

Feature Geometry and the Morphosyntax of Algonquian Languages

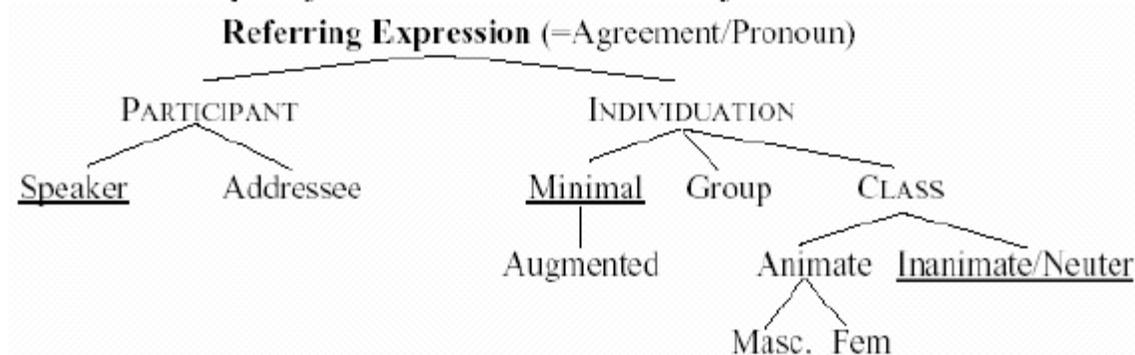
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1 Feature Geometries

For most of the history of modern linguistics, from the structuralists through early generative theories to today, the predominant assumption, implicitly or explicitly, has been that agreement patterns and pronominal systems are constrained by the presence of formal features within lexical items, and that dependencies hold between these features reducing the set of possible pronominal and agreement systems from millions to, relatively speaking, a handful (Sapir 1921, Bloomfield 1933, Greenberg 1963, etc.). However, linguists have rarely specified precisely what these dependencies are, and how they themselves are to be formalized. In what follows, I will be examining the claims of Harley and Ritter (1994, 1999, 2002) which have sought to formalize these dependencies in the form of a feature geometry, and will examine how the morphosyntax of Algonquian languages do and do not fit into their overall schema for constraining the typology of person and agreement systems.

In creating a feature geometry for morphosyntax, Harley and Ritter (H&R) have a very particular set of goals in mind. Feature geometries encode dependencies graphically by implicational relations in the tree structure. This can be seen in Table 1¹ below:

Table 1. Morphosyntactic Feature Geometry.



¹ Harley and Ritter 2002b. Underscoring represents default feature representation.

Any feature linked to a feature higher in the tree implies the presence of that higher feature in lexical items. It is thus important to know exactly what features are present in the tree structure, because that is what constitutes the actual dependency². For that reason H&R seek to reduce the set of features lexical items may bear to the bare essentials. This means first of all monovalent underspecification: features are either present or absent; there are no plus or minus features. This also means that features are about encoding contrastiveness, and so rather than directly specifying features like [plural] or [third person], their geometry attempts to have such properties fall out from the system as a whole. So, for example, they build on a long-running claim by linguists of many different stripes (such as Bloomfield 1938 or Benveniste 1971) that the only real “persons” are the first and second, the third being in some sense epiphenomenal. Thus their person node consists only of the features [Speaker] and [Addressee]; third person arguments have only the [Individuation] feature and any subsidiary number or gender features. Number works the same way, so that singulars are featurally [Minimal] without any [Group] feature; duals are featurally both [Minimal] and [Group], and plurals just [Group], and so on. For Harley and Ritter, it is important that their system is meant to constrain both pronominal systems and agreement systems, but not both together necessarily, since a language may make more contrasts in its pronominal system than in its agreement system, or vice-versa. As we will see, this will become a mixed blessing, since some Algonquian languages make many more distinctions than Harley and Ritter could have envisioned for their third person.

