Hybrid Nouns and Agreement Zones within DP

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(1) Hybrid nouns and mixed agreement

Starting point from G. Corbett: Agreement is sometimes sensitive to syntactic features and sometimes to semantic features. Occasionally, it is sensitive to both types of features *simultaneously*, within the same utterance.
(See Corbett 1979, 1983, 1987, 1991, 2006)

⇒ Nominal phrases must be allowed to carry two sets of ϕ-features.

Terminology
Syntactic and semantic agreement are definable only when distinguishable. Agreement which is consistent with semantic features is not "semantic agreement" unless it is *inconsistent* with the syntactic features.

(2) Collective nouns in British English (Smith 2012)
a. **This**$_{SG}$ committee **have**$_{PL}$ decided on the issue.
b. The government **has**$_{SG}$ offered **themselves**$_{PL}$ up for criticism.

Certain animate nouns in Serbian/Croatian
c. mnog-i Sarajlij-e (Corbett 2006)
many-**M**.PL Sarajevan.**F**-PL.NOM
'many (male) Sarajevans'

Certain profession names in Russian (Corbett 2006, Pesetsky 2014)
d. Nov-yj vrač prišël/prišl-a.
new-SG.**M** doctor.SG arrived.SG.**M/F**
'The new doctor arrived.'

(3) *The Agreement Hierarchy* (Corbett 1979 et. seq.)
attributive > predicate > relative pronoun > personal pronoun

For any controller that permits alternative agreements, as we move rightwards along the AH, the likelihood of agreement with greater semantic justification will increase monotonically (that is, with no intervening decrease).

➔ Documented cases of "semantic" attributive agreement (inside DP) are rare.

Note I: The AH is a statistical claim about relative frequencies of agreeing forms in a corpus, not a claim about particular utterances.

Note II: "attributive" conflates Det/Dem and adjectives, which actually display different behavior (see below).

The CONCORD-INDEX system
[Wechsler and Zlatić 2000, 2003]

(4) Motivation: The dichotomy between "syntactic" and "semantic" agreement is too coarse. Attributive adjectives that agree "syntactically" may "disagree" morphologically (e.g., against their declension class), and verbs that agree "semantically" may mismatch pronouns that agree pragmatically.

Morphology ⇔ CONCORD ⇔ INDEX ⇔ Semantics

CONCORD features are morphologically rooted, INDEX features are semantically rooted. We may think of CONCORD and INDEX as the syntactic encoding of syntax-external information, mapped from the PF and LF interfaces, respectively.

CONCORD = {number,gender,case} ; INDEX = {number,gender,person}

The key insight of (and motivation for) this model are mismatch scenarios, where the mapping is non-transparent.

(5) A test case: *deca* 'children' in Serbian/Croatian

a. Postmatrali smo ovu dobru decu$_i$.
watched.1PL AUX this.**F.SG** good.**F.SG** children.ACC

b. Ona$_i$ su se lepo igrala.
they.NT.PL AUX.3PL REFL nicely played.**NT.PL**

c. Oni$_i$ su se lepo igrali.
they.**M.PL** AUX.3PL REFL nicely played.M.PL
'We watched these good children$_i$. They$_i$ played well.'

(6) Information in the lexical sign for *deca* in (5)

$$\begin{bmatrix} \text{CONCOCRD} & \begin{bmatrix} \text{NUM} & \textit{sing} \\ \text{GEN} & \textit{fem} \end{bmatrix} \\ \text{CONTENT} & \begin{bmatrix} \text{INDEX} & \textit{i} \begin{bmatrix} \text{NUM} & \textit{pl} \\ \text{GEN} & \textit{neut} \end{bmatrix} \\ \text{RESTR} & \begin{bmatrix} \text{COUNT} & \textit{pl} \\ \text{SEX} & \textit{masc} \end{bmatrix} \end{bmatrix} \end{bmatrix}$$

A hybrid noun in Hebrew: *be'alim* 'owner(s)'

(7) *be'al-im*: Morphologically plural and masculine, semantically neutral

hu / hi / hem / hen	haya/hayta/hayu	ha-be'al-im	šel	ha-dira
he/she/they.M/they.F	was.3.SG.M/F/PL	the-owner-M.PL	of	the-apartment

'He/She/They was/were the owner/s of the apartment.'

