Morley Stoney pronouns: a feature geometry

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0.   Introduction

Pronouns are a puzzle. Even the pervasive language of English has peculiarities. Why is gender only seen in the third person singular? Why is the second person pronoun the same for nominative and accusative, and for singular and plural? These are questions that must be addressed when analyzing English.   Other languages have other peculiarities. As Harley and Ritter (1998) note, the variation seen in languages is wide, but constrained—we do not see unlimited variation in every way, but a systematic selection of paradigms based on some sort of underlying properties.

Harley and Ritter go further, in that they posit a structure for the underlying representation of person and number features. This feature geometry takes into account the variability across languages, as well as the apparent constraints that no language can violate. The cross-linguistic base for what they call a *referring expression (RE)* is shown in (1). (Note that the [Class] features such as gender are alluded to, but not addressed by Harley and Ritter. I will hereafter dismiss those features, as they are not relevant for the topic of this paper.

(1) (Item (7) in Harley and Ritter (1998) manuscript)
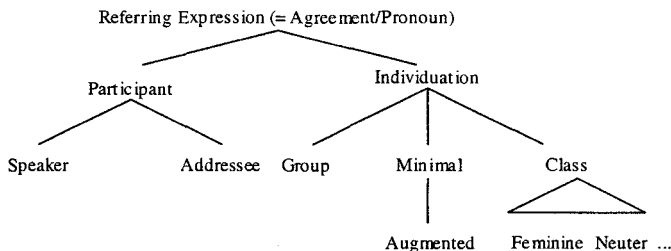
Within this framework, Harley and Ritter analyse a variety of languages which highlight the characteristics and behaviours of the geometry in language-specific applications. An example of a language-particular behaviour is in determining which nodes are active and which are not in a given language. A language with no number or gender contrasts, for example, would not make use of the [Individuation] node, or any of its dependents. There are some structures associated with the same phenomenon cross-linguistically. Such behaviours include, for example, the fact that the absence of the [Participant] node denotes third person.

Complex systems such as those that have an 'inclusive' person, 'dual' number distinctions, and unusual patterns of affixes are all dealt with by Harley and Ritter. However, the variation across languages is quite diverse, and there are bound to be languages which diverge from the set shown in their paper. The question is this: "Will all languages fit this framework, or is its usefulness limited to a specific set of paradigm types?"

One language that is unlike any in the set shown by Harley and Ritter is Stoney, as spoken in Morley, west of Calgary, Alberta. The pronoun set of Morley Stoney (referred to simply as Stoney from this point) is not complex—it contains only seven forms—but it is organized in a unique way. In this paper, I will argue that, despite its uniqueness, the pronominal system in Stoney fits the geometry set out in Harley and Ritter's (1998) manuscript. I will demonstrate how Stoney reflects some of the more straightforward aspects of the theory, as well how one might account for the language's idiosyncratic aspects without straining the theory.

In this paper, I will present the basic pronominal system of Morley (**section I**). Then, in **section II**, I will cover some of the basic properties and behaviours of Harley and Ritter's feature geometry. Finally, I will bring the two together – **section III** involves an analysis of the Morley Stoney pronouns within Harley and Ritter's framework.

1.   Morley Stoney pronoun system
First, I will present the facts about Stoney as observed during our class's elicitations from a native speaker. In aid of that, the list in (2) shows the set of pronouns we observed.

(2)   *miye*   'me'   (speaker only)
        niye   'you'   (addressee, singular)
        iye   'him/her'   (non-participant, singular)
        īgiye   'you & me'   (speaker and singular addressee only)
        īgiyebi 'me and you (pl)', 'me and him/her/them', 'me and you and him/her/them'
                                 (speaker and any group not comprised solely of the one addressee)[1]
        niyebi   'you (pl)'   (addressees, plural)
        iyebi   'them'   (non-participants, plural)

This same pattern is seen in verbal subject agreement, as in the paradigm in (3). Thus, when I begin to analyse person and number structures within the framework given in (1), it can be understood that I am dealing with the structure for both independent pronouns and subject agreement forms on verbs. Harley and Ritter define the term *referring expressions* to include both pronouns and pronominal agreement patterns.