Very briefly, you can see their system works in a more concrete way in their Boumaa Fijian example in Tables 2 and 3:

Table 2 (Harley and Ritter 2002b)
Boumaa Fijian cardinal pronouns

	singular	plural	dual	paucal
1ex	yau	'eimami	'eirau	'eitou
1in	--	'eta	'eetaru	'etatou
2	i'o	'emunuu	'emudrau	'emudou
3	'ea	(i)ra	(i)rau	(i)ratou

Dixon (1988) p 54-55

This language has a relatively large number of pronominal contrasts, having both inclusive and exclusive contrasts, and four number contrasts. Thus, the first person exclusive singular consists of just [Speaker] plus [Minimal], and has no [Addressee] feature. In contrast, the first inclusive paucal has both [Speaker] and [Addressee] features, as well as [Group] and [Minimal] with an [Augmented] feature, while third person singular consists of just [Minimal] under [Individuation].

² Note that any geometry can be rewritten as a set of implications of the form $\alpha [F] \rightarrow \beta [G]$, where α and β are arguments with the features [F] and [G] respectively. This has the same logical properties as lexical default rules in lexicalist theories of grammar, and so is not decisive between different frameworks.

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Table 3: Boumaa Fijian pronouns featurally annotated (Harley and Ritter 2002b)

	sg.	pl.	dual	paucal
1 st Excl.	a. $\begin{array}{c} \text{RE} \\ \swarrow \quad \searrow \\ \text{PART} \quad \text{INDIV} \\ \mid \quad \mid \\ \text{Spkr} \quad \text{Min} \\ \text{---} \\ \text{yau} \end{array}$	b. $\begin{array}{c} \text{RE} \\ \swarrow \quad \searrow \\ \text{PART} \quad \text{INDIV} \\ \mid \quad \mid \\ \text{Spkr} \quad \text{Group} \\ \text{---} \\ \text{'eimami} \end{array}$	c. $\begin{array}{c} \text{RE} \\ \swarrow \quad \searrow \\ \text{PART} \quad \text{INDIV} \\ \mid \quad \swarrow \quad \searrow \\ \text{Spkr} \quad \text{Min.} \quad \text{Gr.} \\ \text{---} \\ \text{'eirau} \end{array}$	d. $\begin{array}{c} \text{RE} \\ \swarrow \quad \searrow \\ \text{PART} \quad \text{INDIV} \\ \mid \quad \swarrow \quad \searrow \\ \text{Spkr} \quad \text{Min.} \quad \text{Gr.} \\ \quad \quad \mid \\ \quad \quad \text{Aug.} \\ \text{---} \\ \text{'eitou} \end{array}$
1 st Incl.		e. $\begin{array}{c} \text{RE} \\ \swarrow \quad \searrow \\ \text{PART} \quad \text{INDIV} \\ \swarrow \quad \mid \quad \searrow \\ \text{Spkr} \quad \text{Addr} \quad \text{Group} \\ \text{---} \\ \text{'eta} \end{array}$	f. $\begin{array}{c} \text{RE} \\ \swarrow \quad \searrow \\ \text{PART} \quad \text{INDIV} \\ \swarrow \quad \mid \quad \searrow \\ \text{Spkr} \quad \text{Addr} \quad \text{Min.} \quad \text{Gr.} \\ \text{---} \\ \text{'eetaru}^\dagger \end{array}$	g. $\begin{array}{c} \text{RE} \\ \swarrow \quad \searrow \\ \text{PART} \quad \text{INDIV} \\ \swarrow \quad \mid \quad \searrow \\ \text{Spkr} \quad \text{Addr} \quad \text{Min.} \quad \text{Gr.} \\ \quad \quad \mid \\ \quad \quad \text{Aug.} \\ \text{---} \\ \text{'etatou} \end{array}$
2 nd	h. $\begin{array}{c} \text{RE} \\ \swarrow \quad \searrow \\ \text{PART} \quad \text{INDIV} \\ \mid \quad \mid \\ \text{Addr} \quad \text{Min} \\ \text{---} \\ \text{'i'o} \end{array}$	i. $\begin{array}{c} \text{RE} \\ \swarrow \quad \searrow \\ \text{PART} \quad \text{INDIV} \\ \mid \quad \mid \\ \text{Addr} \quad \text{Group} \\ \text{---} \\ \text{'emumu} \end{array}$	j. $\begin{array}{c} \text{RE} \\ \swarrow \quad \searrow \\ \text{PART} \quad \text{INDIV} \\ \mid \quad \swarrow \quad \searrow \\ \text{Addr} \quad \text{Min.} \quad \text{Gr.} \\ \text{---} \\ \text{'emudrau} \end{array}$	k. $\begin{array}{c} \text{RE} \\ \swarrow \quad \searrow \\ \text{PART} \quad \text{INDIV} \\ \mid \quad \swarrow \quad \searrow \\ \text{Addr} \quad \text{Min.} \quad \text{Gr.} \\ \quad \quad \mid \\ \quad \quad \text{Aug.} \\ \text{---} \\ \text{'emudou} \end{array}$
3 rd	l. $\begin{array}{c} \text{RE} \\ \mid \\ \text{INDIV} \\ \mid \\ \text{Min} \\ \text{---} \\ \text{'ea} \end{array}$	m. $\begin{array}{c} \text{RE} \\ \mid \\ \text{INDIV} \\ \mid \\ \text{Group} \\ \text{---} \\ \text{(i)ra} \end{array}$	n. $\begin{array}{c} \text{RE} \\ \mid \\ \text{INDIV} \\ \swarrow \quad \searrow \\ \text{Min.} \quad \text{Gr.} \\ \text{---} \\ \text{(i)rau} \end{array}$	o. $\begin{array}{c} \text{RE} \\ \mid \\ \text{INDIV} \\ \swarrow \quad \searrow \\ \text{Min.} \quad \text{Gr.} \\ \quad \quad \mid \\ \quad \quad \text{Aug.} \\ \text{---} \\ \text{(i)ratou} \end{array}$