However, predicate nominals do not genuinely agree (Baker 2008). To appreciate the exceptionality of *be'alim*, it must be tested in a subject position, with an attributive adjective. This reveals a 3/4 pattern.

(8) a. ha-be'al-im ha-kodem maxar et ha-makom lifney šana.
the-owner-**PL** the-previous.**SG** sold.**3SG** ACC the-place before year
'The previous owner sold the place a year ago'

b. ha-be'al-im ha-kodm-im maxru et ha-makom lifney šana.
the-owner-**PL** the-previous-**PL** sold.**3PL** ACC the-place before year
'The previous owners sold the place a year ago'

c. (?) ha-be'al-im ha-kodm-im maxar et ha-makom lifney šana.
the-owner-**PL** the-previous-**PL** sold.**3SG** ACC the-place before year
'The previous owner sold the place a year ago'

d. * ha-be'al-im ha-kodem maxru et ha-makom lifney šana.
the-owner-**PL** the-previous.**SG** sold.**3PL** ACC the-place before year
('The previous owner(s) sold the place a year ago')

(9) The 3/4 agreement pattern with *be'alim*

a. [DP *be'alim* Adj[SG]] … V[SG] …
b. [DP *be'alim* Adj[PL]] … V[PL] …
c. [DP *be'alim* Adj[PL]] … V[SG] …
d. * [DP *be'alim* Adj[SG]] … V[PL] …

When is number agreement semantic and when is it not?

(10) [NP *be'alim* Adj[PL]] denotes either a single or a plural entity;
[NP *be'alim* Adj[SG]] denotes a single entity.

Note: Verbal agreement is a *reflex*, not the cause of the semantic distinction. Indeed, verbal agreement can be factored out.

(11) a. hine [ha-be'alim ha-xadaš-im]$_i$. hu$_i$/hem$_i$ kvar al kocim.
here the-owner.PL the-new-PL. He/They already on thorns
'Here is/are the new owner(s). He's/They're already on edge'

b. hine [ha-be'alim ha-xadaš]$_i$. hu$_i$/*hem$_i$ kvar al kocim.
here the-owner.PL the-new-SG. He/They already on thorns
'Here is the new owner. He's/*They're already on edge'

(12) Information in the lexical sign for *be'alim (HPSG-style)*

$$\begin{bmatrix} \text{CONCOCRD} & \begin{bmatrix} \text{NUM} & \textit{pl} \\ \text{GEN} & \textit{masc} \end{bmatrix} \\ \text{CONTENT} & \begin{bmatrix} \text{INDEX} & \textit{i} \begin{bmatrix} \text{NUM} & \boxed{1} \\ \text{GEN} & \boxed{2} \end{bmatrix} \\ \text{RESTR} & \begin{bmatrix} \text{SEX} & \boxed{1} \\ \text{COUNT} & \boxed{2} \end{bmatrix} \end{bmatrix} \end{bmatrix}$$

(13) Theoretical assumptions

a. Verbs agree with INDEX features (Wechsler and Zlatić 2003).
(Motivation: (i) they agree in person, and (ii) they are diachronically derived from pronoun incorporation)
b. Novelty: NP-internal INDEX agreement is allowed.

(14) Agreement configurations with *be'alim*

a. [NP *be'alim* [INDEX *sg*, CONCOCRD *m.pl*] Adj[NUM:*sg*]] … V[NUM:*sg*] …

b. i. [NP *be'alim* [INDEX *pl*, CONCOCRD *m.pl*] Adj[NUM:*pl*]] … V[NUM:*pl*] …

b. ii. [NP *be'alim* [INDEX *pl*, CONCOCRD *m.pl*] Adj[NUM:*pl*]] … V[NUM:*pl*] …

c. [NP *be'alim* [INDEX *sg*, CONCOCRD *m.pl*] Adj[NUM:*pl*]] … V[NUM:*sg*] …

d. * [NP *be'alim* [INDEX *pl*, CONCOCRD *m.pl*] Adj[NUM:*sg*]] … V[NUM:*pl*] …

(15) A theoretical puzzle

The lexical entry in (12) assumes that semantic information wins over morphological information when they pull the INDEX feature in opposite directions.

