

On interpretable features

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December 13, 2019

1 Interpretability and valuation

Unvalued features come in two sorts:

- Those that have to be valued via syntactic agreement or else stay unvalued
- Those that have to be valued *somehow* (either by syntactic agreement or semantically) — or else stay unvalued.

The system tries its best to get the features valued. With features of the first kind, it will attempt to perform agreement. In case of failure to agree, the feature will stay unvalued.

With features of the second kind, it will attempt to perform either agreement or semantic valuation (free variation). In case of failure to agree, we will see semantic valuation. If semantic valuation isn't possible... — well, let's suppose it's always possible for such features.

(There is an alternative that could be discussed...)

1.1 An illustration: agreement with imposter-containing coordinations

In Russian, verbal agreement with coordinations containing imposters is sometimes variable (similar effects obtain with agreement in French and reflexive anaphor binding in English, C&P2012). The table below summarizes the data:

Inside the coordination	Agreement	Example
1st & 2nd	1PL	(1)
1st & 3rd	1PL	(2)
2nd & 3rd	2PL	(3)
3rd & 3rd	3PL	(4)
S-3rd ¹ & 2nd	1PL	(5)
S-3rd & 3rd	1PL/3PL	(6)
S-3rd & H-3rd	1PL/3PL	(7)
H-3rd & 1st	1PL	(8)
H-3rd & 2nd	2PL	(9)
H-3rd & 3rd	2PL/3PL	(10)
H-3rd & H-3rd	2PL/3PL	(11)

- (1) *1st & 2nd* → [1PL]
ty i ja gulja-em po parku
You and I walk-1PL in park
'You and I are walking in a park...'
- (2) *1st & 3rd* → [1PL]
ètot čelovek i ja gulja-em po parku
this person and I walk-1PL in park
'This person and I are walking in a park...'
- (3) *2nd & 3rd* → [2PL]
ètot čelovek i ty gulja-ete po parku
this person and I walk-2PL in park
'This person and you are walking in a park...'
- (4) *3rd & 3rd* → [3PL]
ètot čelovek i èta sobaka gulja-jut po parku
this person and this dog walk-3PL in park
'This person and this dog are walking in a park...'
- (5) *S-3rd & 2nd* → [1PL]
vaš pokornyj sluga i vy gulja-em/*-ete/*-jut
your obedient servant and you walk-1PL/*-2PL/*-3PL
'Your faithful servant and you are walking in a park...'
- (6) *S-3rd & 3rd* → [1PL]/[3PL]
vaš pokornyj sluga i ètot čelovek gulja-em/-jut [...]
your obedient servant and your majesty walk-1PL/-3PL
'Your faithful servant and this person are walking in a park...'
- (7) *S-3rd & H-3rd* → [1PL]/[3PL]
vaš pokornyj sluga i vaše veličestvo gulja-em/-jut [...]
your obedient servant and your majesty walk-1PL/-3PL

‘Your faithful servant and your majesty are walking in a park...’

- (8) $H\text{-}3rd \ \& \ 1st \rightarrow [1PL]$
 vaše veličstvo i ja gulja-em [...]

your majesty and I walk-1PL

‘Your majesty and I are walking in a park...’
- (9) $H\text{-}3rd \ \& \ 2nd \rightarrow [2PL]$
 vaše veličstvo i vy gulja-ete [...]

your majesty and you walk-2PL

‘Your majesty_i and you_j are walking in a park...’
- (10) $H\text{-}3rd \ \& \ 3rd \rightarrow [2PL]/[3PL]$
 vaše veličstvo i ètot ÷elovek gulja-ete/-jut [...]

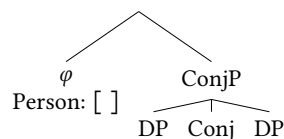
your majesty and this person walk-2PL/-3PL

‘Your majesty and this person are walking in a park...’
- (11) $H\text{-}3rd \ \& \ H\text{-}3rd \rightarrow [2PL]/[3PL]$
 vaše veličstvo i vaša ÷est’ gulja-ete/-jut [...]

your majesty and your honor walk-2PL/-3PL

‘Your majesty and your honor are walking in a park...’