This system is rather elegant, but also powerful, because it makes strong typological predictions: no language will have duals without having plurals, qua the [Group] feature; a language will not have paucal or trial number without having dual number; a language will not have an inclusive/exclusive distinction unless it also has second person. All of these seem to be true (H&R 2002).

2 Algonquian morphosyntax and feature assignment

Now when we turn to the properties of Algonquian languages, we find that in a number of ways the Harley-Ritter geometry holds up rather well empirically. Compared to Fijian, the properties of the Meskwaki system shown below in (1) seems rather simple in comparison. Meskwaki³, like other Algonquian languages, rather uninterestingly, contrasts only singular from plural.

³ All data on Meskwaki, unless otherwise noted, comes from Dahlstrom (forthcoming).

	<i>Singular</i>	<i>Plural</i>
(1)	a. ne-pya 1-come 'I come'	ne-pya-pena ⁴ 1-come-1PL 'We (excl) come'
	b. ke-pya 2-come 'You (sg.) come'	ke-pya-pwa 2-come-2PL 'Y'all come'
	c.	ke-pya-pena 2-come-1PL 'We (incl) come'

Thus, one has *nepya* 'I come' along *nepya:pena* 'We come', *kepya* 'you come' alongside *kepya:pwa* 'y'all come'. However, the inclusive form in (1c) provides direct evidence that inclusive forms generally are composed of the features for both [Speaker] and [Addressee], since those features actually surface in separate morphemes.

Even more direct evidence for the Harley and Ritter treatment of gender comes from the mixed language Mitchif as shown in (2) below.

- (2) a. la munisjũ: či ki-t-a:ja:-na:n ši-papa:-ma:èi:-jahk?⁵
the.FEM ammunition Q 2-EP-have.TA-21 COMP-about-hunt-AI.21
'Did we (incl.) have ammunition for hunting?'
- b. ki:-mičimin-e:w a:tiht laržã
PAST-hold-TA.3>3' some money.MASC
'He kept part of the money.'
- c. ki:-mičimin-am la pej
PAST-hold-TI.3>4 the.FEM payment.FEM
'He kept part of the payment.'
- (Bakker and Pappen 1996)

Mitchif originated as a trade language in the early colonial period of Canada, and unusually, it combines a more or less unaltered Cree verbal morphosyntax with a French nominal system. However, because Cree verbs like all Algonquian verbs agree in animate or inanimate gender with the absolutive argument (the subject in intransitives, the primary object in transitives), the noun phrases borrowed from French must also carry animacy features in addition to their inherited French masculine or feminine gender system. That is, Mitchif has two simultaneous gender systems. As you can see in (2a), the noun phrase *la munisjũ*: 'the ammunition' triggers animate object agreement on the verb and has feminine gender, as shown by the feminine definite article, while in (2c) another feminine noun phrase *la pej* 'the payment' triggers inanimate agreement on the verb, even though it has the same French gender.

