A Comprehensive Semantics for Agreement

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Agreement can be characterized as the obligatory, multiple occurrence of a morphological feature. The two examples in (1) are from English and German: (1a) shows subject-verb agreement in English where the feature plurality is expressed both on the noun and on the verb. In the German example (1b), plurality is also expressed on the noun and on the verb, but furthermore expressed on the determiner and the adjective.

(1)   a. The small children[plur] are[plur] playing in the sand box.

      b. German

        Die   kleinen   Kinder   spielen im
        the.plur little.plur children.plur play.plur in the
        Sandkasten.
        sand box

Similar agreement processes are found in many other languages. Agreement is a very important phenomenon studied by many linguists. One reason for this is that, though it seems to introduce redundancy, agreement is in fact obligatory.

In this paper, I look at agreement from a semantic perspective. Most work on agreement focusses on the morphology

and the syntax of agreement. I adopt one major conclusion
from these works: that agreement has semantic content in
some positions, while in others it is purely syntactic. This
distinction is reflected in the terms controller and target of a
agreement in some works, other works speak of interpretable and
uninterpretable features, which I will also use in this paper.

There are several well-known problems about the semantics of
agreement features, that I will attempt a solution for in this
paper. First consider two cases of split agreement, where the
subject and the verb actually do not seem to agree in a language
that otherwise exhibits subject verb-agreement. For one, (2)
exemplifies the case of Committee-nouns in British English, where
the subject noun is morphologically singular, but the verb can
exhibit plural agreement morphology:

(2)   The committee$_{[sing]}$ are$_{[plur]}$ debating.

Secondly, consider split agreement in the Russian example (3).
The subject noun is inherently masculine, but if the referent is
female, the verb can bear femine agreement, and this is in fact
preferred by many speakers.

(3)   vrač   prišla   (Corbett 1983, 31)
       doctor.masc came.fem

       'The female doctor came.'

The second class of problems for a semantics of agreement are
cases where the agreement feature does not seem to match the
referent. One example of this is agreement with quantifiers as
in (4), where the question is why every boy is singular.

(4)   Every boy has bought a book.

The other three problematic cases of an apparent mismatch between
the referent and the agreement features involve pronouns. In the
German example (5), the third person plural pronoun can be used
to address a single person politely.

(5)   German:

       Könnten   Sie   bitte etwas   rücken.
       could.[3,plur] the.[3,plur] please something move

       'Could you please move a little.'

Similar politeness uses of pronouns are found in many other
languages, though they disappeared from English around 1700.
    A second problem with pronouns is English singular they,
illustrated by (6), where the plural pronoun can be used despite
singular reference:

(6)   Someone left their umbrella.

The final problem, are plural pronouns in Russian comitative
coordination, where in effect ''we and Peter'' can be used to mean
''I and Peter'':

(7)   my   s   Petej pojd'om   domoj. (Vassilieva & Larson 2001, 449)
       1plur with Peter will.1plur go home
       'I and Peter will go home.'

    The account of agreement I develop in this paper addresses
all seven of these problems. It is based around three new
claims. My first claim concerns the syntax-semantics interface.

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I argue that agreemeent features for person, number, and gender can be interpreted only in one position: ϕ. ϕ is a new functional projection above DP that I introduce in the first section. In all other positions, agreement features must be licensed purely by syntax. The second claim I argue for is that agreement features must always receive a purely presuppositional interpretation. This is a purely semantic claim and it is especially new for number where it has been assumed that plurality is interpreted as a distibutivity operator that applies to the noun phrase. Thirdly, I claim that there is a pragmatic component to agreement. I argue that agreement features form semantic scales and stand in pragmatic competition.

[The remainder of the paper is still just a handout]

1 Syntax of Agreement: ϕ-Heads

Claim: Interpretable features for person, number and gender can only occur in ϕ. DP is the complement of ϕ.

(8) the books
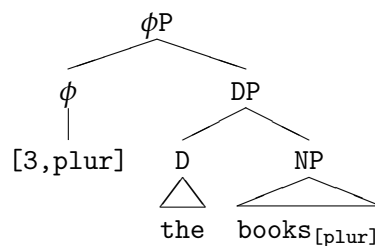
Agreement with Coordinations

The agreement features of a coordination can differ form those of the conjuncts: The coordination of two singulars is a plural.

(9)　　Kai and Lina are[plur] playing with each other.

Coordinations also carry a person feature.

