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Participant positioning and the Positioning of Participatory Pronouns in the academic lecture

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PARTICIPANT POSITIONING
AND THE
POSITIONING OF PARTICIPATORY PRONOUNS IN THE ACADEMIC LECTURE

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ABSTRACT

Through a research approach of emergence applied to a corpus of academic letures, I developed a theory to explicate the referents of a class of frequently used pronouns (*I*, *you*, and *we*), which I term the Participatory Pronouns. My theory of the Positioning of Participatory Pronouns resolves the main practical concern of the research participants, which is to place their utterances in contexts for authoritative, intellectually sound, and socially relevant interpretation. At the theoretical level, my theory is a specification of Relevance Theory and resolves disparate previous analyses of pronouns. Overall, my work provides a new paradigm for how referents are retrieved, the language function of these referents, the discourse strategies of the speakers, and what these reveal about academic lectures.

Through analysis of seven thousand pronouns from twenty-three university-level, introductory science lectures, my findings emerged from the data as the best explanation for the usage of the participatory pronouns *I*, *we*, and *you*. These pronouns occur frequently in the academic lecture and help to create social and spatial contexts for interpretation. Member-checking interviews and additional tests of validity and reliability verified the limits and generalizability of my findings.

The academic lecture is a principal locus of engagement between students and professors. The main concern of the professors in their lecture is how to position their speech in contexts for interpretation so that their message is intellectually sound, socially relevant, and authoritative. My concept of *participant positioning* analyzes the way speakers and listeners place speech in a social and physical context for interpretation. The Positioning of Participatory Pronouns theory explains the associated language functions of juggling, categorical referents, economy, and

interchangeability while also accounting for the discourse strategies of extending, exampling, and staturing.

Here I explicate the conditions for the occurrence of economy, categorical referents, and interchangeability, which have been noted but not resolved in previous research. My research goes beyond all extant explanations of pronominal reference offering the concept of referent juggling, accounting for switching between several referents designated by the same pronominal form, as well as discourse strategies that are essential to academia.

CHAPTER 1. INTRODUCTION

In academic lectures at every university, professors talk to their students. Pronouns play a large role in their lectures. As expected, they talk as teachers to students:

Example 1.1

Orbiting the nucleus are electrons which have a charge of negative one.   And they're essentially without mass. They do have a mass, but **we** won't require **you** to know what it is. So the atomic number of an atom is defined by the number of protons in the nucleus.   (s-lecture, 21:00)

At times, they talk like scholars to mentees:

Example 1.2

So the number of electrons has to equal the number of protons in an atom. So the reason that **we** focus on the electrons is the number of electrons an element has determines its chemical reactivity. (s-lecture 2, 31:12)

At other times, they act as if they are in distant lands:

Example 1.3

So Antarctic fishes live and have body temperatures in seawater that is minus 2 degrees. And for most vertebrates, **you** would have ice crystals formed in **your** body fluids at minus 2 degrees. (s-lecture 3, 12:30)

But to whom exactly is the professor referring by using the pronouns one through fifteen in the following example: experimenters (*you*[1] and *you*[15]) or parts of experiments (*you*[2] through *you*[14])?

Example 1.4

So the kinetic energy tells **you**[1] how fast or how much energy **you**[2] have available to get over the hump. If **you**[3] don't have a lot of kinetic energy in that rotation, **you**[4]'re just going to go over here a little bit and roll back. **You**[5]'re not going to

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react. If **you**[6] have a lot of kinetic energy, **you**[7] will have enough energy to get up to the top of the hill and go over it. So there is some minimum amount of energy, particularly in the form of kinetic energy that's going to be necessary in order to get over the hump. Once **you**[8] get over the hump, **you**[9] get all that energy back. **You**[10] get up to the top here **you**[11]'ve converted all the energy to potential. As **you**[13] start rolling down the hill again, **you**[14] start converting that potential energy back into kinetic energy. So **you**[15] eventually get energy dumped out of the system. (s-lecture, 41:00)

Why are professors using so many pronouns in academic speech? I thought one was supposed to avoid that, weren't we? You thought that we didn't do that. Or, do we mean I thought that you didn't do that? Well, the issue under discussion in my work is how professors talk to their students. I, we, and you use a lot of pronouns in surprising (and frankly odd) ways, and I (we) explain how, when, and why.

1.1 Rationale

In academia, the lecture is the principal locus of engagement between beginning students and professors. The professors' lectures do more than communicate their overt message; their discourse reveals the intricacies of the social groups and places involved in their lives and their students' lives. Through their discourse, the professors situate who they are, to whom they are talking, and where their message is relevant. Analyzing this discourse provides insights into academia, academic discourse, and the use of language. In this work, I have identified a set of pronouns, and I present an analysis of how these pronouns are especially useful in understanding the way professors in academic lectures position their utterances.

My analysis constructs a theory of *Positioning of Participatory Pronouns* to explain how participants are pronominally situated in academic discourse. The concept of *participant*

positioning provides context for the utterances; this concept aids the interpretation of pronouns in terms of their express relationship between the participants, the social forces involved, and the environment where the speech is to be interpreted. In the academic lecture, more than other speech situations, *participatory pronouns* play an essential role in participant positioning. I define the participatory pronouns, *I*, *we*, and *you,* as a subclass of deictic personal pronouns that express social and physical relationships in speech. My theory of Positioning of Participatory Pronouns explains the usage of these pronouns. The Positioning of Participatory Pronouns explains how professors expand reference (and by consequence classroom interaction) through their use of pronouns beyond the classroom to distant places and theoretical worlds while making the lecture socially relevant and authoritative.

The prevalent understanding of deictic personal pronouns as referring to a speaker and/or addressee insufficiently accounts for a significant number of uses of these pronouns in a corpus of monologic, academic lectures in the natural sciences. A full explanation of the referents of participatory pronouns must account for gradations of relations between the speaker and listener, the nature of socio-cultural factors, and the evoked environment of the surrounding discourse. I develop a Participant Model of the referent with an explicit mechanism of reference that accounts for all exemplars of participatory pronouns in my data. My model also integrates a number of linguistic phenomena which have traditionally been viewed as separate, such as the indefinite *you* and clusivity. In this way and as a specification of Sperber and Wilson's (1986/95) Relevance Theory, my model also exposes several lines of future research in other fields of theoretical linguistics and applied linguistics. In my analysis, I determine the effects of participatory pronouns on the discourse, which constitute illustrative examples of the intersection between language and socio-cultural factors.

From the analysis of participatory pronouns described above, I develop the concept of participant positioning. Participant positioning describes how participants are situated in speech and how participants affect the speech. Participant positioning consistently resolves the *main concern* of the professors in their lectures, which is to expand the context of interpretation of their utterances beyond the physical constraints of the classroom. In the grounded theory tradition of inquiry, the *main concern*, is "the fateful preoccupying problem" of the participants that they are continually resolving (Glaser, 2001:103).

Through my construction of participant positioning, I provide an explanatory paradigm for understanding how participants in speech signify their relationship to each other, their relationship to society, and their relationship to the physical world around them. This paradigm extends to hypothetical worlds constructed through discourse and the things contained in those worlds. Through my designation of participatory pronouns, I explain how this subclass of pronouns primarily signifies participant positioning. My Positioning of Participatory Pronouns explains the pronouns from their origins as mental representations to their ends as social effects. By applying participant positioning and the theory of Positioning of Participatory Pronouns, I explain how professors in academic lectures expand their message beyond the confines of the classroom. This insight into academic discourse is a new perspective on language and classroom interaction.

1.2 Research Questions

1.2.1 The Participants' Problem

Instead of beginning with a research question, I allowed the research question to emerge from the data collection. I began my research by observing academic lectures and interviewing the professors who gave them. I listened for speech styles and specific indicators of those styles. As I listened to the speakers and their speech, the relationships among the speakers and the

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listeners emerged from their lectures as the most important aspect of their interaction. These dynamic relationships were reified in pronouns, yet existing theories of pronouns failed to account for them. To generate a theory that would account for these relationships, I choose a classic Grounded Theory tradition of inquiry in the pattern of Glaser and Strauss (1967). This approach generates theory concurrently, or abductively, with data, rather than the positivist process of postulating a theory and testing it with data.

The main concern of the professors in their lecture was how to position their speech in contexts for interpretation so that their message would be intellectually sound, socially relevant, and authoritative. My research objective was to explain how professors resolve this main concern in a way that fits the data and is relevant to the participants. My answer to this objective is the development of the concept of participant positioning and overarching theory of the Positioning of Participatory Pronouns. Participant positioning addresses the way speakers and listeners place speech in a social and physical context for interpretation. The Positioning of Participatory Pronouns highlights the important role that the pronouns *I*, *we*, and *you*, play in participant positioning.

1.2.2 The Participants' Language

One linguistic objective is the explanation of how the participatory pronouns, *I*, *we,* and *you*, function as symbols used by the speakers to point to their intended referents during monologic academic lectures. The concept of participatory pronouns links these pronouns both with each other and with their discourse-external referents while explaining their relations with demonstratives and other forms of spatial, temporal, and personal deixis, such *this/that/these, here/there, now/then, he/she/they* and *it/they*. It also explicates how participatory pronouns constitute a special category of deixis that can transcend the immediate environment and the particular social relationship of the participants while, at the same time, these factors also

constrain the use of participatory pronouns. With the objective of explaining the usage of participatory pronouns in academic lectures, the questions guiding this aspect of the study are:

What are the referents of participatory pronouns in academic lectures?

What is the mechanism of reference for indicating the referents of participatory pronouns in academic lectures?

How does the level of abstractness of the referent affect the choice of participatory pronouns?

What functions do participatory pronouns serve in the language?

What functions do participatory pronouns serve in academic discourse?

1.2.3 Verifying the Findings

After generating the concepts of participant positioning and participatory pronouns and linking them through the Positioning of Participatory Pronouns, I tested and verified aspects of the theory using the following research questions:

Is the theory valid and relevant to the speakers?

Does the theory conform to grammaticality judgments?

Does the theory remain valid if the referent is identified and named?

Does the theory account for meaning derived from the relevant social groups of the listeners?

Does the theory account for meaning derived from the discourse environment?

Does the theory reliably predict code values regardless of coder?

Can the process of theory formation be reproduced?

The purpose of these questions was to verify the theories along the traditional categories of evaluating research through validity and reliability. In addition to these traditional categories, the methods of grounded theory seek to ensure that the research meets this tradition's criteria of

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fit, relevance, and work, meaning that the research "represents the pattern of data that it purports to denote," addresses an issue important to the participants, and continually explains the data (Glaser, 1998: 236-237). To this end, my work provides a coherent integrated theory that addresses the participants' concerns while providing a framework that accounts for current data and provides a method of analyzing future data.

1.3 Plan of Argumentation

My research emerged from the data, and the analysis was driven by the participants. Only after collecting data did I apply the findings to relevant professional problems, such as mechanisms of reference or the interaction of language and society. With my methodological focus on the emergence of theory that is relevant to the research participants, the unfolding of this process did not follow a linear path from start to finish (Appendix A: Process of Coding). As I examined academic lectures, the use of pronouns emerged as important to the participants. As I tried to code the referent of each pronoun, I was frustrated by the typologies in the existing literature. After much coding and recoding, a theory encompassing participant positioning and participatory pronouns naturally emerged from the examples; my Positioning of Participatory Pronouns naturally addressed the deductive research questions mentioned previously.

As developed in the next section (1.4 Overview of the Findings), I provide an overview of the findings in this first chapter. Chapter 2 discusses the theoretical background by focusing on the types of existing theories and the gaps between them. This chapter also provides a description of the relation between pronouns and their referents. Keeping in the tradition of emergence where literature is situated after analysis, I use Chapter 6, the discussion section, to situate my theory among the extant theories. The methods section, Chapter 3, details how the research was conducted and posits appropriate tests of validity and reliability. Chapter 4 discusses the results as considered within the fully developed Positioning of Participatory

Pronouns. The results of the verification tests and further examples of the relevance of the model and its findings are found in the Chapter 5. Finally Chapter 6, the discussion section, explicates the importance of this research in several disciplines.

I cite a number of examples from my data to illustrate my linguistic theory. Throughout each chapter, examples from the data I collected are numbered per chapter and cited as part of an audit trail (1.1, 1.2, etc); examples that were constructed for expository purposes or to show the range of possibilities in the language are labeled with letters (4.A, 4.B, etc). If an example is a continuance of a previous example, I note a third number (1.1.1, 1.1.2, etc). All examples from the data are referenced to a transcript and recording number, which is abbreviated to preserve the confidentiality of the participants. Since I am examining three frequently-used pronouns, I use a superscript to refer to each one within the example (we^1, we^2). By this numbering system, I do not want to imply that the pronouns are different; I simply use the superscript as an expository tool to point the reader to the appropriate example in the sample text. That is, I have indexed the token of the linguistic form used. Generally, I number only those pronouns that I explain, but I bold all the target pronouns in the examples. When discussing discourse implications, I bold complete sentences in the discourse.

I use the term *concept* to describe an abstract construction, such as participatory pronouns and participant positioning. I reserve the term *theory* to explain how all the concepts are related and work together resulting in my Positioning of Participatory Pronouns theory. The term *model* is applied to my Participant Model of the referent of the pronouns, which structures the important characteristics of the referent. I use the term *speech participants* to denote the people speaking and listening in the lecture, and the term *speech situation* to refer to where the words are uttered and the general circumstances of their utterance. I also use the term *participants* to refer to the professors who participated in my study. To denote the audience, I use the term *listeners* instead

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of *hearers* because I believe *listener* more accurately reflects the speech situation of the monologic academic lecture. My work focuses on explicit pronouns, so understood subjects in imperative sentences and implicit subjects in elliptical sentences were outside of the scope of this research and will be discussed in future works. Also, I do not examine pronouns that are part of non-decompositional phrases, such as discourse markers. In my analysis, I do include all explicitly expressed forms of the pronouns, *I*, *we*, and *you*, regardless of tense or function, including *us* (expressed as *'s*), *my, me,* etc; however, I use the term participatory pronouns or *I, we*, and *you,* instead of listing all these forms.

1.4 Overview of the Findings

The importance and difficulty of determining the referents of participatory pronouns in discourse can be seen in the following possible utterances. In the discourse context of the academic lecture, each of the participatory pronouns can be used interchangeably with no significant change in meaning:

> (1.A) Examining this problem on the blackboard, {**I, we, you**} add the first
> column of numbers, then {**I, we, you**} carry the one.
> (1.B)Taking out the marker to demonstrate on the overhead projector, the pen
> moves over the paper. What's happening? {**I, we, you**} am/are writing.

The three-dimensional gradients in the Participant Model of participatory pronouns' referents can explain why a professor in a lecture can use *I, we,* and *you* interchangeably in these kinds of sentences with little change in meaning. No current explanation of this phenomenon of interchangeability exists.

As an example of participant positioning, consider the repeated use of the same pronoun in the following sample monologues where each token of *we* and *you* is intended by the speaker to refer to a different entity:

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(1.C) **We**[1] are going to talk about light. **We**[2] say light is a wave and a stream of particles.

(1.D) **You**[1] have to work hard to earn good grades. I mean, I need to see **you**[2] doing example problems every single day.

My explanation of participatory pronouns accounts for this use, which I term *juggling*, as well as the conditions that facilitate and limit it. No current description or explanation of this phenomenon of juggling exists.

My concept of participant positioning places the utterance amongst the speakers' intended participants in a specific discourse context. Participant positioning is derived from three important aspects of the referent that are evoked by the surrounding discourse and shared and unshared group memberships of the participants: 1) the *participant relationship*, 2) a *social thirdness*, and 3) a *transportative environment*. Respectively, these three aspects articulate the relationship among participants, the relationship of others involved in the discourse, and the actual or postulated location where the discourse is situated. As a theory abstract of time, place, and people, I will show that the Positioning of Participatory Pronouns is applicable to many aspects of language and indeed to many forms of symbolic interaction.

My concept of participatory pronouns separates the referent, linguistic sign (*I, we, you*), and the mechanism of reference. The referents are spatio-temporal, mental representations of the participants in the conversation, both present and indexed. Like all deictic pronouns, participatory pronouns refer to a contextual entity, placing it in time and/or space. The entity in the case of participatory pronouns is the mental representation of the relationship, in the most comprehensive sense, between the speaker and listener, the *participant relationship*. A third participant, a *social thirdness,* is present in the form of a concrete or abstract social group that is indexed as well. The context where the utterance is intended to be interpreted is termed the

transportative environment because this context is often a physical or hypothetical location

separate from the place where the participants are speaking. In the Participant Model, these three

aspects of participant relationship, social thirdness, and transportative environment are plotted in

gradations along a three-dimensional model which represents these three key aspects of the

referent. The referent has other additional characteristics, as well, but the three key aspects of

my Participant Model are sufficient to retrieve a referent that fulfills the communicative intent.

Each pronoun encodes the method of determining an r, s, and e-value of the referent

corresponding to the level of the participant relationship, social thirdness, and transportative

environment, respectively (Figure 1.1. Referent of Participatory Pronouns). The r-axis is a

continuum between listener and speaker, and the s and e-axes begin at the least abstract entity

and continue to infinite levels of abstraction, along the dimensions of social thirdness and

transportative environment, respectively.

Social Thirdness (s-axis)

Transportative
Environment
(e-axis)

Participant Relationship (r-axis)
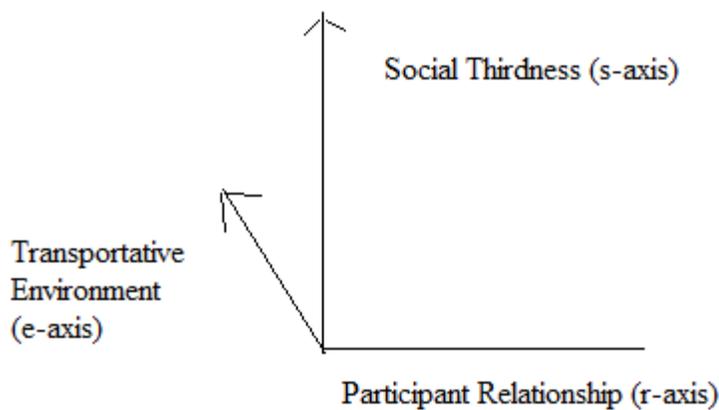
Figure 1.1

Referent of Participatory Pronouns

The mechanism of reference is defined as the way that the linguistic sign indicates a

referent. In order to determine the referent, a linguistic sign encodes the mechanism of

reference, which is the architecture of the model. To determine the referent, the participants use

the simple mechanism of reference encoded in the linguistic signs, *I, we,* or *you,* then an inferential process. The r-value, s-value, and e-value of the referent of each pronoun are found by starting at the end of the axes, as encoded by the pronoun. The inferential process consists of continuing along the axis until enough information is obtained to understand the communication and further processing would not yield benefits worth the mental processing effort.

As an example of applying the Positioning of Participatory Pronouns to actual recorded data, the following excerpt from a one-minute segment of a lecture displays a range of participants positioned in the lecture discourse through participatory pronouns. I do not apply my model fully here; I only want to suggest the complexity of interpretation of pronouns in academic lectures and the general way in which my model works. To highlight the rapidity of reference shifts, this example is presented without deleting any internal segments. I use bold font to spotlight the participatory pronouns and interspersed my explanations between numbered subsections of the one-minute passage.

This section of a chemistry lecture discusses rates of chemical reactions.

