

3/4 agreement patterns beyond hybrid nouns

Troy Messick

Rutgers University

Hybrid Nouns

I will use the term **hybrid noun** to refer to NPs that have the ability to control both morphological and semantic agreement. Take for example *vrač* ('doctor') in Russian.

(1) *Russian* [Pesetsky, 2013, 36]

- a. *vrač-ъ* *prišël-ъ*
doctor-NOM.SG arrived-M.SG
'A doctor arrived.'
- b. *vrač-ъ* *prišl-a*
doctor-NOM.SG arrived-F.SG
'A doctor arrived.'

While *vrač* is always morphologically masculine, it may show feminine agreement if the referent of the NP is female.

Hybrids Cross-linguistically

In addition to *vrač*, we find hybrid nouns in a number of languages and for different features (person, number and gender). Below is a small sample.

- Collective nouns (e.g., *committee*) in many English dialects
- Broken Plurals in Arabic
- *be'alim* ('owners') in Hebrew
- Imposters

The 3/4 Pattern

We find the 3/4 pattern when there is agreement on two targets.

(2) *Russian*

- a. Nov-yj vrač-ъ prišël-ъ
new-M.NOM.SG doctor-NOM.SG arrived-M.SG
'A new doctor arrived.'
- b. Nov-yj vrač-ъ prišl-a
new-M.NOM.SG doctor-NOM.SG arrived-F.SG
'A new doctor arrived.'
- c. *Nov-aja vrač-ъ prišël-ъ
new-F.NOM.SG doctor-NOM.SG arrived-M.SG
'A new doctor arrived.'
- d. Nov-aja vrač-ъ prišl-a
new-F.NOM.SG doctor-NOM.SG arrived-F.SG
'A new doctor arrived.'

Questions

- What is special about hybrid nouns?
 - Following previous research, I will argue that we have **two sets of features** on NPs: one that interfaces with the morphology; one that interfaces with the semantics. I will further argue that 'hybirdness' is more common than previously thought and other NPs like **Quantified NPs** in English and **de se pronouns in Telugu** should be seen as 'hybrids.'
- What is the source of the 3/4 agreement pattern?
 - I argue that mapping from agreement targets to agreement features must be **monotonic** such that once semantic features are accessed for agreement operations, all subsequent operations must target semantic features.

Quantified NPs as hybrids

It has been noticed previously that **Quantified NPs** (QNPs) can also control two agreement values.

- (3) a. Everyone of us think(s) that the war in Iraq is wrong.
b. Everyone of you know(s) this article is true. (Zanuttini et al. 2012:1247)

- (4) Each (one) of us is/are happy.

When a QNP binds a pronoun, the pronoun can also agree with different features.

- (5) a. Each of us_i did his/her_i best.
- b. Each of us_i did our_i best.

3/4 pattern with QNPs

When the QNP controls agreement and binds a pronoun, we see a 3/4 pattern once again.

- (6)
- a. Each of us_i thinks we_i are the richest linguist.
 - b. Each of us_i thinks he_i is the richest linguist.
 - c. Each of us_i think we_i are the richest linguist.
 - d. #Each of us_i think he_i is the richest linguist.

A note on the data

Abstract reviewers worried about the availability of (6a). It should be noted that many examples similar to (6a) can be found in books and online. Below is a small sample.

- (7) a. Each of us thinks that our own mistake is the worst
[...] (*The Seven Sisters* by Lucinda Riley)
- b. [...] each of us thinks our role is the lead. (*Invisible Monsters* by Chuck Palahniuk)
- c. Each of us thinks we are the most important person
[...] (*Imhotep* by Jerry Dubs)

3/4 pattern with predicate NP

QNP's also show a 3/4 pattern with number matching with **predicate NPs** in English [Bejar et al., 2019].

- (8)
- a. Each of the three boys is a dancer.
 - b. Each of the three boys are dancers.
 - c. ?Each of the three boys are a dancer.
 - d. *Each of the three boys is dancers.

Comparing the two

Let us focus on the two mismatch cases. Schematically let us represent the structures as in (9).

- (9) a. [QNP [Target-1:[SG] [... Target-2:[PL] ...]]]
b. [QNP [Target-1:[PL] [... Target-2:[SG] ...]]]

