Implications of an asymmetry in the representation of person

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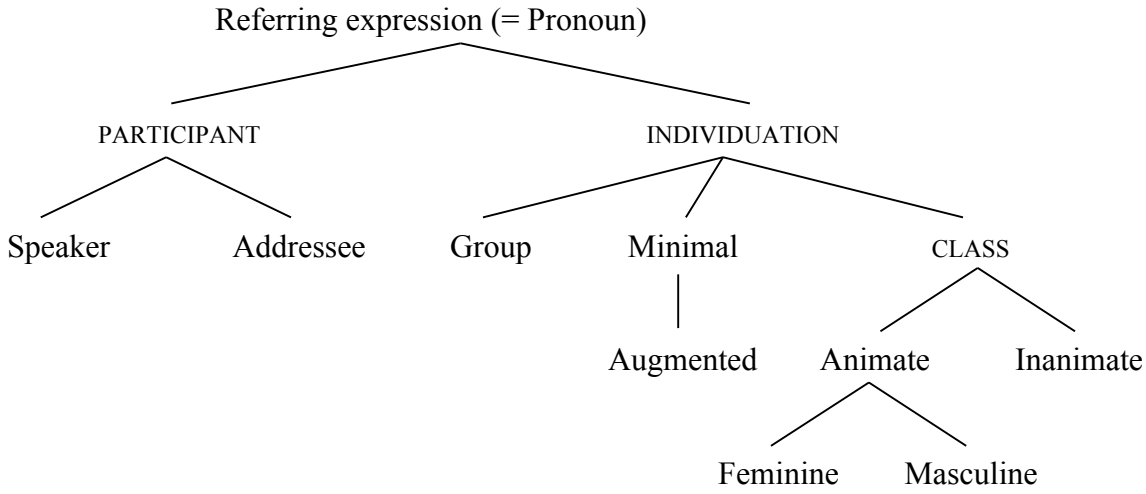
In recent work, Harley and Ritter (2002;H&R) propose a universal feature geometry for pronouns. McGinnis (2005) proposes a modification of H&R's analysis, pertaining to the representation of person features. This modification captures a long-recognized gap in pronominal systems (Zwicky 1977, Noyer 1992). Stating this restriction within H&R's feature geometry theory makes a number of new predictions regarding syncretism in pronoun and agreement systems. I argue here that these predictions are supported by empirical evidence.

The paper is organized as follows. In Section 1, I outline H&R's feature geometry, and review the proposed modification, which reduces the possible types of cross-linguistic variation in person categories. According to this proposal, a language with a special inclusive ("you and me") category has equally complex representations for first and second person. On the other hand, a language without an inclusive category has a more complex representation for first person than for second person. In this sense, first person is more "marked" than second. In Section 2, I provide evidence for this proposal from syncretism in person agreement. In Section 3, I compare the proposed analysis of person categories with alternative analyses, under which second person can be more marked than first.

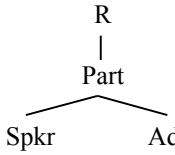
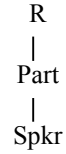
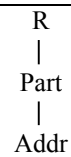
1. The representation of person

H&R propose a complex feature geometry for person, number, and gender features in pronouns. This geometry is reproduced below.

(1)



This paper will focus on aspects of the geometry relating to the representation of person. According to H&R, a language with an inclusive/exclusive distinction has the four person categories shown in (2). (2a) shows the most fully specified person category, the inclusive, which has both [Spkr] and [Addr] features. (2b) shows the exclusive first person category. This category has only the [Spkr] feature. (2c) shows the second person category, with [Addr]. Inclusive, first person, and second person all have the [Part] feature as well. This distinguishes them from the third person, which lacks this feature. In the normal case, all four categories show number distinctions, determined by features such as [Min] and [Grp], which are dependent on the Individuation node.

(2)	**Person features**	**Semantic interpretation**	**Example** Ojibwa pl. pronouns
a.		all sets containing a speaker and an addressee	kiinawint 'we (incl)'
b.		all other sets containing a speaker	niinawint 'we (excl)'
c.		all other sets containing an addressee	kiinawaa 'you (pl)'
d.	R	all other sets	wiinawaa 'they'

In some languages, however, there is no special inclusive category. H&R propose that the dually specified [Spkr, Addr] person category in (2a) is absent in such languages. In principle, this category could be absent either syntactically, or morphologically. According to the theory of Late Insertion (Halle and Marantz 1993; see also Bonet 1991, Anderson 1992), morphology is inserted post-syntactically, and in some cases collapses syntactic distinctions. For example, although third person singular pronouns in English distinguish masculine, feminine, and neuter, the third person plural pronouns show no gender distinctions. In principle, this may indicate either (a) that the third person plural is syntactically underspecified for gender, or (b) that third person plural pronouns are specified for gender in the syntax, but not in the morphology.

H&R assume that if a language has no inclusive/exclusive distinction, the inclusive category in (2a) is absent from the syntax. I will follow this assumption. However, I will also assume that the category in (2a) is made available by the lexical

activation of the feature [Addr] (McGinnis 2005). Under this view, a language that lacks (2a) will also lack the representation in (2c). Instead, such a language will have the person categories in (3). The most fully specified category, with [Part] and [Spkr], represents first person (3a). Second person has no [Addr] feature, only a [Part] specification (3b). As above, third person lacks the [Part] specification (3c).

(3)	**Person features**	**Semantic interpretation**	**Example** English pl. pronouns
a.	R | Part | Spkr	all sets containing a speaker	we (incl/excl)
b.	R | Part	all other sets containing an addressee	you
c.	R	all other sets	they

McGinnis (2005) argues that the morphological contrast between first and second person triggers the activation of the [Spkr] feature, while the [Addr] feature is triggered by an additional contrast between inclusive and exclusive first person.

The principal argument for the analysis in (3) is that it correctly predicts an otherwise mysterious gap in the set of pronominal systems (McGinnis 2005). As noted above, many languages have an inclusive ("you and me") pronoun. In H&R's analysis, this pronoun has the dually specified [Spkr, Addr] representation in (2a). However, if a language lacks the inclusive pronoun, the inclusive meaning is virtually always associated with the first person category, not with the second person category.[1] There is nothing logically necessary about this: the inclusive pronoun refers both to the speaker

and to an addressee. In the absence of an inclusive pronoun, why should this meaning be conveyed by a first person pronoun?