Example 1.5.1 (f-13, 20:03 recording, Transcription 2 of 5)

If the second rate is the slowest thing, that is going to be what determines the rate law. And so on and so forth. **We[1]**'ll get into some examples of that in a little bit.

We[1] refers to the speaker and listeners in the lecture hall, a prototypically classic usage. By "prototypically classic," I mean that most speakers and most authors in the existing literature assume that this is how pronouns are used in speech; *we[1]* refers to the conversation participants at the speech event discussing their current activities. This "prototypically classic" usage will not account for the pronouns in the following segment.

Example 1.5.2

But the bottom line here is that the overall rate. The overall rate law is going to

depend on the comparison of the values of the individual rates for the individual

elementary steps. Analyzing all of these is in fact a fairly difficult task to do.

You[1] specifically have to measure concentrations of things. **You**[2] have to

measure, different, a bunch of different rate constants and then put it all together.

In most existing theory, this *you*[1] and *you*[2] would indicate the listeners or an indefinite group, but

in my analysis, I have found that *you*[1] and *you*[2] refer to specific chemists in an imaginary

laboratory conducting experiments. The Positioning of Participatory Pronouns interprets *you*[1] and

you[2] as transporting the participants from the classroom to an imagined advanced research

laboratory. Without my theory, *you*[1] and *you*[2] would be interpreted as instructions for the class

to measure something themselves or as indefinite *you*[1] and *you*[2] that do not refer to specific

people. Whether and to what extent the speaker or listeners are included in that group of

chemists is an important question that is also resolved by my theory. *You*[1] and *you*[2] refer to the

listeners and speaker as part of the chemists, which is significant because by including the

speakers, I am stating that this *you* effectively means *we*.

Example 1.5.3

Let**'s** assume **we**[2] have a uh **I** hope to give **you**[3] one other piece of terminology

that will, again, I hope, help **you**[4] to understand whether **we**[3]'re talking about an

overall reaction or an elementary step.

We[2] and *we*[3] both refer to the speaker and listeners as part of the class. This entity is a different

collective from the *we*[1] of Example 1.1.1. The referent of *we*[1] in Example 1.1.1 did not include

the social group *the class*, but a social group must be the referent of *we*[2] and *we*[3] because without

the social group, *we*[2] and *we*[3] must be interpreted as comprising the speakers and listeners who

are discussing a particular type of reaction. The speaker is actually trying to convey that this

information is applicable for participants' consideration throughout the duration of the course of

academic lectures. The *you^3* and you^4 in this section refer to the same group as the *we^2* and *we^3* but exclude the speaker. The *we^4* in the following passage identifies a completely different referent in that the transported speaker and listeners are in an imaginary place, quite abstract from the imaginary laboratory of the first passage.

Example 1.5.4

Let's say **we^4** have an elementary step. That has say 2 molecules of A react with a molecule of C to form a, excuse **me**. 2 molecules of A react with a molecule of B to form a molecule of C. If that is an elementary step, **we^5** know that **we^6** can immediately write down that the rate law is 2 As they have to come together to hit a B. So it's got to be A squared times B. If **I^1** wrote this as A plus A, it makes it more obvious that the Rate Law should be the concentration of A times the concentration of A times the concentration of B. **You^5** can immediately write these things down.

In the utterance "we^5 know that we^6…," the two pronouns, *we^5* and *we^6* refer to different entities. W*e^5* refers to the speaker and listeners as a class while the *we^6* refers to the speaker and listeners in an imaginary, abstract environment. My theory calls this quick change of referents *juggling*. Examining *we^6* and the following *I^1* and *you^5,* these three pronouns are seen to refer to the same referent, the imaginary speaker and listeners writing; my theory calls this *interchangeability*.

Example 1.5.5

Back when **we^7** talked about rate laws, remember what **we^8** said about these little exponents here. They were the orders of the reaction with respect to individual species. If this was a rate law for an overall reaction, **you^6** say its second order A, first order B and third order overall. To attempt to not get confused between elementary steps and rate law, **we^9** call these little exponents different things.

We[10] say that the numbers refer to the molecularity   of the reaction. So instead of

saying the order of the reaction, **we**[11] talk about the molecularity of a reaction.

This final passage includes six pronouns followed by verbs about speech. The first two *we*'s,

we[7] and *we*[8], refer to the class speaking, *you*[6] refers the class in a hypothetical situation, and the

final *we*'s, *we*[9],*we*[10], and *we* [11] refer to the speaker as part of the social group of chemists.

This short segment from a lecture displays the complexity of pronouns and their uses for

which a full theory must account. My Positioning of Participatory Pronouns accounts for these

uses in simple, comprehensive terms that relate the pronouns to each other.

CHAPTER 2. THEORETICAL BACKGROUND

2.1 Types of Theories

Several types of theories have captured some aspects of participant positioning and participatory pronouns (Peirce 1932, Jakobson 1971, Kaplan 1977, Goffman 1979, Davies and Harré 1990, Muhlhausler and Harré 1990, Gundel et. al 1993, Johnstone 1996, Malone 1997). None of these theories provides the comprehensive explanatory value of the Positioning of Participatory Pronouns. Littlejohn and Foss (2004) relate Powers (1995) division of communication theories into four tiers explaining: 1) the content and form of messages 2) communicators as members of social groups, 3) levels of communication, and 4) context and situations of communication. Since my investigation focuses on the public level of communication in the stable situation of the academic lecture, Tier 3 and 4, comparing levels and contexts are not applicable, and I will focus this background on the first two tiers of theories. I call Tier 1 focused communication theories and Tier 2 broad communication theories because the second tier moves beyond the message to society.

Broad communication theories focus on the effect of speech on social dynamics such as speech acts (Searle 1969), narration (Jakobson 1971), footing (Goffman 1981), stance (Kiesling 2004), frame (Goffman 1981, Tannen 2005), Positioning Theory (Davies and Harré 1990), and self-presentation (Malone 1997). Generally, they emphasize the link between language and society without detailing how the societal link is accomplished in the language. For example Kiesling (2004) investigates the term *dude* as an index of stance among college fraternity members, but the mechanism of finding the stance is not elaborated; Tannen (2005) investigates frames such as *irony* but how frames are constructed is not detailed. The scope of these theories is complementary to participant positioning, as discussed in 6.2 Incorporation into the Existing Literature.

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Focused communication theories emphasize the representations and mechanisms of words, such as focus (Laury 2005), reference (Kaplan 1977, Miller 1982), and anaphora (Cornish 1996). They emphasize the workings of language but neglect both the broader picture of the use of the language and the specificity of participatory pronouns. For example Cornish's (1996) explanation of anaphora explicates how the anaphors retrieve their referent, but it neglects why speakers would use the different forms of anaphora. The scope of these theories is complementary to participatory pronouns and the Participant Model.

Participant positioning is primarily a broad communication concept that is applicable beyond pronouns to all representations of people in speech; these types of expansions are discussed more in Chapter 6. Participatory pronouns and the Participant Model are primarily focused communication concepts that detail the workings of language. Bridging focused and broad theories, my theory of Positioning of Participatory Pronouns traces the working of pronouns from the mental representations to their social effect.

Examination of the literature on other broad communication theories situates participant positioning in relation to other concepts; participant positioning is most useful in explaining the speech participants, who they are and how that affects their speech. Examining the literature on other focused communication theories of pronouns provides insights into how participatory pronouns function. In accordance with the grounded theory tradition of emergence, I did not consult this literature prior to my analysis; however, upon consultation, I noted some parallels between this work and my own. While the terms *positioning* and *participatory* are also used by Muhlhauser and Harré (1990), their uses and definitions differ from mine; I find these parallels reassuring. I want to be clear that I developed my theories before I examined the pertinent literature in detail, so similar findings in Mulhausler and Harré (1990), Ochs, Gonzales, and Jacoby (1996), and Malone (1997) provide concurrent validity of my findings. Because of the

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significant role of emergence in my research, I only briefly outline the theoretical background in this chapter, while I will cover it in detail in Chapter 6, the discussion section. Once my theories are fully developed, I will then describe their precise relation to other theories.

Among the theories that bridge focused and broad conceptualizations are the Givenness Hierarchy (Gundel et al. 1993), Relevance Theory (Sperber and Wilson 1986/95), and semiotic signs (Peirce 1932). My Positioning of Participatory Pronouns uses their insights while bridging the theoretical gap. Most pertinently, my theory is a specification of Relevance Theory.

2.2 Bridging Theories

2.2.1 Givenness Hierarchy

The important theory of cognitive status put forth by Gundel et al. (1993) posits it as a basis to explain the relationship between a range of referring forms. Assumed cognitive statuses are "assumptions that a cooperative speaker can reasonably make regarding the addressee's knowledge and attention state in the particular context" (Gundel et al. 1993:275). This account places discourse entities into six cognitive statuses and explains how they are likely to be referenced in certain ways (Table 2.1 Givenness Hierarchy). The cognitive status corresponds to the expression on the line below it. The cognitive statuses vary from *in focus*, which are the center of attention, to *type identifiable*, which are represented by the listener only as a certain kind of object. In between are *activated* and *familiar* states, which correspond roughly the states being it short-term and long-term memory, respectively, and *uniquely identifiable* and *referential* states, where the listener can identify the entity based on the content of the noun alone or the speaker is referring to specific objects, respectively.

A discourse entity with a particular cognitive status can be referred to using a form associated with a lower cognitive status, toward type identifiable, but not higher, toward in focus.

For example:

> Example 2.A
>
> I love my dog Rover. It is a great pet, but this dog must be trained some more.
>
> The dog is always wetting the carpet.

In Example 2.A, Rover is *in focus* after the first sentence of this discourse. This allows *Rover* to be referred to by the pronoun *it* which could be used as the subject of all the related sentences. The speaker used lower cognitive status referring expressions which is allowed, but higher expressions such as starting the discourse with *the dog* or *this dog* would be infelicitous. Using forms associated with lower cognitive statuses can carry Gricean implicatures since the associated referring forms signal at least that status and implies not more than that status.

> Example 2.B
>
> A dog may be going to the pound soon.

If after introducing Rover with Example 2.A, the speaker says Example 2.B an implicature would be generated that the dog is not Rover since Rover is more than merely type identifiable, resulting in an awkward phrasing.

Table 2.1.
Givenness Hierarchy (adapted from Gundel et al. 1993)

Cognitive Status	in focus	activated	familiar	uniquely identifiable	referential	type identifiable
Likely Expressions	*it*	*that, this, this* N	*that* N	*the* N	indefinite *this* N	a N

I discuss aspects of the Givenness Hierarchy throughout. Predominately, my Positioning of Participatory Pronouns concerns entities that are in at least activated status, but since Positioning of Participatory Pronouns considers the referents not as unified entities but as composite aspects, part of the referent can be in focus and part can be merely familiar.

2.2.2 Relevance Theory

Even if one takes the referent of pronouns as single unified individuals, the question must

be posed as to how speakers intend the listener to sort through the infinite referents and why are

pronouns not always used every time they are contextually salient. Once the referent is viewed

as not simply a single person but a spatio-temporal relation between people, this question

magnifies in importance. Sperber and Wilson's (1986/95) Relevance Theory provides an

account of how speech participants determine what is important to the utterance and the context.

Sperber and Wilson (1986/95: 270) list the Cognitive Principle of Relevance as having three

premises:

> 1) The ostensive stimulus is relevant enough to be worth the addressee's effort to
> process it.
> 2) The ostensive stimulus is the most relevant one compatible with the
> communicator's abilities and preferences.
> 3) The benefit of interpretation is worth the processing effort.

The first premise means that the communication is associated with the addressee and the

addressee would want to understand it. The second premise means that the speakers are not

being purposefully vague and obtuse. The third premise means that the addressee will be

rewarded cognitively by using time and energy to understand the communication. These three

premises are the basis for Relevance Theory.

Relevance Theory holds that the addressee will interpret the speaker's utterance until the

processing effort is outweighed by the benefits of further processing. More costly processing

like metaphor and irony imply more rich cognitive effects (Wedgwood 44). From the speakers'

perspectives, they are encoding the referent so that it can be recovered in the most cost-beneficial

path for the listener.

Relevance Theory develops the concept of contextual effects to relate the changes that an

utterance has on the assumed contexts. An utterance can modify a context by strengthening

assumptions or changing assumptions. Sperber and Wilson (1986/95) provide a deductive

mechanism for determining these contextual effects. As a refinement and specification of

Relevance Theory in this context, my Positioning of Participatory Pronouns provides three

important aspects for determining the contextual effects in the academic lecture: the participants'

relationships to each other, to society, and to their location.

Relevance Theory's concept of optimal processing means that processing effort is

continued in the interpretation of utterances until the best balance of effect and effort are

achieved. Optimal processing means that effects are found, but processing is not wasted. My

Positioning of Participatory Pronouns adopts this standard. The following displays these

concepts in the data.

> Example 2.1 (surrj22 page 1)
>
> Oxidation numbers are very important, just want to add a few other little words
>
> about it, and then **we**[1]'ll put off Redox reaction until next semester. **I**[1] wanted to
>
> give **you**[1] a little bit of the terminology that **we**[2] use so that **you**[2] can uh, read the
>
> book and recognize uh, Redox reaction and use some of the words. Next
>
> semester, at least in **my**[2] class, **I**[3] go over all this again. Then pick up from here
>
> and treat Redox reactions very quantitatively.   Uh, just to remind **you**[3], Uh just
>
> to say one thing, in **your**[4] chapter in the section on Redox reactions, in that
>
> section, there is a discussion about the activities series.

Addressing Relevance Theory, *we*[1] displays the principle's usefulness. Finding the

referent of *we*[1] is extremely important to the listener because the listener needs to know who is

delaying the discussion of Redox reactions. Several probable referents are available among the

many possible ones. Relevance Theory explains how a listener chooses, or how a speaker intends

the listener to interpret. The speaker could be saying that in an act of pedagogical strategy that

he and his fellow professors have chosen not to talk about Redox reactions this semester, or he could be referring to himself and this specific class of students, such as the gloss 'This class is not ready for this concept so I will not teach it even though other classes are learning it.' Since this distinction yields benefits to the listener worth the processing effort, Relevance Theory holds that the listener will continue to process it.

Examining the next utterance, a similar issue arises: What is the identity of the referent of we^2, and is the terminology given strictly for this class, this profession, or this university? The same issue also arises with the uses of *I* and *you*. When the speaker says I^1, does the speaker mean 'I as the teacher wanted to give…,' 'I as a chemist wanted to give…,' or 'I as your buddy wanted to give…' If the speaker is speaking as a teacher, then the terminology would need to be known if the students wanted to do well on an examination. If the speaker is speaking as a chemist, then the terminology would need to be known if the students wanted to pursue chemistry in the future. If the speaker is speaking as a buddy, then the terminology could be good for a joke or as a fun activity. With you^1, does the speaker intend to give only those present the information, perhaps as a punishment to those who were absent? Does the speaker want to give the information to anyone enrolled in the class, or simply to anyone listening? Relevance Theory explains how and to what extent the listeners narrow choices; they delimit the choices until further processing effort is not rewarded with further benefit worth the effort. Relevance Theory does not explain the criteria used to determine which interpretation is actually chosen, just how much effort is expended in the process to determine relevance; my Positioning of Participant Positioning explains what criteria are relevant in the interpretation of participants.

In my Positioning of Participatory Pronouns, Relevance Theory is used as the theoretical basis for the addressee to decide on a certain referent and property for that referent. Explanations with Relevance Theory often have the weakness of not defining exactly what

relevance is for a given communication, but my theory clearly defines three axes of relevance for participant positioning. These three axes are sufficient measures of relevance to explain all the data that I observed. Relevance Theory explains how a listener ascertains a value on the three axes and chooses from the potential referents with those values.

2.2.3 Semiotic Concepts

Peirce's (1932) typology of semiotic signs has three types of signs: icons, indexes and symbols. These three concepts contribute to most theory in communication and have become so common-place that their originator is often not cited. All three of these types are applicable to my explanation of pronominal reference in academic lectures. The concept of icons can be applied to how surrounding discourse evokes referents of pronouns. Indexing is a term that can be applied to entities introduced into the discourse, and, of course, the words are symbols. While Peirce's three concepts categorize the meaning of symbols, they do not specify the mechanism for the recovery of the referents or how the speaker chooses among the three types of symbols.

The process of sorting referents can be best explained within the framework of Relevance Theory, though semiotics also adds value to how participant positioning is used. Using these theoretical backgrounds, my Positioning of Participatory Pronouns is a precise account of how referents are recovered and the nature of their social meaning.

2.3 Participant Positioning in Relation to Other Broad Concepts

Examining the broad conceptualizations of communication, *footing*, *stance*, and *frame* are three concepts that relate to participant positioning as developed here. Each of these three concepts touches on aspects of participant positioning, but they are not sufficient, separately or together, to remove the necessity of articulating the concept of participant positioning.

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Footing is a concept developed by Goffman (1981) to describe the speaker behavior of code-switching across styles of spoken English. In one of his examples, a medical doctor adopts one particular footing when asking the patient if his foot hurts and another when telling the patient to be careful on trampolines; these represent a diagnostic footing and a pedagogical footing, respectively. Footing may undergo constant change in the dynamics of conversation. "A change is our footing is another way of talking about a change in our frame of events" (Goffman, 1981:128).

Stance is a way of presenting oneself in speech; Kiesling (2004:282) found that among the fraternity brothers that he studied "*dude* indexes a stance of cool solidarity." Stance thus constitutes an aspect of the speaker's identity in a cultural context; in this quote, *coolness* and solidarity between participants construct the stance addressed as "dude." Stance is as multidimensional as culture and is similarly not easily detailed.

Working from Goffman's (1974) concept of frames, Tannen (2005) describes frame as a superordinate category within which meaning can be interpreted. Frames may be conveyed by a wide range of features including cultural expectations, gestures, and voice qualities. Examples of frames include *play* and *irony*.

Considering these three concepts together, frame is the larger communicative message in which an utterance is interpreted, while stance is the perspective of the speaker who makes the utterance. The footing of the utterance is how the utterance aligns the discourse in relation to other discourse genres. These three concepts all link speakers and their utterances to discourse contexts, but they do not fully articulate the relational, social, and environmental aspects of the utterance and participants or how these aspects are derived. I develop here the concept of participant positioning to fill this need. I do not intend for participant positioning to replace footing, stance, and frame, which continue to be important and useful concepts. Respectively,

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they relate speech styles to social roles, index cultural perspectives, and provide a larger communicative message while participant positioning transports the utterance and participants into a social and environmental context that is rigorously defined and can be supplemented by footing, stance, and frame.

Harré and van Langenhove's (1999) Positioning Theory has a theoretical basis similar to participant positioning, but a different objective and scope. Positioning Theory is "the study of local moral orders as ever-shifting patterns of mutual and contestable rights and obligations of speaking and acting." (Harré and van Langenhove's 1999:1). Developed from Muhlhausler and Harré's (1990) multiple-language study of pronouns, Positioning Theory puts pronouns at the center of communication. Positioning Theory differs significantly from my participant positioning in that its focus is interactions.

Harré and Muhlhausler's (1990) work on pronouns and positioning is based on the idea of *selves* instead of *self*. Their perspective arises not only from their work on multiple languages, but also from Vygotsky's (1978) work on child development. Vygotsky describes a social self and an individual self.