Wechsler and Zlatić (2003): Just the opposite! "… the morphologically-related genders (those ultimately related to declension class) take priority over the semantically related genders. This can be captured by giving the CONCORD-INDEX constraint priority over the INDEX-Semantics constraint" (p. 65).

Examples:
(i) Serbian/Croatian *devojče* 'girl' (diminutive): [CONCORD *neut*] (= agreement on determiners), [SEX *fem*] → [INDEX *neut*] (agreement on verbs).
ii) French *sentinelle* 'sentry': [CONCORD *fem*], [SEX *masc/fem*] → [INDEX *fem*].

In W&Z's model, semantics determines INDEX agreement *only* if CONCORD features are underspecified (e.g., Hebrew *leta'a* 'lizard' vs. *roš memšala* 'prime minister').

The trouble with *be'alim* is that INDEX number agreement (on the verb) matches the semantic number *even against* the specified CONCORD number [*pl*]; see (8c).

(16) Desiderata

a. Explain how semantic matching can override morphological matching in fixing the INDEX values of Hebrew *be'alim* and Chichewa *ngwazi* 'hero', contrary to what is found with Serbian/Croatian *devojče* 'girl' and French *sentinelle* 'sentry'.
b. Explain how Hebrew *be'alim* can trigger INDEX (rather than CONCORD) agreement on attributive adjectives.
c. *Link* these two exceptional properties of *be'alim* in a principled way.

A configurational model of CONCORD and INDEX features in DP

(17) *Location of CONCORD and INDEX [number] within DP*
CONCORD number is specified on N; INDEX number is specified on Num.

Intuition: CONCORD features are inherent and depend on the morphology of the noun stem. INDEX features are inflectional and non-inherent (On NumP, see Ritter 1991, 1992, 1995, Bernstein 1991, 2001, Delfitto and Schroter 1991, Valois 1991, 2006, Koopman 1999, Heycock and Zamparelli 2005, Julien 2005, Munn and Schmitt 2005 and Pearce 2012).

(18) Location of other features inside DP

CONCORD gender: N

INDEX gender: N or Num (Ritter (1993), Steriopolo and Wiltschko 2010)
PERSON: D (Ritter 1995, Carstens 2000, Baker 2008, Danon 2011)

(19) How does DP-external agreement work?

Option 1: T/v probes separately each feature in its location. Problems: uneconomical and potentially violating phase-locality.

Option 2: D registers all DP-internal ϕ-values and is the sole contact point for external probes (Danon 2011, Shlonsky 2012).

Since determiners may spell out either CONCORD or INDEX features, their ϕ-slots should be typed.

(20) *The distribution of ϕ-features within DP*

N	**Adj**
[CONCORD|GENDER *val*] [CONCORD|NUMBER *val*] ([INDEX|GENDER *val*])	[GENDER ___] [NUMBER ___]
Num	**D**
[INDEX|NUMBER *val*] ([INDEX|GENDER *val*])	[INDEX|PERSON *val*] [INDEX|NUMBER ___] [INDEX|GENDER ___] [CONCORD|NUMBER ___] [CONCORD|GENDER ___]