Under the proposed analysis, the observed gap follows from the assumption that the semantic interpretation of a particular representation depends on the set of alternative representations. If a language has a dually specified [Spkr, Addr] category, then the less specified [Spkr] category implies exclusion of the addressee. Otherwise, it is compatible with either an inclusive or an exclusive interpretation. If a language has only the person categories in (3), the [Part] category (3b) implies exclusion of the speaker. In effect, (3a) is interpreted as referring to any set containing a first person, while (3b) is interpreted as referring to any other set containing a Participant (i.e., second person), and (3c) as referring to any other set (i.e., third person). This sequence follows not from a stipulated person hierarchy, as in Zwicky (1977), but from the relative extent of featural specification.

Under H&R's analysis, however, this outcome must be stipulated. H&R assume that first, not second, person is underspecified if an inclusive category is unavailable. Most straightforwardly, this predicts that such a language will have the following three person categories: (a) first person exclusive, (b) second person, both inclusive ("you and me") and exclusive ("you and not me"), and (c) third person. Such languages, however, are virtually unattested. The proposed analysis rules them out by ensuring that the pronominal system in (4) does not arise. Here, (4a) would be interpreted as referring to any set containing a second person, (4b) as referring to any other set containing a Participant (i.e. first person exclusive), and (4c) as referring to any other set. Such a

system is impossible if the [Addr] feature can be activated only after the [Spkr] feature is activated.

(4)	**Person features**	**Semantic interpretation**	**Hypothetical example** (Zwicky 1977)
a.	R | Part | Addr	all sets containing an addressee	syou 'you or we (incl)'
b.	R | Part	all other sets containing a speaker	swe 'we (excl)'
c.	R	all other sets	sthey 'they'

It has been widely noted that the system of personal prefixes or proclitics in Algonquian has exactly the distribution in (4). However, this effect does not reflect a total neutralization of the distinction between inclusive and second person. Number-marking suffixes systematically distinguish between second person and inclusive, although the proclitics do not. The examples in (5) illustrate noun-possessor inflections in Potawatomi (Hockett 1966, Anderson 1992, Halle and Marantz 1993). The proclitic *k-* appears on nouns with a second person or inclusive possessor, while *n-* appears only in first person exclusive. Nevertheless, suffixes marking person and plural number maintain the distinction between second person and inclusive: *-nan* appears in forms with a plural first person or inclusive possessor, while *-wa* appears in second and third person plural.

(5) a. n-čiman 'my canoe'

b. k-čiman 'your (sg) canoe'

c. w-čiman 'his/her canoe'

d. n-čiman-nan ‘our (excl) canoe’

e. k-čiman-nan ‘our (incl) canoe’

f. k-čiman-wa ‘your (pl) canoe’

g. w-čiman-wa ‘their canoe’

Thus, Algonquian is not a case of syntactic conflation between inclusive and second person. The facts in (5) provide direct support for H&R’s claim that inclusive pronouns have both a [Spkr] feature and an [Addr] feature, as will be shown below.[2]

This paper explores further predictions of the proposed analysis of pronominal systems with only three person categories. In addition to the categorization of inclusive as first person, this analysis predicts a systematic difference in the patterns of syncretism that can arise between first and third person on the one hand, and second and third person on the other. I will argue that this prediction is correct.

2. Patterns of syncretism

According to the proposal above, first person inclusive and exclusive are morphologically identitical in English because they are syntactically identical. I will refer to this type of syncretism as CONFLATION. However, there may also be purely morphological sources of syncretism. For clarity, I will assume the theory of Distributed Morphology, which assumes late (post-syntactic) insertion of morphology. Under the late-insertion view, one source of syncretism is morphological Impoverishment (see Bonet 1991): features present in the syntax (and the LF component) are deleted when the syntactic structure is transferred to the morphological component. Another source of syncretism is the underspecification of Vocabulary items. For example, as suggested above, Algonquian inclusive and second person pronouns may be syntactically distinct, but their distinctness

is not reflected in the system of personal proclitics, which use the same Vocabulary item (*k*-) in both cases. The reader is referred to Halle and Marantz (1993) for detailed arguments in favour of Vocabulary underspecification and Impoverishment.

It was proposed above that the availability of an inclusive person category depends on lexical feature specifications: a language with an inclusive category has an [Addr] feature in its lexicon, while a language without an inclusive category lacks this feature. This proposal makes specific predictions with respect to the types of syncretism that can arise from Impoverishment, and the types that can arise from Vocabulary underspecification.

It will be helpful to review the differences between these types of syncretism. Vocabulary-based syncretism can arise in two situations. One arises when two or more categories share a morphosyntactic feature. For example, consider the Vocabulary items from Potawatomi in (6), which compete for insertion into the syntactic node corresponding to the pronominal proclitic.

(6) /k-/ ⇔ [Addr]

/n-/ ⇔ [Part]

/w-/ ⇔ elsewhere

These items are ranked according to Paninian disjunctivity: the most highly specified item is ranked highest. I assume that [Addr] is more highly specified than [Part] because [Addr] is a dependant of [Part] in the feature geometry — that is, addressees are a subset of participants. Inclusive and second person pronouns in Algonquian share the feature [Addr], so the highest-ranked item (*k*-) can be inserted in both (7b) and (7c).[3] In the first person exclusive, the proclitic has the feature [Part], but not the feature [Addr], so the

item *n-* will be inserted in (7a). In the third person, neither [Addr] nor [Part] is present, so the default item *w-* will be inserted in (7d).

(7) a. n-čiman-nan ‘our (excl) canoe’

b. k-čiman-nan ‘our (incl) canoe’

c. k-čiman-wa ‘your (pl) canoe’

d. w-čiman-wa ‘their canoe’

In (7), syncretism arises between inclusive and second person because both share the [Addr] feature. Vocabulary-based syncretism can also arise in situations when two or more categories lack a particular morphosyntactic feature. For example, consider the person- and number-marking suffixes in (8). I assume that these suffixes are inserted into a node specifed for number features, such as the plural feature [Grp]; the [Spkr] feature is therefore a contextual feature, rather than an intrinsic feature of the node.

