1. Introduction.

- **Goal:** to account for the agreement mismatch illustrated in (1): a morphologically singular DP subject triggers plural agreement on the verb.7

(1) a. [np [d El] [n1 hornero] [n2 hornera]]] cobraban en panes.  
ex. thebakers,SG and bakers,SG were-paid,PL in bread loaves  

b. [np [d [np cuya]] [n1 detención] [n2 interrogatorio]]] fueron llevados a cabo por inspectores.  
ex. whose,SG arrest,SG and interrogations,SG were-carried-out,PL by inspectors  

- **Theoretical claims:**

(2) (i) The notion of phi-features generally assumed in the P&P/Minimalist framework is insufficient to explain complex agreement facts. There are two kinds of phi-features involved in agreement operations (purely formal phi-features and semantic phi-features).

(ii) Features are organized in bundles. Agreement operates on bundles (Maximization Principle, Chomsky 2001).

(iii) Agree must be understood as feature sharing (Frampton and Gutmann 2000). Agree applies both DP internally (Concord) and externally (in subject-verb agreement, generally associated with case assignment). The distinction Concord-Agree should be eliminated (in the line of Carstens 2000).

2. The data.

2.1. Basic examples.

- The structure introduced in (1) is widely attested and productive in Spanish.
- All kind of nouns and determiners participate in this construction.


- All the examples in these series are corpus data extracted from CREA

3. Our proposal.

3.1. Preliminary assumptions. Asymmetric CoP.

3.2. An enriched theory of phi features.

3.3. Agree as feature sharing.

3.4. Against a DP ellipsis approach.

4. Prospects and Conclusions.

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1 This work is part of a wider investigation on agreement inside DPs, in which we analyze number agreement between D, A and N in structures where a conjunction of singular Ns receives a plural interpretation. (see Demonte & Pérez-Jiménez 2010)

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2 a. [D A [N1, y N2]]] b. [D [N1, y N2] A]
c. No es descabellado pensar que esa desconfianza e inseguridad eran el origen de los estados de melancolía.
   ‘It is not crazy to think that this distrust and insecurity gave rise to those states of melancholy.’

d. Toda persona y pueblo tienen derecho a saber qué pasó con sus seres queridos.
   ‘Every person and people have their right to know what happened to their loved ones.’

2.2. Obligatory CCA.
   • Closest Conjunct Agreement is compulsory in these structures.

(6) {El/*la/*los/*las} horneron a y hornera a cobraban en panes.
   ‘The baker and baker were paid in bread-loaves.

2.3. Plural semantics.
   • These DPs are semantically plural: they denote a set of individuals, more strictly, a ‘plural individual’, Lasersohn (1995).

(7) Se les atribuirán un nuevo padrino y madrina, quienes deben darle la instrucción necesaria en el arte de la brujería.
   ‘They will be assigned a new godfather and godmother, who must instruct them in witchcraft.

   • They give rise to distributive as well as to collective readings (Lasersohn 1995).

(8) Distributive reading:
   Su marido e hijo hablan francés / son altos.
   ‘Her husband and son speak French / are tall.

(9) Collective reading:
   Su marido e hijo se reúnen / se encuentran ayer.
   ‘Her husband and son gathered / met yesterday.

   • Other syntactic contexts forcing the distributive, (10), and collective readings, (11).

(10) COMBINACIÓN CON DIFERENTE
   [Su marido e hijo / La policía y gendarmería / El propano y butano / La claridad y oscuridad] llegaron en diferentes momentos.
   ‘Her husband and son, the police and gendarmerie, the propane and butane, the brightness and darkness arrived at different moments.’

(11) CONTEXTOS GIVING RISE TO THE COLLECTIVE READING:
   a. COMBINATION WITH SIMILARITY PREDICATES
   Su marido e hijo son parecidos.
   ‘Her husband and son are similar.’

b. COMBINATION WITH JUNTOS ‘TOGETHER’
   [La madre e hija / La policía y gendarmería / La claridad y oscuridad] vinieron juntos.
   ‘Her mother and daughter, the police and gendarmerie, the brightness and darkness came together.’

c. COMBINATION WITH MISMO ‘SAME’ (LICENSED BY SEMANTIC PLURALS)
   [Su marido e hijo / La policía y gendarmería / La claridad y oscuridad] llegaron en el mismo momento.
   ‘Her husband and son, the police and gendarmerie, the brightness and darkness came at the same moment.’

d. BINDING OF RECIPROCALS
   Su marido e hijo se quieren (el uno al otro).
   ‘Her husband and son love each other.

   • A coordination of Ns can also have a singular denotation, correlated with singular agreement on the verb when the DP is a subject. (King & Dalrymple 2004: 75-6: the distinction is tied to the semantics of the conjunction and).

3. Our proposal.

3.1. Preliminary assumptions. Asymmetric CoP.
   • D selects for a Coordination Phrase [CoP] with the first conjunct, N₁, c-commanding the second one, N₂ (Kayne 1994; Johannessen 1996, 1998; Camacho 2003 for Spanish).