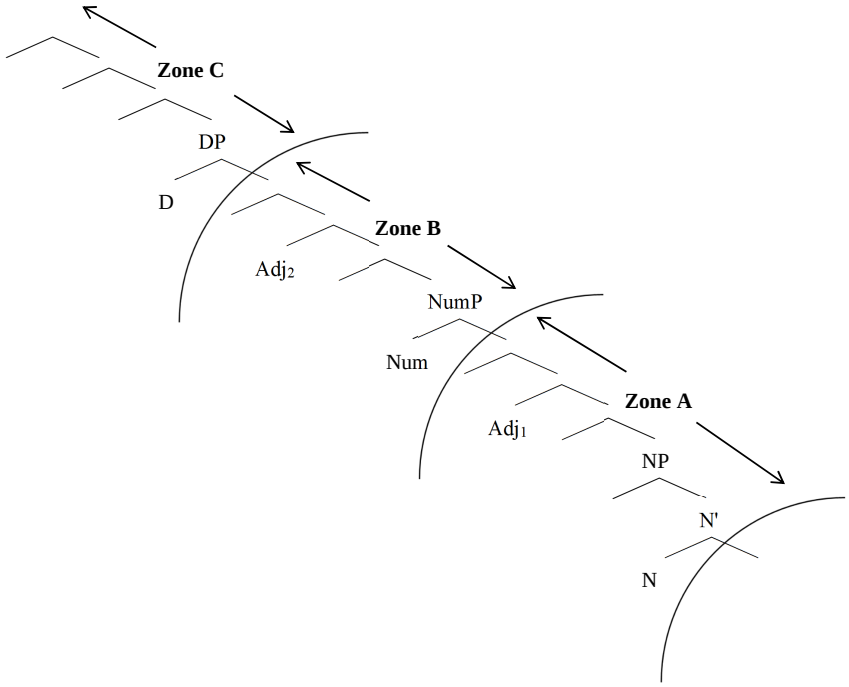
(21) Attachment site for attributive adjectives

Unmarked: [$_{DP}$ D [$_{NumP}$ Num [**AP** [$_{NP}$ N …]]]]
(Ritter 1992, Valois 1991, 2006, Heycock and Zamparelli 2005, Cinque 2010:63)

Marked: [$_{DP}$ D [**AP** [$_{NumP}$ Num [$_{NP}$ N …]]]]

Important: The shifty element here is NumP, not AP. When NumP (markedly) attaches low, it permits the rare INDEX agreement on AP. What governs this marked option? Coming up.

(22) *Agreement zones inside and outside DP*



Zone B: Agreement with Num

(23) The key question: What allows attributive adjectives to enter INDEX (rather than CONCORD) agreement *be'alim*?

A derivational answer: If Adj attaches in Zone A, *before* NumP is projected, it only has a chance to agree with N → **CONCORD agreement**. If Adj attaches in Zone B, the closest source for ϕ-values it can probe will be Num → **INDEX agreement**.

Note: We remain neutral on the directionality of Agree. Even if upward Agree is available (there's good evidence it is), it will not produce INDEX agreement in Zone A on the assumption that Agree applies as soon as it can.

(24) → What allows attributive adjectives to attach in Zone B of *be'alim*?
[This option must be excluded with normal nouns, which never show DP-internal "semantic" agreement]

Proposal: This is not a special property of adjectives; it is a special property of NumP in the context of *be'alim*. If NumP projects normally, the adjectives will attach in Zone A. If NumP projects immediately above NP, there will only be Zone B to host adjectives.

→ What allows NumP to enjoy positional freedom with *be'alim*?

(25) *Selection and location of NumP*
a. [INDEX *val*] is selected iff *val* is uniquely determined.
b. NumP is rigidly located iff [INDEX *val*] is selected.

Standard nouns (e.g., *dog*/*dogs*): consistent CONCORD-INDEX match.
Fully specified hybrid nouns (e.g., Serbian/Croatian *deca* 'children'): consistent CONCORD-INDEX *mis*match.