(8) /-nan/ ⇔ [Grp] in env. [Spkr]

/-wa/ ⇔ [Grp]

Ø ⇔ elsewhere

The most highly specified item in (8) is the first-person plural item. Inclusive and first person pronouns in Algonquian share the feature [Spkr], so the highest-ranked item (*-nan*) is inserted in (7a) and (7b). In the second and third persons, the contextual feature [Spkr] is not present, so the default plural item (*wa-*) will be inserted in (7c) and (7d). If the plural [Grp] feature is not present, the null default number item will be inserted. Syncretism arises between inclusive and first person plural because they share a feature, here [Spkr]. However, syncretism also arises between second and third person plural, not because they share a feature, but because they both lack the [Spkr] feature.

Such syncretisms arise from the underspecification of Vocabulary items competing for insertion into a syntactic node, so they are highly dependent on the particular Vocabulary items involved. However, syncretism often cuts across sets of Vocabulary items (Williams 1994, Bobaljik 2003). For example, patterns of syncretism in Russian noun declensions are also observed in adjectival declensions, which use different Vocabulary items. If such syncretisms arose from the underspecification of Vocabulary items, the shared patterns of syncretism would be coincidental. Bobaljik argues instead that such "metasyncretisms" arise from the application of Impoverishment rules, which delete features from the syntactic node. Once a feature is deleted, a Vocabulary item cannot make reference to it.

In cases involving only one set of competing Vocabulary items, it is difficult to know whether syncretism arises from Vocabulary underspecification or from Impoverishment. However, I will adopt the strong hypothesis that metasyncretism — syncretism across more than one set of Vocabulary items — always indicates Impoverishment. This view makes it possible to test the hypothesis that second person lacks an [Addr] feature in languages without an inclusive person category.

Consider once again the person representations in (9). These representations predict three possible cases of Vocabulary-based syncretism: (a) syncretism among all three persons, for items with no person specifications, (b) syncretism between first and second person, both of which have the feature [Part], (c) syncretism between second and third person, both of which lack the feature [Spkr]. However, purely Vocabulary-based syncretisms cannot arise between first and third person. Since the two share no features, syncretism could arise between them only if the second person had a feature that the

other two categories lacked. By hypothesis, this is not the case: second person has only the feature [Part], which is also shared by first person.

(9)	**Person features**	**Semantic interpretation**	**Example** English pl. pronouns
a.	R | Part | Spkr	all sets containing a speaker	we (incl/excl)
b.	R | Part	all other sets containing an addressee	you
c.	R	all other sets	they

However, syncretism between first and third person could arise by morphological Impoverishment of the [Spkr] and [Part] features from the first person representation. Indeed, H&R propose that Impoverishment targets complex representations. If this proposal is correct, then the highly specified first person category should be especially susceptible to Impoverishment, while the less specified second person category will be spared.

The web of assumptions has now been tightened sufficiently to make testable predictions about the possible types of person syncretisms (10). Vocabulary underspecification will lead to syncretism between first and second person, or between second and third, but not between first and third. On the other hand, Impoverishment will lead to syncretism between first and second person (deleting [Spkr]) or first and third person (deleting [Part] in the context of a dependent [Spkr] feature), but not between second and third alone.

(10)

	1st and 2nd	2nd and 3rd	1st and 3rd
Vocabulary underspecification	yes	yes	no
Impoverishment	yes	no	yes

In the remainder of this section, I will argue that these predictions are confirmed.

2.1 Vocabulary underspecification

In this section I will examine three cases of syncretism: one in Haitian pronouns, one in Dutch verb agreement, and one in Icelandic verb agreement. It will be shown that none of these cases shows a metasyncretism. Thus, all three cases can be attributed to Vocabulary underspecification.

Haitian Creole has five personal pronouns, which show distinctions in person and number, but not in gender or case. The most highly ranked item is a pronoun that can be used for either first or second person plural (11a). I assume that the dual specification of this item as [Part, Grp] makes it intrinsically ordered before the first-person singular item (11b), which is specified only for [Spkr]. However, as noted above, an item specified for a dependent of [Part] will be intrinsically ordered before an item specified only for [Part], so (11b) is ranked above (11c), the second-person singular item. (11a) is also intrinsically ordered before the third-person plural item in (11d), which is specified for a subset of its features. The ordering of (11d) with respect to (11b) and (11c) does not need to be specified.

(11) a. nou [Part, Grp] ‘1pl/2pl’

b. mwen [Spkr] ‘1sg’

c. (w)ou [Part] ‘2sg’

d. yo ⇔ [Grp] ‘3pl’

e. li ⇔ elsewhere ‘3sg’

(11) lists the third-person singular item as the elsewhere item, which is intrinsically ordered after all other items. However, this list does not take null pronouns into account (Degraff 1993). Roberts (1999) argues that only expletive pronouns are null in Haitian Creole. If so, a feature indicating referentiality could be added to the items in (11), and the elsewhere item would be null.[4]

Haitian Creole has no person agreement, so the syncretism between first and second person plural is restricted to the pronoun system. A set of reduced pronouns shows the same syncretism, but the phonological resemblance of these pronouns to the full forms indicates that they are derived by truncation: *nou* ⇔ *n*, *mwen* ⇔ *m*, *(w)ou* ⇔ *w*, *yo* ⇔ *y*, and *li* ⇔ *l*. Thus, no metasyncretism arises. This syncretism between first and second person plural is plausibly viewed as the result of Vocabulary underspecification. The plural participant item has no specification for [Spkr], so it is inserted into both first and second person pronouns.

Under the theory outlined above, syncretisms between first and second person can arise either through Vocabulary underspecification or through Impoverishment. However, syncretisms between second and third person will arise mainly through Vocabulary underspecification, since Impoverishment will tend to target the more specified first person representation. A syncretism of this kind can be seen in Dutch verb agreement. A verb in a present-tense indicative clause shows the same agreement for second and third person singular. However, the form of this agreement is always the same: null agreement in the first person, and *-t* in the second person.

(12)

	singular	*plural*		*singular*	*plural*		*singular*	*plural*
1	werk-Ø	werk-en		word-Ø	word-en		ga-Ø	gaa-n
2	werk-t	werk-en		word-t	word-en		gaa-t	gaa-n
3	werk-t	werk-en		word-t	word-en		gaa-t	gaa-n

This syncretism can therefore be captured by the Vocabulary items for Dutch subject agreement in (13). Here, the highest-ranked item is the plural item *-en* (13a). This item blocks the insertion of the null first-person item. The syncretic agreement item for second and third person in (13c) is used only in the present tense; in the past tense, all three singular forms have null suffixal agreement.