(13) La madre e hija cruzaron una serie de miradas.
   ‘The mother and daughter exchanged a series of glances.’
We remain neutral with respect to the level of projection of Ns: N₀ or NP.
There are no functional projections hosting morphosyntactic number and gender features in the DP structure. These are considered features of N. (For a discussion on the position/projection of the number feature, see Dobrovie-Sorin (2009) and the references therein).

3.2. An enriched theory of phi features

- P&P/Minimalist tradition: syntactic agreement operates with phi features (a short history of phi features can be found in Adger & Harbour 2008).
- Our claim: the notion of phi-feature set as generally understood is not enough to explain the facts we are describing. The theory of phi features must be enriched.

(14) Two sets of phi-features, both visible to the syntactic component:

a) Concord Phi-features are formal features related to the morphosyntactic properties of lexical items and codify instructions to the PF interface.

b) Index Phi-features are formal features related to semantic properties of lexical items and codify instructions to the LF interface.


(15) Mixed agreement: This band are absolutely amazing (from W&Z 2003:76).


- Featural content of N, D and CoP:
  - Nouns.
    - Concord features: reflect declensional properties of N: gender, number and case -all nouns have an abstract case feature-.
    - Index features: reflect semantic properties of N. W&Z 2003: nouns are associated with indices, conceived as feature structures: gender (associated with sex or other semantic categorization), number (cardinality), person (identification of participants).
    - Both concord and index phi-features are valued in N, except for the Case feature.

(16) a. Noun

<table>
<thead>
<tr>
<th>concord-features</th>
<th>index-features</th>
</tr>
</thead>
<tbody>
<tr>
<td>gender</td>
<td>GENDER</td>
</tr>
<tr>
<td>number</td>
<td>NUMBER</td>
</tr>
<tr>
<td>Case</td>
<td>PERSON</td>
</tr>
</tbody>
</table>

b. madre | hija
\[i[\{f\}\{n\}p\{3\}]\] \[i[\{f\}\{n\}p\{3\}]\] c[i[\{f\}\{n\}c\{1\}]] c[i[\{f\}\{n\}c\{1\}]]

- Determiners.
  - Concord features: declensional properties of D: unvalued gender, number, case.
  - Index features: unvalued gender, number, person. Motivation: determiners semantically operate onto the noun’s index.
  - Both concord and index phi-features are unvalued in D.

(17) a. Determiner

<table>
<thead>
<tr>
<th>concord-features</th>
<th>index-features</th>
</tr>
</thead>
<tbody>
<tr>
<td>gender</td>
<td>GENDER</td>
</tr>
<tr>
<td>number</td>
<td>NUMBER</td>
</tr>
<tr>
<td>Case</td>
<td>PERSON</td>
</tr>
</tbody>
</table>

b. D
\[i[\{f\}\{n\}p\{1\}]\] c[i[\{f\}\{n\}c\{1\}]]

- Coordinate phrase:

(18) CoP
\[i[\{f\}\{n\}p\{3\}]\] N₁
\[i[\{f\}\{n\}p\{3\}]\] Co
\[c[i[\{f\}\{n\}c\{1\}]]\] N₂

\[i[\{f\}\{n\}p\{3\}]\] c[i[\{f\}\{n\}c\{1\}]]
Recapitulation: Featural content of N, D and CoP.

La madre e hija cruzaron toda una serie de miradas.  

The mother and daughter exchanged a series of glances.

3.3. Agree as feature sharing

Point of departure: Agree – Feature sharing

Agreement within the DP
- (22): D, with unvalued phi-features, probes for a goal with their valued counterparts.
- Index and concord phi-features are treated by syntax as bundles (Maximization Principle).
- The index features of D agree with their closest goal containing matching features: CoP. D is ‘indexically’ plural.
- The concord features of D find their closest goal in the concord features of N1. The feature bundle on CoP is overlooked since this bundle does not “maximally” match the one on the probe: Closest Conjunct Agreement. D is morphologically singular.

- Structural Case is unvalued in N. This is not a problem if Agree is understood as Feature Sharing: Agree is realized as the sharing of a single feature between two syntactic nodes, regardless of whether the feature is valued or not.
- D ends up with its index features valued and one of the features of the concord set still unvalued.

Implications: (a) Agreement is established with independence of Case assignment. (b) Goals need not to be ‘active’ in Chomsky’s sense (cf. CoP).
- Agree theory in the line of Frampton & Gutmann’s proposals.
- Unified treatment of Agree and Concord (in line with Carstens 2001, a.o.).

