF.HUMAN man
   ‘three men’

2. *tin wot-a ranga*
   three CLF.GENERAL-M male_bu alo
   ‘three (male) buffaloes’

3. *tin-t-i keti*
   three-CLF.GENERAL-F girl
   ‘three girls’

4. *tin dana syaauu*
   three CLF.ROUND.FRUIT apple
   ‘three apples’

5. *tin khili cuurot*
   three CLF_ARTIFICIAL.CAPSULE cigarette
   ‘three cigarettes’
A functional typology of nominal classification
(Contini-Morava & Kilarski 2013)

• Types of functions:
  
  • semantic (expansion of the referential power of the lexicon)
  
  • pragmatic (establishing and manipulating the status of discourse referents)
Semantic functions

- Expansion of the lexicon: creating new lexical items
- Differentiating referents: differentiating a semantically neutral lexeme
- Individuation: interaction with number
- Attributing properties to referents: expressing affective meanings
Pragmatic functions

• Reference identification: anaphoric and deictic use of classification markers to help identify a referent, and disambiguate between potential referents

• Reference management: correlation with definiteness and prominence in discourse

• Re-presentation: use of classification markers to introduce a new discourse perspective on the referent
Reference identification

• All types of nominal classification markers can be used to identify, establish and maintain referents in discourse.

• Three types of uses
  • introduce a referent and then refer to it anaphorically (reference tracking)
  • identify a referent in a speech situation (deixis)
  • and disambiguate among the referents of two or more antecedent noun phrases (disambiguation)

• Agreement marking as an aid to clause building (with or without semantic transparency)
Use of gender in Nepali for disambiguation

• Both types of gender marking (Genders 1, 2) can be used to introduce and identify referents, and disambiguate between referents.

• Gender 1 can disambiguate between animate referents while Gender 2 can disambiguate between human and other referents.

• Use of masculine/feminine gender marking on the general classifier and the verb for disambiguation

a. Sarita ra Ram mer-aa saathi-haru hun.
   Sarita and Ram my-PL friend-PL be.PRS.3PL
   ‘Sarita and Ram are my friends.’

b. eu-t-i London-ma bosche ra
   one-CLF.GENERAL-F London-at live.PRS.3SG.F and
   eu-t-a Paris-ma boscha
   one-CLF.GENERAL-M Paris-at live.PRS.3SG.M
   ‘One lives in London and one lives in Paris.’
Use of numeral classifiers in Nepali for disambiguation

- Masculine and feminine forms of the general classifier (as gender marking) are used for animate referents.

- Numeral classifiers are mainly used among inanimate referents, identifying them based on their physical properties and material.

- Use of the classifiers for artificial capsules vs. round fruits for disambiguation

\[ \text{a.~} \text{mai-le} \text{ ek~} \text{khili} \quad \text{cuurot} \quad \text{ra~} \text{ek~} \text{dana} \quad \text{syaaauu} \\
\text{I-ERG one~CLF.ARTIFICIAL.CAPSULE~cigarette and one~CLF.ROUND.FRUIT~apple} \\
\text{kinne} \quad \text{buy.PAST.1SG} \\
\text{‘I bought a cigarette and an apple.’} \]

\[ \text{b.~} \text{mai-le} \text{ tyo~} \text{ek~} \text{khili} \quad \text{Ram-lai} \quad \text{dine} \\\n\text{I-ERG that one~CLF.ARTIFICIAL.CAPSULE~Ram-to~give.PAST.1SG} \\
\text{‘I gave that one (cigarette) to Ram.’} \]
Reference management

• Expression of definiteness/specificity, topicality, thematic salience and referentiality

• Signalled by the presence of gender marking or agreement, or the presence/choice of classifier, or the position of classifier phrase

• Such correlations are more typically found in classifiers due to their less obligatory nature.
Use of gender in Nepali for reference management

• Restricted differentiation among feminine non-human animates, depending on prominence in discourse

• Generic use in eu-t-a parevaas (one-CLF.GENERAL-M pigeon(M)) ‘one pigeon’

• Gender-specific use in eu-t-i (pothi) parevaas (one-CLF.GENERAL-F (female) pigeon(F)) ‘one (female) pigeon’
Use of numeral classifiers in Nepali for reference management

• Effect of the presence/absence of a classifier: more salient referents tend to be introduced with a classifier within a more complex noun phrase.