In both cases, the choice of the noun uniquely determines the value of INDEX number. In contrast, a noun like Hebrew *be'alim* comes with no pre-set INDEX number value; its INDEX number is unselected

Gender agreement

(26) CONCORD-INDEX matching scenarios

a. Standard gendered inanimate nouns. Concord gender is inherent and index gender matches it (e.g., French *chaise* 'chair(F)').

b. Standard animate nouns. Concord gender and index gender are both inherent and they match (e.g., Italian *ragazza* 'girl(F)').

c. Nonstandard animate nouns. Concord gender is inherent and index gender matches it and not the SEX value (e.g., Serbian/Croatian *devojka* 'girl(N)').

d. Standard sex-neutral gendered animate nouns. Concord gender is inherent and index gender matches it and not the SEX value (e.g., French *sentinelle* 'sentry(F)').

e. Sex-neutral non-gendered animate nouns. Index gender is locked to the SEX value and concord gender matches it (e.g., Serbian/Croatian *sudija* 'judge', French *journaliste* 'journalist').

(27) CONCORD-INDEX mismatch scenarios

a. Non-standard sex-neutral gendered animate nouns. Concord gender is inherent and index gender is free (e.g., Chichewa *ngwazi* 'hero', Russian *vrač* 'doctor', Hebrew *be'alim*).

b. Lexical hybrids. Concord gender and index gender are both inherent and do not match (e.g., Serbian/Croatian *deca* 'children').

Proposal: A redundancy rule for gender features

(28) *Location of INDEX gender* (default)
[INDEX|GENDER] is shared with [CONCORD|GENDER] iff both are specified on N.

Intuition: CONCORD-INDEX sharing is a rigidly lexical property that can only be imposed on a single head (it cannot be accomplished by agreement, since concord and index features are type-distinct).[1]

→ Differently from [INDEX|NUMBER], which is invariantly located in Num, [INDEX|GENDER] will be located in Num iff it is distinct from [CONCORD|GENDER].

(29) Consequences

a. Matching scenarios (26): Both gender features are on N, attributive adjectives (in Zone A or B) consistently agree with the single shared gender feature.

b. Mismatch scenario (27a): Bantu noun class prefixes are gender-specific number markers (Carstens 2008). In *ngwazi*, INDEX gender is free of CONCORD gender, hence unselected. (25) → NumP may project below attributive adjectives, allowing them to enter INDEX agreement. Same for Russian *vrač*.

[1] By "N" we mean either the root or light *n* (see Kramer 2014 for the proposal that the interpretable gender feature may be located on light *n*).

c. Mismatch scenario (27a): Serbian Croatian *deca*. Although distinct from [CONCORD | GENDER] (=F), the [INDEX | GENDER] (=N) is *not* free. Hence it is selected. (25) → NumP is rigidly projected above attributive adjectives, leaving them only the option of CONCORD agreement (as usual).

Further evidence: Mixed adjectival agreement

We have seen that the configurational rendering of the CONCORD-INDEX system can explain DP-internal INDEX agreement which is problematic to Wechsler and Zlatić's theory. But it has further advantages in explaining systematic asymmetries in mixed agreement with stacked adjectives.

(30) Can Zone A and Zone B be simultaneously activated?

Mixed adjectival agreement

$[_{DP}\ D\ [\ Adj_{[INDEX]}\ [_{NumP}\ Num_{[INDEX]}\ [\ Adj_{[CONCORD]}\ [_{NP}\ N_{[CONCORD]}\ ]]]]]$

→ a strong form of "The Distance Principle" (Corbett 1983:71, 1991:239, 2006:235): If parallel (and in particular, stacked) targets show different agreements, then the further target will show semantic agreement.

Note: For Corbett, this was a statistical claim that allowed for exceptions. For us, it's a categorial prediction.