(3)   *maxmat*[2]   'I am sleepy'
        nīxmat   'you (sg) are sleepy'
        xmat   'he/she is sleepy'
        īxmat   'you and I are sleepy'
        īxmabit   'we are sleepy'
        nīxmabit   'you (pl) are sleepy'
        xmabit   'they are sleepy'

---

[1] I will refer to the interpretation of this form as simply 'we', with the understanding that it refers to any interpretation of the English word *we* **except** the case "you (sg) and me", which is the interpretation reserved for the form *īgiye*.
[2] The final —*t* in these forms appears, on the basis of other data, to mark "untensed" on verbs, generally but not exclusively interpreted as "present".

Immediately, certain patterns are recognizable. First, the morpheme -*bi*, suffixed in both sets (2) and (3), is a plural marker. Second, the forms for non-participants show the cross-linguistic tendency to have null person agreement. This will be reflected in the geometry I posit for Stoney referring expressions.

The second person (addressee) forms pattern in a straightforward fashion for singular and plural. However, the forms corresponding to English *we*—namely, *īgiye* and *īgiyebi*—do not seem to pattern with the first-person singular form, *miye*. The form *īgiye*, denoting specifically the speaker and the single addressee, has itself a couple of possible interpretations that parallel examples from Harley and Ritter (1998). The first is that it might be an inclusive form. Languages that divide the English concept of *we* into exclusive (*we* not including the addressee) and inclusive (*we* including the addressee) sometimes have a 'singular inclusive' form, which patterns morphologically as singular and includes only the speaker and the one addressee. The problem with this is that the form that is morphologically a plural of this—*īgiyebi*—is not specified as inclusive or exclusive.

Another alternative is that *īgiye* is a dual form, as it picks out precisely two individuals. Again, this is typologically awkward. If we posit a number structure for dual under the [Individuation] node for this form, then the components of that structure are active in Stoney. The problem here is the complete absence of any other dual form in the language. If *īgiye* is dual, it is the only dual in Stoney. Thus, an alternative explanation would be preferred.

One commonality between the interpretations of *īgiye* and *īgiyebi* which may shed some light on our problem is that they both denote **mixed** or **heterogenous** groups. As Harley and Ritter (1998) point out, the supposed 'first person plural' in language is a necessarily heterogenous group. That is, since the speaker is unique, any form corresponding to English *we* must refer to the first person and either second or third person entities, or both. The second person plural refers only to those the speaker is addressing—the members of the set of addressees—and the third person plural refers only to non-participants, or third person entities. Thus, in Stoney, the only heterogenous groups are the ones picked out by the interesting pronouns *īgiye* and *īgiyebi*. How this can be worked into a feature hierarchy will be seen in section III. First, I will present an overview of the properties and behaviours of Harley and Ritter's feature geometry in some more detail.

2.   How feature geometries of person and number work

There are a few basic properties of the feature geometry that should be understood before we proceed with an analysis of the Stoney pronoun system.

First, let me emphasize that the features (or nodes, as I sometimes refer to them) are unary. A feature is either there or it isn't—there are no plus and minus values. If a feature is not present, none of its dependent nodes are present. A dependent node is one that is further down in the hierarchy. Conversely, the presence of a node that is a dependent of another node implies the presence of that other node.

Next, and equally important, is the idea of underspecification. The idea is that only the nodes that are absolutely needed to express the language's contrasts are active.

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Within a language, only the nodes that are needed to minimally distinguish one form from the rest will be used for each pronominal element. In aid of this, it is useful to understand the principle of **blocking**. In a case where one form has a less specified structure than another form, the interpretation of the less specified member is blocked from coinciding with the more fully specified one. The result of this is that bare nodes, such as [Individuation] or [Participant], will get different readings from language to language, depending on which dependent nodes are active in each language. See Harley and Ritter's (1998) comparison of French and English representations of first and second person for an example of this.

Now that the basic building blocks of the feature geometry are established, let's look at how this system can be applied to Stoney …
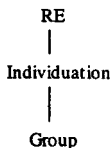
3.   Feature trees for Stoney pronouns
The following analysis of Stoney pronouns will draw heavily on comparisons to the languages analyzed by Harley and Ritter in their manuscript. For a summary of the feature trees, interpretations, and pronouns in this paper, see the appendix.