Verbal agreement reflects the content of the φ -head on top of a ConjP:



Variability is taken as evidence for two different mechanisms of feature valuation:

- A syntactic way: φ agrees with both conjuncts simultaneously (cf. Hiraiwa’s (2001, 2005) Multiple Agree) – (4)?, (6), (7), (10), (11)
- A semantic way: φ gets an appropriate semantic value with no syntactic agreement taking place.
- Semantic valuation is always an option.
- For some cases, we cannot really tell whether it was agreement or semantic valuation: 3PL in (4).
- When it is not possible to agree with both conjuncts simultaneously, there is no option of using default morphology.

1.2 An analysis

- A head φ with unvalued Person (and Number?) features is merged as a sister of ConjP. It tries to get some value for Person, and there are two ways of doing it that

are in principle freely available: the syntactic way and the semantic way. When the configuration is such that syntactic agreement cannot be successfully performed, the φ -head uses the strategy of valuation that is still available for it: the semantic way.

- Not every head with $i\varphi$ -features is like this. For example, the finite T in Russian cannot ever be valued semantically, so if agreement fails, we will see a morphological default, not a reflection of a semantically appropriate value (I take it to mean that the feature stayed unvalued in syntax, as in Preminger 2014).

- (12) RUSSIAN: *T does not agree with quirky subjects and goes default*
 Nas vsex tošni-**t**/*-**m** / tošni-l-**o**/*-**i**.
 we.ACC all.ACC throw_up-3SG/*-1PL / throw_up-PAST-3SG.NEUT/*-PL
 ‘We all feel/felt nauseous.’

head	can host ... features	agreement failure
type 1	only uninterpretable	→ default
type 2	uninterpretable or interpretable	→ interpretable
type 3	only interpretable	(???)

Table 1: Interpretability of φ -features on heads

2 Monstrous agreement

The idea that agreement failure may lead to “semantic agreement” is not new. This is precisely the view in Wechsler 2011 and Wechsler and Hahm 2011: if a head has an unvalued feature and it hasn’t been valued by agreement in syntax, a semantically appropriate feature value is spelled-out.

- (13) FRENCH: *Gender-neutral nouns and pronouns agree as if they have semantically interpretable gender*
- a. [**Le** professeur Dupont] / tu a(s) été **pris** en otage.
 the.M professor Dupont / you has/have been taken.M hostage
 ‘Professor Dupont (male) / you (male) have been taken hostage.’
- b. [**La** professeur Dupont] / tu a(s) été **prise** en otage.
 the.M professor Dupont / you has/have been taken.M hostage
 ‘Professor Dupont (female) / you (female) have been taken hostage.’
- (14) ENGLISH: *Number-neutral nouns disambiguated with SG/PL morphology on demonstratives and verbs*
- a. [**this** sheep] **likes** music.
- b. [**these** sheep] **like** music.

Wechsler and Wechsler and Hahm assume that nouns in these examples are underspecified with respect to certain features (Gender in (13) and Number in (14)) but it is in principle possible to take the opposite view where the nouns are fully specified with respect to all

their features, but morphology spells out both values of Gender in (13) and both values of Number in (14) uniformly.

Monstrous agreement in Uyghur may provide evidence for “semantic agreement” when syntactic agreement fails.

2.1 Monstrous agreement with accusative subjects in Uyghur

2.1.1 Background on accusative subjects and indexical shifting in Uyghur

Shklovsky and Sudo 2015:

- Subjects of finite embedded clauses in Uyghur may have either nominative or accusative case marking.

→ Accusative subjects are structurally higher than nominative subjects.

(15) Condition A

- a. Men_i [peqet öz-em_i-ni-la nan ye-men] di-dim.
I [only REFL-1SG-ACC-only bread eat-IMPF.1SG] say-PAST.1SG
'I said that only I ate bread.'
- b. *?Men_i [peqet öz-em_i-Ø-la nan ye-men]
I [only REFL-1SG-NOM-only bread eat-IMPF.1SG]
di-dim.
say-PAST.1SG

(16) Condition B

- a. Men_i [peqet men_i-la nan ye-men] di-dim.
I [only 1SG.NOM-only bread eat-IMPF.1SG] say-PAST.1SG
'I said that only I ate bread.'
- b. *Men_i [peqet men_i-la nan ye-men] di-dim.
I [only 1SG.ACC-only bread eat-IMPF.1SG] say-PAST.1SG

→ Accusative subjects may originate in the embedded clause.

