Multi-Value Asymmetry in Number Agreement and Concord

Intro: The commonality and distinctions between agreement on the T head and number concord within DPs have been studied by many (see Norris 2014 for a review). In this paper I present and derive a novel asymmetry while maintaining a unified analysis of agreement and concord. When T and N are valued by multiple values (multi-valued), the asymmetry in (1) emerges.

(1) **Multi-Value Asymmetry**: When N is valued by multiple [SG] values, it is spelled out as singular, while when T is valued by multiple [SG] values, it is spelled out as plural.

Data: On the N side of the asymmetry, Shen (2015) shows that when two singular NUM heads share one nominal in nominal right node raising constructions (NRNR), the nominal is spelled out as singular. In (2) the nominal *student* is shared by the two singular DPs, and thus gets its value from both NUM heads. Only the singular marking is acceptable on the multi-valued nominal. This pattern holds cross-linguistically. Shen argues against an ellipsis account for (2) and argues for a multi-dominance analysis.

(2) One tall $\text{NUM}_{[SG]}$ and one short $\text{NUM}_{[SG]}$ $\text{student}_{[SG]}$/*$\text{students}_{[PL]}$ are a couple.

On the T side of the asymmetry, Grosz (2015) shows that in right node raising construction in English, German, Hebrew, Italian, Czech, etc., when one T head agrees with two singular subjects, it can be spelled out as plural (SUMMATIVE AGREEMENT). In (3) the multi-valued auxiliary verb *have* is marked plural while the subjects in each clause are singular (*Bill*, *John*).

(3) Sue's proud that $\text{Bill}_{[SG]}$ and Mary's glad that $\text{John}_{[SG]}$ $\text{have}_{[PL]}$ traveled to Cameroon.

Gluckman (2015) observes that when both the subject and the object are singular in languages like Nocte, the agreement morpheme on the verb in (4a) is identical to that in (4b) where the verb is intransitive and the subject is plural. Gluckman argues that (4a) involves local portmanteaux where subject agreement and object agreement are spelled out as a single morpheme on the verb. The plural marker *-e* on the verb in (4a) is a "composed plural" where the T head collects two instances of [SG] values and is spelled out as plural, similar to RNR in Grosz 2015.

(4) a. nga -ma nang hetho -e
1SG -NOM 2SG teach -1PL.
'I shall teach you'

b. ni roantang rang- ka -e
1PL always ASP- go -1PL
'We always go' (Nocte from Gluckman 2015)

Gluckmen (2015) argues for the feature bundle on T in (5a) and the spell-out rule in (5b). For (4a), the object 2SG values [uINDIVIDUAL uPARTICIPANT] and the subject 1SG values [uINDIVIDUAL uSPEAKER] on the T head. In (4b) T is solely valued by the 1PL subject. The morphological agreement marking *-e* is identical between (4a) and (4b) because the feature values on T are identical. Gluckman uses INDIVIDUAL instead of more standard SG/DL/PL values.

(5) a. [uINDIVIDUAL uINDIVIDUAL uSPEAKER uPARTICIPANT]
b. [INDIVIDUAL INDIVIDUAL SPEAKER PARTICIPANT] ↔ /e/

As is shown, multi-valued Ns and Ts behave differently in various languages and constructions. This poses a potential challenge for a unified analysis for verbal agreement and nominal concord. However, I will show that the asymmetry in (1) can be derived while keeping a unified analysis.

Proposal: Inspired by the feature setup in Gluckman 2015, I propose that nominals have one slot for number feature (6a) while T heads have at least two (6b). I also follow the standard number feature spell-out rules in (7). I follow Béjar (2003) and Bhatt & Walkow (2013) in assuming that Agree involves two steps: *match* (feature identification) and *valuation* (value coping).

(6) a. N: [uNUM:__] b. T: [uNUM:__, uNUM:__]

(7) a. [NUM:SG] ↔ singular marker b. [NUM:SG, NUM:SG] ↔ plural marker
c. [NUM:PL, NUM:SG] ↔ plural marker c. [NUM:PL, NUM:PL] ↔ plural marker

In cases of multi-valued N, the single slot on N matches with both the NUM heads. During valuation, only the value from one of the two NUM heads can be copied into the single slot on N. Since in (2=8) both the values are singular, the choice is trivial and the nominal gets one [SG] and thus is spelled out as singular. The unavailability of plural marking follows naturally from the lack of multiple slots on N. This analysis extends to languages with dual marking like Slovenian which shows NUM[DL] and NUM[DL] N[NUM:DL] in nominal right node raising constructions.

(8) One tall NUM[SG] and one short NUM[SG] student[NUM:SG]/*students[PL] are a couple.

In the cases of multi-valued T in (9), the values from both the subjects can be copied onto T, given that T has at least two number feature slots. The spell-out rule in (7b) marks T as plural.

(9) Sue's proud that the twins[PL] and Mary's glad that John[SG] have[NUM:SG, NUM:SG] traveled…

Mismatch: The proposed feature setups of T and N make predictions in cases of multi-valued elements with mismatching goals. On the T side, when the two subjects in RNR differ in number in (10), the plural marking emerges on *have*. This is predicted since the [PL] on the first DP and the [SG] on the second DP both get copied into the two slots on T which is spelled out as plural.

(10) Sue's proud that the twins[PL] and Mary's glad that John[SG] have[NUM:PL, NUM:SG] traveled…

When the multi-valued N gets two distinct values, the proposed analysis predicts a clash between the two values since N only has one slot for number values. This prediction is borne out. In (11) where the NUM heads in two DPs have different values, the nominal shows the same value as the second DP, i.e. multi-valued Ns with mismatching values trigger closest conjunct agreement (CCA). Bhatt & Walkow (2013) show that when valuation cannot occur in the syntax, it is postpone to PF where the linearly closest value gets copied. I argue that this is exactly what happened in (11): N matches with both NUM heads and mismatch value causes a clash, valuation is postponed to PF and the value on the closest DP gets copied into the one slot on N in (12).

(11) a. One tall and ten short students/*student know each other.
b. Ten tall and one short student/*students know each other.

(12) Ten tall NUM[PL] and one short NUM[SG] student[NUM:SG] know each other.

Selected References:

Béjar 2003 Toronto Dissertation, Bhatt and Walkow 2013 *NLLT*, Gluckman 2015 *WCCFL*, Grosz 2015 *Syntax*, Norris 2014 UCSC Dissertation, Shen 2015 *PLC*.

Closest Conjunct Agreement Repair Asymmetry

In nominal sharing constructions, when the two DPs involve number mismatch, closest conjunct agreement comes to rescue.

In determiner sharing construction, when the two DPs involve number mismatch, closest conjunct agreement is not available.

Concords:
Danon 2011 - phrases can be probes
Béjar & Rezac (2009) - down probing before up probing