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Hybrid agreement in Czech predicates

1 Introduction

Morphological categories do not always agree as expected, the resulting mismatches affecting both attributive (NP-internal) and predicative agreement. In Czech, it is especially the latter type that presents interesting problems.

In some languages, 2nd person plural pronouns are used with singular meaning to show respect or formal attitude towards the addressee. Predicative agreement with such pronouns often follows an irregular pattern. In French and Czech, only finite verb forms show plural morphology, all other agreeing parts of the predicate (participles and adjectives) being singular. The result is a case of *hybrid* (or *split*) *agreement*, as in (1).

(1) Vous êtes belle, Madame. you-PL be-2.PL beautiful-SG Madame 'You are beautiful, Madame.'

The "French" pattern is just one possibility. Other languages using 2nd person plural pronouns in the same way show slightly different patterns. In addition, such pronouns are just one example of shifts in the meaning of the grammatical categories of number and person. In German, 3rd person plural pronoun *Sie* is used with 2nd person singular reference in similar contexts as *vous* in French. In a number of languages, the 1st person plural pronoun occasionally refers to a single speaker either to make the addressee aware of the speaker's superior social status (*pluralis majestatis*), or as a part of conventional style in scholarly prose (*pluralis auctoris*). Such constructions may also exhibit hybrid agreement. Interestingly, multiple patterns of hybrid agreement coexist in some types of meaning shifts within a single language, replicating the patterns found across languages in meaning shifts of a single type.

Cases of hybrid agreement involving the 2nd person plural pronoun, as in (1), have already received attention. Using HPSG as the theoretical and formal background, both Pollard & Sag 1994 and Kathol 1999 describe the agreement mismatch within the predicate by making the verb and the predicative adjective agree each with a different set of features present on the polite pronoun. Wechsler & Zlatić 2003 argue against Pollard & Sag 1994 using French data, and against Kathol 1999 on theoretical grounds, proposing a solution based on incorporating the conflicting number values into the INDEX feature.

Considering evidence from more patterns of hybrid agreement, the solution of Wechsler & Zlatić 2003 will be substantially modified by a proposal to describe patterns of number agreement as an inheritance hierarchy of the grammatical category of number. This move allows to capture multiple types of hybrid agreement, including possible extensions to categories other than number.

2 The data

To convey respectful, polite or merely formal attitude towards the addressee, some languages use 2nd person plural pronouns with singular reference. Predicate agreement with such pronouns is an interesting issue, with considerable variability across languages. In Russian, finite verbs, participles and adjectives predicated of such pronouns show plural morphology, indistinguishable from forms with plural meaning (2). In other languages, some forms are

singular, resulting in cases of *hybrid agreement*. French (3) and Czech (4) show plural agreement only on finite verbs, while in Slovak (5) the 'plural zone' extends to *l*-participles, singular being restricted to adjectival forms (including passive participles).¹

(2) a. Gospodin Kol, ja očen' rad, čto vy priexali.

Mr. Kohl I very glad that you-PL arrive-past-PL.

'Mr. Kohl, I am very glad you arrived.' (Russ.)

b. Boris Nikolaevič, bud'te tak dobry.
Boris Nikolayevich be-IMPER-PL so kind-PL.
'Boris Nikolayevich, be so kind.' (Russ.)

(3) a. Vous êtes venu trop tard, Monsieur.
you-PL AUX-PL come-pple-SG too late sir
'You have come too late, sir.'

(Fr., pple sg)

b. Vous êtes belle, Madame.
you-PL be-2.PL beautiful-SG Madame
'You are beautiful, Madame.' (=(1); Fr., adj sg)

(4) a. Spal jste dobře?
sleep-l.pple-SG AUX-PL well?
'Did you sleep well?'
(Cz., l-pple sg)

b. Jste zatčen! are-PL arrested-pass.pple-SG 'You are arrested!'

(Cz., pass-pple sg)

c. Vy jste tak hodný! you-PL are-PL so kind-SG 'You are so kind!'

(Cz., adj sg)

(5) Boli ste spokojná, moja drahá? be-*l.pple*-PL AUX-PL satisfied-SG my dear 'Were you satisfied, my dear?' (Sl., *adj sg*)

3 Previous solutions

Linguistic theories seem to agree that a solution to hybrid agreement should employ multiple levels of linguistic description. In the theory of Principles & Parameters / Minimalism (Chomsky 1995), hybrid agreement can be solved in different derivation cycles (L. Veselovská, p.c.). In Functional Generative Description (Sgall et al. 1986), morphological number can be derived from "deep" number depending on the category of the target during transition from the deep to the surface level (J. Panevová, p.c.).