(17) ACC subject could be a part of a sentential idiom

- a. Toqquz qizning tolghaq teng kel-di.
nine girl-GEN labor together arrive-PAST.3
'Times are hard.' (Lit.: 'Nine girl's labor pains came at once')
- b. Tursun [toqquz qizning tolghaq(-ni) teng kel-di]
Tursun [nine girl-GEN labor(-ACC) together arrive-PAST.3]
di-di.
say-PAST.3
'Tursun said that times are hard.'

- Personal pronouns in finite clauses embedded under attitude verbs are obligatorily shifted: 1st person pronouns are coindexed with matrix subjects, 2nd person pronouns are coindexed with matrix addressees (if present), elsewhere: 3rd person.

- (18) *Shifted 1st person*
Tursun_i [men_i/_{*j} kim-ni kör-dim] di-di?
Tursun [I who-ACC see-PAST.1SG] say-PAST.3
'Who did Tursun_i say that he_i/_{*j} saw?'

- (19) *Shifted 2nd person* (Sudo 2012)
Ahmet Aygül-ge_i [sen_i/_{*j} ket-ting] di-di.
Ahmet Aygül [you leave-PAST.2SG] say-PAST.3
'Ahmet told Aygül_i that she_i/_{*j} left.'

- Accusative subjects are structurally higher than the operator responsible for shifting, so they are never shifted.

- (20) *Non-shifted 1st person ACC subject* (Sudo 2012)
Ahmet [men_i/_{*i} ket-ti] di-di.
Ahmet [I.ACC leave-PAST.3] say-PAST.3
'Ahmet_i said that I_j/_{*i} left.'

- (21) *Non-shifted 2st person pronoun within an ACC subject* (Sudo 2012)
Ahmet Aygül-ge_i [[sen yaxshi kör-idi-ghan oqughuchi-m-ni] imtihan-din
Ahmet Aygül [[you well see-IMPF-REL teacher-1SG-ACC] test-ABL
öt-ti] di-di.
pass-PAST.3 say-PAST.3
'Ahmet_i told Aygül_j that a student of mine_{*i} that you_{*j} liked passed the test.'

2.1.2 The puzzle and a solution

- Shklovsky and Sudo 2015: When the subject of the embedded clause bears accusative case, the agreement on the verb is not default. Rather, it seems shifted, giving rise to ϕ -featural mismatches.

- (22) *A 1st person ACC subject cannot cooccur with 1st person verbal agreement.*²
- a. Ahmet_i [men_i/_{*i} ket-ti] di-di.
Ahmet [I.ACC leave-PAST.3] say-PAST.3
'Ahmet_i said that I_j/_{*i} left.'
- b. *Ahmet_i [men_i/_{*i} ket-tim] di-di.
Ahmet [I.ACC leave-PAST.1SG] say-PAST.3
'Ahmet_i said that I_j/_{*i} left.'

- (23) a. *3rd person ACC subject with 2nd person agreement.*
Ahmet [Aygül-ni nan ye-isen] di-di.
Ahmet [Aygül-ACC bread eat-IMPF.2] say-PAST.3
'Ahmet said that Aygül ate bread.' (Only works if he said that to Aygül herself)

²Supposedly, unless the matrix subject is itself 1st person.

