from the 1st person singular, the 1st exclusive plural must be represented with a dependent Speaker node.

5.   Person-Number interactions

None of the languages just discussed has a first person inclusive singular pronoun. This gap makes sense because conceptually an inclusive always consists of at least two people, the speaker and the addressee. An inclusive singular geometry is impossible for Maxakali and Kwakiutl, which lack the Individuation node necessary for number contrasts. In Marshallese, however, a singular inclusive pronoun with the geometry in (14) is a structural possibility.

(14)   RE
                   /   \
             Part   Indiv
            /   \
       Spkr   Addr.
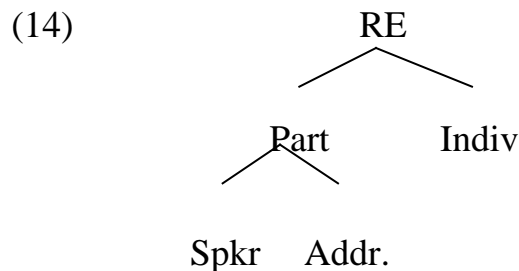
The complex Participant node with its two dependents contributes the inclusive person specification, and the underspecified Individuation node tells us that this putative pronoun would have singular number.

5.1   Languages with an Inclusive Singular – Speaker and ONE addressee

Although a truly *singular* inclusive is conceptually impossible, there are languages that do have a singular inclusive pronoun which contrasts with the plural inclusive one. Weri, a member of the Trans-New Guinea family is such a language. Its pronoun paradigm is given in (15):

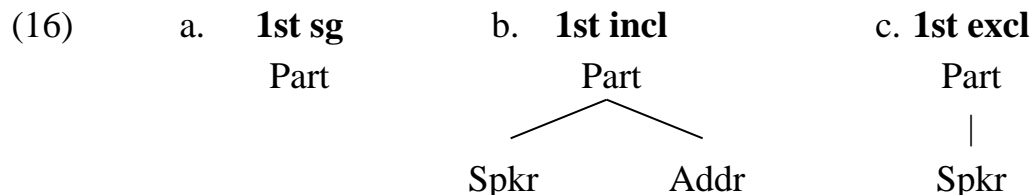(15)   Weri   Boxwell (1967)

	singular	plural
1st excl	**tɛn**	**tɛnɪp**
1st incl	tial	tialɪp
2nd	al	alɪp
3rd	**pɛt**	**pialɪp**

First, notice that the 1st person inclusive plural has a similar morphology to the other plural pronouns: that is, they all end in [**ɪp**]. We therefore assume the same geometry for the 1st inclusive plural pronoun that we posited for Marshallese in (9).

The contrasting inclusive singular pronoun in Weri has precisely the geometry we gave in (14) above. Its interpretation is the smallest set that fits the inclusive person specification, that is, speaker and exactly one addressee. Because the cardinality of the set denoted by the inclusive singular is two, some traditional grammars call such forms dual, even when the language has no other dual forms. Such forms suggest that, conceptually, the singular – plural contrast could well be recast as a minimal – non-minimal distinction.

It should be noted that the inclusive singular is relatively uncommon. We looked at 35 languages with an inclusive-exclusive distinction; only 8 of them, including Weri, had an inclusive singular pronoun. We hypothesize that the conceptual mismatch between the person and number specifications of an inclusive singular accounts for its relative rarity.

Let us briefly summarize our discussion of first person forms to this point. Recall that we began by asserting that a bare Participant node receives a first person interpretation by default: this explains the early acquisition of 1st person singular pronouns and is shown in (16)a. Second, on our treatment, the inclusive-exclusive distinction is one of person. Moreover, an inclusive is necessarily represented with a complex person geometry, where the Participant node has two dependents: Speaker and Addressee, as in (16)b. Given that the Speaker node is activated in these languages, the question arises as to whether the geometry in (16)c is possible. If it is, it could be used to represent the 1st person exclusive.

(16) a. **1st sg**   b. **1st incl**   c. **1st excl**

           Part   Part   Part

                                /   \\ |

                       Spkr   Addr   Spkr

We now present an analysis of Morley Stoney, a language that requires (16)c for the representation of first person in the exclusive plural.

5.2 Morphological evidence for Speaker node without Addressee sister: Stoney inclusive singular

Morley Stoney is a Dakota language of Alberta. Its pronominal paradigm is given in (17).

(17)　　　Stoney　　　　　　　　　　　　　　　　　Mills (2000)

|	singular	plural
1st excl	**miye**	ĩgiyebi
1st incl	**ĩgiye**	ĩgiyebi
2nd	niye	niyebi
3rd	iye	iyebi

There are two things to note about this paradigm. First, like Weri, Stoney has an inclusive singular pronoun, ĩ*giye*. Unlike Weri, however, the Stoney 1st person inclusive and exclusive plural pronouns are homophonous, and appear to be derived from the singular inclusive by suffixation of the morpheme -*bi*. This same morpheme is also used to mark the 2nd and 3rd person plural pronouns.