(13) a. -en ⇔ [Grp] ‘1pl/2pl/3pl’

b. -Ø ⇔ [Spkr] ‘1sg’

c. -t ⇔ in env. [Present] ‘2sg/3sg (present tense)’

d. -Ø ⇔ elsewhere ‘2sg/3sg (past tense)’

Under this approach, (13a) and (13b) must be extrinsically ordered, since they have non-overlapping features, and since H&R’s feature geometry in (1) does not rank [Grp] above [Spkr]. In this context, however, it is worth noting that the infinitive is always the same as the present plural form. If tense and subject agreement are fused into a single node in Dutch (Bobaljik 1995), *-en* may actually be a default item, inserted after Impoverishment of Person features in the plural. Support for this view is that the infinitive of the irregular verb *zijn* ‘to be’ uses the same stem (*zij-*) as the plural form, as well as the same suffix (*-n*). However, I will assume that tense and agreement are not

fused, because they can be separately realized in weak verbs, as in the plural past-tense form *werk-te-n* ‘worked’.

The verb *zijn* shows no syncretism between second and third person singular, using a special third-person form (*is*) instead of the expected second-person form (*ben-t*). Thus, an additional item must be added to (13) to block the insertion of *-t* in this case. This item could either be another null suffix, which combines with the stem *is*, or an *-s* suffix, which combines with the stem *i-*, as Halle and Marantz (1993) suggest for English. Like English *is*, and like the English present-tense subject agreement suffix *-s*, Dutch *is* appears only in the most unmarked person category — third person singular. In both languages, however, only third person singular pronouns show gender distinctions. Dutch nouns also show grammatical gender distinctions, which collapse in the plural, as shown below:

(14)

	Singular	*Plural*	
Common	de stoel	de stoel-en	‘the chair(s)’
Neuter	het zwijn	de zwijn-en	‘the pig(s)’

These observations suggest that, in both English and Dutch, the [Class] node is Impoverished in the plural, as well as in first and second person. Thus third-person singular items such as Dutch or English *is*, or English third-singular *-s*, agree with the only pronoun that has an intact [Class] node. Thus these items can be specified as occurring in the context of a [Class] node, as shown below:

(15)

a.	-en	⇔	[Grp]	‘1pl/2pl/3pl’
b.	-Ø	⇔	[Spkr]	‘1sg’
c.	-s	⇔	in env. [*zijn*, Present, Class]	‘3sg (present tense), *zijn*’

c. -t ⇔ in env. [Present] ‘2sg/3sg (present tense)’

d. -Ø ⇔ elsewhere ‘2sg/3sg (past tense)’

Vocabulary-based syncretism can also be observed in subject agreement on regular strong and weak verbs in Icelandic, where both second and third person singular trigger the agreement suffix *-r*, while first person singular triggers null agreement. Again, the same vocabulary items are involved in all cases where this syncretism is observed. Some sample verbs are shown in (16): *lifa* ‘live’, *kalla* ‘call’, and *bíta* ‘bite’.

(16)

	singular	*plural*	*singular*	*plural*	*singular*	*plural*
1	lif-i-Ø	lif-um	kall-a-Ø	köll-um	bít-Ø	bít-um
2	lif-i-r	lif-ið	kall-a-r	kall-ið	bít-u-r	bít-ið
3	lif-i-r	lif-a	kall-a-r	kall-a	bít-u-r	bít-a

These items can be represented as in (17). No extrinsic ordering is required here, since all items block all subsequent items by Paninian disjunctivity. The sole exception is that the default plural (17c) and first-person (17d) items are unordered; however, since there is a special first-person plural form (17a), no ordering is necessary. The elsewhere item in (17e) is inserted for both second and third person singular agreement, since there is no more specific form for either one.

(17) a. -um ⇔ [Spkr, Grp] ‘1pl’

b. -ið ⇔ [Part, Grp] ‘2pl’

c. -a ⇔ [Grp] ‘3pl’

d. -Ø ⇔ [Spkr] ‘1sg’

e. -r ⇔ elsewhere ‘2/3 sg’

I assume that the *-i* and *-a* suffixes in the singular forms of *lifa* and *kalla* are theme vowels marking the verb class, which delete before the vowel-initial (plural) suffixes. Most verb stems do not have a theme vowel, but have /u/ before the elsewhere suffix *-r*, as seen for *bíta*. I assume that this /u/ is inserted by a phonological rule (18), to break up an impermissible word-final consonant cluster.

(18) Ø → u / C __ r #

The effects of this rule can also be seen in noun declensions: the accusative plural *bræður* 'brother' has epenthetic /u/, while the dative plural *bræðr-um* does not.

The proposed analysis of person categories maintains that in a language with only three persons, first person is most specified, with both [Part] and [Spkr]; second person has only [Part]; and third person has neither. It has been argued that Impoverishment rules target highly specified representations. If this is correct, it predicts that syncretism between second and third person will arise mainly or entirely through Vocabulary underspecification, with one item specified as [Spkr], and a default item used for second and third. The examples from Dutch and Icelandic above illustrate two cases of such Vocabulary-based syncretism between second and third person.

2.2 Impoverishment

The proposed analysis predicts that in a language with only three persons, syncretism between first and third person will arise only through Impoverishment. Since Impoverishment can give rise to metasyncretisms, which cross-cut Vocabulary items, this analysis predicts that syncretisms between first and third person will include such cases.

Person metasyncretisms are not especially common, since person agreement tends to be restricted to subject agreement with T. Thus, for example, it is difficult to explore

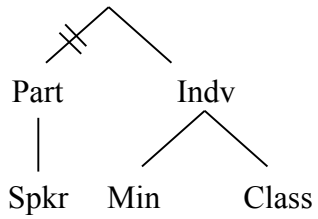
syncretisms between verbal and adjectival person agreement. However, different verb classes, moods, and tenses sometimes involve different verbal morphology, and in this case metasyncretisms can be observed. For example, like many other Germanic languages, Icelandic shows syncretism between first and third person singular (Frampton 2002). Not all verbs have this syncretism, but the syncretism cross-cuts different sets of Vocabulary items used for different moods and tenses. For example, (19) shows the past- and present-tense indicative and subjunctive forms of the strong verb *bera* 'carry'. Three different second-person items (*-ð*, *-st*, and *-ir*), and two different syncretic items (*-Ø* and *-i*), are involved. Thus, this seems to be a straightforward case of metasyncretism.