(10)　German

    a.　Ich und du　sollten[1,plur] uns gegenseitig helfen.
       I　 and you should　　　us　mutually　　help

    b.　Du　und Tina solltet　　euch gegenseitig helfen.
       you and Tina should[2,plur] you　 mutually　　help

    c.　Tina und Tom sollten　　sich gegenseitig helfen.
       Tina and Tom should[3,plur] self mutually　　help

  And a Gender feature:

(11)　Czech, (Vanek 1977, 31)

    a.　Jan a　 Petr šli　　　do biografu
       Jan and Peter went[masc] to the movies

    b.　Věra a　 Barbara šly　　　do biografu
       Vera and Barbara went[fem] to the movies

    c.　Jan　a　 Věra šli/*šly　　　　do biografu
       Jand and Vera went[masc]/*went[fem] to the movies

Conclusion:

(12)　　Coordinations of DP have agreement features that are on or
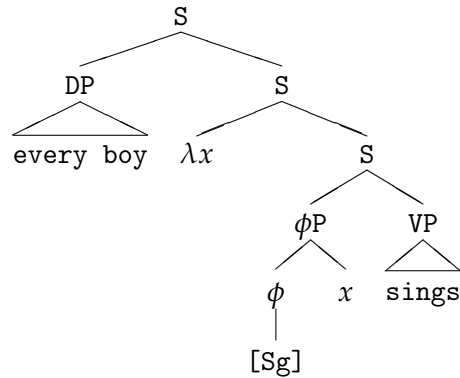
      above the coordination.

Singular Universal Quantifiers

Singular universal quantifiers argue that agreement features must

be separate of the determiner.

(13)　　Every boy sings.

The quantifier must take scope above the agreement morpheme.

(14) 'For every boy, he sings.'

```
                        S
              ┌─────────┴─────────┐
             DP                    S
           ╱──╲              ┌─────┴─────┐
      every boy            λx            S
                                   ┌─────┴─────┐
                                  φP           VP
                                ╱──┴──╲       ╱──╲
                               φ      x     sings
                               │
                             [Sg]
```

The analysis predicts that singular universals must receive a distributive interpretation.

(15) a. *Every boy gathered around the table.

  b. All boys gathered around the table.

The complex expression everyone allows both plural agreement and a collective interpretation (Williams 1986).

(16) a. Everyone are here.

  b. Everyone gathered around the table.

Further prediction:

(17) Languages with number agreement and singular quantifiers must allow some of form of quantifier raising. (English, German: yes; Japanese, Chinese: no)
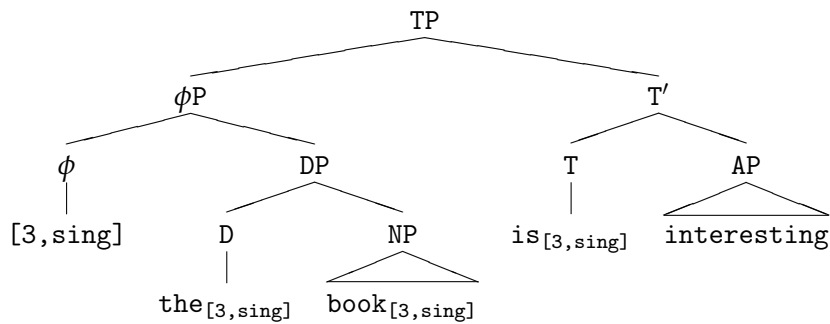
The Distribution of ϕ-Heads

For English and German, I assume the following:

(18) A ϕ-head is necessary, to license the following features:

    a. uninterpretable agreement features inside of DP
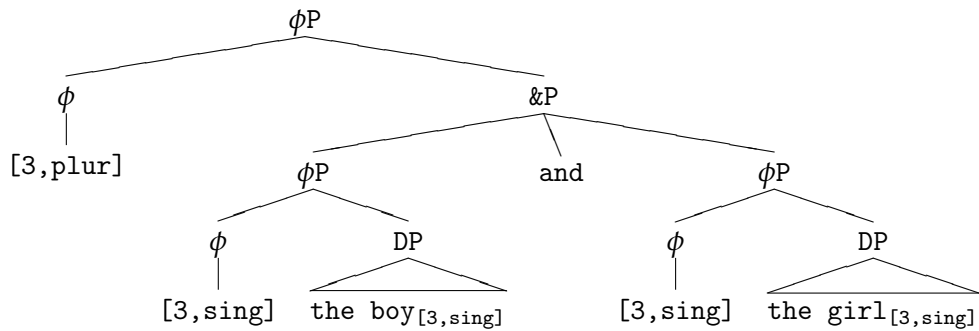
    b. uninterpretable agreement features on T

Usually, one ϕ can fulfil both licensing requirements:

(19) The book is interesting.

```
                          TP
               ┌──────────┴──────────┐
             φP                      T′
        ┌─────┴─────┐           ┌─────┴─────┐
        φ          DP           T          AP
        │       ┌───┴───┐       │         /  \
    [3,sing]    D       NP   is[3,sing]  interesting
                │      /  \
          the[3,sing] book[3,sing]
```

In coordinated subject, three ϕ-heads are necessary:

(20) The boy and the girl are playing with each other.

```
                   φP
        ┌──────────┴──────────┐
        φ                     &P
        │           ┌─────────┼─────────┐
    [3,plur]       φP        and        φP
               ┌────┴────┐          ┌────┴────┐
               φ         DP         φ         DP
               │        /  \        │        /  \
           [3,sing] the boy[3,sing] [3,sing] the girl[3,sing]
```