One way to describe this paradigm is to say that it makes the inclusive-exclusive distinction only in the singular. This pattern is extremely rare among the languages of the world; we have found it only in the Dakota languages. We would like to suggest, therefore, that in fact this morphologically-driven description is somewhat misleading. Our claim is that Stoney does in fact make the same inclusive-exclusive distinction in the plural. However, we will argue that its morphological inventory is such that any Participant node that contains an explicit Speaker dependent has the same spell-out.

Until now we haven't addressed the question of morphological spellout of the geometry. With the possible exception of Weri, the languages we have considered so far exhibit synthetic pronouns. We assume that synthetic pronouns spell out the geometry in its entirety. The transparent structure of the Stoney plural pronouns suggests that -*bi* is a plural suffix, spelling out the Individuation node with its Group dependent. This is supported by the fact that the morpheme -*bi* is also used to mark plural elsewhere in the grammar. The base, then, spells out the remainder of the tree; that is, the root plus the Participant node and its dependents, if present. This approach straightforwardly gives the correct forms for the 2nd and 3rd person pronouns, as shown in (18):

(18)   a.   2nd person:

niye   niye -bi

b.   3rd person:

iye   iye -bi
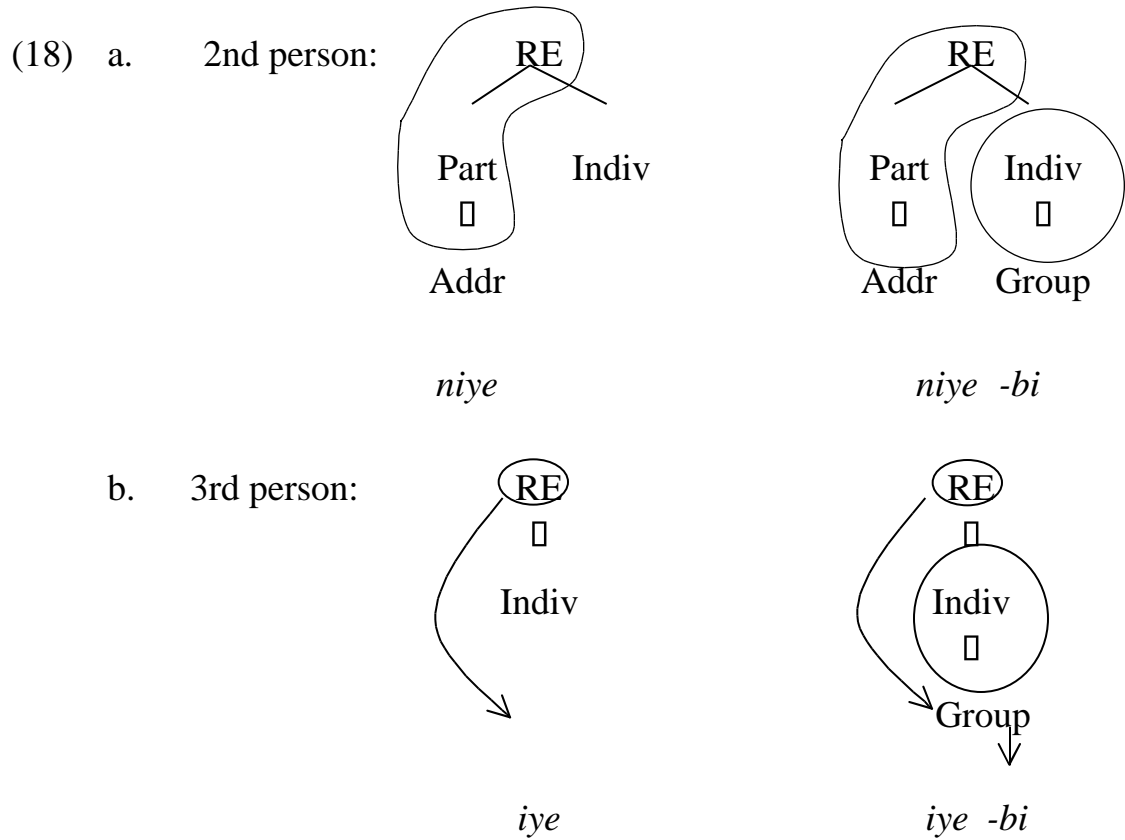
At first glance, it might appear that the 1st person inclusive singular base *ĩgiye* spells out a complex Participant node that has both a Speaker and an Addressee dependent. Notice, however, that *ĩgiye* is also the base for the 1st person exclusive plural, which definitely does not have an Addressee node dependent on Participant, but as we speculated earlier, might have a Speaker dependent. Let's suppose, then, that the exclusive plural does in fact have a Speaker node. If this is the case, we can account for the appearance of *ĩgiye* in the 1st person exclusive plural as well as in both 1st person inclusive forms by saying that it spells out a geometry that includes a Speaker node, regardless of the presence or absence of an Addressee node. This is illustrated in (19):