(19)

	Present Indicative	*Past Indicative*	*Present Subjunctive*	*Past Subjunctive*
1sg	ber-Ø	bar-Ø	ber-i	bær-i
2sg	ber-ð	bar-st	ber-ir	bær-ir
3sg	ber-Ø	bar-Ø	ber-i	bær-i
1pl	ber-um	bár-um	ber-um	bær-um
2pl	ber-ið	bár-uð	ber-ið	bær-uð
3pl	ber-a	bár-u	ber-i	bær-u

If, as assumed above, metasyncretism invariably indicates Impoverishment, then the Impoverishment rule yielding the above metasyncretism targets the most specified person representation, i.e. first person, as shown by the rule in (20), which delinks the [Part] node, rendering the first person agreement morpheme identical to the third person one. The Impoverishment rule in (20) applies only in the singular: first and third person plural are distinct in all forms above.[5]

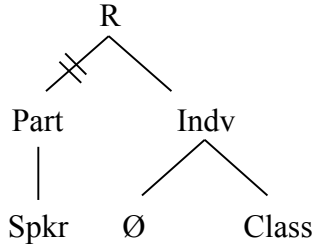
(20) R in env. [__ … [V-Class X]]



The rule in (20) applies in a somewhat heterogeneous set of environments, including the past tense and the subjunctive mood for all verbs, as well as the present indicative for most auxiliary verbs and verbs in the *bera* class (Class 4 strong verbs). I assume that all of these verbs are associated with an arbitrary class feature, labelled X for convenience.

However, a slight wrinkle arises with respect to (20). H&R and McGinnis (2005) argue that a language with only a single number contrast lacks the feature [Min]. If this is correct, then the Impoverishment rule must be restricted to the singular in some other way. If the [Grp] feature is simply omitted, it will be interpreted as underspecified — that is, as optionally present; but the rule must interpret the [Grp] feature specification as obligatory absent (Nevins 2003). This requirement could be captured by means of a null [Indv] specification for number (Ø), as shown in (21), by contrast with underspecification.

(21) R in env. [__ … [V-Class X]]



Once Impoverishment has applied, the Vocabulary items in (22) compete for insertion to generate the forms in (19), leaving morphophonological stem changes aside. (19) contains the items already listed in (17), but now also includes past tense and subjunctive items. The syncretism between first and third person arises from the

impoverishment rule in (21). This ensures that the Participant items in (22h), (22i), and (22j) are not inserted in first-person forms. Instead, the default person items in (22k), (22l), and (22n) are inserted. Note that in the context of Class 4 verbs, the more highly specified present-tense items in (22h) (second-person -ð) and (22k) (default-person -*Ø*) prevent the usual default item in (22m) (default-person -*r*) from being inserted.

(22)

a.	-um	⇔	[Spkr, Grp]
b.	-uð	⇔	[Part, Grp] in env. [Past]
c.	-ið	⇔	[Part, Grp]
d.	-i	⇔	[Grp] in env. [Subjunctive, Present]
e.	-u	⇔	[Grp] in env. [Past]
f.	-a	⇔	[Grp]
g.	-Ø	⇔	[Spkr]
h.	-ð	⇔	[Part] in env. [Indicative, Present, Class 4]
i.	-st	⇔	[Part] in env. [Indicative, Past]
j.	-ir	⇔	[Part] in env. [Subjunctive]
k.	-Ø	⇔	in env. [Indicative, Present, X]
l.	-i	⇔	in env. [Subjunctive]
m.	-r	⇔	in env. [Present]
n.	-Ø	⇔	elsewhere

The item in (22m) has been altered from its counterpart in (17e), on the assumption that the null past indicative affix for first and third person singular is the elsewhere item (22n). This affix is used with all regular (non-auxiliary) verbs, even when first and third singular are distinct in the present indicative, as seen in the forms for *bita* ‘bite’ (23)

(23)

	Present Indicative	*Past Indicative*	*Present Subjunctive*	*Past Subjunctive*
1sg	bít-Ø	beit-Ø	bít-i	bit-i
2sg	bít-ur	beit-st	bít-ir	bit-ir
3sg	bít-ur	beit-Ø	bít-i	bit-i
1pl	bít-um	bit-um	bít-um	bit-um
2pl	bít-ið	bit-uð	bít-ið	bit-uð
3pl	bít-a	bit-u	bít-i	bit-u

Another language that shows metasyncretism between first and third person in Wolof, a Niger-Congo language spoken in Senegal. In this language, first and third person plural syncretize in a number of different Vocabulary items, as shown by the present and future conjugations of *dem* 'go' in (24). These forms involve an auxiliary (*d-)* bearing tense/aspect and agreement suffixes, followed by the uninflected verb. In the future this is followed by *-i*, and in the present by *-a*, or *-e* in the context of third person plural.[6] Both forms also have a second tense/aspect marker: *-y/-Ø* in present tense, and *-na/-Ø* in future tense. Interestingly, the *-y/-Ø* morphology follows person and number marking, while *-na/-Ø* precedes it: compare the first plural present form *d-a-ñu-y dem* with the corresponding plural form, *d-i-na-ñu dem*. I will not attempt to account for this variable ordering.

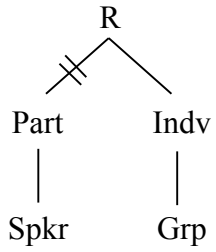
(24)

	Present	*Future*
1sg	d-a-m-a-y dem	d-i-na-Ø-a dem
2sg	d-a-ng-a-y dem	d-i-Ø-ng-a dem
3sg	d-a-fa-Ø-y dem	d-i-na-Ø-Ø dem
1pl	d-a-ñu-Ø-y dem	d-i-na-ñu-Ø dem
2pl	d-a-ng-een-Ø dem	d-i-Ø-ng-een dem
3pl	d-e-ñu-Ø-y dem	d-i-na-ñu-Ø dem

The items of particular interest here are those showing syncretism between first and third person. I assume that person and number are associated with separate terminal nodes in Wolof, although in some cases the exponent of these nodes is phonologically null. The person agreement suffixes show a syncretic form, *-ñu*, in the first and third person plural, while second person has a distinct form, *-ng*. The number agreement suffixes show a similar pattern of syncretism, with a special second-person plural form *-een* and a null default for first and third person plural. Finally, two of the aspectual suffixes show syncretism between first and third person plural, as opposed to second. In the present tense, the *-y* suffix occurs in these forms, while in the future, the *-na* suffix does. The second-person plural lacks both these suffixes.