Comitative Coordination
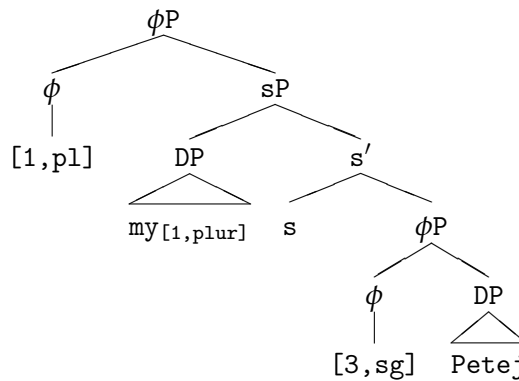
For pronouns, I assume as well that their features must be
syntactically licensed by ϕ (another possibility would be:
pronouns spell out ϕ).

(21) I am here.

```
                        TP
                 ┌───────┴───────┐
                φP               T′
            ┌────┴────┐       ┌───┴───┐
            φ        DP       T       PP
            │         │       │       △
        [1,sing]  I[1,sing]  am[1,sing]  here
```
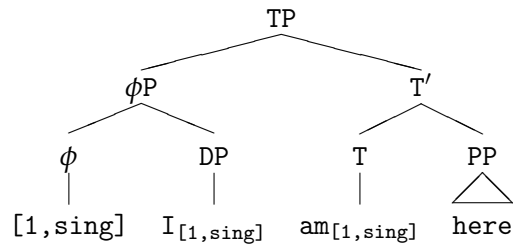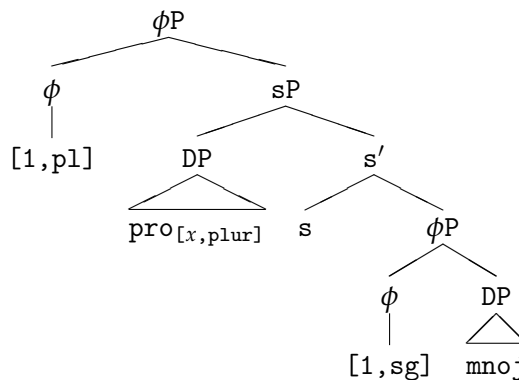
Russian comitative coordination (Vassilieva & Larson 2001 and references there) can then be analyzed as agreement of a pronoun in the first conjunct with the ϕ-head above the coordination.

(22) my   s   Petej pojd'om   domoj. (Vassilieva & Larson 2001, 449)
      1.plur with Peter will[1,plur] go home

      'I and Peter will go home.'

```
                φP
            ┌────┴────────┐
            φ            sP
            │        ┌────┴─────┐
         [1,pl]     DP          s′
                    △       ┌───┴────┐
                 my[1,plur]  s       φP
                                 ┌───┴───┐
                                 φ      DP
                                 │      △
                              [3,sg]  Petej
```

My analysis predicts that the pronoun in the first conjunct must also exhibit person agreement with the entire coordination.

```
                φP
            ┌────┴────────┐
            φ            sP
            │        ┌────┴─────┐
         [1,pl]     DP          s′
                    △       ┌───┴────┐
                 pro[x,plur] s       φP
                                 ┌───┴───┐
                                 φ      DP
                                 │      △
                              [1,sg]  mnoj
```

Hence, the following forms are ungrammatical:

(23) (Ionin & Matushansky 2002)

    a. *vy   so   mnoj pajom
       pro.2pl with 1sg sing$_{1pl}$

    b. *oni   so   mnoj pajom
   pro.2pl with 1sg sing$_{1pl}$

Surprising, but predicted: (24) is acceptable (Natasha Rakhlin,

Oksana Taransenkova, p.c.):

(24) a. ?My so   mnoj dolžny   pojti k professory
       1pl with 1sg must.1pl go   to professor
       'You/He and I should go to the professor.'

    b. My dolžny   pojti k professory so   mnoj
       1sg must.1pl go   to professor with 1pl

Split Agreement as ϕ-Recursion

My analysis allows there to be more than one ϕ-head above a DP.

This makes possible an analysis of split agreement in Russian

(Corbett 1983 and others).

(25) vrač   prišla   (Corbett 1983, 31)
     doctor.masc came$_{[fem]}$

    'The female doctor came.'

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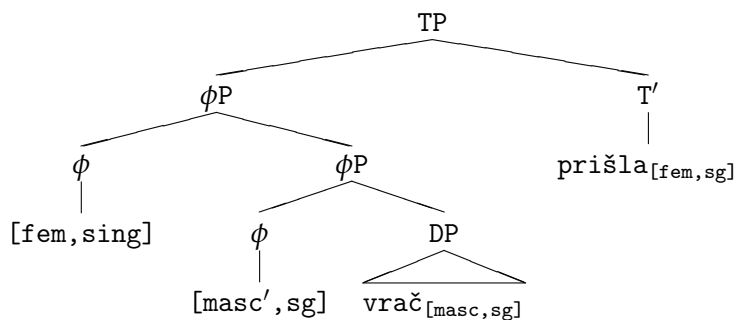
masc$'$ in the lower ϕ-head remains uninterpreted, and only
serves to license vrač, which is listed in the lexicon with an
uninterpretable feature masc.