(19)   a.   1st person inclusive   b. 1st person exclusive plural
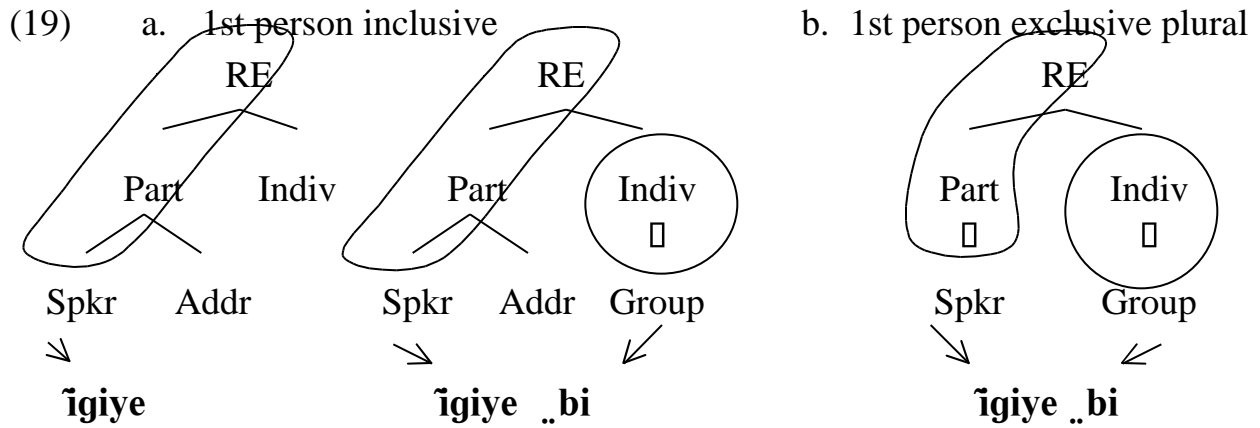
Notice that this proposal entails that the Addressee nodes in the two geometries in (19)a lack an overt morphological correlate. We assume that this is an example of garden-variety morphological syncretism.

Finally, let us consider the representation of the 1st person singular exclusive pronoun, *miye*. On our account, its geometry cannot contain an overt Speaker node; if it did, this pronoun would also have the base ĩ*giye*. Therefore, the only option is that *miye* spells out a bare Participant node, as in (20). In Stoney, as in all other languages we have considered here, this geometry is interpreted by default as a representation for 1st person.

(20)
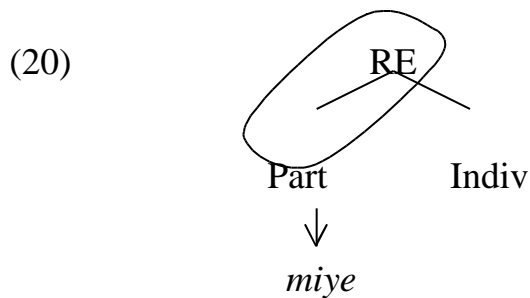
This analysis predicts that the order of acquisition of Stoney pronouns will be unexceptional in that 1st person singular will still emerge before any other personal pronoun that requires a Participant node.

A final note: although we have a morphological argument from Stoney, in languages like Marshallese, the question of whether or not an overt Speaker node is present in exclusive plural forms is underdetermined by the morphological evidence. The issue, however, could in principle be settled by a study of acquisition evidence. If the emergence of an exclusive plural depends upon the activation of the extremely marked Speaker node, we expect it to emerge relatively

late. On the other hand, if an exclusive plural is represented with just a bare Participant node, like the 1st singular, we expect that the distribution of emergence data for the exclusive will not differ significantly from that of 1st plural forms in other languages.

6.0   Conclusions

In this paper, we have provided evidence from acquisition studies supporting the feature-geometric approach to person, number and gender features.   In particular, the early emergence of 3rd singular neuter pronouns is predicted by the geometric approach but is emphatically not consistent with a feature-bundle or feature hierarchy approach.   Moreover, the constrained variability in the order of emergence is exactly what we expect and defies treatment in competing theories. Based on this acquisition data, we have proposed that the two major organizing nodes, Participant and Individuation, have default interpretations supplied by UG: 1st person and 3rd singular inanimate respectively.   The notion of default explains the invariable early emergence of these two pronouns.