In HPSG, hybrid agreement in 2nd person formal address (henceforth *f.2nd*) has been examined more thoroughly. Both Pollard & Sag 1994 and Kathol 1999 license the French example (3b) by making the verb and the predicative adjective (agreement *targets*) agree each with a different feature of the polite pronoun (the agreement *trigger*).²

¹ Corbett 2000, p. 193–195 gives an overview of the usage of plural or singular forms with 2nd person plural formal address pronouns in 12 Slavic languages.

² Agreement in HPSG is viewed as non-directional specification of (possibly partial but) compatible information about a single linguistic object from two (or more) elements (Pollard & Sag, 1994, ch. 2). Thus, the terms *trigger*

Pollard & Sag 1994 assume that the plural verb agrees with the pronoun's INDEX, a feature grouping person, number and gender, standardly used in subject-predicate agreement, while the singular adjective 'agrees' with a property *non-aggregate* in the set of *semantic* RESTRICTIONS of the pronoun.³ This is problematic in examples such as (6), where a non-aggregate *pluralie tantum* subject agrees with a plural adjective.

(6) Tes lunettes sont géniales! your eyeglasses-PL are-PL brilliant-PL 'Your glasses are cool!'

(Wechsler & Zlatić 2003, p. 98)

Kathol 1999 makes the adjective agree with the pronoun's INDEX (now singular). The plural verb agrees with AGR, a feature independently introduced for NP-internal *morphosyntactic* agreement, grouping gender, number and case. As a result, finite verbs show *morphosyntactic* agreement in AGR, while predicative adjectives show *index* agreement in INDEX.

Wechsler & Zlatić 2003 (henceforth W&Z), arguing against Kathol 1999 on theoretical grounds, incorporate the conflicting number specifications into the value of INDEX. Index agreement is used for all agreement mismatches in the predicate, while AGR of subjects is reserved for NP-internal agreement.⁴ INDEX|NUMBER is used as in Kathol's index, more closely corresponding to semantic interpretation: it is singular for examples such as (3b), but plural for *pluralia tantum* (6). The major difference is in the value of PERSON, combining person and morphosyntactic number. The result is dual specification of number in INDEX: in PERSON for person-bearing targets (finite verbs), and in NUMBER for other targets (participles, adjectives), see an example in Table 1. The six values of PERSON (3x2) co-occur with two values of NUMBER, yielding 12 possibilities. Six cover the trivial cases with verbs and adjectives of identical number. Of the remaining 6 possibilities, French realises three, all involving hybrid agreement. Example (7a) is used when formally addressing a male person, (7b) is a case of *pluralis auctoris* (henceforth *a.pl*) or *pluralis majestatis* (*M.pl*), and (7c) includes the generic pronoun *on* referring to a group.

	Vous	êtes	belle	
INDEX PERSON	2pl	2pl		
INDEX NUMBER	sg		sg	

Table 1: PERSON as a combination of person and number in polite address

(7) a. Vous êtes loyal. you-PL are-PL loyal-SG 'You are loyal.'

([PERSON 2pl, NUMBER sg])

and *target* should not be understood literally.

³ In HPSG, subject-predicate agreement translates into a general argument-selector mechanism: predicative forms select properties of the subject, including its INDEX features: person, number and gender. This includes finite as well as non-finite forms. Non-finite agreeing predicative forms (participles and adjectives) are complements of the finite verb or – if there is a chain of non-finite predicative forms – a form higher up in the syntactic tree. Selectional specifications of subject on all such forms are shared due to the fact that the "higher-up" forms behave as subject raising or subject control predicates.

⁴ See also Wechsler 2004 for a detailed theoretical background and a formalisation in LFG.

b. Nous sommes loyal. we-PL are-PL loyal-SG 'We are loyal.'

([PERSON *lpl*, NUMBER *sg*])

c. On est loyaux. one-SG is-SG loyal-PL 'We are loyal.'