Corbett establishes the following generalization as a case of
his agreement hierarchy (see also Wechsler & Zlatic (2003)).

(26)   If DP-internal adjectives and the verb display different
       agreement, the adjective agrees with the grammatical
       gender, and the verb with the natural gender of the DP.

On my analysis, this follows from syntactic locality,
specifically the Minimal Link Condition (Chomsky 1995 and
others):

(27)   Agreement is always with the closest phrase that has a
       feature of the right category.

Since the lower ϕ-head is closer to the noun and the adjective,
it must agree with both of them.

2   Semantics of Agreement: Presuppositions

Claim: Interpreted features in ϕ must receive a purely
presuppositional interpretation.

Ontology of the Plural

Link (1983) distinguishes between atoms (including groups) and
pluralities:

(28)   a. Atoms:

> (i) simple atoms: a, b
>
> (ii) groups: k (the committee)
>
> b. Pluralities: a⊕b, a⊕k, b⊕k, a⊕b⊕k

The interpretation of and is ⊕.

There is a reversible mapping between pluralities and groups γ:

(29) γ: the plurality a⊕b $\mapsto$ the group k

(30) γ^{-1}: the group k $\mapsto$ the plurality a⊕b

British English seems to have a (silent) lexical entry for γ^{-1}:

(31) The committee are debating.
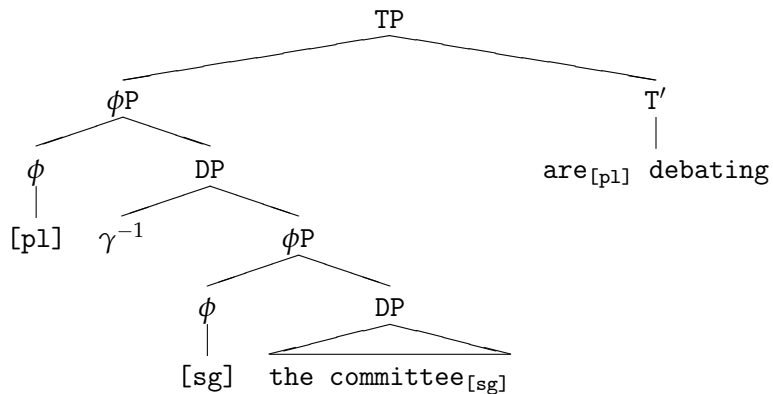
Note: This analysis crucially relies on ϕ-heads separate from D.

A prediction: γ^{-1} can apply to indefinites, but since the result is definite. Therefore, γ^{-1} cannot apply in there-existentials as in (32b).

(32) (Sauerland & Elbourne 2000, to appear, (26d))

> a. A committee were holding a meeting in here.
>
> b. *There were a committee holding a meeting in here.

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The Presuppositions of sing, 1, and fem

Lexical entries for singular, 1st person, and femininum (cf. Cooper 1979 for pronouns):

(33) a. $[\![\text{sing}]\!](x)$ is only defined, if x is an atom.

   $[\![\text{sing}]\!](x) = x$, where defined.

 b. $[\![1]\!](x)$ is only defined, if the speaker is a part of x.

   $[\![1]\!](x) = x$, where defined.

 c. $[\![\text{fem}]\!](x)$ is only defined, if all atomic parts of x are female.

   $[\![\text{fem}]\!](x) = x$, where defined.

The content of ϕ is determined by interpretation alone. If it contains the wrong features, the meaning of a sentence will be undefined.

(34) *The two chair in this row is empty.
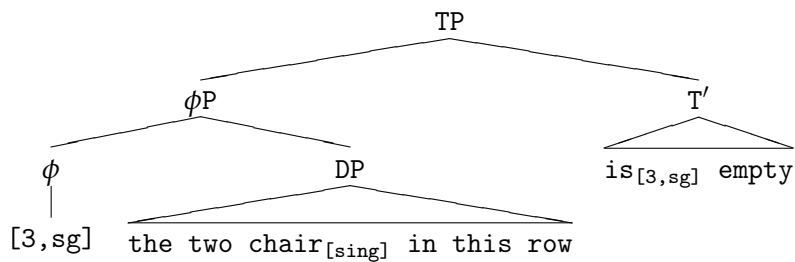
If agreement was interpreted as part of the assertion rather than as presuppositions, negation should affect agreement, and (35) should be acceptable:
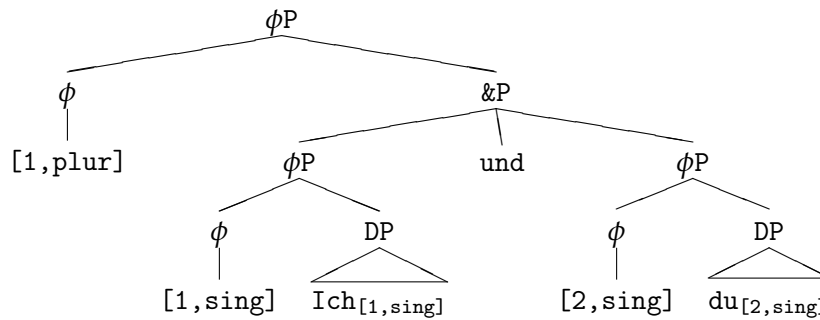
(35) *It's not the case that the two chair in this row is empty.