First, we will take care of the non-participants. These are the forms traditionally called **third person**. According to Harley and Ritter's (1998) analysis, third person is always represented by the absence of the [Participant] node. The number system of Stoney is a simple singular-plural contrast, which is dealt with quite easily by the tree. Items (4) and (5) show the feature trees I suggest for the forms *iye* (him/her) and *iyebi* (them), respectively.
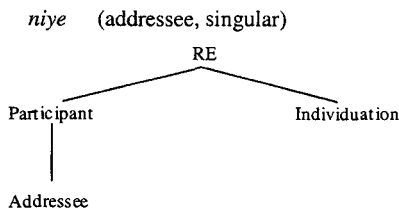
(4)   *iye*   (non-participant, singular)

        RE (Referring Expression)
        |
      Individuation
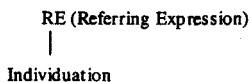
(5)   *iyebi*   (non-participants, plural)

        RE
        |
   Individuation
        |
      Group

In Stoney, I suggest, the node [Group] denotes plural. Thus, with this node present and the [Participant] node absent in (5), the form *iyebi* gets the interpretation of a plural set of non-participants—the equivalent to English *them*. The contrast with (4), where the [Individuation] node has no dependents, gives the form *iye* the unmarked interpretation of singular. In their discussion of Mam, Harley and Ritter state, "This is the unmarked way in which number is represented."

The addressee (or second person) forms are just about as simple. Items (6) and (7) illustrate the structures for *niye* and *niyebi*. The only difference between these and the third-person forms is the presence of the [Participant] node dominating the [Addressee]

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node. I am suggesting that these forms are fully specified so that they can contrast with the "heterogenous-group" forms. This will be further addressed below.

niye   (addressee, singular)

```
                    RE
          ┌─────────┴─────────┐
     Participant          Individuation
          │
     Addressee
```

(7)   *niyebi* (addressees, plural)

```
                    RE
          ┌─────────┴─────────┐
     Participant          Individuation
          │                    │
     Addressee             Group
```
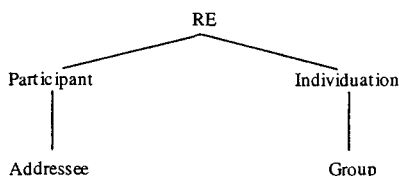
The form *miye*—first person singular—is somewhat less straightforward to construct. The [Speaker] node is present as a dependent of [Participant]. Since there is no morphological plural to this form, it need not be specified for number. The implication of this for the feature geometry of the pronoun is that the [Individuation] node need not be present. Item (8) shows the structure of *miye*.

(8)   *miye*

```
     RE
      │
 Participant
      │
   Speaker
```
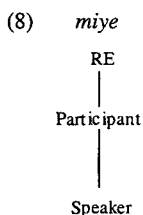
Now that all of the other forms are specified, our attention can be turned to a treatment of the forms *ïgiye* and *ïgiyebi*—the two forms with no exact parallels anywhere in Harley and Ritter's analysis.

To construct and interpret the feature trees for *ïgiye* and *ïgiyebi*, we will have to take advantage of the ideas of blocking and underspecification. Item (9) is the structure I am positing for the form *ïgiye*. The bare [Individuation] node reflects that it is morphologically singular, in specific contrast to the plural *ïgiyebi*. The bare [Participant] node is interpreted as including the speaker and the addressee—the minimal group of
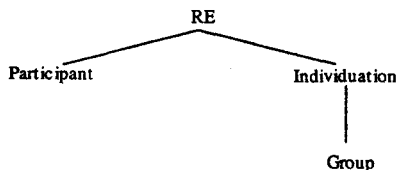
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speech-act participants that contrasts with the more fully specified [Participant] structures in (6) and (8). There are problems with this structure, which I will address shortly.

(9) *ïgiye* (speaker and addressee only)

```
              RE
       _____/_____
      /                \
Participant          Individuation
```
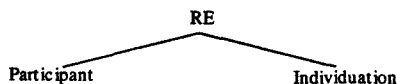
In item (10), I posit a structure for *ïgiyebi* that is a simple variation on (9). The only difference is that it is specified as plural—a fact which is supported by the relationship between the two forms.