⁴ In the Algonquianist tradition, the raised dot <̣> is one of a number of possible representations of vowel length, alongside the macron <̄> and the colon <: >.

⁵ TA 'transitive animate' indicates that the stem subcategorizes for animate objects. '21' indicates first person inclusive.

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These animacy genders are usually assigned⁶ by their nearest Algonquian equivalents. As Bakker and Pappen say, ‘In [(2b)], French *laržã* is animate because Cree *ṣ̌u:nija:w* is animate; but *la pej* is inanimate, presumably following Cree (inanimate) nominalized verbals in –win, such as *tipahamakowin* ‘payment’.’ Unlike systems that have only a three valued system for gender, the Harley and Ritter system can handle this quite directly by having masculine and feminine dependent on an animacy feature⁷.

There are problems though. So, for example, in Meskwaki and other Algonquian languages, there is a distinct set of paradigms in (3) for nonspecific agents acting on other arguments that is, crucially, morphologically distinct from all other persons:

- (3) *pya·-pi*
 come-X
 ‘People come / one comes’

That this person is not a normal third person is shown by two facts. First, the vowel gradation is *a-* as with first or second persons in example (1), not *e-*, as with other third persons that we will see shortly. Secondly, the nonspecific argument actually outranks third persons on the animacy hierarchy that determines the direct or inverse forms in Algonquian transitive clauses (Goddard 1967, Dahlstrom 1986, etc.). These facts seem to suggest that nonspecific agents act morphosyntactically as participants, and so there is a gap in the participant geometry for Harley and Ritter.

Another even bigger problem is that in contrast to Fijian and other languages studied by Harley and Ritter, as is well known, Algonquian languages morphologically distinguish between third person arguments that are proximate (more discourse-salient), and those that are obviative (less discourse-salient). This is a deep-rooted phenomenon, since not only do pronouns and nouns inflect for proximate or obviative status, verbal agreement patterns depend on the contrast as well. A paradigm illustrating the same point is shown in (4), in Meskwaki, proximate *pye:wa* ‘he (prox) comes’ contrasts with *pye:niwani*, ‘he (obv) comes’, and both proximate and obviative have plural forms:

- | | | |
|-----|---|---|
| (4) | a. <i>pye·-w-a</i>
<i>come-3-AN.PROX.SG</i>
‘He (prox) comes’ | <i>pye·-w-aki</i>
<i>come-3-AN.PROX.PL</i>
‘They (prox) come’ |
| | b. <i>pye·-ni-w-ani</i>
<i>come-OBV-3-OBV.SG</i>
‘He (obv) comes’ | <i>pye·-ni-w-ahi</i>
<i>come-OBV-3-OBV.PL</i>
‘They (obv) come’ |

A property perhaps not so widely known is that Algonquian languages also have overt morphology indicating a further obviative, which is used in contexts where there

⁶ Not absolutely. See Bakker and Pappen for examples of English loans with identical meanings taking different French genders.

⁷ I strongly suspect this system will not be able to handle the baroque gender systems present in e.g. many Bantu languages, with the implication that the set of features may not be entirely universal. However, these considerations are orthogonal to discussing Algonquian morphosyntax. See conclusion for more discussion.

are three third-person arguments, and one obviative argument is acting upon another obviative argument. This is shown in the two examples in (5) and (6).

- (5) *ne·se·hekoniwani* (Meskwaki; Dahlstrom forthcoming)
ne·se·h·eko·ni·w·ani
 cure-INV-OBV-3-OBV.SG
 ‘He (further obv) cures him (nearer obv).’
- (6) John *o·gike:nima:-an* Mary-*an* *o·misēhini* (Ojibwe; Grafstein 1984: 258)
 John 3-know.TA-OBV Mary-OBV 3-sister-FURTHER.OBV
 ‘John knows Mary’s sister.’

In Meskwaki, nominal arguments do not overtly distinguish between nearer and further obviative status, but that arguments must carry these features is shown by the agreement on the verb, where further obviatives show up overtly with inverse morphology when acting upon nearer obviatives as in example (5) *ne·se·hekoniwani* ‘he (further obviative) cures him (nearer obviative)’. In Ojibwe, nominals show this status overtly, as in (6) where the least salient argument is the possessed NP *omis.hini* ‘her sister’, where the *-ini* suffix is distinct from the *-an* suffix of the other obviative noun phrase.