- b. 1st person ACC subject with 2nd person agreement.
 Ahmet [**meni** nan ye-**isen**] di-di.
 Ahmet [I.ACC bread eat-IMP.F.2] say-PAST.3
 ‘Ahmet_i said that I ate bread.’ (Only works if he said that to me)

- ★ When a verb fails to agree with the subject, it bears person features that would be semantically appropriate. In Uyghur, these appear to be shifted.
- ★ Interpretable Person on T conveys a presupposition about the domain of the function denoted by the VP, i.e. a presupposition about the subject:

$$\llbracket T_{1st} \rrbracket^c = \lambda P_{et}: \text{for every } y \in \text{Dom}(P), y \text{ contains } s_c. \lambda x_e. P(x) = 1$$

2.2 Monstrous agreement with nominative subjects in Mishar Tatar

If Person on T could be interpreted in the situation of failed agreement, it is not inconceivable that Person on T could be interpreted in a configuration where agreement would not fail (cf. cases of optionality with imposter-containing coordinations, discussed above). In most cases it wouldn’t make a difference (1st person agreement *I am working* could be a result of either syntactic agreement or semantic valuation of Person on T), but sometimes (e.g., when the 1st person on the subject and the 1st person on the verb would be interpreted differently) it would.

Mishar Tatar provides a potentially interesting case.

2.2.1 Background on indexical shifting in MT

Podobryaev 2014:

- Null pronouns in Mishar Tatar are optionally shifted in finite clauses embedded under attitude verbs.

- (24) Alsu [*pro* kaja kit-te-m dijep] at’-tʏ?
 Alsu [where leave-PAST-1SG C] tell-PAST.3
 ‘What place did Alsu_i say that I_s/she_i went?’

- Overt pronouns are never shifted.

- (25) Alsu [min kaja kit-te-m dijep] at’-tʏ?
 Alsu [I where leave-PAST-1SG C] tell-PAST.3
 ‘What place did Alsu_i say that I_s/_{*i} went?’

2.2.2 The puzzle and a solution

- An overt pronoun may be a subject of a finite embedded clause headed by T with a different person feature. It looks as though the agreement morphology itself is

shifted³.

- (26) a. Marat [**min** kit-te dijep] at’-tʏ.
 Marat [I leave-PAST.3 C] tell-PAST.3
 ‘Marat said that I left.’
 b. Alfijä [**sin** wakʏtʏnda kil-de dijep] šatlan-a.
 Alfija [you on.time come-PAST.3 C] happy-ST.IMP.F
 ‘Alfija is happy that you came on time.’
 c. sin Marat-ka [**sin** Alsu-nʏ süj-ä-m dijep] at’-tʏ-ŋ.
 you Marat-DAT [you Alsu-ACC love-ST.IMP.F-1SG C] tell-PAST-2SG
 ‘You told Marat that you love Alsu.’

- This has been analyzed as a hanging topic construction with overt, non-shifted nominative pronouns as hanging topics above “true”, null, shifted subjects controlling agreement.
- ★ If Person on T could in principle be interpreted (as we argued for Uyghur above), then perhaps, what we see in MT examples above are instances of interpretable Person on T that has been shifted.

(Note that we don’t have reasons to believe that Person on T has to be interpretable. Since these are not configurations where syntactic agreement has to fail, we expect syntactic agreement to be an option. On the surface it looks like it is, but in principle (27) could just be the case of semantic valuation with no shifting:

- (27) a. Marat [**min** kit-te-m dijep] at’-tʏ.
 Marat [I leave-PAST C] tell-PAST-1SG
 ‘Marat said that I left.’
 b. Alfijä [**sin** wakʏtʏnda kil-de-ng dijep] šatlan-a.
 Alfija [you on.time come-PAST-2SG C] happy-ST.IMP.F
 ‘Alfija is happy that you came on time.’
 c. sin Marat-ka [**sin** Alsu-nʏ süj-ä-sen dijep] at’-tʏ-ŋ.
 you Marat-DAT [you Alsu-ACC love-ST.IMP.F-2SG C] tell-PAST-2SG
 ‘You told Marat that you love Alsu.’

This has to be tested with additional null pronouns. The expectation is that it would be possible to have a shifted null pronoun with a clausemate non-shifted subject triggering syntactic agreement on the verb.)