(10) *ïgiyebi* (speaker and any group not comprised of only the one addressee)

```
              RE
       _____/_____
      /                \
Participant          Individuation
                          |
                          |
                        Group
```
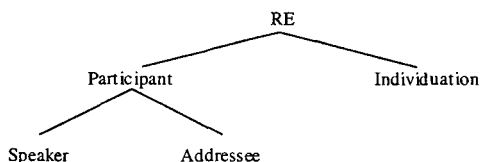
The interpretation, as we have seen, is somewhat more complex to derive. We see that the interpretation of this necessarily includes the speaker. Why is this? The bare [Participant] node indicates that at least one of the speech participants is involved here. As Harley and Ritter (1998) note in their analysis of Berik, "the fact that speakers are the only necessary participants in a discourse suggests that a bare [Participant], in opposition to both [Speaker] and [Addressee], is interpreted as including at least the speaker." For Berik, this is referring to a simple first-person plural, where the language in general has no number distinctions. For Stoney, I would suggest that a similar preference of interpretation gives *ïgiyebi* a "speaker and others" meaning. The presence of *ïgiye* in the system gives us a block, so that the meaning of the plural form specifically excludes that of the singular form.

Now we run into a problem. If a bare [Participant] node only implicitly includes the speaker for *ïgiyebi*, why should the same structure for *ïgiye* be interpreted as referring to the speaker and the addressee? It is conceivable that a minimal mixed group would be just as easily formed by combining the speaker and a non-participant – an interpretation not available to Stoney speakers. (Keep in mind that the bare [Participant] node includes at least the speaker, ruling out the interpretation of the minimal heterogenous group as "addressee and a non-participant".)
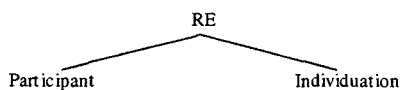
In order to solve this problem, another trick of the tree structure comes into play. Consider the somewhat unnatural class of "first person inclusive and third person" in Mam, a Mayan language (Harley & Ritter 1998), which seem to pattern together in being realized as a null person marker. Harley and Ritter use the process of **impoverishment**. They suggest that an overloaded geometry is deleted before **Spell-Out**, the stage at which structures become morphologically realized. I propose that a structure identical to that

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underlying the inclusive forms in Mam is present underlyingly in Stoney. The structure before impoverishment is shown in (11). Note that here I am diverging from my previous comment that morphologically similar items must have the same underlying structure. If two forms have the same structure at Spell-Out, that is enough. As you can see in the impoverished structure in (12), the structure of *ĩgiye* becomes identical to that of *ĩgiyebi* (see item (10)), except of course for the number. Thus, the morphological similarities are taken care of, and the differences in interpretation are also accounted for.

(11)   *ĩgiye* before impoverishment

```
                        RE
                   ____/‾‾\____
            Participant         Individuation
         __/‾‾\__
    Speaker      Addressee
```

(12)   *ĩgiye* after impoverishment

```
                   RE
              ___/‾‾\___
      Participant        Individuation
```

Unlike Mam, however, the impoverished form for *ĩgiye* retains the [Participant] node. In Mam, the impoverishment leaves a bare [RE] node. If this were to happen in Stoney, however, the form *ĩgiye* would have an identical structure to *iye*, thus eliminating any underlying contrast at spell-out. If this were to happen, we would not see a phonetic difference between the two forms as we do. Therefore, we get the impoverishment seen in (12), which gives us a structure distinct from all of the others.

So there it is—the feature geometric analysis of Stoney pronouns, using only tools available within the framework of Harley and Ritter's (1998) analysis.

4.   Summary

The propositions presented in Harley and Ritter's (1998) manuscript are still young, and will not become generally useful unless people begin to apply them to a wide range of languages, working out the problematic points. The structure does not address gender features except in passing, for example, and gender is a pervasive phenomenon. However, the strength of the theory will rest in its ability to describe all and only possible natural language systems. The fact that their feature geometry works for a language with such an odd pronoun system as Stoney, and yet still constrains us against creating geometries that are never reflected in languages, is a point in its favour. I would suggest that a further elaboration of the behaviour of the individual nodes of the geometry — such as cross-linguistic restrictions on possible interpretations—is in order. This would also, of course, include an analysis of gendered pronouns, and how gender might be incorporated into the geometry. Also, applying this geometry to a wide range of languages, fully specifying each pronominal form in each language's paradigm, would highlight more the strengths of the theory, and the places where improvement is

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suggested. In light of the current facts, it is reasonable to say that the feature geometry is a valuable addition to the field of linguistic theory.

5. Acknowledgements

REFERENCES

Harley, Heidi & Elizabeth Ritter. 1998. 'Meaning in Morphology: Motivating a feature-geometric analysis of person and number". Manuscript.

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Appendix: Pronoun and feature tree summaries.