In short, Wolof shows metasyncretism between first and third person plural. I propose that this metasyncretism arises from Impoverishment of the Participant node in first plural:

(25)



The Vocabulary items for person agreement in the present and future are as shown in (26). The [Spkr] item (26a) can only be inserted in the singular, since the [Spkr] feature is deleted from the plural by Impoverishment. The second-person [Part] form (26b) appears in the singular and the plural. This form is not inserted in first person, because it is blocked by the more specific [Spkr] item in the singular, and because the [Part] node is deleted in the plural by Impoverishment. Thus the remaining plural item, (26c), appears in first and third plural. The elsewhere item (26d) appears in third person singular only, since there are more specific items for all other forms.

(26) a. -m [Spkr]

b. -ng [Part]

c. -ñu in env. [Grp]

d. -fa elsewhere

The Vocabulary items for number agreement in (23) are given in (27). Here the most highly specified item is a plural item that appears in the environment of [Part] (27a). This item is not inserted in the first person plural form, where the [Part] feature is Impoverished. On the other hand, the singular [Part] suffix in (27b) is inserted in both first and second person forms, since [Part] is Impoverished only in the plural. Third singular, like first and third plural, carries the null default number morphology (27c).

(27) a. -een [Grp] in env. [Part]

b. -a ⇔ in env. [Part]

c. -Ø ⇔ elsewhere

The set of Vocabulary items for aspect in (23) can be represented as in (28). The most highly specified item is inserted in the context of plural participants in all aspects. This item is not inserted into first person plural because Impoverishment of [Part] has applied. Instead, the ordinary aspectual suffixes are used. I assume the *-na* morphology in (26c) is perfective, since it also shows up in past perfective forms.[7] The past imperfective (not shown above) has null aspectual marking instead of *-y*, hence the elsewhere suffix in (26d).

(26) a. -Ø ⇔ [Asp] in env. [Part, Grp]

b. -y ⇔ [Imperfective] in env. [Present]

c. -na ⇔ [Perfective]

d. -Ø ⇔ elsewhere

One form remains unaccounted for — the second-person singular future form, which unexpectedly lacks *-na* (this is also true in the past perfective). In this case I assume that an Impoverishment rule deletes the [Perfective] feature in the environment of second person singular — technically, in the environment of a representation with a ull specification of the [Part] and [Indv] nodes. As a result, the elsewhere item in (26d) is inserted instead. Note that in this case, Impoverishment arises in a second-person rather than a first-person context, even though first person is more specific, by hypothesis. I assume that this is possible because Impoverishment is not targeting the person features themselves, but rather aspectual features in the context of certain person features. An analogous situation arises in Icelandic, where Impoverishment of [Part] occurs in the

context of the less specified singular, rather than the more specified plural, which has the feature [Grp] (21).

This account of the absence of *-na* may allow an account of syncretism between second and third person in Bulgarian, which at first glance appears to involve metasyncretism between second and third person, contrary to what is predicted here. In (27), it can be seen that the second and third person singular are identical in the Aorist, as well as in the Imperfect; yet different Vocabulary items are used in the two cases, *-Ø* in the Aorist and *-še* in the Imperfect. Moreover, the first-person singular has the same suffix (*-h*) as the plural forms; thus it is highly unlikely that *-Ø* and *-še* are default person items, competing with a more specified first-person singular item.

(27)

	Present	*Aorist*	*Imperfect*
1sg	dava-m	dava-h-Ø	dava-h-Ø
2sg	dava-š	dava-Ø-Ø	dava-še-Ø
3sg	dava-Ø	dava-Ø-Ø	dava-še-Ø
1pl	dava-me	dava-h-me	dava-h-me
2pl	dava-te	dava-h-te	dava-h-te
3pl	dava-t	dava-h-a	dava-h-a

However, a closer look at the Aorist and Imperfect in (27) reveals that syncretism between second and third person also cannot be captured by Impoverishment of the [Part] node from second person, since even the non-participant third person plural has the *-h* suffix. A possible analysis is suggested by the fact that the two tense / aspect classes are identical except in second and third person singular. Suppose, then, that the distinction

between Aorist and Imperfect is otherwise eliminated by Impoverishment. Specifically, suppose that [Aorist] and [Imperfect] are dependents of a [Past] node, and that both features are deleted in the plural and in first person singular. Then *-Ø* could be inserted for [Aorist] and *-še* for [Imperfect], while *-h* could then be a general [Past] suffix, inserted in the absence of these features. Under this view, the syncretism between second and third person in (27) can again be captured without Impoverishment of the [Part] node in second person.

There appear to be cases of syncretisms between first and third person that do not involve metasyncretism. Such cases are in principle compatible with either an Impoverishment analysis or a Vocabulary-based analysis. I will assume that they involve Impoverishment, in keeping with the analysis of person categories proposed above, under which first and third person can syncretize only by Impoverishment (or by coincidence). In Spanish, for example, syncretism between first and third person singular can be seen in the imperfect indicative and in the subjunctive, both present and imperfect. However, in these cases the person agreement is always the same: null in first and third person singular, and *-s* in second person. (28) shows the relevant forms for the verb *cambiar* 'walk.'

(28)

	Present Indicative	*Imperfect Indicative*	*Present Subjunctive*	*Imperfect Subjunctive*
1sg	cambi-Ø-o	cambi-ab-a-Ø	cambi-e-Ø	cambi-ar-a
2sg	cambi-a-s	cambi-ab-a-s	cambi-e-s	cambi-ar-a-s
3sg	cambi-a-Ø	cambi-ab-a-Ø	cambi-e-Ø	cambi-ar-a
1pl	cambi-a-mos	cambi-áb-a-mos	cambi-e-mos	cambi-ár-a-mos

2pl	cambi-á-is	cambi-ab-a-is	cambi-é-is	cambi-ar-a-is
3pl	cambi-a-n	cambi-ab-a-n	cambi-e-n	cambi-ar-a-n

I will again focus on the main Vocabulary items showing person agreement, putting aside the theme vowels (*-a* and present subjunctive *-e*) and imperfect suffixes (*-ab* indicative, *-ar* subjunctive). These can be straightforwardly given as in (29). I assume that Spanish subject agreement has an Impoverishment rule like the one in (21) for Icelandic, except that in Spanish the rule is restricted to the imperfect indicative and the subjunctive, and is apparently unrestricted as to verb class: first and third person singular syncretize with all verbs in these mood/tense combinations.