³Note that these mismatches are only possible in embedded clauses:

- (i) a. ***min** kit-te.
 I leave-PAST.3
 b. ***sin** wakʏtʏnda kil-de.
 you on.time come-PAST.3
 c. ***sin** Alsu-nʏ süj-ä-m.
 you Alsu-ACC love-ST.IMP.F-1SG

3 Different feature interpretability for different heads

Languages may be different in whether certain features could be interpretable on certain heads. For example, Russian is different from Uyghur and Tatar in that Person on T is never interpretable. If it were, we would expect to see semantic valuation in cases of syntactic agreement failure, contrary to fact ((12)).

Moreover, the same feature could have different interpretability status on different heads within one language. For example, in Mishar Tatar Person may be interpreted on T, but it does not seem to be interpretable on D.

Head nouns in MT display φ -agreement with possessors (we can tentatively take D to act as an agreement probe). However, person feature mismatches of the kind we just saw in the T-domain ((26)) are never possible:

- (28) a. Marat [[minem sestra-m-N_X] süj-ä-m dijep] at'ty.
 Marat [[my sister-1SG-ACC] love-ST.IMP_F-1SG C] tell-PAST.3
 'Marat_i said that he_j loves my_j sister.'
 b. *Marat [[minem sestra-s_Y-n] süj-ä-m dijep] at'ty.
 Marat [[my sister-3SG-ACC] love-ST.IMP_F-1SG C] tell-PAST.3

If Person on D were interpretable and shiftable (as we have hypothesized for Person on T), we would predict mismatches with overt non-shiftable pronoun to be possible under shifting operators, but they are not.

3.1 Interpretable Number on D in Buryat

In Buryat, it looks like Number could be interpretable on D, but it is never interpreted on T. The evidence comes from constructions with so-called numberless noun phrases in Buryat. When such noun phrases are merged with demonstrative pronouns, the form of the demonstrative signals semantic Number valuation: the plural form will only be compatible with pluralities, while the singular form will only be compatible with atoms. However, when such numberless noun phrases (without demonstratives) are in the subject position, the verbal agreement is never plural, even in situations where the numberless noun phrase denotes a plurality. This looks like a case of “no agreement” (as opposed to “semantic agreement”): when T fails to agree with the subject in Number (because the subject doesn't have number features), its Number feature stays unvalued, meaning that semantic valuation is not available for it.

3.1.1 Background on numberless noun phrases in Buryat

Bylinina and Podobryaev (to appear):

- o Some nominals in Buryat are numberless
- o When unmarked for number, inanimate nouns are semantically number neutral in a variety of syntactic positions (animate nouns are not number neutral).

- (29) *Direct objects*
 b^ji nom un_f-a:-b
 I book read-PAST-1SG
 'I read a book / books'
- (30) *Subjects*
 nom hon^jin baig-a:
 book interesting be-PAST
 'The book(s) was/were interesting'

- (31) *Unmarked objects of postpositions*
 badma gər dunda xorgod-oo
 Badma house middle hide-PAST
 'Badma hid in the middle of a house / between houses'

- (32) *Case-marked objects of postpositions*
 b^ji nom-i:n tələ: xozomdo:-b
 I book-GEN because.of was.late-1SG
 'I was late because of the book / books'

o They do not show hallmark properties of (pseudo)incorporation.

- (33) b^ji nom un_f-a:-b. tədən^j-i:jə b^jblit^jəka-da tu_fa:-ga:-b
 I book read-PAST-1SG they-ACC library-DAT return-PAST-1SG
 'I read the books. I returned them to the library'

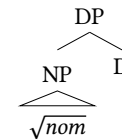
- (34) xojno-xojnoho:n^j b^ji nom un_f-a:-b
 one.by.one I book read-PAST-1SG
 'I read books one by one'

- (35) ɤglə:-gɤ:ɤ xɤbɤ:n nom un_f-a:-d bai-ga:
 morning-INST boy book read-CONV be-PAST
 'By the morning, the boy has read the books'

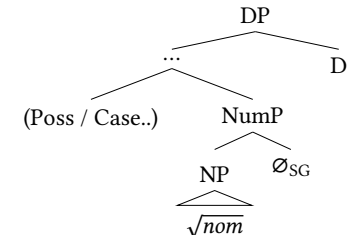
o On the syntactic side, this has been analyzed as the lack of NumP, a dedicated number projection inside the DP.