These facts prove awkward for the Harley and Ritter geometry, because although obviation is for the most part discourse dependent, it shows up rather robustly throughout the language’s morphosyntax: in verb agreement, in pronouns, and in regular nouns. This suggests that, contrary to Harley and Ritter, discourse properties such as obviation or formality should indeed be marked in the geometry, because otherwise the syntax would not know how to configure the right agreement pattern. However, there is a sense in which their geometry also allows for it, since their geometry allows for an unbounded number of nonparticipant persons, since all other such persons are distinguished not by an overt feature [+third] or [+fourth], but rather by their properties derived from their lexical semantics or from their use in discourse.

And indeed there are other features which one may cite in distinguishing various kinds of pronouns. Meskwaki and other Algonquian languages have extensive contrasts in deictics distinguishing entities which are physically present from those which are absent, as shown in (7), where *ma:hiyayo* ‘this absent one’ is the normal way of referring to deceased people in the community.

- (7) *ma·hiyayo* *wi·čawiwata* *netowi·hka·ni*⁸
ma·hiya=iyo IC-*wi·čawiw-at-a* *ne-t-owi·hkani*
 this.absent=for IC-live.with-2>3-SG 1-EP-have.O2.as.friend 1/IND.IND
 ‘After all, your late husband was my friend.’ A188C

⁸ EP = ‘epenthetic segment’; IC = ‘initial change’, the Algonquian ablaut process; O2 = ‘secondary object’.

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Likewise, the example in (8) with a deictic indicating a visible point some distance off, stands in contrast to that in (9) which is also some distance off, but is not visible. Finally, in (10), there are even pronouns indicating the far side of some salient reference point, in this case the other side of the lodge.

- (8) i·ya·mahi apihapita·we
i·ya·mahi api·h·api·ta·we
yonder.LOC RED-EP-sit-21/IMP
'Let's sit for a while over yonder.' N18H

- (9) i·naka kehči·maneto·wa a·šotamokwe·ni
i·naka kehči·maneto·w·a a·šot·amo·w·k·e·n·i
that. distant.invisible.SG great spirit-SG urge-INAN.OBJ-INTERR⁹-3-INTERR.MODE

i·ni wi·hišawiniči ki·šeso·ni
i·ni wi·h·ešawi·ni·t·i ki·šesw·ani
that FUT-do.thus-OBV-3-MODE sun-OBV

'The Great Spirit [distant & invisible] must have urged that the Sun do that.' W317ST

- (10) nahi, anika·nahi nana·hapino
nahi, anika·nahi nana·hapino
okay, far.side.loc sit.down-2/ IMP
'Well, have a seat over there [on the other side of the lodge].' N265

Do these count as yet more 'persons'? It would be very strange to say that they do, but the Harley and Ritter geometry suggests that they are not: they are just as much persons as regular third person entities are, but since for Harley and Ritter there is no such thing as 'third person' as such, we would expect precisely such a gradation of referents extending off into an indefinite discourse space. Firmer evidence for such features would be garnered if one could show that a given language actually subcategorized, say, for visible entities, or present entities. In this respect, Algonquian languages are not forthcoming, but Mel'chuk (1994) cites the example of Quileute, which, like Algonquian languages has a three way contrast of proximate ~ obviative ~ further obviative, indeed subcategorizes for visibility and known/unknown features in object arguments codependent with obviation features¹⁰:

'À savoir, un nom quileute au proximatif doit référer à une entité visible (ou directement perceptible de façon non-visuelle); le referent d'un nom invisible peut être invisible, mais il faut qu'il soit connu de locuteur; et, enfin, un nom

⁹ INTERR = 'interrogative mode', having many uses other than question formation.

¹⁰ I am indebted to Ilya Yakubovich (p.c.) for bringing this to my attention.