In both 3/4 patterns, agreement Target-1 is verbal agreement presumably with a T head, Target-2, however, differs between the examples: in (8) it is a predicate NP, but in (6), it is a bound pronoun. If Target-2 is predicate NP as in (8), the schema in (9b) is acceptable, while the schema in (9a) is unacceptable. If Target-2 is a bound pronoun, then **the judgments flip**: (9a) is acceptable and (9b) is unacceptable.

Why do you QNPs behave like hybrid nouns?

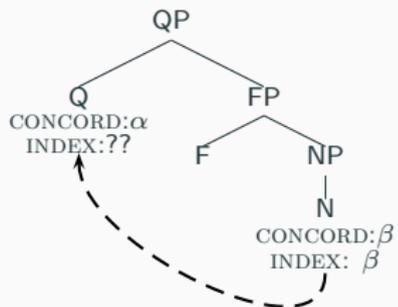
Previous research has argued for two features on hybrid nouns that mismatch (e.g., INDEX and CONCORD mismatches).

[Danon, 2013] argues for the same mechanism for QNPs as well.

Allowing for a unification of the two.

Danon's analysis of QNPs

(10) Danon (2013:77)



Accounting for the 3/4 Pattern

Order of agreement targets

It is commonplace to assume that agreement occurs as soon as a target is merged. As we have seen, predicate NPs and bound anaphora behave differently even though they appear to be in very similar structural positions.

Following another line of research, I will assume that pronouns and anaphors agree later in the derivation perhaps only at the interfaces and outside of the syntax proper.

Order of agreement targets

- (11) Order of agreement (across target classes)
DP-internal concord < predicate concord < T-agreement
< pronoun/anaphor agreement

Note now that our ordering of agreement now closely resembles the Agreement Hierarchy of Corbett (1979), repeated below. This suggests that the agreement hierarchy can be thought of in terms of order agreement operations take place.

- (12) Attributive < Predicate < Relative pronoun < Personal
pronoun

[Corbett, 1979, 204]

Following previous researchers, I assume that semantic features are only accessible to agreement operations after morphological features.

- (13) Ordering of features
Morphological < Semantic

I also assume that there is a condition on access to the features. I assume that the mapping from the order of features in (13) to the agreement targets order in (11) must be *monotonic*. A monotonic mapping between two sets preserves the relative orders of those elements. The formal definition is given in (14). Inspired by monotonicity as a explanation for other morphosyntactic patterns [Graf, 2019].

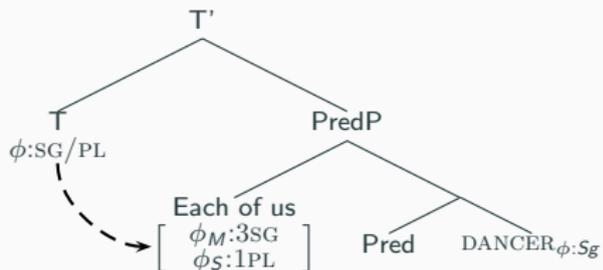
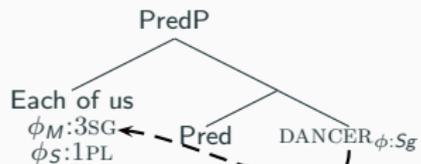
- (14) Given two orders \leq_A and \leq_B , a function f is monotonic with respect to \leq_A and \leq_B iff it holds for all objects x and y ordered such that $x \leq_A y$ implies $f(x) \leq_B f(y)$.

Using the orders in (11) and (13) as an example, a monotonic mapping would be T-agreement mapping to morphological features and pronoun anaphor agreement mapping to semantic, as T-agreement is ordered **before** pronoun/anaphor agreement and morphological features are ordered before semantic features. A mapping of T-agreement to semantic features and pronoun/anaphor agreement to morphological features however would not be monotonic because T-agreement comes before pronoun/anaphor agreement, but semantic features are ordered **after** morphological features, so this mapping would reverse the ordering.

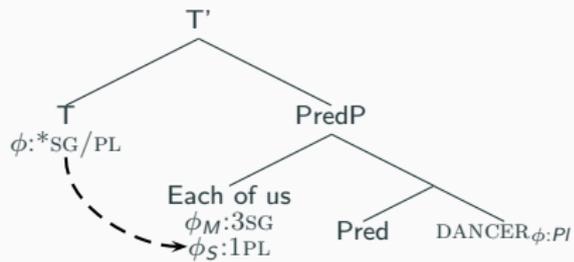
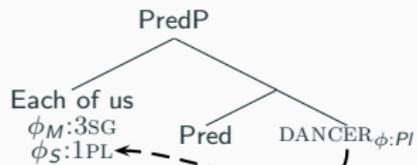
- (15) **Monotonicity Agreement Constraint (MAC)**
Once semantic features have been accessed for an agreement operation, all other subsequent agreement operations must target the semantic features.