- (36) $[[[NP \sqrt{nom}]]] = \lambda x. *BOOK(x)$ (37) $[[[NumP \sqrt{nom} + \emptyset_{SG}]]] = \lambda x. BOOK(x)$

A corresponding *numberless* DP:



A corresponding *singular* DP:



3.1.2 Demonstratives: number concord with numberless noun phrases in Buryat

- Demonstrative pronouns in Buryat DPs optionally agree in number with nominal heads.

(38) bʲi ɔdɔ/ɔnɔ xɯbɯ:-d-i:jɔ xar-a:-b
 I this.PL/SG boy-PL-ACC see-PAST-1SG
 ‘I saw these boys’

- If a demonstrative pronoun is embedded in a NumP-less DP, its form will necessarily disambiguate atomic and non-atomic interpretations.

(39) basaga:-d xurgu:li-da: ɔdɔ nom asar-a:
 girl-PL school-DAT.REFL this.PL book bring-PAST
 ‘The girls brought these books to their school’

(40) basaga:-d xurgu:li-da: ɔnɔ nom asar-a:
 girl-PL school-DAT.REFL this.SG book bring-PAST
 ‘The girls brought this book/ #these books to their school’

- ★ When a number feature on the demonstrative fails to agree with the NumP (because it is not there), this number feature becomes semantically interpretable.
- ★ A presuppositional semantics for number on demonstratives:

$[[ene_{sg}]^c = \lambda P_{et}: \text{for every } y \text{ such that } y \in Dom(P), y \text{ is atomic. } ix[P(x) = 1]$

3.1.3 Semantic valuation is not available for Number on T in Buryat

- The finite T in Buryat displays optional Number agreement. When numberless DPs (without demonstratives) appear as subjects, the verb does not show “semantic agreement”. Its morphological form is the same as with singular subjects, and most likely it signals that the Number feature on T stayed unvalued in syntax and was spelled out as default at PF.

(41) a. nom-ur:d stol dɔ:rɔ xɔbtɔ-nɔ-(d)
 book-PL table on lie-PRS-(PL)
 ‘The books are lying on the table.’
 b. nom stol dɔ:rɔ xɔbtɔ-nɔ-(*d)
 book-PL table on lie-PRS-(PL)
 ‘The books are lying on the table.’

4 Concluding remarks

The main claims made in this paper:

- Not all unvalued φ -features on different heads are specified as interpretable or uninterpretable. There are at least two kinds of features: those that are specified as uninterpretable and those that are completely ambivalent. (There might be unvalued features that are specified as always interpretable, but it would be hard to tell them apart from inherently valued interpretable features.)
- Those unvalued features that are specified as uninterpretable trigger syntactic agreement. If they fail to get their values via agreement, they stay unvalued and trigger default spell-out.
- Ambivalent unvalued feature are free to use any of the two valuation strategies: syntactic valuation via agreement and semantic valuation.
- An ambivalent feature cannot fail to be semantically valued.
- When an ambivalent feature cannot be valued via syntactic agreement, we will see “semantic agreement”...
- ...but “semantic agreement” could also obtain in cases where syntactic agreement is an option.
- Any unvalued feature tries its best to get a value. The prediction is that “absence of a value” by the end of syntax derivation (resulting in default spell-out) is not an option for ambivalent features.

An alternative to be considered stipulates obligatory interpretability distinctions in the lexicon. That is, any unvalued feature in the lexicon is either uninterpretable or interpretable. The cases of optionality that we saw with imposter-containing coordinations in Russian and pronominal agreement in Mishar Tatar would be due to the fact that certain heads can be merged either with an interpretable or with an uninterpretable unvalued feature. However, one would still have to explain why, in such cases, when syntactic agreement fails, the head would be spelled out as carrying an interpretable feature value (as opposed to the default).

This would involve some kind of transderivational comparison. The system would have to systematically prefer derivations with interpretable features (if such are available) to derivations with unvalued uninterpretable features in the same position (and when no alternative derivation with interpretable features is available, unvalued uninterpretable features should be fine). This looks like a considerable complication of the theory.