• Effect of the choice of a classifier: a specific classifier is used for the first mention of a referent, being then substituted with a general classifier.

• Use of the specific classifier for sheets of paper > general classifiers (fused and independent)

a. tebul-ma ti pac pana kagaj chan
table-at on five CLF.2D paper be.PRS.3PL
‘There are five sheets of paper on the table.’

b. dui-t-a laam-aa chan ra tin wot-a chot-aa chan
two-CLF.GENERAL-M long-PL be.PRS.3PL and three CLF.GENERAL-M short-PL be.PF
‘Two are long and three are short.’
Re-presentation of referents

- Use of a gender marker/classifier to present referents from a new perspective, once they have been introduced into the discourse.

- In a gender system a referent is first identified by indexing morphosyntactic features of a noun; new information may then be presented by different agreement markers.

- ‘Re-presentation of referents’ conforms with
  - Corbett’s (1979, 2006) Agreement Hierarchy
  - Barlow’s (1991) identification/elaboration of referents in discourse
  - Köpcke, Panther & Zubin’s (2010) pragmatic hierarchy of agreement
Use of gender in Nepali for representation of referents

• Choice between masculine and feminine agreement can be used to signal generic vs. gender-specific reference, and thus general reference vs. degree of affection.

• Reference to a female friend with a common gender noun (with masc. agreement) > feminine agreement forms

a. mer-o     eu-t-a     saathi   cha
   my-M     one-CLF. GENERAL-M  friend     be.PRS.3SG.M

b. Paris-ma  kam  garcha
   Paris-at work do.PRS.3SG.M

c. u angreji  bolche    ra u ramr-i che
   he/she  English speak.PRS.3SG.F  and he/she beautiful-F be.PRS.3SG.F

   ‘I have a friend. (He) works in Paris. She speaks English and she is beautiful.’
Use of numeral classifiers in Nepali for re-presentation of referents

• Change of a numeral classifier can be used to indicate the degree of respect towards animate referents or the inherent properties of inanimate referents.

• Use of the classifier for round fruits (betel nuts as fruits) > use of the specific classifier for artificial capsules (betel nuts prepared for consumption)

a. mai-le rukh-bata das dana supari tipe
   I-ERG tree-from ten CLF.ROUND.FRUIT betel nut take.PAST.1SG
   ‘I took ten betel nuts from the tree.’

b. tyaspachi mai-le ghar-ma das wot-a supari tayar pare
   then I-ERG house-at ten CLF.GENERAL-M betel nut ready make.PAST.1SG
   ‘Then, I prepared the ten betel nuts at home.’

c. Ram-le supari khana manparaucha
   Ram-ERG betel nut eat like.PRS.3SG.M
   ‘Ram likes to eat betel nut.’

d. tyasaile mai-le tin khili Ram-lai diye
   so I-ERG three CLF.ARTIFICIAL.CAPSULE Ram-to give.PAST.1SG
   ‘So I gave three to Ram.’
Complementary distribution of functions

- A function can be expressed by only one system (reference management).

- Gender and classifiers can be exploited with different types of nouns, i.e. animate vs. inanimate (reference identification).

- Gender and classifiers can be exploited for the same function in the same category of nouns to convey different meanings (re-representation of referents).

<table>
<thead>
<tr>
<th></th>
<th>Gender(M/F)</th>
<th>Classifier</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reference identification</td>
<td>Yes (animates)</td>
<td>Yes (inanimates)</td>
</tr>
<tr>
<td>Reference management</td>
<td>Restricted</td>
<td>Yes</td>
</tr>
<tr>
<td>Re-presentation</td>
<td>Yes (degree of affection)</td>
<td>Yes (respect)</td>
</tr>
</tbody>
</table>
Conclusions

• Complementary distribution of gender vs. numeral classifiers due to avoidance of multiple patterns in the same functional domain

• Limitations and prospects
  • Need for data from a wider range of varieties of Nepali
  • Extent of particular functions, e.g. re-presentation of referents
  • ‘Functional load’ of (concurrent) nominal classification systems of different degrees of complexity