Coordinations

Consider example (36) again (repeated from (10a)).

(36) Ich und du sollten   uns gegenseitig helfen.
      I   and you should$_{[1,plur]}$ us mutually   help

Since the reference of ich und du is a plurality that includes
the speaker, (36) can be interpreted with the feature [1,plur].

Definites

For number on definites, the most popular semantic proposal is
to interpret number on the common noun as the *-operator (Bennett
1974, Link 1983, Schwarzschild 1996, Chierchia 1998, and others):

(37) a. ⟦student⟧ = ⟦student⟧ = {a, b, c}

      b. ⟦students⟧ = ⟦*student⟧= {a⊕b⊕c, a⊕b, a⊕c, ...}

The * operator as defined in (38) also derives distributive
interpretations of VPs.

(38) $\llbracket * \rrbracket(P)(x) = 1$ iff. there is cover C with $\forall y \in C : P(y)$ and
      $\bigoplus_{y \in C} y = x$

I will argue that the *-operator on nouns and NPs has no
morphological effect, just like the *-operator on verbs and VPs
(cf. Eschenbach 1993)

(39) $[\![*\text{student}_{[\text{sing/plur}]}]\!]$ = {a, b, c, a⊕b⊕c, a⊕b, a⊕c, ...}
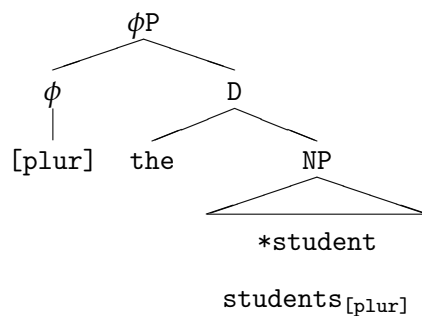
First I show that the *-operator

    For the definite article, I assume the interpretation in (40)
(Sharvy 1980).

(40) $[\![\text{the}]\!](P)$ is defined, if $\{x \mid P(x) = 1\}$ contains a maximal
element (one that all elements are a part of).

$[\![\text{the}]\!](P)$ = $\max\{x \mid P(x) = 1\}$, where defined.
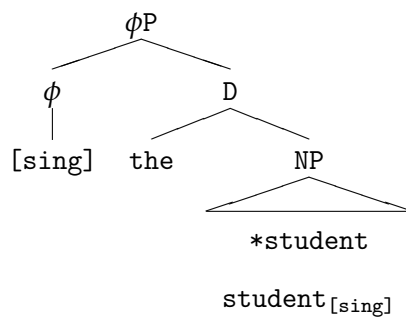
If there are more than one student, the maximum in (41) is a
plurality, and then ϕ must contain the feature plur.

(41) $[\![\text{the }*\text{student}]\!]$ = $a \oplus b \oplus c$

```
                    φP
                  /    \
                φ        D
                |      /    \
             [plur]  the     NP
                            /    \
                          *student
                        students[plur]
```

    If there is only one student, however, the maximum is this
student, an atom, and ϕ would need to contain sing.

(42) $[\![\text{the }*\text{student}]\!]$ = a

```
                    φP
                  /    \
                φ        D
                |      /    \
             [sing]  the     NP
                            /    \
                          *student
                        student[sing]
```

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Cumulative Nouns: An Argument for My Account

Examples like (43) allow a cumulative interpretation of the noun (cf. Beck 2000)

(43)   a. The wives of Bill and James are pregnant.

       b. The daughters of the defense players ...

       c. The residents of these cities ...

The *-operator doesn't yield the right interpretation here: (44) refers to the group of women that are married to both Bill and James.

(44)   the *(wife of Bill and James)

As Beck (2000) points out, the salient interpretation of (43) involves cumulation of the predicate wife as in (45). The result of cumulation is shown in (46):

(45)   **wife(X)(Y) = 1 iff. for every atomic part x of X there's an atomic part y of Y such that wife(x)(y) = 1 and for every atomic part y of Y there's an atomic part x of X such that wife(x)(y) = 1

(46)   a. wife = {⟨Bill, WB⟩, ⟨James, WJ⟩}

       b. **wife = {⟨Bill, WB⟩, ⟨James, WJ⟩, ⟨Bill ⊕ James, WB ⊕ WJ⟩}

Now, the right interpretation is accounted for by (47):

(47)   the [**wife](Bill⊕James)

Beck (2000) suggests that [Pl] on N is ambiguous between the *-operator and the **-operator.