([PERSON sg, NUMBER pl])

As PERSON values for third person, W&Z use simply sg and pl (7c). Given the type hierarchy of the values of PERSON in Fig. 3, the index values of NUMBER and PERSON for third person nominals can simply be made equal.

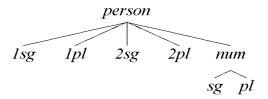


Figure 1: Subtypes of person in W&Z

In Czech, f.2nd patterns with French: person-bearing forms (finite verbs, personal pronouns) are plural, nonfinite forms (participles, adjectives, relative pronouns) are singular. In this respect, W&Z's solution to French f.2nd fits Czech data. Even examples such as (8), where singular relative pronoun 'agrees' with plural finite verb and singular participle, present no challenge: by standard assumptions, the relative pronoun shares the value of INDEX with its antecedent – here the formal 2nd person pronoun vy – and the required agreement pattern just follows. The singular number of the relative pronoun is due to its sensitivity to the index's feature NUMBER, rather than PERSON.

(8) Vy, který jste včera chyběl, nebudete dnes you-PL who-SG AUX-2.PL yesterday absent-*l.pple*-SG won't be-2.PL today hodnocen. classified-*pass.pple*-SG.

'You, who were absent yesterday, won't be classified today.'

The fact that in some other cases relative pronouns need not agree with its antecedent in person, which is shown on the predicate (9a and 9b), need not be disturbing: in general, a relative pronoun does not always fully share its antecedent's index (9c).

- (9) a. Ted' jste to vy, kdo uklouzl. now are-2.PL it you-PL who slipped-3.SG 'Now it's you who has slipped.'
 - b. Můžete to být právě vy, který se stane tím kamínkem na can-2.PL it be just you-PL, which-SG PART becomes-3.SG that pebble on vahách.

scales

'It might be you who's going to topple the balance.'

c. křikloun z tržiště, jakých je v Judsku bezpočet loudmouth-SG from marketplace, which-PL is in Judea countless 'a loudmouth from the marketplace, who are countless in Judea'

4 More data

Here we examine the "French" solution vis-à-vis Czech data in more detail. Starting with the issue of economy, number is specified once as a morphosyntactic feature in CONCORD (Kathol's AGR) and three times within the value of the feature CONTENT⁵: in INDEX|PERSON, INDEX|NUMBER, and RESTRICTIONS. This may be an overkill for Czech, where exceptions to the uniform attributive and predicative agreement (leaving *f.2nd* aside) are marginal (10 and 11). Instead, Czech requires solutions to different patterns of hybrid agreement within the predicate.

- (10) a. knížata přišla princes-PL.NEUT arrived-PL.NEUT 'the princes have arrived'
 - knížata přišli princes-PL.NEUT arrived-PL.MASC
 'the princes have arrived'
 - c. ?? česká knížata přišli-PL.MASC Czech-PL.NEUT princes-PL.NEUT arrived-PL.MASC 'the Czech princes have arrived'
- (11) a. jeho velevážená Výsost přišla his esteemed-FEM highness-FEM arrived-FEM 'His Most Esteemed Highness has arrived'
 - b. ? jeho velevážená Výsost přišel
 his esteemed-FEM highness-FEM arrived-MASC
 'His Most Esteemed Highness has arrived'

As in French, f.2nd is not the only case of meaning shift in number or person. We consider four other cases: (i) a.pl (12b), with all forms in plural (as in Russian f.2nd); (ii) M.pl with either all plural forms, or (as in Slovak f.2nd) predicative adjectival forms and relative pronouns singular (12a); (iii) 3rd person plural (obsolete) formal address (12c) with plural on finite verbs, personal pronouns and l-participles, and singular on predicative adjectival forms and relative pronouns (as in Slovak f.2nd); and (iv) 3rd person plural of respect, used in some dialects of Czech (12d) and Slovak (12e) to show respect for a third person, with all forms plural, except relative pronouns and - possibly - predicative adjectival forms.

(12) a. My, král český, jsme velice zarmoucen a celá země s námi. we king Czech are-PL very sad-SG and whole country with us-PL 'We, the King of Bohemia, are in deep sorrow, and the whole country with us.'

⁵ In *sign*s as HPSG representations of words and phrases, this feature serves – roughly speaking – as a repository of semantic information.