Subject – Verb Agreement
- T(ense) merges with the verbal phrase containing the subject DP.
- T bears a concord bundle which contains at least person and number features (for the sake of simplicity we assume that it also has a gender feature, although it is not visible in Spanish). Verbal agreement systems evolve historically from pronoun incorporation (on this typological claim, see Wechsler & Zlatić 2003: 90, Nikolaeva 2003: §1, and the references cited therein). Person and number are concord features on T: they correspond to the inflectional properties of the verb and are visible at PF.
• The unvalued concord features of T probe for a matching set of features and find the index features of DP. This is possible given that concord and index features are different kind of features from the point of view of the interfaces, but not from the point of view of syntax. A concord bundle can agree with an index bundle as long as they contain the same featural content.
• The number feature of T is valued as plural. As a consequence of agreement the Case feature of D (shared with N) is valued as nominative (Chomsky 2001, Frampton and Gutmann 2000 a.o.).

3.4. Against a DP ellipsis approach.

• Camacho (2003) [see also Chaves 2008: 270]: ellipsis based account: two DPs are conjoined and null D and A are licensed in the second DP under identity with D and A in the first DP.

(24) a. La flora y relieve (me sorprendieron mucho).
   ‘The flora and relief (astonished me).’
   b. [DP D N] y [DP ØD N]

(25) a. La fascinante flora y relieve (me sorprendieron mucho).
   ‘The fascinating flora and relief (astonished me).’
   b. [DP D A N] y [DP ØD ØA N]

In this kind of approach it is difficult to explain the following facts.

• Ellipsis of A in the second DP is dependent of ellipsis of D.

(26) a. * [DP D A N] y [DP ØD ØA N]
   b. La fascinante flora y el relieve ≠ La fascinante flora y el fascinante relieve
   ‘The fascinating flora and the relief’ ≠ ‘The fascinating flora and the fascinating relief’

• N in the second DP cannot be deleted. It must be obligatorily a remnant for the structure to have a plural interpretation.

(27) a. * [DP D A N PP] y [DP ØD ØA ØN PP]. (impossible with plural interpretation)
   b. La hermosa mujer de Pedro y de Juan. ≠ La hermosa mujer de Pedro y la hermosa mujer de Juan
   ‘The beautiful woman of P. and of J.’ ≠ ‘The beautiful woman of P. and the beautiful woman of J.’

4. Prospects and Conclusions

Prospects


(28) Italian
   a. *[Un uomo e bambino] mangiano. [H&Z 2005: (21a)]
      _a_{M.SG}, man_{M.SG} and child_{M.SG}, eat_{PL}_.
      ‘A man and child are eating.’
   b. *[Questo uomo e ragazzo] sono buoni amici. [H&Z 2005: (21b)]
      _this_{M.SG}, man_{M.SG} and boy_{M.SG}, are_{PL}_, good friends_.
      ‘This man and boy are good friends.’

(29) French
   *[Ce soldat et marin] étaient d’accord. [H&Z 2005: (22b)]
   _this_{M.SG}, soldier_{M.SG} and sailor_{M.SG}, were_{PL}_, in-agreement_.
      ‘This soldier and sailor agreed with each other.’

(30) Romanian
   *Acest bărbaț și femeie sunt îndrăgostiti. [Dobrovie-Sorin 2009: (11)]
   _this_{M.SG}, man_{M.SG} and woman_{F.SG}, are_{PL}_, in-love_.
      ‘This man and woman are in love.’

We have shown that these structures exist in Spanish (Villavicencio et al. offer similar data for Portuguese).

Question: ¿Is there really a parametric difference?

• Hypothesis (tentative and preliminary): ¿Could Spanish be considered a language where Ns can be arguments without the presence of D in some contexts? (note the contrast between *Madre llegó and Madre e hija llegaron). On the lack of correlation between DP-hood and argumenthood, see Aboh (2010) and the references cited therein.

(31) Es un excelente iniciativa (el) que vengas al menos una vez al año.
   ‘The fact that you come at least once a year is an excellent initiative.’

3 Although clarification is needed in this respect, examples like (i) are attested in Romanian, and some examples of this type in French can also be found on the Internet. (ii) Plank (1991) consider examples like ton père et mère ‘your_{PL} father and mother’ as grammatical (as also ses père et mère ‘your_{PL} father and mother’).

(i) Sotul și copilul sau au plecat [Elena Soare (p.c.)]
   husband.the and son.the her SG have PL left
   ‘Her husband and son have left.’

   _its fauna and flora exceptional and unique_.
   ‘Its exceptional and unique fauna and flora.’
   b. Son père et mère, maintenant morts, étaient également normaux. [www.migrations.fr]
   _their father and mother now dead, were PL_ normal as well_.
   ‘Their father and mother, now dead, were normal as well.’
Conclusions

a) Mismatches between ‘morphological’ and ‘semantic’ number can be captured through the interaction of two different types of phi-features (concord and index phi-features).

b) Concord and index features behave as bundles from the syntactic point of view. Syntax is not sensitive to the concord/index difference, only to the featural content of the bundles.

c) Agree must be understood as feature sharing and is independent of Case checking/valuation and of ‘activation’ of the Goals. There is no Agree/Concord difference.

d) According to our analysis, but not to the ellipsis analysis, the agreement facts explored form a natural class of phenomena with other cases of agreement mismatches: collective nouns (Wechsler & Zlatić 2003: 76-77).

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