Reexamining the status of inclusive pronouns: a typological study

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thanks to Josiah McCoy, Caleb Hicks, Emily Andino, Metta Crouse
There are many proposals about the inventory of grammatical/morphological features for person. How to decide between them?

Today: the status of inclusive person as a first person

- Typological evidence about the distribution of pronominal elements in morphological paradigms.
Overview

- Review of conflicting claims in the literature about whether inclusive person is a type of 1st person (Daniel 2005, Moscal 2017) and typological data offered to support them.
- Test these proposals using a different, independent dataset that is controlled for genetic and areal bias.
- Discuss the feature systems that fit the data.
Incompatible claims about inclusives

- Inclusives are a type of 1st person and form a natural class with exclusive 1st person (traditional view)
  - exclusive is contained inside the inclusive, and the latter is more marked (privative features, e.g., Moscal 2017)
  - exclusive and inclusive have symmetrical structure (neither is more marked) (binary features with no markedness difference ascribed to their values, e.g., Harbour, 2017)
- Inclusives are not a type of 1st person (Daniel, 2005, Cysouw, 2005)
Traditional view: incl and excl form a natural class

About 1/3 of the languages (based on the WALS sample) make a clusivity distiction:

1st p. exclusive = any group including speaker but not addressee
1st p. inclusive = any group including speaker and addressee

E.g., [+part +I −you] vs. [+part +I +you] (Noyer, 1992)
[Part Speak Addr.] vs. [Part Speak] (Harley & Ritter, 2002)
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About 2/3 of the languages from the WALS have no clusivity distinction:

1st person = any group including a speaker

E.g., [+part +I] (Noyer, 1992)
Part. (=speaker by default) (Harley & Ritter, 2002)
Moscal (2017): inclusive **contains** exclusive (similar to other containment hierarchies proposed in Bobalijik 2012, 2015):

```
D \pi
  | speaker
D \pi
  | speaker
-D -sg
  | speaker addressee
D \pi
  | -sg
```

1p.sg excl. plural incl. plural

1sg << 1excl << 1incl
General prediction: we expect to see morphological relatedness among all three categories: 1sg, inclusive (non-sg), and exclusive (non-sg).

Predictions of the containment hypothesis (Moscal 2017)

1sg <<< 1excl <<< 1incl :

- AAA (some morphological relation among all three persons)
- ABB (1incl = 1excl vs. 1sg)
- ABC (all different)
- AAB (1sg = 1excl vs. 1incl)
- *ABA (1sg = 1incl vs. 1excl)

E.g.: B = [speaker -sg], A = [speaker] would generate ABB (since incl=[speaker -sg] is a subset of excl=[speaker addr. -sg])
Moskal’s (2017) typological study

Examined suppletion patterns in the pronominal roots using Norval Smith’s database of free pronouns (235 languages):

<table>
<thead>
<tr>
<th>Pattern</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABC</td>
<td>87</td>
<td>37%</td>
</tr>
<tr>
<td>AAA</td>
<td>59</td>
<td>25%</td>
</tr>
<tr>
<td>ABB</td>
<td>34</td>
<td>14%</td>
</tr>
<tr>
<td>AAB</td>
<td>54</td>
<td>23%</td>
</tr>
<tr>
<td>ABA</td>
<td>1</td>
<td>0.4%</td>
</tr>
</tbody>
</table>
The containment hypothesis can easily account for exclusive → inclusive (semantically additive)

(1) [Part Speaker] + [Addressee] → [Part Speaker Addressee]

But not for:
inclusive → exclusive

(2) [Part Speaker Addressee] + ? → [Part Speaker]

Moscal (2017) acknowledges that both patterns are possible, but claims that the first one is more common.
Daniel (2005) argues that

- **Inclusive is NOT a type of 1st person**, it’s a separate category
- although “we” in languages like English can be used for both inclusive and exclusive reference, morphologically it is a counterpart of exclusive in languages with clusivity distinction.

Similarly, Cysouw (2005) argues that inclusive has no special relationship to either 1st (or 2nd person).