> Every function in the child's cultural development appears twice: first, on the social level, and later, on the individual level; first between people (interpsychological) and then inside the child (intrapsychological). This applies equally to voluntary attention, to logical memory, and to the formation of concepts. All the higher functions originate as actual relationships between individuals. (Vygotsky, 1978: 57)

Building on the idea of the social level of development, Bakhtin's (1981) introduces the idea of a dialogic triangle, which is also the source of the name of one of my axes of participatory pronouns, *social thirdness*. The dialogic triangle posits that in conversation the two participants are joined by a third participant in the form of social expectations that govern their interaction. This dialogic triangle has been observed in conversations in a number of contexts (Brody 2001).

Muhlhausler and Harré (1990:132) address the question of what social phenomenon "is expressed by, and/or correlated with, grammatical choice amongst pronouns and other devices available to pick out persons." They dismantle Brown and Gilman's (1970) proposal of pronouns expressing "direction of power" and "degree of solidarity" by stating that pronouns must account for rank, status, office, generation, social distance, high degree of emotional excitement, formality, public discourse, private discourse, social distance and degree of emotion. Brown and Gilman (2003) and Brown and Levinson (1978) claim that a speaker can switch between these uses in order to build solidarity or save face; these explanations do not hold in my data. Showing power, creating solidarity, and saving face are indeed uses of participatory pronouns, but my model allows an accurate understanding of exactly how and when this is done. Explanations of solidarity or face are not applicable to most of examples here.

Muhlhausler and Harré's (1990) solution is that social relations of cultural groups can be derived from the language's pronominal system. For example "While social hierarchy and relative formality of interaction are the salient issues for, say, a Pole, kinship is what matters to the Arand" (Muhlhausler and Harré 1990: 166). While Muhlhausler and Harré (1990) are interested in contrasting cultural uses of language, my Positioning of Participatory Pronouns focuses on explaining the workings of participant positioning and participatory pronouns in one context and in a way that is useful to the participants. My Positioning of Participatory Pronouns avoids some of the problems associated with these works by limiting the scope of study to academic lectures, so many of Muhlhausler and Harre's categories such as formality and rank are set and relatively constant. Since the audiences that I studied are large, the intimacy and familiarity are also constant.

Kerbrat-Orecchioni (1980) provides an overarching view of communication focusing on the conditions of "enunciation" and "subjectivity." Building on Benveniste's (1974) work on

pronouns as self-referential, Kerbrat-Orecchioni states that deictics refer to their own moment of discourse and refer to objects that can only be determined in the particular moment of discourse that contains them. Enunciation is the linguistic process by which the speaker prints his mark on the information, written in the message, and situates it in relation to himself (Kerbrat-Orecchioni 1980:32). Subjectivity is how the speaker's perspective is included in the utterance. This line of research, followed primarily in France, corresponds well with my findings of participant positioning and my Positioning of Participatory Pronouns. Both my work and the work on enunciation emphasize the speaker in relation to the context.   My work contrasts with theirs in that my work conceptualizes, and the enunciation work describes. The enunciation work lists, describes, and delimits; my work explains and relates. My work takes the description and abstracts to three conceptual axes which explain the relation of the speaker to the context. The work on enunciation has a broader aim than mine. Their aim is to describe the functioning of language by individual usage; my aim is to describe how language situates the participants and how participants situate the language.

Malone (1997) also examines pronouns from the starting point of the presentation of self. Integrating some of the concepts from Sacks' (1992) analysis of everyday conversation, which includes some academic discourse from dissertation defenses and writing response groups, Malone provides a convincing argument for the multiplicity of roles that pronouns fulfill; yet, he does not explain how the roles are recovered from the utterance. My analysis provides an explanatory framework of his descriptions while resolving the conflicts between Malone (1997) and Muhlhausler and Harré (1990), especially regarding interchangeability and personhood in pronouns.

Ochs, Gonzales, and Jacoby (1996) and Ochs, Jacoby, and Gonzales (1994) have come closest to describing the phenomena under consideration in my work. Their data are derived

from interactional scientific meetings, and they examine how speech is used to construct knowledge in the natural sciences. My work is much more focused than theirs. I emphasize the use of pronouns only, and I am more focused on explanation rather than description. While more general and interactional than my findings, their results parallel mine in identifying participant shifts in academic speech.

2.4 Defining Participatory Pronouns

Turning to the focused conceptualizations, this section overviews the basics of pronominal reference. Participatory pronouns constitute a special type of pronominal reference that has distinctive properties that position speakers and listeners in relation to each other in the discourse.

2.4.1 Deixis

Deixis is the term given to the process that links linguistic features to the social, spatial, and temporal context. Speech in its ordinary use is dependent on context and "part of every natural language seems to be devoted primarily to the expression of information which a speaker can safely assume is accessible to his or her addressee from the context of speaking" (Jarvella and Klein, 1982:1). Examples of deictic words include *I, here,* and *now.* Every instantiation of these deictic words is conditional, depending on who is speaking, where they are, and when they are talking. Without grounding in social, spatial, and the temporal context, isolated sentences using *I, here*, and *now* are uninterpretable while other words such as *lawyers, Cincinnati, and daytime* have meaning in isolation. The isolated utterance, "I work here now" is much reduced from "Lawyers work in Cincinnati during the daytime." When interpreting speech, "the central issue is thus not whether meaning is left to context, but how it is, and how it is re-integrated from what is said and what is only signaled" (Jarvella and Klein, 1982:1). Deictic pronouns, or

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deictics, refer to entities outside of the linguistic discourse, functioning as "devices that link the utterance with its spatio-temporal and personal contexts" (Tanz, 1980:1).

Buhler (1982) in his classic work on deixis discusses how the words *I* and *you* are called *personal pronouns*, tracing the root of word *personal* to its origin in Greek as *prosopon* and in Latin as *persona,* both meaning 'face, mask, or role.' In his analysis, using *I* puts the speaker in the role of sender, and using *you* puts the addressee in the role of receiver. Buhler identifies three deictic words of *I, here, now* as the point of origin of the deictic field. He uses a multidimensional coordinate map to emphasize that these three deictics position the speech. Addressing the constraints on deictics, Fillmore (1982) identifies details of the interactional situation that controls deixis including the identity of the participants, their locations, their orientations in space, indexing or groups, and the time of the utterance. In my analysis, I examine the participatory pronouns, *I*, *we*, and *you,* in Fillmore's multifaceted expansion anchored in cartography similar in some respects to Buhler's.

Kaplan (1977) as summarized by Miller (1982) places deictic words into two categories: *demonstratives* and *pure indexicals.* Demonstratives require a gesture to be understood while pure indexicals do not. Both categories are *directly referential* expressions meaning that only the person or thing being demonstrated is important in evaluating the truth of the assertion made. Directly referential expressions contrast with definite expressions, such as "the butler." In definite expressions, some butlers will fit into the category, and others will not. In directly referential expressions, only the person demonstrated is fit into the category. Also Kaplan distinguishes *content* and *character,* where the content is dependent on the context and the character is not. The content of a deictic pronoun is the person referenced while how the person is referenced from the context is termed the *character* of the pronoun. In this way, when speakers say "I," they are referring to themselves as the character of *I* requires, but each speaker

is referring to a different content in which the other contents are not applicable. In my analysis, I examine participatory pronouns in their directly referential nature of using their signaling characteristics to designate a content. The content of the pronouns in my analysis is much richer than previously explored and corresponds well to Buhler's (1982) notion of roles.

2.4.2 Anaphora

Deixis and anaphora are two general classifications of pronouns based on how the referent is retrieved. Deixis finds the referent in the extralinguistic context; anaphora finds the referent through an antecedent in the text. In this way, an anaphoric pronoun can be considered a deictic pronoun that points exclusively in text, whether oral or written. Examining anaphora is useful in demonstrating how pronouns find their referent.

Each instance of anaphora has an anaphor, an antecedent, and a referent (Huang 2000). The anaphor is a linguistic expression that lacks an independent referent, so it has a property of relying upon the antecedent and some aspect of previous discourse to recover the referent. The antecedent is the linguistic expression from which the referent is recovered. The referent is the person, place, thing, or abstract entity to which the antecedent refers. Examining the discourse as an example:

Example 2.C

The man is outside. He is big.

In this discourse, the anaphor is *he*. This pronoun encodes the information to find a male person in the discourse. The antecedent is "the man," the expression that could be substituted for *he*. The referent is the actual man who is outside or a mental representation of this man depending on the cognitive linguistic theory.

The antecedent can manifest the property of any of a variety of syntactic categories including a determiner phrase or a noun phrase (Dechaine & Wiltschko 2002). Antecedents may

be classified according to their source. In the example of intrasentential anaphora (2.D), the antecedent is in the same sentence while in discourse anaphora, the antecedent is in previous sentences (2.E) (Huang 2000).

(2.D) John lost the ball that he won at the fair.

(2.E) John is a great man for the job. Whether teaching or researching, he is always on task.

An alternative categorization of anaphora considers the location of the anaphor in relation to the antecedent (Cornish 1996). Endophora describes when the antecedent occurs before the anaphor (2.F). Cataphora describes when the antecedent occurs after the anaphor (2.G).

(2.F) When John is hungry, he eats pancakes.

(2.G) When he is hungry, John eats pancakes.

Anaphors can also be categorized by syntactic category (pro-DP, pro-NP), truth conditions, contexts, and discourse reference-tracking systems (Huang 2000). Also noteworthy is that the properties of the referent can affect the anaphor especially if the referent is an abstract entity (Hegarty 2003). Truth conditions differentiate referential (2.F) from bound variables (2.H), donkey anaphora (2.I), lazy anaphora (2.J), and bridging cross-reference (2.K) (Huang 2000).

(2.H) Every lumberjack eats his pancakes.

(2.I) Most farmers who own a donkey treat it well.

(2.J) The old man has a young boy. He is well liked.

(2.K) The mail didn't arrive on time. He must have been delayed.

Context must be taken into account for anaphora relative to encyclopedic knowledge, linguistic context, or physical context. Relating to the cognitive status of the referent, Gundel et al. (1993) insist on no one-to-one correlation in the context and the form though their Givenness Hierarchy,

discussed previously, does provide which choices of pronouns would be excluded at certain cognitive statuses.

Among the discourse tracking systems are noncoreferences and coreferences (Huang 2000). Noncoreferences do not refer to the same entity (2.L) while coreferences refer to the same person (2.M).

(2.L) She saw her at the store.

(2.M) When the woman woke up, she saw she was in an ambulance.

In some instances the antecedents are not mentioned in the linguistic context, as in the previous example (2.K) of bridging cross-reference. These instances are called indirect anaphors (2.N) which can take the form of associative anaphors (2.O) or can be anaphoric penisulars (2.P) (Cornish et al. 2005, examples from here as well). Associative anaphors refer not to the referent of the antecedent but to an object associated with the referent of the antecedent. Peninsular anaphors refer to referents that are introduced in the course of interpreting the expression. In this case a flautist must play a flute by definition.

(2.N) Why didn't you write? I did but I tore them up before I sent them.

(2.O) I went to the village. The church was beautiful.

(2.P) I am a flautist but I don't own one.

So-called "antecedentless anaphors" further blur the distinction between deixis and anaphora. For example in (2.P), the *one* refers to 'a flute,' but 'a flute' is never mentioned in the discourse.

Some instances of anaphora, exophora, refer to referents that are physically present (Cornish 1996).

(2.R) (A goat walks into the classroom.) Do you think it registered for the class?

While some would argue that (2.R) instantiates deixis, Cornish (1996) would note that the goat is not being pointed to by the words in (2.R) as it is in (2.S). In (2.R), the goat is referred to as if it were already a part of the discourse, even if an unspoken part.

(2.S)(A goat walks into the classroom.) Who let it in!

The distinction between deixis and anaphora can be difficult to make when the antecedents are not mentioned in the discourse as in (2.S). Cornish (1996) presents an elegant argument on the difference between deixis and anaphora. Cornish argues that deixis serves to shift the focus of the discourse to a new object, while anaphora extends reference to previously introduced entities in the discourse even if the referent has not been explicitly identified.

2.4.3 Gaps in the Literature

Participatory pronouns, *I, we,* and *you,* are traditionally considered deictic, and I refer to them as such although their referents will be partially recovered from the discourse as in anaphora. Deitics can be classified by the nature of the referents. Spatial deictics such as *here* and *there* point to location while temporal deictics such as *then* and *now* point to periods of time. Objects that are not people are both referred to by demonstratives such as *this, that, these*, and *those* and impersonal deictics like *it* and *they* which point to objects in the immediate vicinity. Personal deictics such as *you, we, I, he,* and *she* refer to people. In my analysis, I separate these deictic pronouns into those picking out the speech participants and those referring to people outside of the current speech situation, where the speech situation is defined as the place of enunciation of the pronouns and the general circumstances of that place. The participatory pronouns, *I*, *we*, and *you*, directly reference the speaker and the addressees in the speech situation. I will demonstrate how participatory pronouns constitute a special category of deixis that can transcend the immediate environment and immediate social relationship of the participants; yet, their use is constrained by these factors as well.

2.4.3.1 Discrete Individuals

Existing analyses of deictic reference such as Jesperson (1924), Jarvella and Klein (1982), Hyman (2004), Laury (2005), etc. are insufficient to explain many uses of participatory pronouns in academic lectures. Early analyses, such as Jesperson (1924), speak of the First Person the speaker, the Second Person the addressee, and the Third Person neither the speaker nor the addressee. Having the referent of pronouns consist of a discrete person is intuitive, but it does not conform to even basic usages of deictic pronouns. Examining Example 2.2 from my collected data,

> Example 2.2   (Page 2 j21_surr completed)
>
> Now these precipitation reactions, uh, **we**[1] can write them down on paper in a couple of different ways. One way is just the way **I**[1] wrote it down before. **You**[1] write the complete reaction: all the reactants, aqueous solutions all of the products.

Existing analyses would have *we*[1] refer to the speaker and the addressees (listeners) or the speaker and some other people exclusive of the listeners. These existing analyses do not provide a way to determine how the speaker intends the listeners to interpret *we*[1]. Are the listeners to include themselves or not? The speaker says that "we[1] can write them;" then, he proceeds to write by himself. In existing analyses, the speaker is either referring to himself in the plural, the so-called *royal we*, or uttering the sentence "we can…" in a strictly locutionary sense where the speaker is describing the capacity to write without describing his action of writing. An account that acknowledges the lack of discrete individual in the referent must have the speaker pretending the students are writing with him or in some way attributing part of the writing to the students.

In the next sentence, the speaker refers to where "I[1] wrote it down before," as if the listeners are not involved at all. Then the speaker says "You[1] write the complete reaction." In existing interpretation, this would mean the listeners write the complete equation, which is not correct. A modified interpretation creates a concept of *indefinite you*, which does not refer to the specific listeners, but an imprecise group (Hyman 2004).

Thus, analyses such as Jesperson (1924) or Hyman (2004) have no explanation of why the speaker uses three different pronouns in this series of utterances. These existing analyses fall short of my Positioning of Participatory Pronouns, fully developed in Chapters 4 and 6, because they do not explain the mechanisms of reference or the referents of the pronouns in Example 2.2. Some cross-disciplinary work between linguistics and anthropology supports the lack of discrete individuals in pronouns by identifying pronouns as not denoting at all, but indexing social groups because of differing concepts of selfhood (Muhlhausler and Harré 1990).

2.4.3.2 Multiple *We's*

The following passage, Example 2.3, shows another example of *we* being troublesome. Filimonova (2005) writes of *clusivity* of pronouns, whether they include the listener or not. The inclusive or exclusive *we* does not account for why the speaker says "that shows explicitly what **we**[3]'re are talking about" when the speaker is the only one doing the talking, nor do other analyses explain if *we*[2] in "if we[2] decode" has the same referent as Example 2.2 and the same referent as we[7].

> Example 2.3   (Page 2 j21_surr completed)
>
> Now, if **we**[1], if **we**[2] decode that secret code and show all the ions explicit. Silver nitrate is really silver ions plus nitrate ions. Write all those ions down on both sides. Have to do a lot of writing. That shows explicitly what **we**[3]'re talking about. When **we**[4]'re talking about silver nitrate, **we**[5]'re talking about silver ions,

nitrate ions, sodium ions and chloride ions. and after the reaction **we**^{6}'re talking

about AGCL solids. Those aren't ions anymore. That a solid substance and

sodium ions and nitrate ions well that's still a solid, a soluable salt. Though it

stays in solution, those ions are still there. But look. When **you**^{1} write it that

way, **we**^{7}'ve got sodium ions and nitrate ions on both sides of the reaction.

 Is the *we*^{2} referring to the speaker and listeners decoding the code? Is this the same group as *we*^{4}

"talking about silver nitrate?" If they are different, no existing analysis provides the method for

their recovery. A new category of *indefinite we* could be created, paralleling the creation of

indefinite you to deal with similar difficulties with you^1 in "When you^1 write it that way." My

Positioning of Participatory Pronouns accounts for how the referents are recovered and to what

exactly the pronouns refer; both of these aspects are missing from other theories of analysis.

2.4.3.3 Multiple *You*'s

The mechanism of deictic reference in other analyses where the referent of *I* is the

speaker and the referent of *you* is the addressee does not explain the following sentences in

Example 2.4:

Example 2.4   (Page 4-5 j21_surr completed)

So let**'s** see if **I**^{1} want to say anything about this. **I**^{2}'ll tell **you**^{1} a little bit about

Redox reaction. But mostly **you**^{2}'re going to deal with Redox reaction next

semester. They're two chapters that deal with Redox reaction. And they're a big

deal because Redox reactions are a very common kind of reaction. So **I**'m just

going to introduce the terms and tell **you**^{3} the basic idea. So, **we**'ll be able to talk

about them this semester. But **you**^{4}'ll **you**^{5}'ll do these in very, very in great detail

next semester.

I^2 and *you*^{1} are explainable by existing analysis where *I* is the speaker and *you* is the addressee; however, *you*^{2} is not. Using existing analysis, the listeners "are going to deal with Redox reaction next semester." How is it possible that the speaker knows what the listeners are going to be doing next semester? There are more than fifty in the classroom, including me as a researcher. Some of the students are going to drop out or not all take the same class next semester so the speaker would be making a false statement if he meant that his addressees would be doing something next semester. An expanded version of this type of analysis would have the speaker addressing only 'the students who are taking a certain class next semester,' but this expanded definition is far from the mechanism of the *you* referring to the speaker's addressee. This new mechanism would say *you* refers to 'the category or set of addressees that the speaker intends and that meets his requirements for fulfillment of the action.' The professor is the one working the reactions. He clearly delineates I^2 and *you*^{1} as 'the speaker' and the 'addressee,' but such a distinction does not hold for *you*^{2}*, you*^{4}*, and you*^{5}. The addressees must be changed to a different referent, according to an unspecified mechanism, or the speaker believes all his previous addressees will be in a class the next semester.

Just so that such a use of *you* is not confused with indefinite *you*, I am including the following Example 2.5:

> Example 2.5   (Page 5 j21_surr completed)
>
> Redox reaction, electron transfer reaction, the sum of an oxidation half reaction and a reduction half reaction. Next semester, **you**^{1}'re going to be writing these a lot. How do **you**^{2} balance a Redox reaction? Well, **you** do it basically the same way **you** do it with any reaction. Because, uh, **you** always have to have mass balance.