But, singular nouns allows a cumulative interpretation in (48).

(48)   a.   Every wife of Bill and James is pregnant.

   b.   Every executive of these companies knew about their crimes.

   c.   Every resident of these cities has a bicycle.

Therefore, the standard account of plurality cannot explain why cumulated nouns under a definite must be plural.

My account, on the other hand, predicts it straightforwardly since the definite refers to a non-atomic individual:
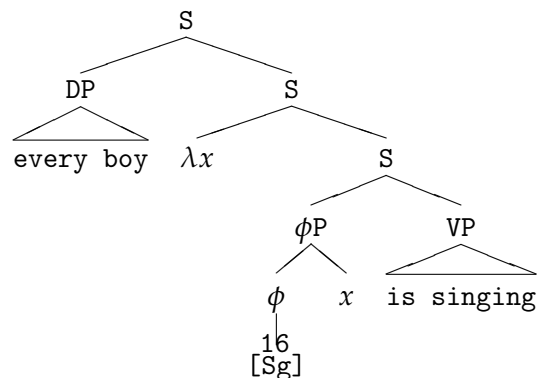
(49)   *[Sg] the (**wife of Bill and James)

Singular Universal Quantifiers with Cumulation

Consider again singular universal quantifiers:

(50)   a.   Every boy is singing.

   b.   Jeder Junge singt.   (German)
        every boy   is singing

Recall from (12) that the quantifier must move above the ϕ-head:

Now consider the cumulative example in (51):

(51)   Every resident of these cities has a bicycle.

Cumulation of resident in the NP yields (52) (assume A and B are the relevant cities):

(52)   **resident(A$\oplus$B)

The predicate in (52) is true of groups of residents (assume a_1, a_2, ...are A's residents, and b_1, b_2, ...are B's residents)

(53) $\{a_1 \oplus b_1,\ a_1 \oplus a_2 \oplus b_1,\ ...,\ a_1 \oplus a_2 \oplus a_3 \oplus \cdots \oplus b_1 \oplus b_2 \oplus \cdots\}$

Applying a universal quantifier directly to (53) predicts a wrong meaning.

I propose therefore to decompose every into a definite DER and a quantifier part JE (cf. Matthewson (2001))

(54)   JE DER resident of these cities

      a.   ⟦DER resident of these cities⟧ =
        $a_1 \oplus a_2 \oplus a_3 \oplus \cdots \oplus b_1 \oplus b_2 \oplus \cdots$

      b. $⟦JE⟧(X)(P) = 1$ iff. $\forall x : (atom(x) \wedge\ x \sqsubset X) \rightarrow P(x)$

Matthewson (2001) discusses Lilloet Salish where the complement of JE is plural. On my proposal, if the is a ϕ-head below JE, plural agreement is forced.

(55)   a.   JE [Pl] DER$_{[pl]}$ resident of these cities

      b.   [Sg] JE DER$_{[sg]}$ resident of these cities

(In (55b), the universal must still undergo QR.)

Note also that the existence presupposition of every follows from the proposal.

In German, the distributive universal 'jeder' transparently consists out of the definite 'der' and the universal 'je'.

3 Pragmatics of Agreement: Implicated Presuppositions

Claim: Agreement features form semantic scales and are subject to pragmatic competition.

For example, a presuppositional analysis of the plural analogous to that of the singular would be (56):

(56) $[\![\text{plur}]\!](x)$ is defined only if x is a plurality.

$[\![\text{plur}]\!](x) = x$, where defined.

Problems with this proposal:

Politeness forms:

(57) Könnten Sie bitte etwas   rücken.
      Could   they please something move
      'Could you please move a little.'

Singular they:

(58) Someone left their umbrella.

Indefinites in downward entailing environments: (59) is false if there is one chair left.

(59) a. Kai hasn't found any eggs.

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b. Kai has found no eggs.

Agreement in the scope of a universal: The plural doesn't require that all students with sisters have at least two.

(60) Every student who has any sisters should invite his sisters.

Pragmatic Analysis

I suggest that plural, 3rd person, and masculine are semantically unmarked.

(61) a. $[\![\text{plur}]\!](x) = x$ for all x.

b. $[\![3]\!](x) = x$ for all x.

c. $[\![\text{masc}]\!](x) = x$ for all x

(In case of the plural, semantic markedness interestingly doesn't correspond to morphological markedness (Greenberg 1966, Noyer 1992, Corbett 2000).)

The distribution of plur, 2 and masc is however constrained by the following pragmatic maxim (Heim 1991; cf. Grice 1989, Horn 1972):

(62) Maximize Presupposition: Presuppose as much as possible in your contribution to the conversation.

plur and 3 licensed, if and only if sing and 1 are not.

I assume that agreement features form Horn-scales.