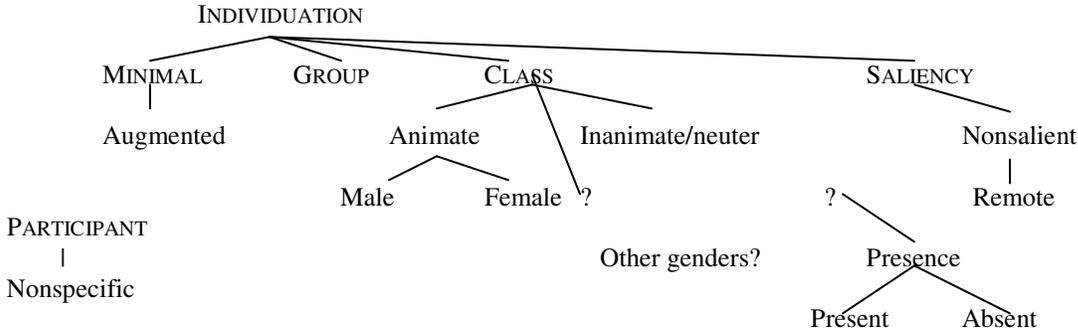
au surobviatif réfère à quelque chose d’invisible et d’inconnu en même temps.’
(Mel’chuk 1994: 187)¹¹

It is important that in Quileute these subcategorization requirements are systematic; that is, they are not limited to a particular lexical item or set of lexical items. We might otherwise argue that apparent effects on grammaticality judgments are the side effects of semantic or pragmatic incompatibility.

3 An amended analysis

But in general, the Harley and Ritter geometry seems worthy of repair because it seems to capture so many intuitions. To encode these facts we can add a new SALIENCY node as in Table 2:

Table 2: Revised Feature-Geometry



This predicts that proximate arguments are distinguished by the presence of a [SALIENCY] feature in contrast to nearer obviative arguments which bear the feature [Nonsalient] and further obviative arguments which have both [Nonsalient] and [Remote]. Furthermore, nonspecific arguments carry a [Nonspecific] feature, and are placed under the [PARTICIPANT] feature for the reasons I have already cited above concerning the example in (3). This makes the at-first-sight odd prediction that syncretisms between [Speaker] or [Addressee] and [Nonspecific] may arise; however, many languages attribute nonspecific readings precisely to the first or second person pronouns, as in (11):

- (11) a. You’d / I’d think he’d speak more carefully in mixed company.
 b. In LA brauchst du auf jeden Fall ein Auto.
 In LA need.2SG you on every case a car
 ‘In LA you always need a car.’ (Colloquial German)

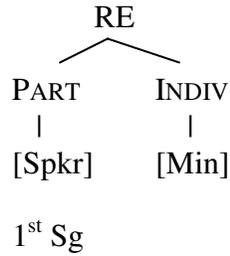
To make this more concrete, I have created an analogous set of feature geometries

¹¹ ‘That is to say, a Quileute noun in the proximate must refer to a visible entity (or directly perceptible in a nonvisual manner); the referent of an invisible noun can be invisible, but it must be known to the speaker; and finally a noun in the further obviative refers to something both invisible and unknown at the same time.’

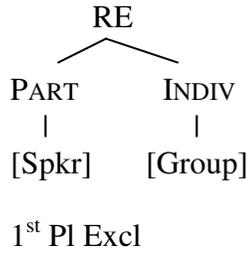
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for Meskwaki (and in (12-1), Ojibwe) to illustrate the dependencies of their features. The only crucial change would be in (12e) through (12l), which show the obviation features that the lexical items carry:

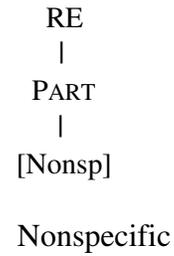
(12) a. ne-pya



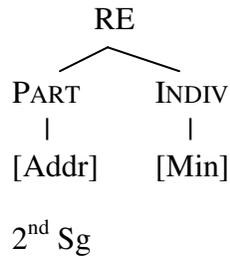
b. ne-pya-pena



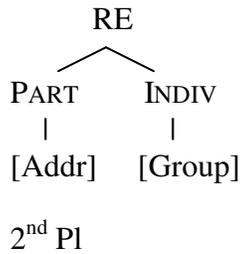
c. pya-pi



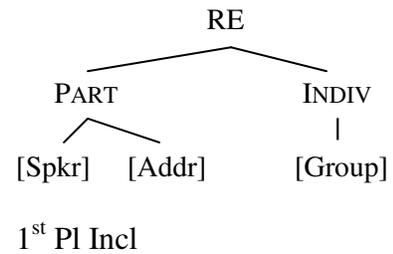
d. ke-pya



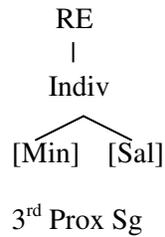
e. ke-pya-pwa



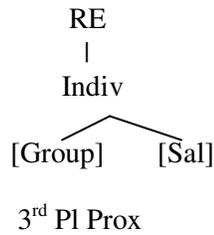
f. ke-pya-pena



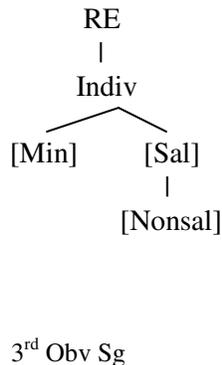
g. pye-w-a



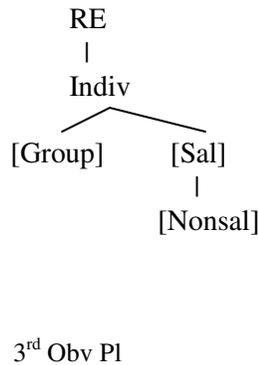
h. pye-w-aki



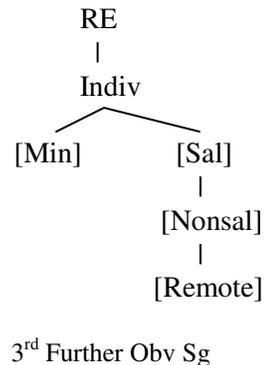
i. pye-**ni-w-ani**



k. pye-**ni-w-ahi**



l. omisēhini



4 Conclusion

So, in closing, I would like to summarize what we have looked at. First, we have looked at the particulars of the Harley and Ritter scheme and found that on the whole it seems to capture many crosslinguistic generalizations about the typology of pronominal systems and agreement, but that in certain crucial respects fails to take account of categories that are rigorously morphosyntactically represented in Algonquian languages: obviation and argumental nonspecificity. The amended geometry makes the (necessary) predictions, shown in (12), that

- (1) if a language has further obviatives, then it will also have obviatives, and
- (2) if a language has obviatives, then it will also have proximates.

Note, that although this might seem like common sense, no prior theory, including H&R's original schema, predicted this to be the case.

There is one larger final question which the above data raise: exactly how widespread are these feature dependencies? That is, are they universal, supplied by UG as H&R would like, or are some or all responses to language-specific constructions? As noted above, although the H&R schema handles the Algonquian gender system well, even in the marginal case of Mitchif, it is not clear how limited the set of potential [Individuation] contrasts is. Some languages seem, at least on the surface, to have greatly more gender/noun-class distinctions than the languages that H&R looked at, and there seem to be other features, like visibility, known/unknown contrasts, politeness, among others that languages may encode in clearly syntactic relations like agreement. The genuinely unclear nature of this fact is shown by Bantu noun-class agreement systems, which have traditionally been treated as bound inflectional prefixes (Doke 1929, 1935). However, as Bresnan and Mchombo (1995) point out, citing Mufwene (1980), Bantuists have since begun to acknowledge a mixed inflectional and derivational character of noun class agreement systems in Bantu languages:

“[I]t is one of the roles of noun class prefixes to indicate the change in the lexical meaning of a stem. Not only are the prefixes inflections (showing 'number' for the nouns they delimit), they are also derivational markers, which often play a role similar to that of the derivational suffixes *-ity*, *-ment*, *-er*, *-hood*, *-ness*, *-ation*, etc. in English or other Indo-European languages . . .” (Mufwene 1980: 248)

Thus even a system superficially similar to inflectional gender agreement as seen in Algonquian languages does not clearly require the need for an expanded number of gender suffixes. Whatever the status of Bantu noun class markers, the implication for feature-geometric analyses is clear, however: the fewer the number of features found to be truly syntactic in nature, the less baroque the feature-geometry needs to be, and with a simpler feature-geometry, the easier it is to claim that geometry to be universal.

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