Sample Derivations

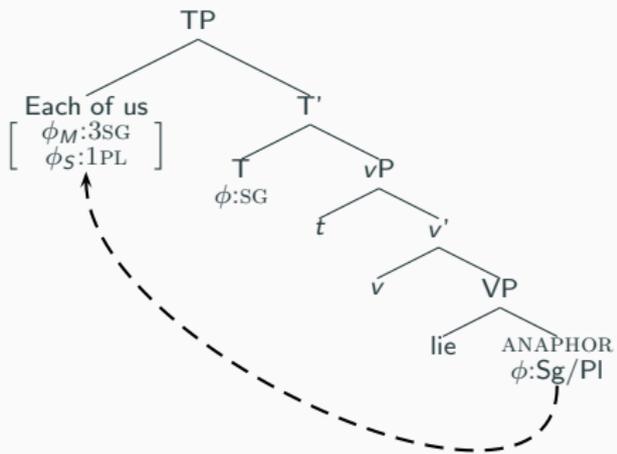
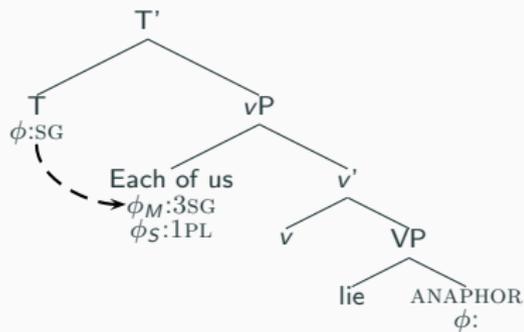
Predicate NPs



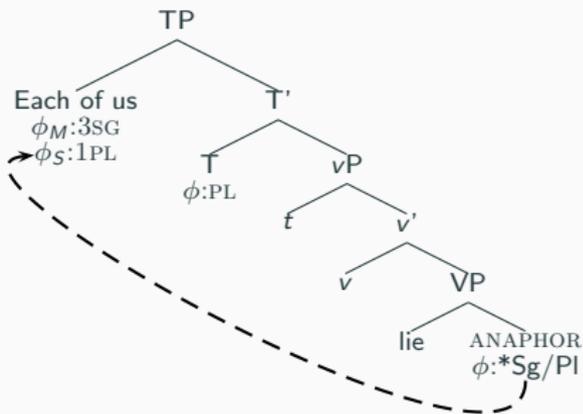
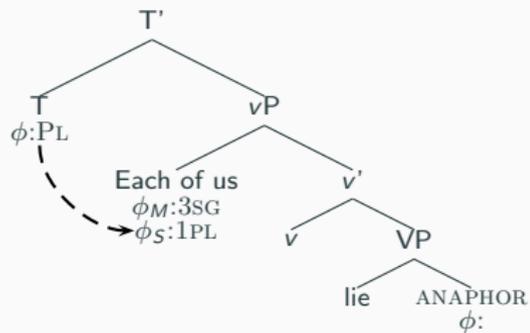
Predicate NPs



Bound Pronouns



Bound Pronouns



Monstrous Agreement in Telugu

Monstrous Agreement

In Telugu, it is possible for a third person simplex anaphor to control first person agreement on both verbs and predicate NPs when embedded in most attitude reports .

- (16) a. Raju _̄tanu parigett-_{̄̄}ææ-nu ani cepp-ææ-Du
Raju 3SG run-PAST-1SG COMP say-PAST-3MSG
'Raju said that he ran.' [Messick, 2020, (1)]
- b. Akhil _̄tanu manci-vaaDi-ni ani
Akhil 3SG good-3SG-1SG COMP
bhaavinc-ææ-Du
consider-PAST-3MSG
'Akhil thought himself a good chap.'
[Raghotham, 2019, (5)]

Monstrous agreement is optional

It is also possible for *tanu* to control third person agreement as well.

- (17) a. Raju _{̄̄}tanu pariget_{̄̄}t-ææ-Du ani cepp-ææ-Du
Raju 3SG run-PAST-3MSG COMP say-PAST-3MSG
'Raju said that he ran.'
- b. Akhil _{̄̄}tanu manci-vaaDi-∅ ani
Akhil 3SG good-3SG-3SG COMP
bhaavinc-ææ-Du
consider-PAST-3MSG
'Akhil thought himself a good chap.'