(63) a. {plur,sing}

b. {1,3}

A concrete example:

(64) 1. Mary$_{[plur]}$ smile$_{[plur]}$.

          no inherent presupposition

      2. Form the alternative sentence with the singular:

          Mary$_{[sing]}$ smile$_{[sing]}$.

          presupposes that Mary is an atom

      3. Test whether the presuppositions of the singular

          sentence are stronger than those of the plural:

          Satisfied.

      4. Test whether the presuppositions of the singular

          sentence are not filfilled: not satisfied.
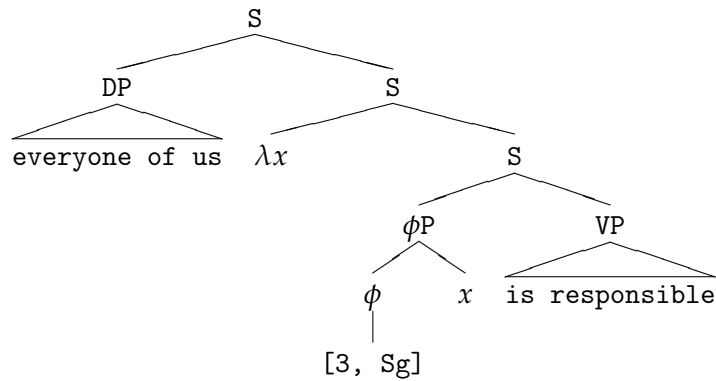

Agreement in the Scope of a Universal

Plurals in the scope of a universal:

(65) Every student who has any sisters should invite his

      sisters.

The same effect exists with third person in the scope of a

universal: Third person in (66) does not indicate that everyone

of us is different from the speaker, just some are.

(66) Everyone of us is responsible.

Consider the representation in (67):

```
                        S
              ┌─────────┴─────────┐
             DP                   S
          ┌───┴───┐         ┌─────┴─────┐
    everyone of us   λx              S
                           ┌─────────┴─────────┐
                          φP                   VP
                        ┌──┴──┐            ┌────┴────┐
                        φ     x      x  is responsible
                        │
                     [3, Sg]
```

Feature 1 would not be licensed in ϕ because it would presuppose that everyone of us is identical to the speaker.

Therefore, 3 in effect presupposes:

(67)   Not everyone of us is identical to the speaker.

Second person

I assume that second person has the presupposition in (68):

(68) $[\![2]\!](x)$ is only defined, if the participants overlap with x.

$[\![2]\!](x) = x$, where defined.

The person features form a three-membered scale:

(69) $\{1, 2, 3\}$

This correctly predicts that 1st rather than 2nd person occurs on coordinations like (70) (repeated from (10a)).

(70) German

Ich und du sollten$_{[1,plur]}$ uns gegenseitig helfen.
I   and you should   us mutually   help

However, the proposal predicts that (71a) should be preferred over (71b) contrary to fact.

(71)   a. *Each of you and me are responsible. $^?$Each of you and me is responsible.

Note however that (72b) itself is slightly odd, compared to (72).

(72)   Both you and me are responsible.

The availability of (72) might block (71a).

Politeness Forms (Pluralis Reverentiae)

Many languages use forms other than the second person singular/plural for polite address.

(73)   German

Könnten Sie   bitte   etwas   rücken?
Could   they$_{[3,plur]}$ please something move

'Could you please move a little?'

(74)   Early Modern English (W. Shakespeare, King Lear 4.6.7-10)
(Earl of Gloucester and Edgar, who is dressed up as a peasant)

Gloucester: Methinks thy$_{[2sing]}$ voice is alter'd, and thou$_{2sing}$ speak'st in better phrase and matter than thou$_{[2sing]}$ didst.
Edgar: You$_{[2plur]}$'re much deceived. In nothing am I changed but in my garments.
Gloucester: Methinks you$_{[2plur]}$'re better spoken.

An Earlier Analysis of Politeness Plurals

Brown & Levinson (1987) suggest that the plural is used to
pretend that the speaker is addressing more than one person.

(75)   ''[S]ince it does not literally single out the addressee,
        it is as if the speaker were giving H [the hearer] the
        option to interpret it as applying to him rather than,
        say, to his companions.'' (Brown & Levinson 1987, 198-9)

This proposal predicts that the plural should be used not just
on the pronoun, but at least also on inalienably possessed items.
But, (76b) can only be used when actually addressing a group:

(76)   Modern German

        a. Ihr   Nase   ist   entzündet.
            2plur.sing nose.sing is.sing inflamed
        b. Ihr-e   Nasen   sind   entzündet.
            2plur-plur nose-plur are.plur inflamed

Similar, the number of arms in (77) should be greater than two:

(77)   Middle English (G. Chaucer, A Knight's Tale, 2781)
        Arcite addressing Emelye:
        And softe taak me in youre$_{[pl]}$ armes tweye.

My Proposal for Politeness Forms

In my analysis, [3] and [plur] are semantically compatible
with reference to you, a atomic addressee. I claim that
presupposition maximization is satisfied because alternatives
that perceived as less polite are blocked.