- b. Chceme se zabývat novými fakty, zůstávajíce věrni osvědčeným want-1.PL PCLE deal with-INF new facts, staying-PL loyal to-PL proven metodám. methods.
 - 'We want to deal with new facts, staying loyal to proven methods.
- c. Jsou tak hodný, pane učiteli, a přijdou mezi nás. be-3.PL so kind-SG Mr. teacher and come-3.PL between us 'Be so kind, Teacher, please join us.'
- d. Tak to dělali už náš staříček.
 so it did-PL already our granddad-SG
 'This is the way our granddad used to do it already.'
- e. Stará mama, ktorá k nam včera prišli, povedali ... Grandma-SG who-SG to us yesterday came-PL said-PL ... 'Grandma, who came to see us yesterday, said . . . '

An overview of number values for various agreement patterns and forms is given in Table 2.⁶

	trig.	fin.	l-pple	adj.	rel.	pers.
f.2nd	pl	pl	sg	sg	sg	pl
a.pl	pl	pl	pl	pl	pl	pl
M.pl	pl	pl	pl	sg/pl	sg/pl	pl
f.3rd	pl	pl	pl	sg	sg	pl
h.pl	sg	pl	pl	?	sg	pl

Table 2: Agreement patterns for some person/number shifts

However peripheral some of these phenomena may be, they are part of Czech grammar and they replicate the variety of hybrid predicate agreement patterns from other languages. There are at least two such patterns (B and C in Table 3), using forms of 3 kinds: (i) forms agreeing in number and person (finite verbs and personal pronouns, the latter agreeing also in gender); (ii) forms agreeing in number and gender, parts of a paradigm of analytical morphology (*l*-participle); (iii) other forms (including passive participles).

The problem is that forms of one kind do not show the same behaviour across all types of patterns (see Table 2): e.g., l-participles can be singular in f.2nd, or plural in M.pl. Alternatively, the same problem can be seen as more than one boundary between the singular and plural zone: fin / l-pple and l-pple / adj (in f.2nd and f.3rd). If we assume a solution based on W&Z's proposal for French, agreement triggers would have identical semantic and

⁶ The table shows agreement patterns for five types of shifts in the meaning of number and/or person: formal 2nd person address (*f.2nd*), pluralis modestiae (*a.pl*), pluralis majestatis (*M.pl*), formal 3rd person address (*f.3rd*), and the honorific 3rd person plural (*h.pl*). The columns represent six forms showing agreement: agreement trigger or controller (trig.), finite verb form (fin.), *l*-participle (*l*-pple), predicative adjectival forms including passive participles (adj.), relative pronouns (rel.), and personal pronouns (pers.). One form is missing, namely transgressive (such as. *zůstávajíce* in (12b)), but native speakers' judgements are not robust enough.

⁷ The first column simply identifies the agreement pattern, the second lists singular forms (other forms being plural), while the third column lists cases discussed above where the pattern occurs. We ignore the possibility of a split between adj. and rel. in M.pl and h.pl. The abbreviations are explained in footnote 6.

morphosyntactic number in both cases. For *f.2nd* the INDEX values would be NUMBER *sg* and PERSON *2pl*, while for *M.pl* they would be NUMBER *sg* and PERSON *1pl*. Then the *l*-participle form has to select the trigger's NUMBER in case the form is part of a *f.2nd* structure, or PERSON in case the form is part of a *M.pl* structure. Note that the *l*-participle is required to specify a value of *person*, despite the absence of person in its morphology.

	sg forms	where
A	fin., l-pple, adj., rel.	regular sg
В	l-pple, adj., rel.	f.2nd, French f.2nd, M.pl
C	adj., rel.	M.pl, f.3rd, Slovak f.2nd
D	_	a.pl, M.pl, h.pl, Russian
		f.2nd, regular pl

Table 3: Types of agreement patterns

5 An alternative solution

To solve this problem, we could introduce one more feature to store agreement information, extending the INDEX feature to include agreement information for all the three kinds of forms, perhaps by adding an additional feature NUMBER2. But then we would wrongly predict that any combination of such feature values can occur, i.e., that Czech allows for examples similar to French (7c) with singular auxiliary and plural adjective. In fact, examples (13) suggest that there is a hierarchy of forms in Czech (14): within a pattern, all forms further in the hierarchy than a form occurring in singular must also be singular. Thus, a singular finite verb cannot occur with a plural *l*-participle, as in (13b–c) and a singular *l*-participle cannot occur with a plural adjectival form (13a).