A clause with two targets

It is possible for both a verb and a predicate noun to agree in the same clause.

- (18) neenu picci-vaaDi-ni avu-taa-nu
1SG mad-3SG-1SG be-FUT-1SG
'I will become mad/ a mad man.' [Raghotham, 2020, (9)]

3/4 strikes once again

If we embed a clause with two targets in an attitude report with *tanu*, either both targets can be first person or both can be third person.

- (19) a. Raju [tanu picci-vaaDi-ni ava-taa-nu ani]
Raju 3SG mad-3SG-1SG be-FUT-1SG COMP
čəpp-ææ-Du
say-PAST-3MSG
'Raju said that he will become mad/a mad man.'
- b. Raju [tanu picci-vaaDu-∅ ava-taa-Du ani]
Raju 3SG mad-3SG-3SG be-FUT-3MSG COMP
čəpp-ææ-Du
say-PAST-3MSG
'Raju said that he will become mad/a mad man.'

Only one of the mismatch cases is grammatical.

- (20) a. Raju [tanu picci-vaaDu-∅ ava-taa-nu ani]
Raju 3SG mad-3SG-3SG be-FUT-1SG COMP
čəpp-ææ-Du
say-PAST-3MSG
'Raju said that he will become mad/a mad man.'
- b. *Raju [tanu picci-vaaDi-ni ava-taa-Du ani]
Raju 3SG mad-3SG-1SG be-FUT-3MSG COMP
čəpp-ææ-Du
say-PAST-3MSG
'Raju said that he will become mad/a mad man.'

Comparison to English

So once again we see the familiar 3/4 pattern that we have seen with other elements that have the ability to control two distinct feature values. In the schematic form, the possible mismatch case is given in (21).

(21) [tanu [[Target-2:[3SG]] Target-1:[1SG]]]

Despite superficial differences in word order, this pattern is exactly the same we have seen before with QNPs when the agreement targets were a predicate DP and verbal agreement. Schema repeated in (22).

(22) [QNP [Target-1:[PL] [... Target-2:[SG] ...]]]

Embedded tanu as a hybrid

In previous work I argued that *tanu* should be viewed as a hybrid, it is morphologically third person but when interpreted *de se* in an attitude report, it is semantically first person. The feature structure is given in (23).

(23) *Features on de se tanu*: [⟨-author -addressee, +C⟩,
⟨+author -C⟩ -plural]

With the hybrid view of *tanu*, the 3/4 pattern follows straightforwardly from the analysis presented here.

Takeaways

- Both QNPs and Telugu *tanu* also show 3/4 patterns. Lending further support to theories that treat them similarly to hybrid nouns.
- The fact that we find complex NPs behave like hybrid nouns tell us that 'hybridness' is not a lexical idiosyncrasy of certain nouns.
- Different targets of agreement agree at different times: specifically pronoun/anaphor agreement must take place after T agreement and concord.
- Access to semantic and morphological features is limited by the Monotonicity Agreement Condition which cuts off access to morphological features once semantic features have been accessed to agreement.

Thank You!

These slides and a manuscript of this work is available at my website. You may also contact me via email troy.messick@rutgers.edu.

 Bejar, S., Kahnemuyipour, A., Denniss, J., and Yokoyama, T. (2019).

Number matching in binominal small clauses.

In Ache, M. J., Fábregas, A., and Marín, R., editors, *The grammar of copulas across languages*, pages 90–106. Oxford University Press, Oxford.

 Corbett, G. G. (1979).

The agreement hierarchy.

Journal of Linguistics, 15:203–395.

 Danon, G. (2013).

Agreement alternations with quantified nominals in Modern Hebrew.

Journal of Linguistics, 49:55–92.

 Graf, T. (2019).

Monotonicity as an effective theory of morphosyntactic variation.

Journal of Language Modelling, 7(2):3–47.



Messick, T. (2020).

On apparent pronominal feature contradictions: Shifty agreement in Telugu and beyond.

Manuscript, Rutgers University.



Pesetsky, D. (2013).

Russian Case morphology and the syntactic categories.

MIT Press, Cambridge, Massachusetts.



Raghotham, S. (2019).

Telugu: An accusative case study.

Handout from FASAL 9.



Raghotham, S. (2020).

Identity crisis.

Talk presented at FASAL 10.