Here the pronoun referring to a certain category of addressee, *you* [1], is followed by a so-called indefinite *you*[2] in "How do you[2] balance a Redox reaction?" This question has at least three glosses: referencing the addressees 'How do you (to whom I am speaking now) balance a Redox reaction?', an indefinite 'How does one (anyone in general) balance a Redox reaction?', or a specific group of addressees 'How do students taking my test balance a Redox reaction (for full credit)?' The answer to the first referent could be "We write the electrons in two columns like you showed us last week to make sure the electrons are equal." The answer to the second referent could be "We make sure electrons are equal." The answer to the third referent could be "We write the electrons in two columns like you showed us last week to make sure the electrons are equal. Then we add the notation you are showing us now." Other existing analyses do not explicate how the speaker intends the listener to find these referents.

2.4.3.4 Multiple *I*'s

To overcome the failings of deictic reference, a number of uses of participatory pronouns have been created. I have shown examples of the "royal *we*," the "indefinite *you*," the "exclusive and inclusive *we*" as well as examples that have no name such as the *you* that refers to a specific group of addressees that meet certain criteria. Other unexplained and unnamed uses of the participatory pronouns also occur often. For example, the *I*[1] used in the beginning of the following Example 2.6 in sentences such as "I[1]'m going to add…" does not refer to the same referent as the *I*[10] in the sentences near the end of the passage such as "whenever I[10] put calcium." The first *I*'s are referring to the speaker, but the *I*'s near the end, like *I*[8], are not saying 'when the speaker puts calcium.' They are saying when 'anyone puts calcium,' so traditional analysis would need to create an indefinite *I* as well.

Example 2.6   (Page 3-4 j21_surr completed)

I[1]'m going to add those two together and again let **me[2]** remind **you** what **I[3]**'m

doing when **I[4]**'m adding the reactions together, is that **I[5]**'m writing down

everything on the left. Both reactions. **I[6]** write everything down. Write the

arrow. Write everything down on the right hand side, and then **I[7]** cancel whatever

appears on the left and the right. So in this case what appears on the left and the

right, of course, is the two electrons. Two electrons on the left, two electrons on

the right, cancel them out, and what's left is the whole reaction. So there is the

Redox reaction. It shows up whenever **I[8]** put calcium metal, this shiny silver

metal, into an acid. A fortified proton. When **I[9]** put calcium metal in an acid

solution, **I[10]** get calcium ions, calcium metal is oxidized. And the hydrogen ions

are reduced to hydrogen gas.

Positioning of Participatory Pronouns explains all these phenomena, not as exceptional cases, but

as a normal part of the participatory pronoun. Integrating such disparate concepts more

accurately portrays the pronouns and stops the endless proliferation of exceptions to the

speaker/addressee dynamic. All the examples used in this section 2.4.3 were taken from one

representative chemistry lecture less than forty minutes long; the existing theories are inadequate

to explain even this common speech situation.

2.4.4 The First and Second Person

The notion of first, second, and third person has been used to describe *I*, *we*, and *you;* my

data shows this notion is not a meaningful term. Each person is present in each manifestation of

the participatory pronouns. Few of the examples from the previous section fit into *person*

classifications. Person classifications are relevant only if the referent and the linguistic sign

always refer to the same type of entity, which is not the case even in analyses that use clusivity

and indefinite pronouns. This weakness in the concept of personhood has been noted in other studies. Hyman (2004:168) states that "in my survey of the linguistics literature on anaphora. I have never been able to find any consideration that second-person pronouns could be anaphora…Nobody seems to have stated, much less proved, that anaphora must be third person only." Hyman continues to try to prove that indefinite *you* at least includes the third person. Muhlhausler and Harré (1990) note bluntly and astutely that any pronoun can refer to any person. My research provides examples of so-called second-persons being referred to with *I* and first-persons being referred to with *you*.

2.4.5 Participatory Pronouns as Shifters

In contrast to the literature on reference previously discussed, other literature does not examine the mechanism of reference, but the effect using participatory pronouns has on the discourse. These studies have much in common with the previous discussion of footing, stance, and frame, but the focus of these studies is deixis. My analysis does not refute this type of literature but states that the effect of the pronouns should be examined more closely to see that the participatory pronouns are actually gradient and thus, the change on the discourse more subtle. Jakobson (1971) and Silverstein (1976) refer to deictic pronouns as shifters since they shift the conversation from the narration to narrating state. For example in my study, a professor says:

> Example 2.7   (Page 1 j21_surr completed)
>
> I'll give an example. We take a salt. A very soluble salt. Silver nitrate. Silver nitrate is like all nitrate salts. All nitrate salts are very soluable. So this has a very high saturation limit. So a silver nitrate aqueous solution is simply a solution of silver ions and nitrate ions. And all that salt dissolves, UH, a silver nitrate solution is a clear colorless liquid looks just like any water. It isn't of course. It's

got this silver ions in it. nitrate ions. And sodium chloride, That is a very soluble

salt. All sodium salts are soluble. Sodium salts, sodium chloride is very soluable.

I told you yesterday.

In Jakobson's (1971) analysis, the first two sentences are in the *narrating* frame. After the first

two sentences, the speaker shifts to the *narrated* frame to describe the chemistry content. The

speaker ends this passage in the narrating frame by using the deictic pronouns in the last

sentence.

In a more detailed analysis, Wortham (1996) provides a framework for analyzing how

deixis shifts the interaction to include other objects in the environment. He emphasizes that *we*

in speech helps organize the conversation by providing a representation of the speaker's footing.

Wortham codes each shifter used and its referent noting the person, spatiality, temporality, tense,

and whether it refers to a narrated or narrating realm. This deictic map reveals patterns in the

conversations.

Jakobson and Wortham fail to distinguish between different types of shifting within

deixis. Deixis does not just shift between narrated and narrating but also between different

aspects of the narrated and narrating event. The speaker and story are not a united whole, but a

collection of aspects of the individual and story of narration. For example, the first two

sentences in Example 2.7 would be analyzed similarly in their frameworks, but the nuance is

captured in mine. "I'll give an example. We take a salt." These would be described as narrating

sentences in other models, but my model finds a shift in this speech from the physical context to

an abstract context because the salt it not actually present in the classroom; yet, the second

utterance is not a narrated event. Thus, my model is more nuanced and captures important

aspects missed by other analyses.

CHAPTER 3. MATERIALS AND METHODS

3.1 Participants

The participants in my research are professors of the natural sciences engaged in the act of speaking to large audiences of college students enrolled in introductory classes. The professors hold the floor for an extended time while addressing their audience in a monologic academic lecture. From interviews with these professors, I learned that they view their profession as composed of numerous roles corresponding to multiple group memberships. I call these group memberships *images,* as Wenger (1998) does in explaining communities of practice and in the same spirit as Glasser's (1986) "learning pictures." The participants present themselves during a single lecture in a variety of images including *scientist, source of knowledge, friend, supervisor, stranger*, etc.

I solicited as participants professors with tenure who would be well-practiced lecturers secure in their positions and would thus, be more comfortable than junior colleagues to have their lectures recorded and to be forthright in the interviews. Recruiting higher-ranked professors also corresponds to community of practice theory which identifies the higher-ranked community members as more central members and less peripheral (Wenger 1998). Central members represent the prototypical practices of the community, so examining tenured professors should provide a typical-case sample of expert professors' performances.

As I learned from the interview, the factors of the professors' lives that they viewed relevant to the lecture included their status as teachers and experts which neatly corresponded to my researcher-directed, etic, categories. They did not highlight discipline differences or show any affinity to other natural science researchers; they mostly identified themselves as experts in a specific discipline such as chemistry. Other etic categories were not included as variables in my study because they did not emerge as relevant to the participants. Keeping with the tradition of

grounded theory, categories important to the research community I represent are only relevant to the extent that they are identified by the participants. For example, all the participants in the first part of the data collection were male because of the scarcity of women holding tenured positions in the natural sciences; however, through the process of theoretical sampling, females were included in the data collection in a search for disconfirming examples to my generated theories. Just as for the other researcher-directed categories listed below, gender did not emerge as an important factor in the participants' identities as they related to the university lecture. A relevant comparison is Kiesling's (1998) study of college fraternity members, where he found femininity and homosexuality to be emic, participant-oriented, categories even though the participants were all male and all reported as heterosexuals. The participants in his study stressed the importance of being perceived as male and straight. Mendoza-Denton's (1997) study of female gang members also found gender to be important. The women over-emphasized certain feminine characteristics, such as lipstick color, as a marker of membership. If gender was truly an important aspect of the participants' identities in my study, I would have expected them to reference gender in some way during the interviews, perhaps a comment when discussing the students or themselves. In the same way, social class, race, geographic background, sexuality, gender identification, personality type, and age are all categories that might be important to researchers, but were never mentioned in the interviews or lectures as important factors; hence they did not earn their way into the theory.

3.2 Context

The context of my primary research setting was lecture classrooms at two large public universities in the United States. Overall, the formats of the lectures that I observed were similar. Each professor provided demonstrations of concepts either in person and through hypothetical exercises. Other parts of the lecture dealt with administrative issues and personal

issues. The audience of more than fifty students sat in stadium seating and asked few questions during the sixty- to ninety-minute lectures.

All lectures are taken from natural-science courses in order to avoid mixing influences of other subjects.   Confounding influences traced to the academic disciplines of speakers were found for other linguistic features in Biber (2003), where the speech styles of all the natural sciences were similar to each other, yet differed in relation to the speech of the humanities. Differences across subject areas within the natural sciences did not seem to involve any factors that would exclude them from comparison.

In addition to the lectures I attended, recorded, and observed, I included data from a corpus of lectures to supplement this study, the Michigan Corpus of Academic Spoken English (Simpson et al. 2002). The Michigan Corpus of Academic Spoken English (MICASE) contains 152 transcripts totaling 1,848,364 words (Simpson et al. 2002). Of these transcripts of classroom lectures, seminars, and office hours, 29 are listed as monologic lectures presented to large classes. This corpus has been used since 2000 to study academic speech primarily from the perspective of researchers studying TESOL (Teaching English to Speakers of Other Languages). For example, Swales (2001) performed a study of the use of metatalk in academic speech, and Burke and Swales (2003) later examined the changes in registers evident in the corpus.

The sampling strategies I used from the database are purposeful by criteria. The sampling is purposeful because I selected natural science lectures, out of all the possible transcripts in the MICASE system, to focus on the type of speech where membership ties will be most likely to be found and easily measured. The natural sciences have a tradition of presuming objectivity, meaning the natural scientists are accustomed to acting removed and distinct from the physical world. While other disciplines assume outsider roles as well, I believed the natural sciences would provide the clearest examples. The sampling is criterial because the transcripts

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analyzed were selected to examine those that meet the criteria of large lectures, monologic, sorted by the MICASE system, and transcribed with their rubrics. This criterial sampling narrowed the number of recordings to 35. Recordings and transcripts in the natural sciences were selected from that pool of lectures. All sampling followed the principles of theoretical sampling (Appendix A: Process of Coding).

3.3 Methodology

To record the lectures, I sat among the students and held a digital video camera. The speakers wore a microphone linked to a digital voice recorder, and another digital voice recorder was placed near the speakers on their podium. During and after the lecture, I made observational notes. A few weeks after each lecture, I conducted a semi-structured interview with the lecturers. During the interviews, each of the lecturers provided retrospective insights, and I checked my preliminary conclusions with them.

The interviews, which were audio-recorded, began with elicitation of informal speech in open conversation where the participant and I talked about the weather, and I set up the recording equipment. Afterwards I elicited a guided discussion where I asked the participants to talk about "students," "professors," and the "profession," which were listed on a page. Then I recalled a subject from their lecture, and I elicited from them a discussion of that subject. I anticipated that in this exercise, the professors would revert into a lecturing style. Finally, we listened to snippets of their lecture and discussed them. This latter section was a more formal interview style.

Following in the tradition of the sociolinguistic interview (e.g. Labov 1966), the interviews were constructed to mimic the varieties of styles that I thought that I would find in the lectures: open personal styles, conversation about the classroom, academic lecturing, and formal instructions. The first segment of open, personal styles related me and the participant on a

personal level. The segment had them speaking in a conversational style. The third segment of the interview guided us into the role of teacher and student, as the professor related the subject to me. The fourth part had me formally as an interviewer and them as interviewees.

The theoretical principle guiding both the data collection and analysis was from the grounded theory (GT) tradition of inquiry, designed to create a theory to account for all the data that I collected (Appendix A: Process of Coding). Formation of a theory is the primary purpose of GT. The GT approach eliminates the tendency to use other researcher-created categories and focuses on data-derived conceptualizations. The goal is to create a theory that explains observed phenomenon without recourse to external logic or theory and accounts for all of the observed data. A Grounded Theory, Strauss and Corbin (1990) claim, is a theory which is inductively derived from the phenomenon it represents and meets four central criteria: fit, understanding, generality and control. Fit entails that the theory applies to the data. Understanding entails that the theory is comprehensible to all involved in the area of study. Generality entails that the theory is applicable in a variety of contexts. Control implies that the theory should provide an explanation with regard to action toward the phenomenon. Glaser and Holden (2004) argue that GT procedures result in a theory that inherently meets these four conditions.

Glaser and Strauss (1967) developed GT out of a sociological research perspective and have since detailed its procedures. Glaser and Holden (2004) argue for a pure form of GT that is distinct from other qualitative and quantitative methods and their requirements.

> The GT product is simple. It is not a factual description. It is a set of carefully grounded concepts organized around a core category and integrated into hypotheses. The generated theory explains the preponderance of behavior in a substantive area with the prime mover of this behavior surfacing as the main concern of the primary participants. (Glaser and Holden 2004:10)

GT does not require a preconceived problem, literature review, or methods. All of these elements emerge from the data. In the process of analyzing my data, as I used multiple systems

to code the lectures, I found that pronouns stood out as indicative (Appendix A: Process of Coding). I could not understand how the speaker was choosing *I, we* , and *you*, or why the pronouns were used so frequently. Grounded theory provides a systematic method involving several stages which is used to 'ground' the theory, or relate it to the *reality* of the phenomenon under consideration (Scott 1996).

GT was developed as a way to develop theory that is firmly evidenced in the data. Classic GT by Glaser and Holden (2004) call for a rigorous separation from qualitative and quantitative data analysis. Qualitative data analysis is concerned with description while GT is concerned with theory generation. Mixing qualitative data analysis with GT "blocks" GT by introducing issues of descriptive accuracy which are not the concern of classic GT (Glaser 2001). Quantitative analysis reduces complex issues to hypothetical conjectures that are proven or disproven while attempting to control the complexity. GT does not place as much emphasis on truth as on relevance and utility; "In the best of all possible worlds, these criteria would coincide; unhappily, the researcher must live with the tensions caused when they do not" (Clive et al. 2004:83). Linguistic phenomena are the target of some grounded-theory studies especially in the area of second language acquisition (Blackman 1983, Petrie 2003, Tarp 2006).

The contradictory analyses in the literature of deictic pronouns called for a reevaluation to ground the theories in data. Also my approach investigates the influence of social factors that are specifically neglected in the generation of certain linguistic theories. Other types of analysis such as quantitative analysis or qualitative analysis would not provide the comprehensiveness of GT. Morse (1997) describes how quantitative analysis does not test the correctness of the categories chosen, but only the proposed relationships between categories. The categories in quantitative analysis are derived from the literature and a small aspect of a theory is tested leading to a small modification or verification of the theory. This entails that large parts of

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theory are not subjected to testing and are the result of deductive logic. Quantitative analysis is useful when describing a population or relationships between populations, but developing concepts from such descriptions are not its main concern.

In qualitative analysis, the researcher attempts to accurately describe a situation; yet, the descriptions are unwieldy due to their length, and do not lend easily to generalizability because of the lack of abstraction. GT seeks to abstract from data to create a theory that fits the data. I did not create a description of the phenomena but a conceptualization of the phenomena; my Positioning of Participatory Pronouns relates concepts to one another. Starting with the data, I created a substantive theory to explain the data; then I generated a formal theory that is abstract from the time, place, and people in the data.

3.4 Data

Recorded lectures are the primary source of data, but where noted, I also created some examples to be illustrative, and I took some examples from everyday conversation. The data for the first part of the study consists of video and audio recordings of lectures and follow-up interviews with the participants. Six participants were recorded and interviewed. They were recorded in a total of seventeen lectures, which lasted from fifty to ninety minutes each for a total of twenty hours of observed, recorded, and transcribed lectures. The six participants were interviewed for a total of three hours of recorded interviews. These data were supplemented with six lectures of one hour each from the MICASE database. With approximately three hundred instances of participatory pronouns occurring in each lecture, close to seven thousand participatory pronouns were examined in this project. Since the data collection followed GT's *theoretical sampling* until *theoretical saturation,* I chose data and methods throughout the research to confirm or disconfirm my theories until I had accounted for all data in a variety of

settings. This method and order of data collection is further described in the appendix (Appendix A: Process of Coding).

3.5 Tests for Validity and Reliability

While the grounded theory tradition has its own methods and criteria for rigor and generalizability, I have also conducted five tests of validity and two tests of reliability. The research approach I have taken generates a theory that explains the preponderance of data from the study. In my case, my model entirely explains all the uses of participatory pronouns in monologic, academic lectures to large classes. I use data from the following verification tests as checks and refinements that improve my theory and position my theory among existing theories.

In the quantitative analysis paradigm, my theory is internally valid because it effectively measures the constructs that it sets about to measure. In the qualitative analysis paradigm, my theory has dependability because the method is clearly defined and consistently applied. For qualitative credibility, I added the internal validity check of member checking. Member checking involves presenting the research findings to the participants for comments. In addition, I used the existing literature post hoc in the discussion section to challenge and support the data-derived categories as another check of internal validity; I use the literature as a source of data to refine my categories. The second check of internal validity is the grammaticality judgments that I conducted. This type of experiment checks data derived in use to data stored internally in the speaker's language system.

The goal of external validity and generalizability is to expand the findings. I include several checks of external validity in an effort to broaden the findings. I also use access to the speakers' language system to construct other possible sentences to broaden the application of the theory. For internal reliability, I provide an audit trail of the method and formation of the theory. For external reliability, I provided results from an inter-rater reliability test.

3.5.1 Member Checking

Member-checking asks the speakers to check the study's conclusions. I asked the speakers about their intentions and actions. This data from member-checking is more constructed than the usage data, and if taken to an extreme, would simply be a folk description of pronouns and their use. Consistent with the grounded theory tradition that all is data, this member-checking provides a validation of the findings of the theory. Member-checking is less useful if the technical terminology is unfamiliar to the members.   Throughout, I am guided by the research question, "Is the model valid and relevant to the speakers?"

3.5.2 Grammaticality Judgments

To test the validity of my theory, I switched from exploring the usage that I observed to exploring the possibilities of participatory pronouns by testing grammaticality judgments. Grammaticality judgments can explore structures that are possible but not likely to occur (Kroch 2001). These tests involve changing the participatory pronouns while leaving the surrounding words the same. The research question here is, "Do the theories of participant positioning and participatory pronouns conform to grammaticality judgments?"

3.5.3 Three Substitution Tests

These three tests examine the validity of the finding by altering the environments of the participatory pronouns and their utterances. The substitution tests substitute glosses for the words addressing the question of whether the model remains valid if the referent is identified and named.

The linguistic environment tests extend the substitution to the surrounding words. These examples change the surrounding words while keeping the participatory pronouns the same. The motivating question here is, "Does the theory account for meaning derived from the surrounding words?"