- Whole form syncretism is common for 1st sg. and 1st exclusive non-sg, but practically unattested for 1st sg. and 1st inclusive.
Predictions based on Daniel 2005

Table 7. Hierarchical person assignment rules

<table>
<thead>
<tr>
<th>a. Non-inclusive languages</th>
<th>b. Inclusive languages</th>
</tr>
</thead>
<tbody>
<tr>
<td>0. If the group includes both speaker and addressee, assign inclusive 1st person (traditional exclusive)</td>
<td></td>
</tr>
<tr>
<td>1. If the group includes the speaker, assign 1st person</td>
<td></td>
</tr>
<tr>
<td>2. If the group includes the addressee, assign 2nd person</td>
<td></td>
</tr>
<tr>
<td>3. Assign 3rd person</td>
<td></td>
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* The mutual ordering of the rules 1 and 2 for inclusive languages is irrelevant.

- ABC, AAB (1sg = excl; incl)
- *AAA, *ABA, *ABB (of the type inclusive → exclusive)
- crucially generic “we” is not an instance of ABB, and generic 1st person is not an instance of AAA.
Based on a sample of “not quite one hundred of inclusive languages” (a subset of the languages in WALS):

- inclusives are morphologically distinct from 1sg in **more than 80 languages** (i.e., ABC, AAB)
- some languages have “compound inclusives”: 1st person + 2nd person morpheme (these are not considered as supporting a link between 1sg and inclusive)
- only three cases of possible counterexamples:
  - 1 case of ABA (Macushi, a Cariban language)
  - 2 cases of ABB:
    1. Gooniyandi (min.incl = excl., vs. incl.) cf. a similar pattern in Yaoure (Hopkins 1986 via Siewierska 2004)
    2. Limbu: incl. → excl.
Conflicting results?

Daniel’s (2005) and Moscal (2017) findings are hard to compare given that the former is based on a balanced set of languages and the latter one is not (as far as I can tell).

### Comparison of results

<table>
<thead>
<tr>
<th></th>
<th>Daniel</th>
<th>Moscal</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABC</td>
<td>&gt;80%</td>
<td>37%</td>
</tr>
<tr>
<td>AAB</td>
<td>23%</td>
<td></td>
</tr>
<tr>
<td>ABB</td>
<td>2%</td>
<td>14%</td>
</tr>
<tr>
<td>AAA</td>
<td>0%</td>
<td>25%</td>
</tr>
<tr>
<td>ABA</td>
<td>1%</td>
<td>0.4%</td>
</tr>
</tbody>
</table>
Current typological study

Our database (in progress): 384 languages, 221 currently documented

- assigned languages and genera from WALS to 6 geographical areas of Dryer (1989)
- picked 40 random genera for each region (the smallest number of genera in any region) and 2 random languages from each genus.
- the final target was reduced to 64 languages per area (due to the fact that some genera only have one language, and some languages listed in WALS are close dialects
General types of inclusivity

76 languages (34%) with inclusive/exclusive distinction.

- 2 languages with inclusives marked optionally (otherwise no distinctions in 1p.)
- 60 languages with a standard inclusive/exclusive distinction
- 12 languages with “minimal inclusives”
- 2 languages with other minority patterns
Similar to what Daniel (2005) finds: he reports about 20% of languages having morphologically related sg./pl. pronouns.

Expectation for 1st person: about 80% of ABC + ABB
Breakdown for 1st person morphological relatedness:

<table>
<thead>
<tr>
<th></th>
<th>count</th>
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</tr>
</thead>
<tbody>
<tr>
<td>ABC</td>
<td>48</td>
<td>62%</td>
</tr>
<tr>
<td>AAB</td>
<td>10</td>
<td>13%</td>
</tr>
<tr>
<td>ABB/ABB=2</td>
<td>5</td>
<td>6%</td>
</tr>
<tr>
<td>AAA</td>
<td>5</td>
<td>6%</td>
</tr>
<tr>
<td>ABA/A(C)BA</td>
<td>4</td>
<td>5%</td>
</tr>
<tr>
<td>ABBA</td>
<td>1</td>
<td>1.3%</td>
</tr>
<tr>
<td>incl=1+2</td>
<td>4</td>
<td>5%</td>
</tr>
</tbody>
</table>
Summary of the results

- The two most common patterns are the ones that Michael (2005) predicts to be possible: ABC, AAB
- However, there are also potentially 14 patterns that Michael’s (2005) analysis does not predict, in particular:
  - AAA (Miskito, Pengo, Maung, Tojolabal, Amuzgo)
  - ABB (Semelai, Temiar, Gooniyandi, Tübatulabal, (Orokolo))
  - ABA (Nunggubuyu, Worrora, Panare, Puquina)
- Recall: the containment hypothesis only excludes ABA
Panare is a Cariban language related to Macushi which is discussed as a possible ABA pattern in both Daniel (2005) and Moscal (2017).