(29) a. -mos ⟷ [Spkr, Grp]

b. -is ⟷ [Part, Grp]

c. -n ⟷ [Grp]

d. -o ⟷ [Spkr]

e. -s ⟷ [Part]

f. -Ø ⟷ elsewhere

Although not all cases of syncretism between first and third person involve metasyncretism, we have seen that some do. This supports the claim that first person syncretizes with third person by means of Impoverishment. I have not yet encountered a convincing case of metasyncretism between second and third person. This supports the claim that Impoverishment targets more highly specified representations, such as first person; second and third person syncretize by means of Vocabulary underspecification.

Additional evidence that syncretism between first and third person arise as a result of Impoverishment comes from Bonet (1991)'s cross-linguistic study of reflexive clitics. Bonet noted that in many languages, only a few person/number combinations have specific items of their own ('spec.' in (30)); otherwise, an invariant default item ('i.') is used. As (30) shows, there is a general tendency for the more highly specified [Spkr] or [Part] clitics to have their own specific Vocabulary items, while clitics with less specified person representations tend to be invariant. However, there is also a phenomenon by which plural items take on the invariant form — rather than, for example, the corresponding singular form. This is a clear indication of Impoverishment.

(30)

	Russian	*Papago*	*Std. Catalan*	*Piedmontese*	*Valencian*	*Unatt.*
1 sg	i.	spec.	spec.	spec.	spec.	spec.
1 pl	i.	spec.	spec.	i.	i.	spec.
2 sg	i.	i.	spec.	spec.	spec.	spec.
2 pl	i.	i.	spec.	spec.	i.	i.
3 sg	i.	i.	i.	i.	i.	i.
3 pl	i.	i.	i.	i.	i.	i.

In Piedmontese, first person plural takes on the invariant form, while in Valencian, both first and second person plural do so. This supports the view that more complex representations are Impoverished — the [Part] and [Grp] features are deleted from first person reflexive clitics in Piedmontese, while the same features are deleted

from participant clitics in Valencian. Bonet does not report any cases like the one on the right, where second person is targeted to the exclusion of first person. Again, this supports the claim that first person is more highly specified than second.

3. On person hierarchies

Markedness asymmetries among person categories have traditionally been captured in terms of a person hierarchy. All authors agree that first and second person are more highly ranked than third person; however, disagreement arises with regard to first and second person. Some maintain that first person is more highly ranked than second (Zwicky 1977); others, that the two are equally ranked (Hockett 1966, Goddard 1967); while still others argue that the ranking is variable. The proposal presented here does not mandate an absolute person hierarchy. In a language with an inclusive/exclusive distinction, the inclusive category has the most complex representation, while first person exclusive is no more complex than second person. In a language without an inclusive category, the first person category has the most complex representation, while the second person category is less complex. Third person is the least complex category in both cases. If complexity corresponds to markedness, then markedness relations between first and second person are neither absolute nor arbitrarily variable, but rather dependent on the presence or absence of an inclusive category.

In recent work, some authors have advanced syntactic arguments that second person is at least sometimes more highly ranked, or marked, than first person (Aissen 2003). This possibility is not predicted by the analysis proposed here. However, I will argue below that the evidence in question is in fact compatible with the proposed

analysis. This conclusion is based on a detailed account of a ban on second person objects by Wiltschko (2003).

Aissen (2003) suggests that a second person object can be more "marked" than a first person one. This is unexpected if the features of second person are a subset of the features of first person, as suggested here for systems with only three person distinctions. In such systems, by hypothesis, first person has both [Spkr] and [Part], while second person has only [Part]. Aissen's evidence for the greater markedness of second person is based on an apparent gap in the syntax. For a transitive clause with a third-person agent, both actives and passives are possible with a third-person patient, or with a first-person patient. However, with a second-person patient, only the passive is possible. An identical gap is observed in Halkomelem (Gerdts 1988, Wiltschko 2003). In an active clause, both singular (30a) and plural (30b) second-person logical objects are incompatible with a third-person logical subject.

(30) a. * Máy-t-òme-s
help-TRANS-2SG.O-3ERG
'He/she helps you SG.'

b. * Máy-t-òle-s
help-TRANS-2PL.O-3ERG
'He/she helps you PL.'

However, Wiltschko (2003) points out that the 3>2 ban arises only when both arguments trigger overt morphological agreement, for example when the word order is VSO (31a) (see also Brown et al. 2003 and Wiltschko and Burton 2004). There are several circumstances under which only object agreement is morphologically realized: for

example, if the word order is SVO (31b), if the subject is a wh-phrase (31c), or if the subject is an impersonal argument (31d). In each case, the active is fine. Likewise, when an independent second-person pronoun is used, it triggers third-person object agreement on the verb (31e). Again, the active is fine.

(31) a. * Kw'éts-l-óme-s te swíyeqe.
see-TRANS-2SG.O-3S DET man
'The man saw you SG.'

b. Te swíyeqe kw'éts-l-òmè.
DET man see-TRANS-2SG.O
'The man saw you SG.'

c. Tewát kw'e le lhéts'-l-òmè.
who DET AUX.3 cut.TRANS-2SG.O
'Who cut you SG?'

d. Éwe lí-s xwemékwath-eth-òm.
NEG AUX-3SBJC.S kiss-TRANS-2SG.PASS
'Nobody kissed you SG.' / 'You SG weren't kissed.'

e. Taléwe í-lh kw'éts-l-exw-es.
2SG.INDEP AUX-PAST see-TRANS-3O-3ERG
'It's you SG that he has seen.'

The facts in (31) suggest that double morphological marking of second and third person plays a crucial role in the 3>2 ban, when it applies. A similar effect can be observed in Georgian (Bonet 1991), where a first- or second-person direct object cannot co-occur with a third-person indirect object, but only if the verb would show agreement

with it (32a). If the verb is non-finite, it shows no agreement, and the same combination of arguments is fine (32b). A full second-person direct object pronoun takes on the reflexive form in this context (without the reflexive meaning). Since reflexives always trigger third-person agreement, there is no second-person agreement, and the result is again fine (32c).