In the social environment test, placing the same text in a variety of social environments yields further evidence for the model. These examples change the participants while leaving the pronouns and surrounding words the same in order to answer the question, "Does the theory account for meaning derived from the relevant social groups of the listeners?"

3.5.4 Reliability

Reliability is tested through the use of inter-rater observations and an audit trail. Inter-rater reliability is a measure of external reliability which uses other observers to check the reliability of the theory by addressing the issue of whether the model reliably predicts values regardless of coder. The audit trail is a measure of internal reliability and marks how the analysis can be redone with the same results in order to establish if the process of model formation can be reproduced.

Positioning of Participatory Pronouns measures values on three continua; however, the exact, absolute value is not as important as the value of units relative to each other. Each speaker, or rater, will rate the value of each referent on the scales in relation to the other referents. Because of this manner of interpretation, the values are better assigned as nominal values. The speakers are interpreting one referent as high or low in social thirdness in relation to another rather than stating that one value is 54 and another is 32. The best measure of such a scale is rating the values as present/absent in most cases and as low, medium, and high when drastic changes are most apparent to the speaker (Appendix B: Codebook).

Each rater coded the sample number (1 or 2) and their coder number (1 or 2) (Appendix C: Coding sheet). The raters were asked to identify the form of the pronoun (*I, we*, or *you*). Next the raters were asked to evaluate the referent of the pronouns on each of the model's scales: participant relationship (speaker, speaker and listeners, or listeners), social thirdness (none,

medium, or overwhelming), and transportative environment (physical or imagined). Finally the raters coded the presence or absence of seven language and discourse functions.

Two raters were chosen to measure inter-rater reliability. I, as the primary researcher, was the first coder. The second coder was a teacher with post-graduate experience who was familiar with academic lectures from the perspectives of student, teacher, and expert. I gave the second coder training in the objective of the research, and we discussed the coding book and coded several sample passages. The second coder then completed her coding independent of mine. Afterwards the two codings were analyzed for reliability. Cohen's kappa, a statistical measure of reliability was found for each item. The raters had strong measures of association for each item, $\kappa > 0.7$.

CHAPTER 4. EXPLICATION OF FINDINGS

4.1 Participant Positioning and the Positioning of Participatory Pronouns

The speech situation of the academic lecture is highly decontextualized and necessitates using linguistic resources in particular ways to communicate clearly and understandably. This situation emphasizes the common phenomenon of participant positioning. The professors used extra-linguistic means to bring the content of the natural sciences to the classroom through demonstrations and audio-visual presentations, but linguistic means were still necessary to allow adequate communication among the speech participants, the professors and students.

The setting of the academic lecture is a rather sparse environment much removed from the workplace where the natural sciences are applied, and the content of the natural science lecture is not often applicable to the classroom where the speech occurs. The speech participants are interacting so that the communication is applicable to later meetings and future places, whether on upcoming tests, research laboratories, or the workplace. Thus, the purpose of the speech is multi-faceted with both immediate and delayed implications. The speech participants themselves are acting as representatives of social groups, such as experts in a field, so the roles or positions they take are clarified throughout the speech situation. In the specialized speech situation of the academic lecture, it is important for all speech participants to know about the other speech participants and what they are doing. Without this contextual information, the lecture would represent a situation where a speaker unknown to the listeners is reciting a litany of abstract facts about distant places without a purpose.

The following table, whose seven categories are adapted from Strauss and Corbin's (1990) framework for analyzing social phenomena, relates my findings of the causes and effects of the speakers' (professors') efforts to position the speech participants (professor and students)

and the speech in contexts for interpretation (Table 4.1. A deconstruction of the main concern in the academic lecture).

Table 4.1
A Deconstruction of the Main Concern in the Academic Lecture
    Phenomenon
            Participant Positioning-Specifying the context of interpretation
    Causes
            Disconnect between language and culture
            Disconnect between referent and sign
            Relevance and authority bringing in more than just participants
    Context
            Conflict between narrating and narrated
            Conflict between present and abstract
            Speaker is presenting multiple aspects
            Listeners are present in multiple aspects
    Discourse Strategies
            Use pronouns to bring content to the physical
            Use pronouns to make examples understandable
            Use pronouns to refer to salient communities
            Use pronouns to present authority groups

    Language Functions
            Juggling of pronouns
            Cheapness
            Categorical referent
            Interchangeability of pronouns in shared membership
    Composition
            Relationship
            Thirdness
            Environment

Examining each category of the table starting with the phenomenon, the phenomenon is the main

concern that the participants are continually attempting to resolve in the academic lecture: how to

interpret the speech in meaningful ways. Participant positioning is the process used to resolve

the main concern by specifying contexts for interpretation. Several causes of this phenomenon

are evident; causes are the variables that lead to the necessity of participant positioning. One

reason participant positioning is necessary is that language does not have a one-to-one

correspondence with all aspects of culture. Certain cultural aspects are not symbolically

represented in speech, such as the relationship between the speaker and listener, and the speaker must introduce them into the discourse in order for the utterances to be correctly interpreted. Participant positioning is also necessary because of the linguistic sign (the pronoun) has many possible and plausible referents. As writing is recognized as being decontextualized, monologic speech is decontextualized as well. In monologic speech, the referent might not be present in the immediate environment; the sign and referent are connected by the mechanism of reference detailed in my concept of participatory pronouns. Finally participant positioning is result of the need to introduce social entities into the lecture to convey authority and relevance. The speakers are not speaking as just themselves, but as representatives of large social groups with a body of knowledge.

Context encompasses the background variables of participant positioning; participant positioning is situated in the context of conflict and multidimensionality. The speaker must resolve how to bring a narrated discourse into the narrating event and to bring a body of knowledge into the immediate environment. In the academic lecture, the speakers are constantly switching between their decontextualized story-often the content of the lecture-and the present act of story-telling, switching between their narrated monologue and their act of narrating. This switch is challenging because the decontextualized story often treats a subject matter that is not in the experience of the audience. For example, the audience does not have immediate sensory access to atoms that the speaker mentions, so they must imagine chemical reactions; the audience does not live on the time scale of planets, so geological movements must be imagined. How the speaker resolves the conflicts of narration and abstraction are an inherent part of the academic lecture.

A social conflict is also inherent in the context of the lecture. This conflict involves how to interpret the experience of the speaker into something that is comprehensible to the listener,

even though the speaker belongs to a different membership group. The speakers and listeners bring a multitude of memberships into the speech situation. The speaker can speak as a representative of the field of chemistry, the profession of teachers, the specific university where the instruction occurs, or many other social groups. In the same way, the listeners are present as representatives of new initiates in the disciplinary field, students in a college course, the younger generation, or a myriad of other social groups. My Positioning of Participatory Pronouns explicates how the speaker and listeners are able to disambiguate who exactly is speaking to whom.

Discourse strategies are the purposeful uses of participant positioning by the speakers; these behaviors are ways that the speakers are purposefully using participant positioning to bridge the conflicts mentioned before. Participant positioning is used to make the abstract more concrete, such as when a professor speaks of the students are if they are fish under the ice in order to illustrate super-cooling. In addition to making the abstract concrete, participant positioning is also used to explain everyday occurrences in scientific, abstract ways, such as when a professor compares a messy apartment to the concept of entropy.

Participant positioning is also a discourse strategy that brings in the speakers' membership groups as signs of authority and the listeners' memberships groups as areas of relevance. By using participant positioning, speakers can speak as a representative of a social structure much larger than themselves. To their listeners, the speakers become, or assume the role of, authorities in disciplinary fields and representatives of institutions. The speakers can address the listeners as students or make the communication more relevant by addressing them as affinity groups, such as car-lovers, video game players, or job-hunters.

The language functions of participant positioning adapt the language to resolve the phenomenon. Participant positioning results in the same pronoun being used repeatedly to refer

to different referents in a phenomenon I call *juggling*. Because the possible referents of the

pronouns can overlap, the pronouns themselves become *interchangeable*. Because the listener is

subconsciously familiar with participant positioning, the participatory pronouns are used

economically, meaning that they can be used to add much benefit with little processing effort,

cheapness. Finally, the positioning allows a simple statement to be applicable to a specific group

of people by creating a *categorical referent*.

Three core coding categories encompass and select for the compositional properties of

participant positioning. A full range of expressions were found in the data for the relationship of

the participants to each other, the introduction of a social thirdness, and the transportation to a

different environment. Situating these three categories into axes is sufficient to resolve the

phenomenon and disambiguate the referents. Thus, the key aspect of understanding the speech

situation of the academic lecture is explaining the nature of the participants' relationships, their

relationships to other social groups, and where they are speaking. Participant positioning

answers these three questions. While applicable beyond the academic lecture to any area of

decontextualized speech, participant positioning is essential in the academic lecture. Participant

positioning explains who the participants are socially and physically in relation to each other and

outside social groups. These participants are positioned, or placed, by the utterance in physical

and abstract spaces.

Participatory pronouns are a main vehicle for expressing participant positioning. *I, we*,

and *you* belong to a special class of pronouns that I call participatory pronouns. These pronouns

express the participant positioning of the participants and occur frequently in the lecture data. I

created the Positioning of Participatory Pronouns to explain the workings of these pronouns and

their effect on the discourse. Each use of participatory pronouns accomplishes the positioning of

people within the environment, connecting the speaker and listeners to each other not only in the speech situation, but also in the group memberships that they share.

Fully developing participant positioning, participatory pronouns through my Positioning of Participatory Pronouns entirely changes the understanding of pronouns and academic speech, particularly in the academic lecture. These pronouns are not to be considered substitutions for longer phrases but as active components that speakers use to connect known entities with unknown experiences. Pronouns connect the familiar speech participants with new discoveries conveyed by the speaker. The academic lecture is not understood as a conveyance of information; instead, the lecture constitutes a transformative experience that moves the participants to new places and extends the participants' thinking beyond the confines of the classroom. These insights into the use of pronouns in the academic lecture are transformative in the understanding of what occurs in academic discourse; academic discourse is an intersection of discourses of expertise and power that integrates and situates its members in a negotiation of experience. The following sections explore these ideas in more detail.

4.1.1 Referents, Mechanisms of Reference, and Linguistic Signs

The Positioning of Participatory Pronouns separates the linguistic sign, the referent, and the mechanism of reference, which is a traditional way of analyzing pronouns. The referent of a pronoun is the entity to which a pronoun refers. The mechanism of reference is the connection between the referent and the linguistic sign. The linguistic sign is the pronoun itself, *I*, *we*, or *you*. What distinguishes Positioning of Participatory Pronouns is that it details the manner in which the linguistic sign eventually recovers its referent. I explain exactly what each linguistic sign, also known as the pronoun, encodes, what referent is recovered, and which aspects of this referent are important to the recovery. Each of these three signs, *I*, *we*, and *you*, encodes slightly

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different mechanisms of reference, and understanding these mechanisms allows the nature of these pronouns to be fully realized for each token of use in my data.

The recovered referent is a spatio-temporal, mental representation of the speech participants, both present and indexed. The exact specification of this representation is not essential to my theory because the representation will consist principally of the participant relationship, the social thirdness, and the transportative environment. Whether the representation is a prototype or a collection of exemplars is not essential. The entity in the case of participatory pronouns is the representation of the relationship between the speaker and listener, the participant relationship. A third participant in the form of a social group, social thirdness, is indexed as well. Participatory pronouns refer to this representation, placing the utterance in time and space, the transportative environment. These three aspects of participant relationship, social thirdness, and transportative environment are plotted in gradations along a three-dimensional scale which represents these three key aspects of the referent (Figure 4.1 Participant Model of the Referent). Gradations are necessary because these axes represent the nuances of characteristics. In the natural science lectures I examined, the speakers used the range of each to develop the discourse.

The participant relationship aspect describes how much of the speech participants are involved in the utterance. This aspect expresses the notion that the speech participants are not discrete individuals but are often collaborating together; for my data, the speech participants are collaborating in the lecture, one listening to the other. At the intersection of the axes, zero on the r-axis, the participant relationship is dominated by the speaker. At the other extreme of the r-axis, the participant relationship is dominated by the listeners. At the midpoint, the speaker and listener are contributing equally to the fulfillment of the utterance. This axis does not have an arrow because it has a finite limit when the speech participant is contributing solely to the

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exclusion of the other speech participants. Most participant relationships involve some participation of both the speakers and listeners.

Numerous of examples of the range of participant relationships are discussed in later sections. To briefly list a few situations and possible verbal expressions:

Example 4.A

The speaker is drawing on the chalkboard (zero on r-axis), "I am drawing".

Example 4.B

The speaker is drawing on the chalkboard and pretending the listener is drawing as well, (between zero and the midpoint), "I/We are drawing."

Example 4.C

The speaker and listener are both drawing on the chalkboard, or for that matter, both are pretending to draw (at the midpoint) "I/We/You are drawing."

Example 4.D

The listener is drawing on the chalkboard and pretending the speaker is drawing as well (between the midpoint and the far point) "We/You are drawing."

Example 4.E

The listener is drawing on the chalkboard (the far point on r-axis) "You are drawing." How the speaker chooses between pronouns and referents is explained later in this section.

The social thirdness aspect describes to what extent other people, besides the speaker and listeners, are involved in the utterance. In other words, this axis accounts for the extent to which social groups beyond the speaker and listener are included in the conversation. At the intersection of the axes, zero on the s-axis, no social thirdness is involved. The axis continues

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indefinitely because the social thirdness can be larger as more people and social groups are

involved. A larger value on the s-axis indicates of a larger social group for the referent.

Transportative Environment
(e-axis)

Social Thirdness (s-axis)

Examples:

Examples:

4.J

4.I

4.M

4.H

4.L

4.G

4.K

4.F

Ex: 4.A   4.B   4.C   4.D   4.E

Participant Relationship (r-axis)
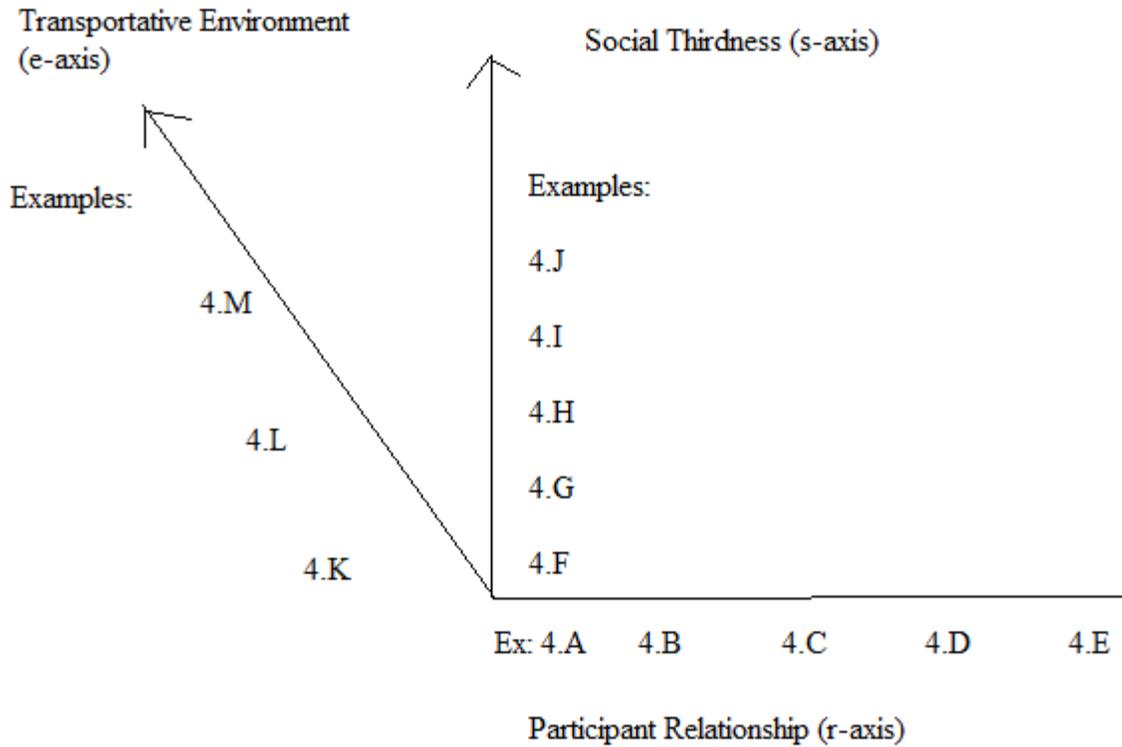
Figure 4.1
Participant Model of the Referent

Numerous of examples of the range of social thirdness are explicated in later sections.

To briefly list a few situations and possible verbal expressions:

Examples 4.F

The speaker is building a house by himself (zero s-value) "I am building a house."

Examples 4.G

The speaker is building a house by himself but is contracting the plumbing

(higher s-value) "I/We am building a house."

Examples 4.H

The speaker is building a house, but is contracting all of the work (still higher s-

value) "I/We am building a house."

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Examples 4.I

The speaker's company is building a house (even higher s-value) "I/We am building a house."

Examples 4.J

The speaker is donating to a charity that builds houses (much higher s-value) "I/We am building a house."

How the speaker chooses between pronouns and referents is explained later in this section.

The transportative environment is the spatial location where the utterance is interpreted. At the intersection of the axes, zero on the e-axis, the utterance is interpreted in the place where the speaker spoke. In the case of the academic lecture, this location is the classroom or lecture hall. This axis extends indefinitely as the spatial location is further removed from the location where the utterance was uttered, the place of utterance. A larger value on the e-axis indicates a more abstract location. In this case, abstract is defined as removed from the place of utterance.

Numerous of examples of the range of transportative environments are analyzed below. To briefly list a few situations and possible verbal expressions:

Example 4.K

The speaker is writing on the chalkboard in the classroom (zero e-value) "I am writing on the board."

Example 4.L

The speaker is pretending to write on the chalkboard in an adjoining classroom (higher e-value) "I am writing on the board."

Example 4.M

The speaker is pretending to write on the chalkboard in outer space (even higher e-value) "I am writing on the board."

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How the speaker chooses between pronouns and referents is explained later in this section.

The mechanism of reference is the way that the linguistic sign indicates the referent. To recover the referents, the linguistic signs encode the mechanism of reference, which is how the speaker intends the listener to retrieve the referent. Each participatory pronoun encodes a different mechanism of referent that is used to determine an r, s, and e-value of the referent corresponding to a value for the participant relationship (r), social thirdness (s), and transportative environment (e). The exact value for each of these referents is found only if the additional effort to process it would yield benefits, in accordance with Relevance Theory (Sperber and Wilson 1986/95). The speakers specify specific referents, but the listeners will only recover the dimensions of the three characteristics of these referents; complete detailed recovery of the intended referent is possible but not assured, since the listener would not derive further benefit by engaging in an exhaustive search. For example, a speaker says "We know the earth has been hit by meteors many times," which could be glossed 'The specific community that studies meteor strikes and disseminates this information to include the scientific community and the general public knows the earth has been hit by meteors many times.' However, the listeners would not need to recover that specific group in order to understand the communication. They would only need to know that a large social group much broader than those present in the room is being referenced as presenting this fact and that the listeners are part of the group that is aware of the group's existence. The characteristics of this referent inform the listener that knowing about meteor strikes is applicable outside of the classroom and is knowledge widely held.