(31) Evidence I: Chichewa (9/10 - noun class; 1/2 - animate class) (Corbett 2006)

a. ngwazi y-athu w-oyamba
hero **9**-our **1**-first
b. * ngwazi w-athu y-oyamba
hero **1**-our **9**-first
'our first hero'

(31) Evidence II: Hebrew

a. ha-be'alim ha-pratiyim ha-axaron šel ha-tmuna haya
the-owner the-private.**PL** the-last.**SG** of the-painting was.3SG
ha-psixo'analitika'i Jacques Lacan.
the-psychoanalyst Jacques Lacan

b. * ha-be'alim ha-prati ha-axron-im šel ha-tmuna haya/hayu
the-owner the-private.**SG** the-last-**PL** of the-painting was.3.SG/P
ha-psixo'analitika'i Jacques Lacan.
the-psychoanalyst Jacques Lacan
'The last private owner of the painting was the psychoanalyst Jacques Lacan'

(32) Evidence III: Russian (Pesetsky 2014)

a. ? U menja očen' interesn-aja nov-yj vrač.
by me very interesting-**F**.NOM.SG new.**M**.NOM.SG doctor.NOM.SG
b. * U menja očen' interesn-yj nov-aja vrač.
by me very interesting-**M**.NOM.SG new.**F**.NOM.SG doctor.NOM.SG
'I have a very interesting new (female) doctor.'

(33) Evidence IV: Finnish (Brattico 2010, 2011)

Adj below cardinals: SG, partitive case
Adj above cardinals: semantic number, (external) structural case

a. ne kaksi pilaantunut-ta leipä-ä.
those.PL two.SG rotten-**SG**.PRT bread-SG
b. ne pilaantune-et kaksi leipä-ä.
those.PL rotten-**PL**.ACC two.SG bread-SG
'Those two rotten breads.'

Mixed agreement is asymmetric:

c. Minä odotin [$_{DP}$ ne pitkästyttävä-t kolme loputon-ta minutti-a].
I waited those.ACC boring-**PL**.ACC three endless.**SG**.PRT minute.SG.PRT
d. * Minä odotin [$_{DP}$ ne pitkästyttävä-n kolme loputtom-ia minutti-a].
I waited those.PL.ACC boring-**SG**.ACC three endless.**PL**.PRT minute.SG.PRT
'I waited those boring endless three minutes.'

(34) Evidence V: Lebanese Arabic (Ouwayda 2013, 2014)

Adj below cardinals (>10): SG
Adj above cardinals (>10): PL
[Leftward NP movement produces identical Adj-final orders]

Mixed agreement is asymmetric:

a.		tleetin	telmiiz	mnazzam	kesliim-iin
		thirty	student.**SG**	organized.**SG**	lazy.**PL**
b.	*	tleetin	telmiiz	mnazzam-iin	kesliim
		thirty	student.**SG**	organized.**PL**	lazy.**SG**

'Thirty lazy organized students'

Theoretical implications

(35) Alternative configurational account: Pesetsky (2014)

A "feminizing" semantic gender head Ж ('že') optionally merges above *vrač*-type nouns. Anything below it is masculine, anything above it feminine.

a. [$_{DP}$ D [Adj$_{\mathbf{M}}$ [Adj$_{\mathbf{M}}$ [$_{NP}$ *vrač*$_{\mathbf{M}}$]]]] … V$_{\mathbf{M}}$
b. [$_{DP}$ D [Adj$_{\mathbf{F}}$ [Ж$_{\mathbf{F}}$ [Adj$_{\mathbf{M}}$ [$_{NP}$ *vrač*$_{\mathbf{M}}$]]]] … V$_{\mathbf{F}}$

(36) Comments

a. Semantics ≠ INDEX. For us, Num encodes INDEX features, which may differ from semantic features (see (4)); e.g., Serbian/Croatian *devojka* 'girl(N)', polite plurals like French *vous* 'you'(PL)).

b. Ж is optional, Num is obligatory. How does the interpretation **male** arises for Pesetsky? Presumably, by default. But this default must be blocked with inherently feminine nouns (e.g., *nun, cow, nurse*).