(32) a. * vanom (šen) še-g-adar-a givis.
Vano-ERG 2NOM.SG ASP-2NOM-compare-3S Givi-DAT
'Vano compared you SG to Givi.'

b. gela movid-a [šens časabareblad masçavlebis-tvis].
Gela came-3SG 2GEN.SG to.render teacher-for
'Gela came to turn you SG over to the teacher.'

c. vanom šeni tavi še-adar-a givis.
Vano-ERG yourself-NOM ASP-compare-3S Givi-DAT
'Vano compared you SG to Givi.'

Bonet (1991) treats the facts in (32) as a result of the **me-lui*/I-II constraint, which also blocks certain clitic combinations in Romance languages. More recently, it has been argued that the **me-lui*/I-II constraint arises from a conflict between two DPs that agree with the same syntactic head (Anagnostopoulou 2003, Bejar and Rezac 2003, Hanson 2003). I propose that the 3>2 ban in Halkomelem arises from the same cause: the ergative third-person subject and the second-person object both agree with *v* (see Wiltschko 2003), but have different features. The resulting conflict renders the structure ungrammatical.

An apparent problem for this analysis is that there is no ban on active clauses with a third-person subject and a first-person object, even though both arguments presumably agree with *v.* The unacceptable 3>2 clause in (33a) can be compared with the acceptable 3>1 clause in (33b).

(33) a. * Máy-t-òme-s.
help-TRANS-2SG.O-3ERG
'He/she helps you SG.'

b. Máy-th-òx-es.
help-TRANS-1SG.O-3ERG
'He/she helps me.'

Wiltschko (2003) and Brown et al. (2003) suggest that (33b) is rescued by the insertion of a portmanteau morpheme, realizing the features of both arguments. However, there are two problems with this analysis. One is that the proposed portmanteau morpheme, *oxes*, is identical to a combination of the first-person singular object agreement, *-ox* (34a), and the third-person singular ergative subject agreement, *-es* (34b).

(34) a. Yéxw-th-óx-chexw.
burn-TRANS-1SG.O-2S
'You SG burn me.'

b. Máy-t-es.
help-TRANS-3ERG
'He/she helps him/her.'

A second problem is that an adverb can intervene between the two agreement suffixes in (33b) (Donna Gerdts, personal communication).[8]

I propose that the 3>2 ban in Halkomelem arises instead from a similarity effect. According to the account presented above, second and third person differ only in the presence of the feature [Part], while first person also has an additional feature, [Spkr]. An analogous case can be seen in a dialect of Spanish known as *Leísta* Spanish (Ormazabal and Romero 2002). In this dialect, there is a morphological distinction between animate and inanimate accusative third person pronominal clitics. The animate clitic cannot combine with a first or second person pronouns (35a), while the inanimate clitic can (35b).

(35) a. * Te le llevamos.
2SG 3SG.ANIM.ACC brought.1PL
'We brought him to you.'

b. Te lo llevamos.
2SG 3SG.INAN.ACC brought.1PL
'We brought it to you.'

If the ban on 3>2 arguments arises from a similarity effect, the Halkomelem data actually support the proposed geometry: second person is featurally more similar to third person than first person is. Of course, if no more is said, then a 2>3 ban should also be observed. However, **me-lui* effects generally arise when the less specified argument is structurally higher than the more specified argument, as illustrated in the Georgian and Spanish examples above. Interestingly, in Romanian, the only clitic combination that is strongly disallowed by all speakers involves a second person dative clitic with a first person accusative clitic (Oana Ciucivara, personal communication). This lends further support to the view that second person is less specified than first.

4. Conclusions

It has been noted at least since Zwicky (1977) that languages either treat the inclusive as a distinct person category, or else conflate it with the first person category; they do not conflate it with the second person category. McGinnis (2005) postulates that this asymmetry arises from universal, innate constraints on the sequence in which the morphosyntactic feature geometry is elaborated. A contrast between first and second person will trigger the activation of the [Spkr] feature; only an additional contrast between first person and inclusive can trigger the [Addr] feature, which is then available for second person as well. This hypothesis predicts that in languages without an inclusive person category, second person is more underspecified than first. As a result, first and second person should be associated with different patterns of syncretism. Syncretism between second and third person can arise whenever there is a specific first-person item, and a default item is used for second and third.

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[1] The only exception of which I am aware is Sanuma, described in Borgman (1990). Sanuma has a high incidence of syncretic morphemes among pronouns, which may alert the learner to the possibility of syncretism between inclusive and second person.

[2] It has been argued that Algonquian languages require an asymmetry between first and second person in order to account for the choice of proclitic in transitive clauses with first and second person arguments (Jolley 1983). However, it is possible to account for this choice without such an asymmetry (Halle and Marantz 1993, Béjar 2003). Moreover, in many Algonquian languages, the opposite asymmetry would simultaneously be needed to account for the choice of number-marking suffix in clauses with first and second plural arguments (McGinnis 2005).

[3] The syncretism between second person and inclusive would be difficult to capture if the inclusive were simply identified by a further specification of the [Spkr] node, such as an [Inclusive] feature (Harley 1994).

[4] Degraff (1992) also argues that Haitian Creole has a resumptive pronoun, *se* (i), which plays a number of other syntactic roles as well.

(i) Poutin se prezidan Risi.
'Putin is President of Russia.'

[5] I assume that such null specifications could not play a role in Vocabulary insertion, since Vocabulary items are associated with unordered features, not with feature geometries.

[6] I assume that *-e* is inserted in the context of [Grp] and gender features, in a manner similar to special third person singular morphology in English and Dutch. Even when first person is Impoverished, it is not identical to third person, since it lacks gender.

[7] Semantically, *-na/-Ø* resembles aspectual prefixation in Russian, which can perfectivize a present-tense verb by giving it a future interpretation, or a past-tense verb by giving it a past perfective interpretation (Ilana Mezhevich, personal communication).

[8] In fact, it is not clear how this observation squares with the view that the two arguments agree with the same head. It is possible that the adverb incorporates into *v*, and is freely ordered with respect to the other morphological subcomponents of *v*. Further research is needed to test this hypothesis.