4.1.2 Finding Model Values

My Positioning of Participatory Pronouns is designed to account for the participatory pronouns in a way that is relevant to the participants and their understanding of the lecture. Consistent with Sperber and Wilson's (1986/95) Relevance Theory, the speaker expects the

listeners to spend as much effort as necessary to extract maximum benefit for the effort. The model provides a comparative level in relation to other referents of the participatory pronouns in the discourse. At the recovered level the listener and speaker have sufficient information to continue the communication and further processing would not yield effects worth the effort. This standard is specified by Sperber and Wilson's (1986/95) optimal processing.

Before examining the r-values in this Participant Model, the s and e-values, representing the social thirdness and transportative environment, respectively, follow clear mechanisms that do not differ between pronouns. The s-value is determined by a linear search algorithm that starts with a zero s-value and continues up until an adequate social structure is found (Figure 4.2 S-value). The e-value is determined by a linear search algorithm that starts at zero on the e-axis and continues up until an adequate environment is found (Figure 4.3 E-value).

In contrast the r-value, representing participant relationships, is determined through slightly different mechanisms depending on the specific pronoun (Figure 4.4. R-value). The r-axis is different because the three participatory pronouns, *I*, *we*, and *you*, are distinct on this axis; in Chapter 6 Discussion, I discuss how other pronouns are distinct on the other axes. If the pronoun is *I*, the r-value is determined by a linear search algorithm that starts at Endpoint 1 of the r-axis.

Larger social influence

Speaker and listener
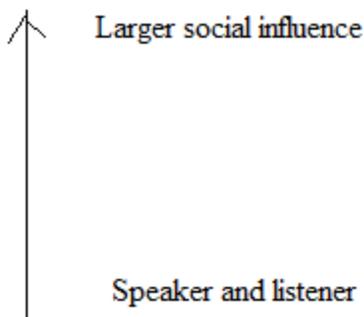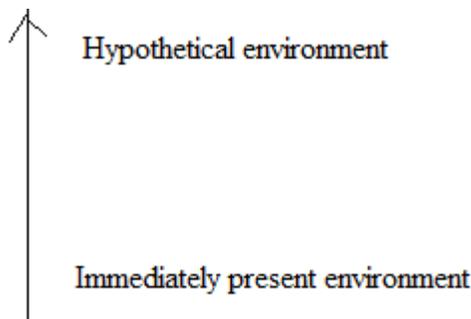
Figure 4.2
S-Value

Figure 4.3
E-Value

If the pronoun is *you*, the r-value is determined by a linear search algorithm that starts at

Endpoint 2 of the r-axis. *We* encodes a more complicated sign; *we* does not just encode a *you*

and an *I*, *we* has a qualitatively different meaning that is reflected in the mechanism starting at

the midpoint. *We*'s r-value is determined by a binary search algorithm, which selects the middle

element in a span and if that is not correct, moves to the middle of the next span. The speaker

intends the listener to start at the midpoint of the r-value. If a completely collaborative

relationship between speaker and listener is not adequate for interpretation, the listener either

tries the relationship at the midpoint between the midpoint 3 and the endpoint 1 or the

relationship at the midpoint between the midpoint 3 and the endpoint 2 depending on if the

listeners have the means to do the action denoted by the stated predicate. If this referent is

adequate for interpretation the search stops, otherwise the search continues in this binary search

pattern.

Figure 4.4
R-Value

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In these descriptions of the mechanisms, several commonalities and distinctions of the pronouns come to the fore. All three pronouns link to the social and physical environment in a similar way, and all three have the potential of referring to any particular participant relationship. Any given referent can be signified by any of the three pronouns. The difference between the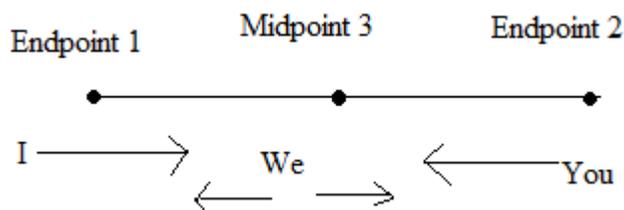 three pronouns is that each has an initial bias toward certain participant relationships. *I* has an initial bias toward referring to the speaker, *you* has an initial bias toward referring to the listener, and *we* has an initial bias toward referring to both collaboratively. As the mechanism of reference is undertaken, the referent recovered can be far from this initial bias, and thus far from a prototypical understanding of these pronouns. Through this mechanism, any of these pronouns can refer to any referent on the Participant Model.

These mechanisms are grounded because of their fit to the data. Referents near the initial bias of the pronouns were retrieved unless these referents were inadequate for communication. The s and e-axis mechanisms are clearly grounded. While the r-axis process of a binary search algorithm might initially seem ungrounded because the term binary search algorithm is a procedure first identified in computer science, it is in fact grounded because all instances of *we* in my data can be accounted for by the use of this mechanism. The steady search of the linear algorithm is unsuitable; a jumpy mechanism explains how *we* can move from the collaborative relationship to the speaker alone or to the listeners alone with the least amount of processing.

4.1.3 Typical Examples in the Data

In-depth examination of some examples from the data illustrates how the Positioning Model of Participatory Pronouns functions and the insights to which it leads. The following sections use the theory to discuss examples of contrasts and social groups.

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4.1.3.1 Social Groups Example

Example 4.1 (Clip 1,O 11:50)

For a long time **we** did not recognize how prone the earth is to impact by extra-terrestrial material but almost every night **you** can look up at the sky and could see light coming across that is either piece of a comet or a piece of a old plant or a fragment of space junk falling down on the earth.

Here the referent of *we* is a midlevel r-value, a high s-value, and a midlevel e-value. Using the binary search algorithm encoded by *we*, the first adequate interpretation for the r-value is that *we* refers to both the listeners and speaker in a collaborative relationship. If further processing was required, the listener could conclude that *we* refers to mostly the speaker; however, further processing is not required because knowing the exact referent does not yield much benefit for the listener.

To find the s-value, the speakers intend the listeners to determine that they are referring to a large social structure because the speaker and listeners do not actively ponder the propensity for meteor strikes. A thirdness concerning meteor strikes is necessary. Whether this thirdness, to which the speaker and listeners are one of many members is a broadly shared membership, such as the rest of humanity, or a more exclusive membership of the speaker, such as geologists, is not necessary for adequate interpretation.

To find the e-value, the speaker intends the listener to situate the participants in an environment removed from their current environment, a place where the earth as a global body with extra-terrestrial material is relevant. This setting is not the current classroom of instruction but a place where the reflection on earth's place in the universe is pertinent.

The referent of *you* is a midlevel-to-high r-value, a high s-value, and a midlevel e-value. The first relationship of the speaker and listeners that is adequate is between Endpoint 2 and

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Midpoint 3. Referents close to Endpoint 2 exclude the speaker too much. Because the speaker

also "look(s) at the sky," his involvement must also be referenced. The referent is not at

Midpoint 3 because this referent would imply that the speaker and listeners are looking together.

Thus, the referent is a value between Endpoint 2 and Midpoint 3, but closer to Midpoint 3

because of the ability of both speakers and listeners to perform the requisite action. Throughout

the data, in this range of referents *you* or *we* is commonly used. The high s-value is necessary

because the speaker is referring to an activity in which all humanity can engage. This is a large

shared community so in this case, *I, we,* and *you* could be interchanged without a change in

communicative intent. The midlevel e-value is necessary because the night sky is not viewable

from the classroom.

4.1.3.2 Contrast Example

> Example 4.2 (Clip 4,O 45:15)
>
> The idea that **I** am trying to get across with this kind of discussion is that **we**[1] had
>
> developed good ideas of what a nuclear winter would be like. This multiplies
>
> that... Now continuing to the nebular hypothesis this is what **we**[2] are beginning to
>
> see is that a large mass…

The referent of *I* in this sample has a low r-value, low s-value, and low e-value. The

speaker is referring to a referent near Endpoint 1. The speaker is not referring to a thirdness,

such as 'I as a representative of three classroom lecturers.' The speaker is referring to the

discussion in the immediate environment.

We[1] from "we had developed…" refers to a midlevel r-value, a high s-value, and a

midlevel e-value. The referent has a midlevel r-value because it refers to the speaker and

listeners in an abstract collaboration. On the interpretation that the speaker intends this

relationship to exclude the listeners more in order to emphasize the speaker and other geologists

as the referent, the r-value would be a range of values between Midpoint 3 and Endpoint 1. The high s-value is the most salient aspect. Knowing a large thirdness was involved in the development of the ideas described, *we[1]* could be substituted by "geologists" or another class of people with no change in communicative intent. The e-value is midlevel to high because the referent referred to is in an abstract environment; preceding and subsequent discourse indentifies this as a place where people develop predictions of nuclear fallout.

W*e[2]* from "what we are beginning to see…" refers to a midlevel r-value, a low s-value, and a high e-value. The r-value is close to Midpoint 3 because the relationship described, viewing a principle emerging for the participants through discussion, is close to prototypically collaborative. The s-value is low because a thirdness it not really necessary or intended for interpretation. The e-value is mid-level because the speaker and listeners together in an abstract environment of ideas are "seeing" an idea. A referent with similar r, s, and e-values is used in the following examples:

Example 4.3 (48:15, O Clip 5)

We see the emergence of the moon where we have this object that is now orbiting the earth.

Example 4.4 (46:15, O Clip 6)

We have hit the earth with all these different objects.

Example 4.5 (46:50 O Clip 7)

As you note before, we have a major difference between the mantle composition and the core composition.

These examples that I have explicated above demonstrate the nuance of pronominal reference revealed by my Positioning of Participatory Pronouns and the wide variety of referents that are actually encoded in a few simple utterances.

4.2 PPP Explanations of Language and Discourse Phenomena

4.2.1 PPP Explanation of Pronoun Usage

My Positioning of Participatory Pronouns (PPP) explains how language indicates referents and provides insights into language use in academic discourse. The referents are retrieved by the model that I outlined in the previous section, but certain aspects of the model are cued by slightly different aspects of the intersection of culture and language.

The value of the r-axis is cued by the shared understanding of the speaker and listeners with regard to the extent of their contribution to the action described. The mechanism begins signifying his speech participants in the initial here-and-now state of the immediate environment (e-axis), the speakers' own perspective of the relationship between the speakers and listeners (r-axis), and how this relationship interacts with other pertinent social groups (s-axis). The speaker signifies the two-person relationship with the participatory pronouns, I, *we*, or *you*. The listener and speaker are both aware of the actual relationship of the speakers and listeners, and this actual relationship may not correspond to the prototypical usages of these three pronouns or the initial biases of these pronouns. This degree of difference between physical reality and linguistic representation reflects the extent of participation that the speaker is attributing to the listeners. When the monologic speaker says "We were talking…," he is signifying the physical reality of his monologic speech with the linguistic encoding that initially signifies that both participants are talking. This disparity between literal physical reality and pronominal initial states means the speaker is imagining the listeners responding and "talking" with him collaboratively. This finding is important because other studies, e.g. Brown and Gilman (2003), have interpreted the use of pronouns in this way as a result of particular culturally influenced pragmatic factors such as solidarity. My findings indicate the disparity between physical reality and linguistic encoding is present to a greater or lesser extent in every instantiation of participatory pronouns. Having a

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difference between physical reality and linguistic encoding is common and does not by itself carry an implication.

In contrast, an examination of the other axes reveals that the s-axis, social thirdness, is cued by the social groups to which the speaker and the listeners belong, and the e-axis, transportative environment, is cued by the surrounding words and sentences. I sketch this result briefly here; more evidence is presented in the Chapter 5. As speakers change their intention to other referents that have more social thirdness than a two-person dynamic and a more transportative environment than the immediate environment, the same participatory pronouns are used to signify the referent, with the exception of words that have been separately encoded in the language such as plurals and polite forms that will be discussed in the Chapter 6 Discussion. While a change in the environment must be explicitly specified to make an adequate interpretation, the two-person dynamic can be expanded to reflect relevant community memberships of the people that are known to the speaker and listener; otherwise, the social thirdness must be explicitly specified. For example, in the utterance,

(4.A)"We^1 know that we^2 are weightless in zero gravity."

The referent of *we*^{1} depends on the speakers' and listeners' group memberships while the referent of *we*^{2} derives its environment from the phrase "zero gravity." The *we*^{1} can vary depending on the speech situation, but the environment of the *we*^{2} is fixed by the surrounding words. This implication is explored further in the section 5.2 Grammaticality and Three Tests of Environments.

When choosing a particular pronoun in monologic academic discourse, the speaker has the referent in mind. The speaker selects an e-value corresponding to where the referent is located. Any location outside the present physical location of the college classroom needs to be specified explicitly in the discourse. To determine the s-value, the speaker searches the relevant

memberships of the speaker and listeners to determine the shared group memberships.   While shared group memberships provide more freedom to pick symbolic forms, any group in which the speaker participates and it can be assumed that the listener does not know about must be specified explicitly in the discourse; this result is discussed in section 5.2 Grammaticality and Three Tests of Environments. Otherwise, if the referent belongs to a membership group of the speaker or listener, or both, then, that membership does not need to be specified explicitly. To select the value of the r-axis, the speaker determines how much of the speaker and listener is participating in the predicate.   The speaker encodes the referent with one of the three participatory pronominal forms and invokes the environment (e-axis) or unknown social memberships (s-axis).

The listener decodes and infers the referent on the axes with as much detail as needed to form an interpretation. In finding this interpretation, Relevance Theory relates the processing effort required with the potential benefit to the listener. My analysis is compatible with the Relevance Theoretic and Gricean framework, especially since the genre of the lecture has clearly defined practices of appropriate communication (i.e. the standard of practices is more highly restricted than in daily conversational interaction). Relevance Theory best captures the spirit of the model. The speakers specify their meanings as clearly as necessary in order for them to be relevant to the communication, with the relevance of participatory pronouns being structured along the three axes of participant relationship, social thirdness, and transportative environment.

4.2.2 Language Functions

Participatory pronouns serve four main functions in language. My observations reveal that these functions are not typically conscious efforts by the speakers but are a result of the characteristics of the pronouns.   First, participatory pronouns can be *juggled* meaning that the same pronoun can be used in quick succession to refer to different referents. Second,

participatory pronouns can refer to a *category* of people that is more specific than indefinite pronouns but broader than speaker and listeners. Third, participatory pronouns bring an *economy* that allows social entities to be brought into the speech easily and without much explanation. Finally participatory pronouns bring an *interchangeability* of signs that reduces the distinction between words.

4.2.2.1 Juggling Referents

Juggling is a term that I coined to describe how the same pronoun form refers to different referents in succession. Disambiguating the referents of juggling is a process where my Positioning of Participatory Pronouns is particularly insightful. In the following example, the speaker is seen to be juggling several referents at once.

> Example 4.6 (J-clip pres 3)
>
> Any questions? Okay, **Let's**[1] talk about bases. Bases are different; they're quite different. **We**[2] don't really have a really good naming convention for these.

In "Let's talk about bases…," the speaker refers to *we*[1] as a physical group with a low s-value before referring to *we*[2] as an academic community with a high s-value. The r-value of the referent of the *we*[2] in "We[2] don't really…" is lower than that of the *we*[1] because the listeners are not included in the group that creates the naming conventions. The e-axis is low in this first referent and in the second referent because the speaker is not changing the environment. Neither of these referents is defined explicitly by the discourse. At no point does the speaker say that he is going to be using *we* to refer to different groups, and no characteristic prosody or emphasis is used to distinguish the two. No distinctive paralinguistic feature accompanies the utterance.

The speaker is referring to two different referents using the same deictic within a few seconds of each other. The first "let's[1]," *we,*[1] has a low e-value and low s-value because the

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speaker is referring to the current environment with little participation outside of the speaker and listeners. In a prototypical conversation, "let's" would refer to 'we the speaker and listeners "talking" in equal participation so that the r-value would be close to Midpoint 3 on the r-axis, but here the referent is closer to the Endpoint 1 since the speaker is in fact doing most of the talking and the listeners are never allowed to speak. Rather than continually alter the meaning of *talk* to fit every situation where it is used, the participatory pronoun concept allows *talk* to retain its prototypical meaning, where the agent that talks is speaking.

According to the retrospective interview with the speaker, he intended *we*[2] to refer to 'we the community of chemists,' so this referent does not involve the listeners. This referent has similar values as the first referent but the s-value is much larger because the speaker is referring to himself and the world-wide community of chemists. The r-value is closer to the Endpoint 1 because the listeners are less involved in this naming convention, but as explained before, the r-value becomes less important when s-values are high.

Alternative interpretations for the referents of these utterances are indeed possible. Listeners to the first utterance could interpret that they were going to be doing more talking than just listening, thus interpreting the referent as having a slightly higher r-value. However, because the context of the monologic lecture does not involve the listeners speaking, no listener who had ever been in the class before would have thought that the r-value would come close to Endpoint 2. So the interpretation of the r-value is dependent on the relationship between the speaker and listeners and mitigated by the cultural practices of the group. Nevertheless, the listeners may all retrieve a slightly different referent. As long as the referents can be adequately interpreted, the referents are optimal.

Listeners may also vary somewhat in the assignment of the s-value for the referent. Perhaps they thought that the speaker was referring to himself and a teaching assistant teaching

about bases; however, it is unlikely that the listeners thought *we[1]* in "let's" referred to the

speaker and the community of chemists discussing bases. So the s-value is dependent on the

social structure in which the speaker and listeners participate. Social information pertinent to

arriving at the s-value includes whether a teaching assistant is part of this group and if a relevant

thirdness could do this action of talking

The listeners may differ on their assignment of an e-value for the referent. The e-value is

set by the surrounding words. In this case, the surrounding words do not evoke any other

environments besides the current environment of the classroom. If the speaker in 4.6 had said

"Okay, thinking in the context of an organic-less environment, **let's**[1] talk about bases," the *we[2]*

in this context could easily be interpreted to refer to 'we[2] the class do not have a name for bases

that we the class will use to call them.' Other interpretations besides this one would involve a s-

value error and would result from a misunderstanding of the social structure. Considerations

about the social structure that would determine the interpretation includes whether the class often

innovates terms for use in the class or is such an action marked so as to require explicit use. This

difference between 'we the class' and 'we the chemists' is an important distinction, but the

misinterpretation still does meet the definition of adequate interpretation because the utterances

have the same functional equivalence. Either way the statement about the naming convention is

true.

Examining another example of juggling:

Example 4.7 (Clip 3 s)

Okay so now what **we**[1]'re doing is approaching respiration because respiration is

what **we**[2] tend to think of as metabolism

The two uses of *we* in Example 4.7 refer to referents that cannot be the same. The first instance,

we[1], has a midlevel r-value lower than the midpoint, a low s-value, and a low e-value. This

participatory pronoun could be substituted by 'the class.' The second instance, *we²*, has a

midlevel r-value close to the prototypical Midpoint 3, a high s-value, and a midlevel e-value.

This participatory pronoun could be substituted by 'the general public.'

      The *I* pronouns in the following example illustrates the juggling of distinct referents:

            Example 4.8 (2010 s clip)

            In biological systems **you** don't have to know much about this conservation of

            energy. **You** have to know that energy comes from the sun and it gets burned up.

            Okay so why do $\mathbf{I^1}$ even say it? Because it is in the book. The second one is $\mathbf{my^2}$

            favorite though because it doesn't make any sense either, but it's really important

            to biology okay the second law says every energy transfer increases disorder now

            that mean that if $\mathbf{I^3}$ move this chair...