Free pronouns:

<table>
<thead>
<tr>
<th></th>
<th>SG</th>
<th>DU</th>
<th>PL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1exc.</td>
<td>ju</td>
<td></td>
<td>ana</td>
</tr>
<tr>
<td>1incl.</td>
<td>ju-to</td>
<td>ju-ta-kon</td>
<td></td>
</tr>
<tr>
<td>2nd</td>
<td>amən</td>
<td></td>
<td>amən-ton</td>
</tr>
</tbody>
</table>

- Moscal: exclusive in Macushi does not have an affixal variant and does not control plural agreement on the verb → not a true pronoun.
Possessive prefixes on nouns (consonant stems):

1SG \( \emptyset, \ ji- \) (+´)

1EXCL (PL) ana-

2SG a-

3SG i-, yV-, \( \emptyset \)

“All other plural possessors must be indicated by free nominals or pronouns, which precede the possessed noun.” (Payne, 2012)

- This might indicate that the exclusive \textit{ana} is not marked for plurality, while inclusive is.
Puquina is an extinct Inca language of South America.

Federico reports the following pronouns:

<table>
<thead>
<tr>
<th></th>
<th>SG</th>
<th>PL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1exc.</td>
<td>ni</td>
<td>seŋ</td>
</tr>
<tr>
<td>1incl.</td>
<td>ni-tʃ</td>
<td></td>
</tr>
<tr>
<td>2nd</td>
<td>pi</td>
<td>pi-tʃ</td>
</tr>
<tr>
<td>3rd</td>
<td>tʃu, hi</td>
<td>tʃu-tʃ</td>
</tr>
</tbody>
</table>

Possessive pronouns:

1p. no seŋ
2p. to
3p. tʃu

Grasserie (1894) only discusses possessive prefixes and verbal agreement, does not mention a distinction between inclusive and exclusive.
### Worora (Family: Wororan). Love (2000)

<table>
<thead>
<tr>
<th></th>
<th>SG</th>
<th>DU</th>
<th>PAUCAL</th>
<th>PL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1exc.</td>
<td>ηaiu</td>
<td>a-rendu</td>
<td>a-riŋgu-ri</td>
<td>æ-ri</td>
</tr>
<tr>
<td>1incl.</td>
<td>ŋa-rendu</td>
<td>ŋa-riŋgu-ri</td>
<td>ŋa-ri</td>
<td></td>
</tr>
<tr>
<td>2nd</td>
<td>ŋundju</td>
<td>ŋi-rendu</td>
<td>ŋi-riŋgu-ri</td>
<td>ŋi-ri</td>
</tr>
</tbody>
</table>

### Nunggubuyu (Family: Gunwingguan). Heath (1984)

<table>
<thead>
<tr>
<th></th>
<th>MINIM</th>
<th>AUGMENTED</th>
<th>PL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1exc.</td>
<td>ηaja</td>
<td>ni-ni</td>
<td>nu-ru</td>
</tr>
<tr>
<td>1incl.</td>
<td>na-ga-wa</td>
<td>ηa-gu-ni</td>
<td>ηa-gu-ru</td>
</tr>
<tr>
<td>2nd</td>
<td>na-gaŋ</td>
<td>nu-gu-ni</td>
<td>nu-gu-ru</td>
</tr>
<tr>
<td>3rd</td>
<td>ni-ga (m.)</td>
<td>wu-gu-ni (m.)</td>
<td>wu-gu-ru (m.)</td>
</tr>
</tbody>
</table>

*wa = dual nominal suffix*
Testing markedness

- exclusive → inclusive (expected)
  - Orokolo (Eleman, Australia) in pl. but not dual
    \[ ela \ (exl.pl.) \rightarrow ela-vi:\text{la} \ (incl.pl.) \]

- inclusive → exclusive
  - Temiar (Aslian, Southeast Asia):
    \[ ar \ (incl.du.) \rightarrow j-ar \ (excl.du.); \text{prefixes: } a- \ (incl.du.) \rightarrow j-a- \ (excl.du.) \]
  - Tübatulabal (Uto-Aztecan, North America): dual forms
    \[ \eta \gamma \text{ila} \ (incl) \rightarrow \eta \gamma \text{ila-}a\eta \ (excl) \]
  - Tojolabal (Mayan, North America)
    \[ ke\eta\text{entik} \rightarrow ke\eta\text{entik-on} \]
If neither exclusive nor inclusive is more marked, and either of them can be related to 1sg (to the exclusion of the other), what theory of person features can account for this?