I will use the following conventions in representing the interpretations of the pronouns: "1" will refer to the speaker; "2" will refer to an addressee; "3" will refer to a non-speech-act-participant. A number in brackets will indicate an individual whose presence or absence is optional in the immediate context. A circle will enclose all of the individuals being referred to in the expression. Each item in the list is actually an interpretation, the corresponding pronoun being shown below the diagram indicating who is being referred to. The feature geometry of the given pronoun will then follow.

a.   Interpretation:

```
┌─────────────────────┐
│  ╭───╮              │
│ ( 1 )    3   3      │
│  ╰───╯              │
│   2 (2)  3   3      │
│  (2) (2) 3   3      │
└─────────────────────┘
```

Pronoun: *miye*

Geometry:

RE
|
Participant
|
Speaker

b.   Interpretation:

```
┌─────────────────────┐
│   1      3   3      │
│  ╭───╮   3   3      │
│ (  2  )  3   3      │
│  ╰───╯              │
└─────────────────────┘
```

Pronoun: *niye*

Geometry:

```
                    RE
            ╱              ╲
     Participant         Individuation
         |
     Addressee
```

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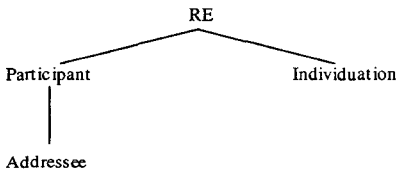
c.   Interpretation:

1	(3) 3	
2 (2)	3 3	
(2) (2)	3 3	

Pronoun: *iye*

Geometry:

```
        RE
        |
   Individuation
```
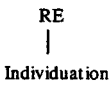
d.   Interpretation:

1	3 3	
(2 2	3 3	
(2) (2))	3 3	

Pronoun: *niyebi*

Geometry:
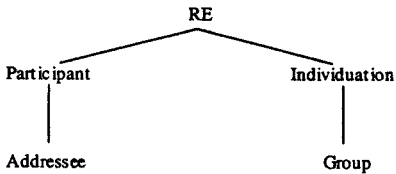
```
                RE
          /           \
   Participant       Individuation
       |                  |
   Addressee            Group
```

e. Interpretation:

1	3	3
2 (2)	(3)	(3)
(2)(2)	3	3

Pronoun: *iyebi*

Geometry:

```
        RE
         |
   Individuation
         |
       Group
```

f. Interpretation:

1	3	3
2	3	3
	3	3

Pronoun: *īgiye*

Geometry:

(Before impoverishment)

```
                      RE
             /                 \
       Participant          Individuation
        /       \
    Speaker    Addressee
```

(After impoverishment)

```
                RE
         /             \
   Participant      Individuation
```
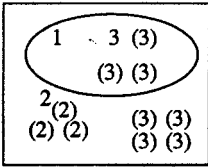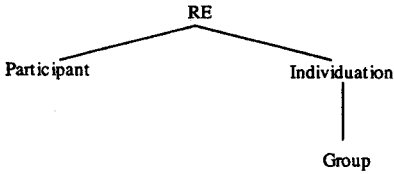
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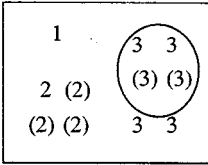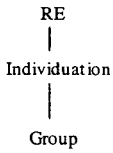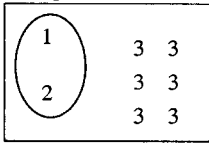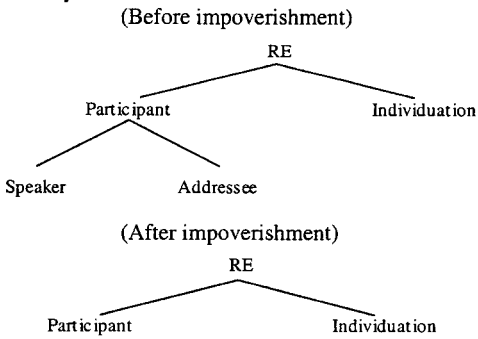
g. Interpretation:

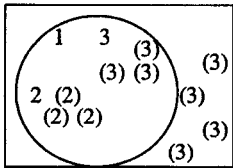Pronoun: *īgiyebi*

Geometry:

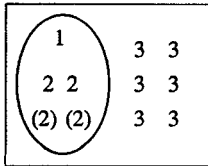h. Interpretation:

Pronoun: *īgiyebi*

Geometry: (see item g.)

i. i.   Interpretation:

Pronoun: *īgiyebi*

Geometry: (see item g.)