In "Why do $\mathbf{I^1}$ even say it…," the referent is 'I the teacher" with a low r-value, a midlevel s-

value, and a low e-value. These values correspond to the speaker referring to mostly himself as a

representative of a larger social structure in the current immediate, physical environment.

      In "the second one is $\mathbf{my^2}$ favorite…," the referent is 'I as a person with personal

feelings' with a slightly lower r-value than the previous *I*'s referent, a low s-value, and a slightly

higher e-value. The values of this referent correspond to the speaker referring to something that

the audience is not expected to share, nor is this a perspective of the social structure (In that, the

speaker does not intend to indicate that this is the favorite of all chemists), but this statement

extends beyond the immediate, physical environment.

      In "if $\mathbf{I^3}$ move this chair…," the referent is 'I this being in front of you' with an even

lower r-value, an even lower s-value, and an especially low e-value. This corresponds to the

prototypical idea of the referent of *I*. These values refer to a being in front of the listeners

distinct from them, not a representative of a social group, and situated in the physical, immediate environment of the speech.

Another similar example is:

Example 4.9 (Clip two, s)

But because it's most pertinent to **our**[1] view of the world **let's**[2] talk about the cell example

Juggling is a common result of having only three participatory pronouns to represent an infinite number of possible referents. Often the same pronoun is used in quick succession to refer to completely different referents. My Positioning of Participatory Pronouns explains how interpretation of these pronouns leads to the intended referent.

4.2.2.2 Categorical Level

Participatory pronouns can refer to a *category* of people that is more specific than indefinite pronouns but more broad than speaker and listeners. When the speakers use pronouns to refer to referents, they are not referring simply to the listeners or simply to an indefinite group, as other analyses would purport; they are referring to the speakers as members of specific social groups. Whether the social groups are easily delimited such as members of a specific university class, harder to count such as students, or overwhelming such as members of humanity, the social groups specifically include the speech participants.

Example 4.10 (52:15 O Clip 8)

Here is some of the direct evidence for that. These are some rocks that were brought back from the moon. **You**[1] remember the US put somebody on the moon. Did **you**[2] know that there is still some people who don't believe that **we** did that?

You[1] and *you*[2] refer to a high r-value, low s-value, and low e-value referent. This is a prototypical example of existing analyses of *you*. Y*ou*[1] has a slightly higher s-value because the

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speaker assumes the listeners are part of a social structure that has knowledge of the moon landings.

The *we* refers to a midlevel r-value, high s-value, and midlevel e-value. This *we* is what I term a patriotic pronoun because the speech participants are set as part of a referent in which the group membership nationalities are important; the following example highlights this more clearly.

Example 4.11 (J clip 2nd session 30:00)

Who has heard about the Explorer satellites? **I**'m sure a lot of **you** weren't even born then. **We** launched those in 1984 to view the solar system, and they are still active today."

From my interviews with the speaker and the larger context of the discourse, the *we* in Example 4.11 refers to 'U.S. Americans who launched the satellites through NASA.' This referent would have a midlevel r-value, high s-value, and midlevel e-value. The s-value would be high because the social structure involved in satellite launches is not the class who is listening to the lecture. The social structures that launch satellites are nationalities or humanity as a whole. Either of these could be referred to without interfering in the meaning that the speaker was trying to express. The retrospective interview identified the referent as 'U.S. Americans.' The listeners could have interpreted the referent as 'we older people' or 'we professors.' but this would have been an r-axis misunderstanding. That is, the speaker is referring more to himself to the exclusion of the listeners. The e-value denoted that the context is removed from the physical space. Overall then, the s-value could refer to two referents, the r-value adds two more, but because the s-value is so high, r-value distinctions are not as important. The e-values make the r-value of relationship or s-value of thirdness, less important. So as long as the referent belongs to the same categorical level of values, the interpretation is adequate.

Since the United States is not mentioned before or after this utterance, interpreting as 'U.S. Americans' is not necessary, interpreting as 'humanity' will also suffice. What is essential is that the referent is a *categorical referent*, meaning that the referent includes the speech participants in a specific definite social group.

Misinterpreting these utterances as referring to 'the class launched the satellites' or 'the Americans are not talking about that right now' would be possible, reasonable, and even probable in other contexts, but it is not the interpretation intended by the speaker nor that reached by the listeners according to my interviews. The social structure of the participants and images evoked by the surrounding words aids in making the intended interpretation.

Categorical referents are a powerful insight from Positioning of Participatory Pronouns because this concept allows speech participants to be referred to as specific members of social groups, which in effect, expands the possible worlds of the participants in the speech situation. In this section, I have explored patriotic pronouns because they are the clearest example of categorical referents, but the categorical referent is a necessary concept for the interpretation of many referents with midlevel to high s-values. Effects of categorical effects include *staturing* and *extending* which are two processes that I describe as bringing authority and relevance to discourse, discussed in sections 4.2.3.2 Extending: Use pronouns to refer to salient communities and 4.2.3.3 Staturing: Use pronouns to present authority groups.

4.2.2.3 Economy

Participatory pronouns can be interpreted with little processing effort, even when transported to different environments on the e-axis. *Economy* refers to the way in which the participatory pronouns can refer to complicated entities that would require much effort to articulate if participatory pronouns were not used. Economy demonstrates how versatile and understandable participatory pronouns are.

Example 4.12 (21:20 s)

So hence now **we** come to the word entropy, okay, and this is probably the easiest thing to imagine. **You**[1]'ve got an apartment, **you**[2] know, with three roommates and **you**[3] decide on Saturday that **you**[4] are going to clean it up so **you**[5] put in a lot of energy and **you**[6] make it beautiful **you**[7] have **you**[8] get the scuz off the kitchen sink **you**[9] put the dishes away **you**[10] come back three days later and the sink is full of crap and **you**[11] look on the seat and some guy has peed on it.

In this sample, the referent of *we* has a midlevel r-value on the Endpoint 1 side that corresponds to the collaborative discourse journey led by the speaker, a midlevel s-value that relates a completely shared group membership consisting of the speaker and listeners in the social structure of conversation, and a low e-value that relates the immediacy of the environment

In the follow-up interview, the speaker describes his use of the phrase "*you*[2] know" the as "verbal hiccup" with no meaning, which is consistent with the nature of nontechnical understandings of discourse markers. I did not treat discourse markers as decompositional. In the context of the discourse marker "you know," *you*[2] does not have an independent meaning (Brody 1995, Schiffrin 1987).

The other referents of *you*[1, 3-10] in this sample are high r-value, low s-value, and high e-value referents. The r-value is high because a referent near Endpoint 2 is sufficient. The s-value is low as well since the referent is not an exemplar of an elaborate social structure; however, since the social structure that is referenced is shared by both the speaker and listener, the forms, *you*, *we*, and *I* could be used interchangeably. The e-value is relatively high since the speaker is asking the listeners to imagine the referent away from the immediate, physical environment. Interpreting the r-value in light of the high e-value, the referent could include both the physically present listener and speaker in an imagined environment where they lose some of their individual

distinctiveness. I explore this economy and loss of distinctiveness further in the following examples.

I have divided Example 4.13 into three passages to facilitate discussion. The passage 4.13.1 starts with the speaker addressing those physically present (low y and e-values), *you*[1]. The speaker then refers to himself in the same sense (low y and e-values), *I*[1]. Next the speaker introduces a situational self with *I*[2]. *I*[2] is the physically present person but in an imagined situation, a high e-value. Which characteristics this referent retains of the speaker is initially unclear, but this will be discussed further in this section.

> Example 4.13.1
>
> **You**[1]'ll see what **I**[1] mean. Suppose **I**[2]'m in oh **you**[2] know a, a something coasting along like this at constant velocity, and **I**[3] throw a ball. Okay?..

Afterward the speaker asks the listeners to also suppose that he throws a ball in this imagined situation, *I*[3]. *I*[3] has a high e-value since the referent is much removed from the speech situation. After discussing the properties of the ball for a while the speaker comes back and refers to himself in the imagined world in the following example:

> Example 4.13.2
>
> But now from **my**[4] point of view, in **my**[5] reference frame, **I**[6]'m at rest. **You**[3] guys are moving that way…

When he says that "you[3] guys are moving that way," this *you*[3] is the first time that the speaker has asked the listeners to imagine their physically present (low s-value) selves in an imaginary situation. The situation described is that they are moving in a certain direction if viewed from the speaker's imaginary (high e-value) perspective.

Example 4.13.3

But neither **you**[4], nor **I**[7], is especially entitled, to say, **I**[8]'m the one who's at rest and **you**[5]'re moving. Basically either one of **us**[1], can say, **I**[9]'m at rest and apply the laws of mechanics.

In 4.13.3, the speaker starts by referring to "neither you or I." The *you*[4] and *I*[7] are the physically present people in the imagined situation. He has these imagined entities saying "I'm at rest and you're moving." In this statement the *I*[9] refers to either the speaker or the listener saying this. The *you*[5] refers to the other person in the imaginary situation, in imagined conversation with I[8].

This passage is a complicated situation that is made more understandable by the use of *I* and *you*. Using more technical expressions like *Entity A* and *Entity B* or third-person references such as *they* and *guys* would preserve *you* and *I* to refer to more common referents, but the use of *entity*, *they*, or *guy* would require the speakers to speak even more abstractly and maybe even use paralinguistic tools such as diagrams. Other expressions can be used easily as hypotheticals, but not with the same quick set up as *I, we,* and *you*. Here is an example of *guy* being used as a variable from the MICASE database.

Example 4.14 (MICASE physics page 4)

It has nearly the same value when measured in any frame. and in some other frame of reference they may not happen at the same time. so in other words, if two firecrackers go off, one at this end of the bench and one at the other, and they go off at the same instant in **our** frame of reference, with somebody moving by, either this way or that way, they will not go off at the same time. it depends on the way they're moving. **Guy**[1] moving this way sees one go off before the other, **guy**[2]

moving that way would see just the opposite, that the other goes off, before the

other. okay **we** won't go into that, that's a little too much for **us** to, uh consider.

In this example, *guy* was used as a variable to represent someone moving. *I* and *you* could have

been used in this example, but perhaps since it was such a small example, *guy* was an easy

substitution; however the speaker uses the phrase "our frame of reference," so the pronominal

reference is not entirely absent from this example. The phrase also articulates an aspect of the

imaginary context. The following is a further example of the economy of participatory pronouns

using a mix of *guy* and participatory pronouns.

> Example 14.15 (MICASE physics page 5)
>
> but now, in order for the light to stay in the clock, of this moving clock **i** mean
>
> somebody's riding along this with thi- this and **you** know he can see the light
>
> going up and down, the **guy**[1] that's riding along. but from **our** point of view, in
>
> order for the light to stay in the clock, it has to follow a sort of saw-tooth pattern,
>
> like that. it has to move not only this way but that way to keep up with the clock.
>
> and, by the time, it gets back to the bottom here, it has to do that... so, according
>
> to the **guy**[2] at rest with respect to the clock, the light just had to go from here to
>
> here. and then back again

Participatory pronouns bring an economy to speech. Instead of using elaborate

descriptions of hypothetical entities, the participatory pronouns introduce entities into an

imagined discourse. The property of economy extends beyond these high e-value referents.

High s-value referents also demonstrate economy by not requiring the speaker specifically to say

'you as students' for every instantiation. In the same way, r-value referents not near the

prototypical usages of *I*, *we*, and *you*, demonstrate economy by relating a situation that would

have to be linguistically signified if participatory pronouns were not used. Economy relates these concepts in fewer words.

4.2.2.4 Interchangeability of Pronouns in Shared Membership

Participatory pronouns are usually not thought of as being interchangeable; changing the pronoun usually leads to a change in the sentence meaning. For example:

(4.B) I love you.

does not mean the same as:

(4.C) You love me.

You is generally considered to be the opposite of *I*; however, some level of interchangeability is recognized between *I* and *we*, such as when someone says:

(4.D) $\mathbf{I}^1$ am mad because $\mathbf{I}^2$ am building a house and running into permit
problems.

I^2 in this sentence likely refers to the speaker and a team of builders so that the utterance could be:

(4.E) I am mad because **we** are building a house and running into permit
problems.

In the classroom lecture, examples of interchangeable pronouns occur often. Two causes of this phenomenon are most important: the pronouns are interchangeable because of uses that blur the r-axis of participant relationship, and the pronouns are interchangeable because the speaker and listener are both part of the social thirdness (s-axis) entity to which they refer.

In the first case, the pronouns refer to entities on the r-axis that are between prototypical uses of the pronouns. In the following example, the speaker says "you put…" and "we've got…" This utterance is a case of pronouns being interchanged. Any participatory pronoun could be substituted for these subjects.

Example 14.16 (MICASE 13 of 96, bolded for exposition)

um, let's look at it in another way, let's look at a population... of gypsy moths... on Long Island.   and, let's say, that... there's ten million gypsy moths   so that's, ten-to-the-seventh, and gypsy moths have, ten-to-the-fourth, two times ten-to-the-fourth, loci, per moth... and they experience, over their lifetime, on the order of ten-to-the-minus-fifth mutations, per locus. **so you put these numbers together we've got ten million organisms,** with two times ten-to-the-fourth loci per organism and they have this mutation rate, and that leads to on the order of two times ten-to-the-sixth, mutations, per population... so that's not, that rare. that actually, leads to an awful lot of variability. um, it's, it's usually, considered to be the fact that the average heterozygosity... for ever- for, and that means how many loci are heterozygous therefore have two different alleles, is about twenty-five to thirty-five percent, in... most organisms. and this is based on diploid organisms

In the next example, the bolded pronouns are examples of interchangeability, showing that the use of any participatory pronoun would not affect the meaning of the utterance.

Example 14.17 (MICASE 17 of 96, bolded for exposition)

when we have fragmented populations, and that's why i put the wolves up here again because even though they're not, rare in numbers if **you** look at the number of wolves in different parts of Canada there's plenty there, but in the U-S and increasingly in Canada people are coming between small groups of wolves so that there's no longer gene flow between them, **we** have isolated populations and **you** begin to get drift within the isolated populations.

The following example has more examples of interchangeability. In the first part, the first five participatory pronouns, *you*[1-4] and *we*[1], refer to the same referent and can be interchanged

because the usages are not prototypical on the r-axis. In the second part, the I^1 and we^2 refer to the same referent and can be interchanged.

Example 14.18 (MICASE 29-30 of 96, bolded for exposition)

but that's not what's happening each time it's getting better, because **you**^{1} are selecting, specifically for those cells that know how to metastasize. and by the end **you**^{2} have a highly enriched population **you**^{3}'ve taken a, cancer cell line where initially, those cells represented a very very tiny fraction of the total population, now those cells capable of metastasizing represent a very high percentage of the population, because **you**^{4} have been selecting for that particular type of cell. so the cancer cells vary in the frequency with which they metastasize and in this experiment **we**^{1} are selecting preferentially for those cells, that do have that capability. now although these experiments involve, what **i**^{1} might call a gradual change, in the cancer cell population induced by an artificial selection, the experimenter is selecting for this, generation after generation, there is something similar, that actually occurs, in normal situations in people that have cancer. and **we**^{2} refer, to this as tumor progression.

In the second case of interchangeability, applying to I^1 and we^2, the pronouns refer primarily to a social thirdness, but because the speaker and listeners are both part of this social thirdness, the pronouns can be interchanged. This process results in interchangeability but is not reliant on the r-axis. The individuals are not important, because a much larger social entity is being referenced, as further displayed in the following example.

Example 14.19 (MICASE 14 of 96, bolded for exposition)

if for example if **you**^{1} have like **i**^{1} do in **my**^{2} yard huge, um oak trees with lots of acorns... and **you**^{2} also have a huge population of squirrels and they come and

they pick up... the acorns and move them (to different) places, an acorn that is

buried by a squirrel, right underneath the shade of the original oak tree, is not

gonna have a very good chance of growing, while an acorn that's taken out to a

little open space in **my^3** yard and planted in the best little pot of earth there and

the squirrel forgets it, come April and it actually begins to grow, that acorn, will

have its genes passed on.

This demonstrates a speaker interchanging *you* and *I*, implicit in *my*. In the beginning of the

example, the speaker establishes an imaginary contest; *you^1* is followed *my^2* and *I^1* that cannot be

interchanged. Having set up this shared knowledge, the participants are subsumed by the social

thirdness of being property owners, or nature observers, that whether the spot is in the speaker's

yard or the hypothetical yard does not hinder interchanging the participatory pronouns. The

referent of *you^2* and *my^3* could be any participatory pronoun, *I*, *we*, or *you*, because of the high

importance of the social thirdness, s-value.

    In the following segment, Example 4.20, the referent of *I* is overshadowed by the

universality of the social thirdness of being a human that mates. Because of the social thirdness,

many of the participatory pronouns in this passage could be interchanged with *I, we*, or *you*.

What is notable in this example is that at the end of the passage, the speaker interchanges *I^7* and

we^2 in a kind of self-correction that demonstrates that either can work; however, his self-

correction serves to emphasize the content material - that nonrandom mating is not just a

property of the speaker.

    Example 4.20 (MICASE 17-18 of 96, MICASE)

    (transcription codes indicate a second speaker)

    <EVENT WHO="SS">

okay next, mechanism of micro-evolution is called nonrandom mating. and, this occurs when one member of a population is not equally likely to mate with any other member. in other words, **i**[1] am not equally likely to mate with any one of **you**[1] in this room.   not only because **i**[2]'m devoted to **my**[3] husband but because **i**[4] would probably choose among, the group here based on something. okay. **I**[5] won't say what but based on something, and based on that **i**[6] would probably choose Dr Hammerman because **we**[1] have cultural, connections right?

<U2 WHO="S2" NSS="NS" ROLE="JF" SEX="M" AGE="3"

RESTRICT="NONE" FLANG="DUT">whatever **you**[2] say Marcie.

<EVENT WHO="SS">

 so so the **i**[7] **we**[2] don't, **we**[3] don't operate with nonrandom mating.

Interchangeability has been noted by other authors (Muhlhausler and Harré 1990), but I am the first author to explain when interchangeability is possible and when it is not possible. Two aspects of Positioning of Participatory Pronouns account for when interchangeability occurs: when r-values differ from prototypical usages and when social thirdness overwhelms the participant relationship.

4.2.3 Discourse Strategies

Discourse strategies are purposeful behaviors by the speakers to engage participant positioning to increase the authority, relevance, and comprehensibility of their lecture. Discourse strategies are used in the lectures because the speech situation requires the speaker to position participants and speech within the current context and in relation to other contexts. The speakers are actively positioning their speech and the other participants. In academic lectures, the speaker speaks of abstract worlds and tries to bring them imaginatively to the physically present space. The speaker tries to make concepts applicable outside the physically present

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space by referring to social groups; the speakers also use social groups to give authority to their speech.

4.2.3.1 Exampling: Use of Pronouns to Bring the Hypothetical to the Physical

Along the spectrum of contextualization, one end could involve speech that is completely removed from a physical reality, such as reading fiction aloud. The other end of the spectrum could involve speech that is situated in a physical reality, such as an announcer giving a play-by-play at a sporting event. The academic lecture contains both ends of this spectrum and every phase in between, but what makes the academic lecture unique, especially academic lectures in the natural sciences, is that the professor is constantly trying to make tangible an abstract body of knowledge that has little to do with the classroom surroundings. The professor is trying to talk about phenomena such as the spinning of atoms or the rotation of the planets that are not possible to see. The professors in my study used many tools to make these abstract processes a physical reality. I call this process of bringing abstract concepts, distant places, and unviewable processes to the physically present reality *exampling*. Exampling is not a process unique to language and takes other symbolic modalities including physical and pictorial.