- (13) a. *Byl jsem poctěni. be-*l.pple*-SG AUX-1.SG honour-*pass.pple*-PL.MASC
 - b. *Byli jsem poctěni. be-*l.pple*-PL AUX-1.SG honour-*pass.pple*-PL.MASC
 - c. *Byli jsem poctěn. be-*l.pple*-PL AUX-1.SG honour-*pass.pple*-SG.MASC

'I/we have been honoured.' (putative)

(14) fin < l-pple < adj

To incorporate this observation, rather than coupling agreement features with target categories, we can specify the trigger and its target(s) as parts of an agreement pattern. Instead of combining person and number in INDEX|PERSON, we further specify the value of INDEX|NUMBER, introducing a new type hierarchy below *number* (see Fig. 2). In the lexical/morphological component, all predicative forms receive the standard specification of number: sg or pl. The three subtypes of either of these two types correspond to the three types of forms: finite verbs, l-participles, and adjectives, and simple rules just make the value of NUMBER more specific, depending on the form. Thus, the number of a singular finite verb after the rule is applied is p-sg.

The maximal subtypes sg-pla, sg-la, sg-a and sg-0 correspond to constructions of the

kinds described above (see also Table 4 below). These types are used as values of INDEX|NUMBER at agreement triggers. For agreement triggers not participating in a hybrid agreement pattern, the standard specification of number (sg or pl) is all that is needed, to be further specified as sg-pla or sg-0 by other rules. Only polite pronouns and other triggers of hybrid agreement patterns require specification of one of the remaining two maximal types (sg-la and sg-a) in the lexicon.

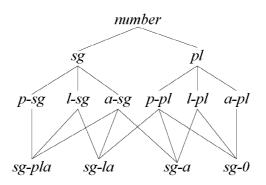


Figure 2: Subtypes of *number*

The intermediate types, standing for singular of a finite form (p-sg), l-participle (l-sg) and adjective (a-sg), and similarly for plural forms (p-pl, l-pl, and a-pl) are used at agreement targets in the predicate to select an appropriate value of INDEX|NUMBER at the trigger. Only some combinations of these intermediate types are compatible and yield a most specific type. The trivial case occurs when the target forms are all either plural or singular, then the trigger's INDEX|NUMBER must be sg-pla or sg-0, respectively. A combination of plural finite form (p-pl) with singular l-participle (l-sg) and singular adjective (a-sg) yields the maximal type sg-la, the NUMBER value of the polite pronoun. Similarly, a combination of plural finite form (p-pl) with plural l-participle (l-pl) and singular adjective (a-sg) yields the maximal type sg-a, the NUMBER value of the trigger in a M.pl or f.3rd constructions.

Of course, not all forms need to be present in a predicate. In (15a-b) the trigger is missing (Czech being a *pro*-drop language). However, it is still present as subject at a more abstract level of representation (*argument structure* in HSPG). Any assumptions about polite pronouns just carry over. Moreover, in (15a) the absence of an adjectival element in the predicate does not prevent the trigger's status as a polite pronoun to be determined unambiguously: the combination of *l-sg* as the number of a singular *l*-participle and *p-pl* as the number of the plural finite form can only result in *sg-la*, the number of the polite pronoun. The same is true *mutatis mutandis* about (15b), where the missing form is *l*-participle rather than an adjectival element.

- (15) a. Spal jste dobře?
 sleep-*l.pple*-SG AUX-PL well?
 'Did you sleep well?'

 (=(4a))
 - b. Jste zatčen!
 are-PL arrested-pass.pple-SG
 'You are arrested!' (= (4b))
 - c. Spite dobře? sleep–2.PL well 'Do you sleep well?'

It is hybrid agreement that makes the construction unambiguously *f.2nd* (or any other of the discussed types). In cases where no singular forms are present (15c) the construction is ambiguous between plain plural and *f.2nd*. The finite form *p-pl* gives two options for a 2nd person trigger: ⁸ *sg-la* (*vy* as the polite pronoun) and *sg-0* (*vy* as a plain 2nd person plural pronoun).