(37) Alternative configurational account: Ouwayda (2013, 2014)

A "pluralizing" head # optionally merges between N (which is inside DivP, the projection of count nouns) and a cardinal greater than 10. This head semantically allows a collective interpretation; without it, only a distributive reading exists. Adjectives below # are singular, adjective above it, and verbs, are plural.

a. [$_{QP}$ Card [Adj$_{\mathbf{SG}}$ [Adj$_{\mathbf{SG}}$ [Div [$_{NP}$ N$_{\mathbf{SG}}$]]]]] … V$_{\mathbf{SG}}$
b. [$_{DP}$ D [Adj$_{\mathbf{PL}}$ [Card #$_{\mathbf{PL}}$ [Adj$_{\mathbf{SG}}$ [Div [$_{NP}$ N$_{\mathbf{SG}}$]]]]]] … V$_{\mathbf{PL}}$

(38) Comments

a. For Ouwayda, singular denotation is default; # necessarily produces plurality. But in Hebrew *be'alim*, singular is neither the morphological nor the semantic default.

b. # requires (selects) a cardinal, Num doesn't.

c. # is optional, Num is obligatory. Without #, plural marking may still occur on Div (outside transdecimal contexts). Without Num, the INDEX features of D and V would remain unvalued.

(39) Is there a low boundary on the position of Num?

Pesetsky and Ouwayda observe that "low adjectives" - nonintersective, idiomatic or argumental – must agree (morphologically) with the hybrid noun. This is evidence that Ж/# can't merge below them.

a.	Priiskov-yj/*-aja	sčetovod	ser'ëzno	zabolel-a.	
	mine.**M**/***F**.NOM.SG	accountant.NOM.SG	seriously	take.ill-PST.F.SG	

'The (female) mine accountant took seriously ill.'

b.	tleetin	mhandes	madani(*-iin) / arbʔiin	tabiib	šarʔi(*-iin)	
	thirty	engineer	civil(*-PL) / forty	doctor	legal(*-PL)	

'thirty civil engineers' / forty forensic medical examiners'

There is no parallel evidence in Hebrew. We saw in (8a) that nonintersective adjectives, like *kodem* 'previous', can licitly modify *be'alim* in the singular. Similarly, nonpredicative modifiers occur either in the singular or the plural:

c.	ani	makir et	ha-be'alim	ha-ikari(-yim)	šel ha-esek.
	I	know ACC	the-owner	the-main.M.SG(-M.PL)	of the-business

'I know the business' main owner(s).'

d.	mi	ha-be'alim	ha-xuki(-yim)	šel	ha-nexes	ha-ze?
	who	the-owner	the-legal.M.SG(-M.PL)	of	the-property	the-this

'Who is/are the legal owner(s) of this property?'

Why this difference? An open question.

Implications for grammatical typology and architecture

(40) *Mixed adjectival agreement*

a. [$Adj_{[Agr\text{-}Sem]}$ [$Adj_{[Agr\text{-}Syn]}$ [N]]]

b. * [$Adj_{[Agr\text{-}Syn]}$ [$Adj_{[Agr\text{-}Sem]}$ [N]]]

Mixed agreement inside and outside DP

c. [$Adj_{[Agr\text{-}Syn]}$ [N]] … $V_{[Agr\text{-}Sem]}$

d. * [$Adj_{[Agr\text{-}Sem]}$ [N]] … $V_{[Agr\text{-}Syn]}$

Corbett's "Distance Principle" predicts that pattern (b) will be less frequent than pattern (a). Corbett's "Agreement Hierarchy" predicts that pattern (d) will be less frequent than pattern (c).

The present analysis makes stronger typological predictions: Patterns (b) and (d) should be **non-existent** (zero frequency) because they violate rigid UG locality principles.

(41) Configurationalism and derivationalism

The present analysis makes crucial us of two ideas, which made it possible to account for the asymmetric agreement pattern of *be'alim* and other hybrid nouns.

a. *Configurationalism*: CONCORD and INDEX features occur in different structural positions; in particular, INDEX is *higher* than CONCORD.

b. *Derivationalism*: INDEX features are introduced *later* than CONCORD features.

Wechsler and Zlatić's analysis is couched within HPSG. This model doesn't recognize any hierarchical difference between the two types of features or any derivational sequence. The first property is perhaps incidental but the second one is fundamental to declarative grammars. It is therefore not obvious how these facts can be accommodated in that model.

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