Harley & Ritter (2002) system, but with binary features:
This theory correctly predicts the 5 attested (out of 15 possible) “partitions” discussed in (Harbour, 2017) unlike the theory with just two binary features [+I] [+you].

Natural classes:

- 1st person “generic”: [+part → +speaker ] (AAA)
- 1Ex and 1In: [+part → +speak, −sg] (ABB)
- 1sg. and 1Ex [+ part → +speaker → − addr] (AAB)

Can we get ABA?

*Yes, since features are binary, there’s no containment. Assuming that specific morphemes block general ones:

\[ [+\text{part} +\text{speaker}] = A \]
\[ [+\text{part} +\text{speaker} −\text{addr}] = B \]
Does incl. form a natural class with 2nd person?

Not counting compound patterns, there were

- 4 cases in which incl. and 2nd person shared a stem
- 5 cases in which excl. and 2nd person shared a stem

Similar facts are reported in Cysouw (2005) re. full-form syncretism.
<table>
<thead>
<tr>
<th>features</th>
<th>denotation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1p. excl.</td>
<td>+author (−part (π))</td>
</tr>
<tr>
<td>1p. incl.</td>
<td>+author (+part (π))</td>
</tr>
<tr>
<td>2p.</td>
<td>−author (+part (π))</td>
</tr>
<tr>
<td>3p.</td>
<td>−author (−part (π))</td>
</tr>
</tbody>
</table>

Interestingly, the sets that include just the author are in the denotation of both 1p.excl. and 1p.incl. They are “subtracted” from 1p.incl. by *Lexical Complementarity*. 
1st person: $+\text{author}(\pi)$ (AAA)

1Ex and 1In: $-\text{atomic}(+\text{author}(\pi))$ (ABB)

1sg. and 1Ex $+\text{author}(-\text{part}(\pi))$ (AAB)

What about ABA?

If the exclusive form in a language is defective and fails to block the inclusive via Lexical Complementarity, we get:

1p.sg. $+\text{atomic}(+\text{author}(+\text{part}(\pi))$ $i_o$

1p.non-sg. incl. $-\text{atomic}(+\text{author}(+\text{part}(\pi))$ $i_u$
Deriving exclusive from inclusive is easy:
\(+\text{author}(\pi) + \neg \text{participant} \rightarrow +\text{author} (\neg \text{part} (\pi))\)

The reverse derivation (inclusive from exclusive):
\(+\text{author}(\pi) + +\text{participant} \rightarrow +\text{author} (+\text{part} (\pi))\)
If the AAA, ABB, and ABA patterns we found are not accidental or due to error,

- inclusive is a first person pronoun after-all
- exclusive is not contained inside inclusive, the two are more symmetric in their structure (which also accounts for cases of incl → excl.)
Appendix: languages with inclusives

- **ABC**: Lamang, Chrau, Semelai, Cheroki, Tariana, Limilngan, Taba, Somali, Kolami, Bikol, Wari’, Inanwatan, Kwaza, Telugu, Bajau (Sama), Maringe, Tboli, Embera, Gayo, Abui, Sentani, Djingili, Wambaya, Bororo, Chang, Siriono, Toaripi, Mun, Ngalakan, Manam, Ingush, Kokota, Ju’hoan, Ho, Nisenan, Mixtec, Sahu, Nambikuara, Movima, Central Tagbanwa, Aymara, Tlapanec, Warembori, Iban, Yagua, Bribri, Tobelo, Maranungku
- **AAB**: Cubeo, Evenki, Palauan, Malagasy, Vietnamese, Nivkh, Cayuvava, Nação Kiriri, Sumu, Ngankikurungkurr
- **ABB**: Semelai, Temiar, Gooniyandi, Tübatulabal, Orokolo
- **ABA/ACBA**: Nunggubuyu, Worrora, Panare, Puquina, (Ngandi = XOR)
- **AAA**: Miskito, Pengo, Maung, Tojolabal, Amuzgo
- **1+2**: Mon, Bilua, Ika, Sumu