In Middle and Early Modern English, one alternative, thou, is blocked.

(78) a. ~~Methinks thou~~$_{[2,sing]}$ ~~art better spoken~~

     b. Methinks you$_{[2,plur]}$'re better spoken. (=(74))

In German, three alternatives must be blocked:

(79) a. ~~Könntest~~$_{[2sing]}$ ~~du~~$_{[2sing]}$ ~~bitte etwas rücken?~~

     b. ~~Könntet~~$_{[2plur]}$ ~~ihr~~$_{[2plur]}$ ~~bitte etwas rücken?~~

     c. ~~Könnte~~$_{[3sing]}$ ~~er~~$_{[3sing]}$ ~~bitte etwas rücken?~~

     d. Könnten$_{[3plur]}$ sie$_{[3plur]}$ bitte etwas rücken?

In the history of German, three different politeness forms are attested (Simon 2003), reflecting different stages of blocking:

(80) a. Old High German (about 950 a.d.), Otfrid: Salomoni Episcopo Otfridus, v. 5-7

        Oba   ir   hiar fíndet iawiht   thés thaz
        whether you$_{[2,plur]}$ here find   something that that
        wírdig ist thes lésannes
        worthy is the reading

        'if you find something here that is worthy of being read'

     b. Modern High German (17th to 19th century), Karl May style:

        Reiche er   mir die Pfeife.
        give   he$_{[3,sing]}$ me the pipe

     c. Modern High German (since Gedike 1794)

        Könnten   sie   bitte etwas   rücken?
        Could$_{[3,plur]}$ they$_{[3,plur]}$ please something move

Head (1978) argues that universally politeness in the pronominal system is only be expressed by shift from sing to plur and 2 to 3.

(81) a. 2plur instead of 2sing: French, Middle English, Old German, Hindi, ...
      b. 3sing instead of 2sing: Efatese, Kashmiri, Sotho, ...
      c. 3plur instead of 2sing, 2plur: German, Eastern Pomo, Tagalog, ...

My analysis entails Head's typological generalization.

(82) Politeness within the pronominal system can only be expressed by shifts from sing to plur and 2 to 3.

Singular they

While modern English lost the non-polite though around 1700, singular they can receive essentially the same analysis.

(83) Someone left their umbrella.

I claim that because the gender marked singular forms are blocked when someone's gender is unknown, and the default plural emerges with singular reference.

(84) a. ~~Someone left her umbrella.~~
      b. ~~Someone left his umbrella.~~
      c. Someone left their umbrella.

The masculine his should emerge as the default gender, but is blocked by social convention.

Note (Pulleyblank, p.c.): Stacking of ϕ must be blocked here and also above politeness pronouns (unlike Russian and British English split agreement) otherwise split agreement in (85b) should be possible.

(85) a. Noone said that they are not satisfied.

b. *Noone said that they is not satisfied.

This follows if pronouns actually spell out ϕ and lexical insertion proceeds top-down.

Indefinites

Plurality on indefinites in the scope of negation and on no seems to have no truth-conditional effect:

(86) a. Kai hasn't found any eggs.

b. Kai has found no eggs.

In fact, this seems to hold for all downward entailing environments:

(87) a. Without (any) artificial ingredients

b. If John had eaten any apples from the basket, there would be at least one/#two less in the basket.

In upward entailing environments, plurality does have a truth-conditional effect: (88a) would be false if only one egg is still hidden.

(88) a. Some eggs are still hidden.

b. Some egg is still hidden.

I assume that no is decomposed into an indefinite and negation (Penka 2002, and others), and therefore focus on indefinites.

On an analysis of some/any as generalized the would have to undergo QR from under the ϕ-head, e.g. (89) for (88):

(89)   [some egg] λ_x sing/plur(x) is/are still hidden.

Presuppositions in the scope of an existential turn into assertions:

(90) $[\![\text{some/any}]\!](P)(Q) = 1$ iff.

$$\exists x \in \text{domain}(P) \cap \text{domain}(Q) : P(x) = 1 \land Q(x) = 1$$

This predicts correctly that the singular indefinite in (88a) asserts existence of at least a single hidden egg, and has further an implicature that its not more.

(91)   [some egg] λ_x sing(x) is still hidden.

For the plural, the question is how presupposition maximization applies to the scope of an existential. Generalization (92) yields the correct result.

(92)   Maximize presupposition applies to the scope of an existential if and only if this strengthens the entire utterance.

In (93), presupposition maximization must apply:

(93)   Some eggs are still hidden.

In (94), however, it must not apply:

(94)   Kai hasn't found any eggs.

4 Conclusion

My integrated analysis of agreement is based on three new assumptions:

(95) a. Syntax: ϕ-heads

     b. Semantics: purely presuppositional interpretations

     c. Pragmatics: unmarked features and competition

It addresses the problems mentioned at the beginning and several others.

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