NUM	PERS 1st	PERS 2nd	PERS 3rd
sg-pla	byl jsem poctěn	byl jsi poctěn	byl poctěn
	l-sg p-sg a-sg		
	1st sg	2nd sg	3rd sg
sg-la	* byl jsme poctěn	byl jste poctěn	* byl poctěn
	l-sg p-pl a-sg		
		f.2nd	
sg-a	byli jsme poctěn	*byli jste poctěn	byli poctěn
	l-pl p-pl a-sg		
	M.pl	(Slovak f.2nd)	f.3rd
sg-0	byli jsme poctěni	byli jste poctěni	byli poctěni
	l-pl p-pl a-pl		
	1st pl, <i>a.pl</i> , <i>M.pl</i>	2nd pl	3rd pl, <i>h.pl</i>

Table 4: Types of person/number shifts and the corresponding values of PERSON and NUMBER

In Table 4, NUMBER and PERSON of agreement triggers is correlated with possible agreement patterns and agreement targets. ¹⁰ Thus, INDEX|NUMBER of the pronoun vy is lexically specified as sg-la (for f.2nd) or sg-la (for 2nd person plural). According to Fig. 2, sg-la is compatible only with singular l-participles (l-sg), singular adjectival forms (a-sg) and plural finite forms (p-pl). On the other hand, sg-la0 requires plural with all three kinds of forms (p-pl, l-pl, a-pl).

6 Conclusion

Hybrid agreement in Czech predicates is manifested within several agreement patterns that have parallels in other languages. The best way to deal with this variability of mismatches seems to be adoption of these patterns as elements of the linguistic description. This solution has been shown to provide a suitable basis for a formal description of the phenomenon of hybrid predicative agreement in Czech and probably in a number of other languages, overcoming some problems of previous approaches. In order to integrate the solution with an HPSG grammar, the only necessary addition is the introduction of new subtypes of *number* in the type hierarchy and an appropriate specification of the lexical component. We hope that

 8 The third option -sg-a – is excluded for Czech because of the incompatible specification of PERSON in possible 1st and 3rd person targets. 9 We do not distinguish polite and plain 2nd person pronouns in plural, assuming that this distinction is due to

We do not distinguish polite and plain 2nd person pronouns in plural, assuming that this distinction is due to vagueness rather than ambiguity.

¹⁰ The first example in each row is glossed by subtypes of *number*, specified at agreement targets (a singular finite verb receives *p-sg*). Throughout the table, variations of a single example is used: *byl jsem poctěn* 'I have been honoured', where *byl* is *l*-participle, *jsem* finite auxiliary, and *poctěn* passive participle, treated here and above as a predicative adjectival form. In 3rd person, the past auxiliary is not used. For simplicity, we assume a null form, and in *sg-la* line, * *byl poctěn* is given with an asterisk on the assumption that plural null form would be inappropriate. Unlike past auxiliary, conditional auxiliary is used with *l*-participle in all persons, but its form does not distinguish number in 3rd person.

this proposal a further step towards a scale of agreement domains, as advocated, e.g., in Corbett 2003.

References

- Chomsky, N. (1995). *The Minimalist Program*, volume 28 of *Current Studies in Linguistics*. The MIT Press, Cambridge, MA.
- Corbett, G. G. (2000). *Number*. Cambridge Textbooks in Linguistics. Cambridge University Press, Cambridge.
- Corbett, G. G. (2003). Agreement: Terms and Boundaries. In W.E.Griffin, editor, *The Role of Agreement in Natural Language: TLS 5 Proceedings*, volume 53, pages 109–122. Texas Linguistics Forum.
- Kathol, A. (1999). Agreement and the Syntax-Morphology Interface in HPSG. In R. Levine and G. Green, editors, *Studies in Contemporary Phrase Structure Grammar*, chapter 6, pages 223–274. Cambridge University Press, Cambridge.
- Pollard, C. & Sag, I. A. (1994). *Head-Driven Phrase Structure Grammar*. University of Chicago Press.
- Sgall, P., Hajičová, E. & Panevová, J. (1986). *The Meaning of the Sentence in its Semantic and Pragmatic Aspects*. Reidel, Dordrecht & Academia, Praha.
- Wechsler, S. (2004). Number as Person. In O. Bonami and P. C. Hofherr, editors, *Empirical Issues in Syntax and Semantics*, pages 255–274. On-line Proceedings of the Fifth Syntax and Semantics Conference in Paris.
- Wechsler, S. & Zlatić, L. (2003). *The Many Faces of Agreement*. CSLI Publications, Stanford, CA.