Although the 1st person interpretation is available by default for a bare Participant node, we went on to show that an explicitly represented Speaker node is necessary in languages that make an inclusive-exclusive distinction.   Indeed, languages like Maxakali and Kwakiutl, which lack an Individuation node entirely, must exploit the Speaker node to distinguish the 1st singular from 1st plural pronouns.   Our analysis of Morley Stoney provides an independent morphological argument for the necessity of an overt Speaker node.

We hope we have shown the value of studying both the different paths children take in the acquisition of pronouns, in combination with the structure of paradigms and their morphological regularities.   This type of multi-faceted approach can shed important new light on the structure of the feature geometry that Universal Grammar provides.

References

Avery, P. and K. Rice. 1989. 'Segment structure and coronal underspecification' *Phonology* 6:179-200.

Berman, R. A. 1985. The Acquisition of Hebrew. In D. I. Slobin (ed), pp255-372.

Boas, Franz. 1911. The Kwakiutl Indian Language. *Handbook of American Indian Languages*, 427-557. Washington. [Reprinted 1971. Seattle, WA: The Shorey Book Store.]

Boxwell, M. 1967. 'The Weri Pronominal System'. *Linguistics* 29: 34-43.

Brown, C. 1997. Acquisition of segmental structure: consequences for speech perception. PhD. Dissertation, McGill University.

Brown, R. 1973. *A First Language: the early stages*. London: Allen and Unwin.

Chiat, S. 1978. The analysis of children's pronouns: an investigation into the prerequisites for linguistic knowledge. Unpublished doctoral dissertation, University of London.

Chiat, S. 1986. Personal Pronouns. In P. Fletcher and M. Garman (eds), *Language Acquisition*, 2ed. Cambridge: Cambridge University Press. pp339-355.

Clark, E. V. 1985. The Acquisition of Romance, with special reference to French. In D. I. Slobin (ed), pp687-782.

Feuer, H. 1980. 'Morphological development in Mohawk'. *Papers and Reports on Child Language Development 18* pp25-42.

Greenberg, Joseph H. 1963. Some Universals of Grammar with Particular Reference to the Order of Meaningful Elements. Universals of Language, ed. by Joseph H. Greenberg, 73-113. Cambridge, MA: MIT Press.

Hanson, Rebecca. 2000. 'Pronoun Acquisition and the Morphological Feature Geometry'. In *Calgary Working Papers in Linguistics*, vol. 22, edited by Susan Atkey, Jana Carson and Michael Dobrovolsky.

Huxley, R. 1970. 'The development of the correct use of subject personal pronouns in two children. In G. B. Flores d'Arcais and W. J. M. Levelt (eds) *Advances in Psycholinguistics*. Amsterdam: North-Holland. pp141-165.

Mills, Timothy Ian. 2000. 'Morley Stoney pronouns: A feature geometry'. In *Calgary Working Papers in Linguistics*, vol. 22, edited by Susan Atkey, Jana Carson and Michael Dobrovolsky.

Mithun, M. 1989. 'Acquisition of Polysynthesis'. *Journal of Child Language* 16:285-312.

Noyer, Robert Rolf. 1992. Features, Positions and Affixes in Autonomous Morphological Structure. Cambridge, MA: MIT dissertation.

Petitto, L. A. 1987. 'On the autonomy of language and gesture: Evidence from the acquisition of personal pronouns in American Sign Language'. *Cognition* 27:1-52.

Popovich, Harold. 1986. The Nominal Reference System of Maxakalí. In Ursula Wiesemann, ed., 351-358.

Rice, K. and P. Avery. 1995. Variability in a deterministic model of language acquisition: A theory of segmental elaboration. In J. Archibald (ed.) *Phonological Acquisition and Phonological Theory*. Hillsdale, NJ: Lawrence Erlbaum. pp1-22.

Ritter, E. and H. Harley. 1998. Sorting out you, me and the rest of the world: A feature-geometric analysis of person and number. Paper presented at GLOW 1998. University of Tilburg.

Schieffelin, B. B. 1985. The Acquisition of Kaluli. In Slobin (ed), pp525-594.

Slobin, D. I. (ed). 1985. *The Crosslinguistic Study of Language Acquisition Volume 1: The Data*. Hillsdale, NJ: Lawrence Erlbaum.

Wiesemann, Ursula, ed. 1985. *Pronominal Systems*. Tübingen: Gunter Narr Verlag.

Zewen, F-X. N. 1977. *The Marshallese Language: A Study of its Phonology, Morphology & Syntax*. Berlin: D. Reimer.