Common methods of exampling are the use of physical models, such as gestures and demonstrations, and pictorial models, such as pictures and drawings. The gesturing that I observed in the lectures varied from speaker to speaker. I did not find a consistent gesture that indicates the context of interpretation of the utterance, whether the utterance pertained to the classroom or to an abstract body of knowledge. Often the lecturers would hold their hands behind their back or grasp the podium or another object, effectively eliminating hand gestures. Demonstrations were an integral part of some lectures and ranged from elaborate tracks and catapults to simple sticks and rocks. The pictorial models were as mundane as pictures on Powerpoint and chalk drawings, but these pictorial models were an integral part of the lecture.

Pictorial models were more symbolically complicated than the physical models often incorporating legends and captions that explained the process depicted. I videotaped the lectures so that I could analyze the discourse and pronouns in a fuller context. These physical and pictorial models of exampling were intentional actions to make the concepts more readily understandable.

Through physical and pictorial modalities were commonly used, they were always accompanied by speech. Speech was the principal method of communication, and the other modalities supplemented what was said. At times, speech fulfilled the role of the physical and pictorial modalities. Speech executed an imaginary action by the participants. Speech created a picture in the minds of the participants.   Participant positioning in this discourse strategy of exampling is one of the most powerful uses of speech.

Participant positioning and participatory pronouns are especially useful in this process of exampling because they can transport the speaker and listener to where the described action is occurring, and they can make the listeners and speakers into objects in the processes, such as atoms or planets. Several professors accompany their exampling speech with demonstrations which have the property of making the speaker and listeners imagine themselves as other objects in other places. The two examples below are instances of the speaker and listeners being transported to new environments by exampling.

In the Example 4.21, the professor is spinning a metal rod pretending to be an atom. This discourse transports the participant into an imaginary context involving the students pretending to be atoms that undergo a reaction projected on a Powerpoint chart.

Example 4.21 (Video, F11, 15:00, Transcription 2 of 6)

There's the potential energy and then there is the kinetic energy. What's missing in this picture is the kinetic energy. Particularly that kinetic energy associated

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with it's rotation about that bond. So if **you**[1] think about this reaction occurring

corresponding to **my**[1] big pointer rotating. Some time that molecule is in the way

causes it to bounce back. So **you**[2] go here. Here's the rotation that has to happen.

The kinetic energy is going to tell **me**[2] how fast it is rotating. Very little kinetic

energy means **I**[3]'m trying to rotate like this. A lot of kinetic energy, means **I**[4]'m

rotating like that. So the kinetic energy tells **you**[3] how fast or how much energy

you[4] have available to get over the hump. If **you**[5] don't have a lot of kinetic

energy in that rotation, **you**[6]'re just going to go over here a little bit and roll back.

You[7]'re not going to react. If **you**[8] have a lot of kinetic energy, **you**[9] will have

enough energy to get up to the top of the hill and go over it.

Notably, the participants in this example through the participatory pronouns *you* and *I*, move

through three stages. At the beginning of the passage the participants have low r, s, and e-values

as they are in their roles as conversation participants, *you*[1] and *my*[1]. As the passage continues,

the participants assume the role of being an atom, *you*[5], *I*[3], and *I*[4]. The participants are juggled

between this role and the role as scientific observers *you*[3] and *me*[2]. As the roles are juggled, my

Participant Model explains that the s and e-values are modified to reflect the social thirdness and

the transportative environment of the referents. Exampling primarily modifies these values to

bring the participants into imaginary contexts where the abstract content is comprehensible.

In the next example, 4.22.1-3, the professor asks several students to pretend to be atoms,

which is a case of mixing physical and linguistic exampling. This rather extensive example

begins with the speaker asking the students to transport to an imaginative environment where

they pour liquids on their skin membrane, 4.22.1. Then in the demonstration, the students

become the membrane, 4.22.2. Finally after the demonstration the participants are referred to as

scientific observers with the power to experiment, 4.22.3.

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Example 4.22.1 (s 25 (MOV00658 35:44) (Trans s25 4 of 7 35:18-40:10))

But also big hydrophobic molecules can go in and out. So if **you**[1] pour gasoline

on **yourself**[2] it can go right through into **your**[3] cells. If **you**[4] pour water on

yourself[5], it doesn't go in so easy it bounces off mostly. But there are some small

polar molecules that do go through. Ah, which include water. Water will diffuse

slowly through the membrane. Ethanol will go through slowly. But for certain

types of molecules, certain types of molecules will never go through the

membrane, unless they are helped. And that includes glucose and any kind of

ion, any highly charged thing. These highly charged thing just can't they just

can't get through this hydrophobic material. All right, so in order to understand

passive transport **we**[1] have to understand **we**[2] have to understand diffusion. And

this really important to understand how cells work.

Example 4.22.2 (start demonstration)

I[1] need the pink ladies to come in. Come. So here's our boundaries right here,

outside of these chairs and this table. Everybody come over here. Did **you**[6] guys

see "Dancing with the Stars" last night? Okay, so now **you**[7]'re a molecule right.

You[8]'re all pink molecule, and **you**[9] have brown kinetic energy. **You**[10] just move

all the time. So just move. Now **you**[11] all move. **You**[12] don't stop moving,

you[13]'re molecules **you**[14] got and **you**[15] always walk in the same direction? No

you[16] went outside the cell, **you**[17] can't do that. Get over there. Okay, that's what

molecules do. Come on over here. All right, now **I**[2] need different molecules. **I**[3]

need this guy and that guy, that guy. Okay come over here. Now don't move like

soldiers, **you**[18] are independent molecules. Okay, okay I am membrane. Okay,

start moving. **You**[19] guys move too. All right. But now **I**[4] am a permeable

membrane. Move. No molecules move like that. That's unbelievable. Okay, go

sit down. So that was an experiment that didn't work out. All right, if **you**[20] were

a molecule they would move in a random fashion and they would disperse

gradually and they would fill the space.   And that's basically what happens in

diffusion.

Example 4.22.3 (end of demonstration)

You[21] take a whole bunch of those ions and molecules and whatever and **you**[22]

put them on one side of the membrane and that membrane is permeable they

move, just like moving around to get through it until they are equally distributed.

They fill the area; they'll fill the whole area in a random fashion. If **you**[23] got two

different kinds of molecules, they'll fill the area in a random fashion. So there is

this tendency to move what **we**[3] call down. Down the diffusion gradient so if

you[24]'re concentrated here. **You**[25]'re going to diffuse in a random fashion, and

that's called going down the gradient. Okay.

The participants' levels of s and e-values vary in this passage because the students are asked to

become different objects in different environments. Before the demonstrations, 4.22.1, they are

themselves, but they are transported to a different location (high r, low s, midlevel e). In the

demonstration, 4.22.2, they are themselves in a highly imaginative environment at the molecular

level (high r, low s, high e). Finally, 4.22.3, they are part of a scientific group in a laboratory

environment (high r, high s, midlevel e).

These two examples are different than what I term as "typical" demonstrations in

classrooms, such as the following physics demonstration. I use typical because this

demonstration is more prototypical. The physics demonstration contains many hypothetical

statements that ease the transition into the transported place. In the first part of the following

passage, 4.23, the students are asked to transport themselves onto the track of the demonstration, 4.23.1. Then in 4.23.2, the speaker extends the example beyond the track to their lives, which is an example of what I will call in the next section, 4.2.3.2, *extending* because this tactic makes the idea relevant in the students' lives. In 4.23.3 of the passage, the speaker moves away from the typical demonstration of previous parts and corresponds to the previous examples of exampling that I have already described.

Example 4.23.1 (J25core 16:33-20:33) (Trans surrj25 page 2-3)

Now we'll get back to our quiz in just a moment. Here is a uh projectile car that shoots a bullet, a ball straight up into the air. If I put it right here, it's uh it's loaded. (pause) I think my track is off. My car isn't off, my track is off. Okay, But it's pretty close. So Uh Uh If I give the car a horizontal push, remember what I told **you**[1] about being in a car. If **you**[2]'re in a car you're doing what the car is doing. If the car is accelerating, you're accelerating. The car is moving at constant speed. You're moving at constant speed. The car stops in one second, so do you. It might not hurt the car. It might hurt you. So, be aware of that. Okay, now, let's see about the vertical and combo and horizontal components of the ball. If they are related to each other. Okay, it hit the lip I think that time. It's pretty close. It's hard to hit that target all the time. It's a pretty small target. But the (pause) I have to adjust it some times. It doesn't shoot it straight up. But if it's moving along hopefully, it will land right back in the car. That means that: if you're dumb enough to try a stunt. I'm not going be like Mr. Wizard and say try this at home. I'll say don't try this at home.

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Example 4.23.2

If you're in a pick up truck getting ready to go this way, and you have the tailgate

down hopefully, and you're standing on the tail gate of that pick-up truck Uh

trucks going this way and you're standing facing forward and the truck takes off.

It's only going a mere 20 mph. And you're standing on the pick-up truck and you

jump up. What do you think? On the ground? behind the truck? Where did it

land? The yellow ball We can do it with the yellow ball, it's much safer for us.

The yellow ball is in the back of the pick-up truck. Where did the ball land.

Right where it took off from. Still traveling at the same speed of the car exactly.

Now, if you just jump up that high, air resistance isn't going to take it. If you

think you would land on the ground from air resistance, if you jump up 3 or 4 feet

high, maybe so. Yes. If you jump up that high air resistance won't affect you that

much and you won't land on the ground.

Example 4.23.3

I'll tell I'll tell that story another way. UH If you're inside of a tractor trailer

truck, big tractor trailer. Have you ever opened those doors to the back. It's not

loaded. Okay it's as big as this room. It's really big. A lot of room inside it, you

can live in it. All right, you go inside this tractor trailer truck facing forward. It

starts going down the interstate at 75 mph. No that won't do it about 80 mph.

And you jump up inside that trailer. Does the back door of the trailer slam into

you at 75 mph? nobody said yes. It doesn't why? Well, I'll tell you. You're in

the truck. It's going 75; you're going 75. The fact that you jump up in the air

doesn't change that. Your horizontal motion is still the same as the truck. The

fact that you have a whole lot of vertical motion doesn't change it at all. Now,

you say you're going the same speed as the truck. What if we're accelerating? What if the truck is accelerating?

In the previous examples, the participatory pronouns position the speaker and listeners in new relational and social roles in new spaces by switching evoked participants. The referent of *you*[1] is given the role of a driver in the demonstration, *you*[2]. The typical demonstration uses participatory pronouns as supplements to a physical object in front of the students like example 4.23.1. More radical exampling uses participatory pronouns to position the participants in imaginary spaces, like Example 4.23.3. The typical demonstration has much in common with the way that the speaker uses participatory pronouns to describe a Powerpoint, but Powerpoint can also become a transcendent tool if it is used to evoke an imaginary environment. In Example 4.24, the speaker describes a picture and a Powerpoint presentation:

Example 4.24 (J25core 12:00)

So, here is a picture of one that actually is. This is a ball that is dropped at the moment that this other ball is shot from a cannon. There is a photoelectric beam that is broken that drops the ball at the same time. So that it is done instantly, and you can see that this ball falls and of course. This ball travels in what kind of path? Parabola? Okay, called a what? The path is called a trajectory.

In contrast, the following Example 4.25 is a use of a picture in Powerpoint to transport the participants. Transporting the participants asks them to assume roles as the actual objects or as imaginary experimenters instead of simply being observers from their classroom location.

Example 4.25 (F11 2 of 6, 20:04)

If you ask what the potential energy is as a function of the angle between these three species, carbon, nitrogen, carbon. You would find that at 180, it has some energy. As you start rotating this the energy goes up. Goes up, goes up, goes up,

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goes up. Hits a peak. Then it comes down, down, down, down, down until you

get to the product. If I ask you what the delta E was for this reaction, you would

say it is going to be the difference between the final value of the energy and the

initial value of the energy. That corresponds to this gap right here. That's

Colored and labeled Delta E. In this case the actual delta E is going to be

negative, but there's this simple picture just shows the difference in levels in

energies which corresponds to delta E. As the system loses energy going from

reaction to products, that energy is available to go out into the system either in the

form of heat, or work or a combination of both. So this reaction will lose energy

from the system to the surroundings. But notice what has to happen in order for

products to be formed. You have to go up hill in energy. Somehow you have to

overcome the peak in its potential energy. You have to get over the hill. And if I

remind you there's two pieces of energy in any definition of energy.

Exampling is a discourse strategy that transports the participants to new locations in order

to make the abstract more concrete. Often incorporating the pictorial and physical modalities of

expression, exampling uses speech to recontextualize the utterances and the participants.

Exampling is a common strategy that progressively changes the s and e-values of participant

positioning to incorporate the participants in the transported reality.

4.2.3.2 Extending: Use Pronouns to Refer to Salient Communities

The knowledge developed in an academic lecture is destined to be used and applied in an

environment that is separate from the classroom. Extending is the use participant positioning

and participatory pronouns to incorporate relevant groups where the knowledge could be applied.

At the most concrete (low s and e-values), the speakers are discussing the participants in their

current classroom. To extend the relevance of their discourse, the speakers refer to the context of

the university course in which they are lecturing and where the knowledge will be applied on the test. As a further extension, the speakers also refer to the listeners in situations in their life, such as driving or riding the train. Finally the speakers refer to the listeners as large groups of thinkers and citizens.

In the following example, 4.26, the speaker addresses the listeners as members of a beginners' class, "you have to learn the oxidation rules." He continues referring to them as members by stating rules that are applicable to them as members of this group. He is extending the relevance of his discourse beyond the present context to the larger context of the semester and future courses.

Example 4.26 (Surrj22 1of 17)

(07:15) Okay. We talk been talking about Redox reactions.   What they are, uh, how to recognize them by calculating oxidation numbers, **to do that you have to learn the oxidation number rules,** in order to do Redox reactions. UH, Oxidation numbers are very important, just want to add a few other little words about it, and then we'll put off Redox reaction until next semester. I wanted to give you a little bit of the terminology. That we use so that you can uh, read the book and recognize uh, Redox reaction and use some of the words. Next semester, at least in my class, I go over all this again. Then pick up from here and treat Redox reactions very quantitatively.   Uh, just to remind you, Uh just to say one thing, in your chapter in the section on Redox reactions, in that section, there is a discussion about the activities series. Activities series. Ignore it. Okay. We're not going to cover it, activities series. So ignore activities series.

In the following example, 4.27, the same speaker as the first example extends the utterance to apply to their work as beginning scientists (a higher s-value than the previous

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example). At the beginning of the passage the speaker addresses them as college students, but as the discourse continues they are addressed as members of the chemistry community, "when you're doing a reaction problem" and "you absolutely have to have the balanced equation." These are actions and expectations of chemists not simply fulfillments of college expectations as in the phrase in the beginning "if you have to take."

> Example 4.27 (Surrj22 6 of 17)
>
> Acid base titrations are very common. I suspect a lot of you have already done acid base titration. How many of you have ever done an acid base titration? Now, a lot of you have. If you haven't and if you're going to take, **if you have to take the laboratory** attached to this class, Chemistry 1212 , one of the first things you'll do is an acid base titration.   Very common. And let me simply remind you that **when you're doing a reaction problem**. A stoichiometry problem, whether it's a mass problem or whether it's a volume solution problem, doesn't matter, **you absolutely have to have the balanced reaction equation**. That's what's shown up there at the top.

The following example, 4.28, provides some clear switches between extending to course-level and extending to chemist level. As a later part of the same lecture as the first two examples, the speaker incorporates more collaborative r-values in this passage as the listeners and speaker are referred to as members of the chemistry community.

> Example 4.28 (Surrj22 9 of 17)
>
> So what's the salt? What's the salt? What's the salt? Calcium phosphate. Calcium phosphate. Calcium is the anion is the cation from the base. Phosphate is the anion from the acid. Combine those two and we get Calcium phosphate. **You have to know those two ions.** So that you can write down the formula,

correctly. Calcium phosphate because you know the common polyatomic ions and the common monatomic ions. You have to know those. **By the way, you have to know those for Tuesday as well.** So, calcium phosphate, here's the formula. Ca3PO4 twice. That's the formula for calcium phosphate and water. What I do first in any reaction, like this is to write down the reactants and products. Just the formula, I don't try to do any balancing here. Just have to get the formulas right. It's always important to write the correct formula. If you write the wrong formula, all your calculations are garbage. Did you hear me, what I said? It's really important that you write down the correct formulas. Then it's really important that you balance this reaction. So how do we balance it?

The decrease of the extending scope from chemist to student (a drop in s-value) occurs in the beginning. The speaker says "you have to know those two ions," addressing them as chemists and then says "By the way, you have to know those for Tuesday as well." If the speaker was just addressing them as students, the specification about the next week's test would not have been necessary because the students would have assumed that, but because the students were being addressed as chemists, the clarification was needed as if to say 'not only in your professional life, or collegial career, but also in your life in this very course.' The speaker intended to decrease the extension and speak of a closer social group.

The previous three passages, Examples 4.26-28, conveyed the progression and dynamics of extending. The following two examples, 4.29-30 demonstrate the range of extending beyond professional life to become more globally relevant. In the next excerpt, 4.29, the speaker tries extending to a life situation of the students, the students as train-riders. He realizes that his listeners are not part of that social group so he changes by extending to bus riders.

Example 4.29 (Surrj25 3 of 6)

The relative motion of that person.   Let's think of a train. Trucks don't have

windows in them usually and a train does. Or a bus, a bus, instead of a train. I

keep forgetting that you aren't familiar with a train. Uh, A bus goes by. Now,

first of all, you are sitting in a chair in the bus and someone walks to back of the

bus past you.

The range of extending is limited only by the social groups identifiable to the speaker and

listeners. In the following excerpt, the speaker uses extending to make speech applicable to the

participants as thinkers.

Example 4.30 (Surrj22 16 of 17)

And so uh, in this case, $\mathbf{I}^1$ don't need to convert $\mathbf{my}^2$ volumes to liters. It's simple

enough to leave them as milliliters. Leave them as milliliters in this equation,

cause if $\mathbf{you}^1$, if $\mathbf{you}^2$ whatever the volume measure is for $\mathbf{your}^3$ known, that's

going to be the volume measure for $\mathbf{your}^4$ unknown. Automatically. So if $\mathbf{you}^5$

can avoid dividing or multiplying times a thousand, do it. Don't do it if $\mathbf{you}^6$

don't have to. Okay. That's just a hint, $\mathbf{you}^7$'ll pick up on that later, when $\mathbf{you}^8$

actually start doing these problems and it will be very important for $\mathbf{you}^9$. Every

time $\mathbf{you}^{10}$ convert a number, there's a potential error. So anytime $\mathbf{you}^{11}$ don't

have to convert a number, $\mathbf{you}^{12}$'re avoiding a potential error. It's a good idea.

The referent of this *you^{12}* is probably the closest to what would be called an indefinite *you* that I

have found in the data. This pronoun is the type that could be substituted by *one*. This *you* fits

easily into my Positioning of Participatory Pronouns as a high s and high e-value. The speaker is

extending over a large social group of calculation-solvers and an environment that includes

anywhere that calculation is done.

Extending uses participant positioning to make concepts relevant to social groups beyond the place of utterance. Extending occurs across the range of values from the course level to a global level. As a discourse strategy, extending is commonly used by the speakers.

4.2.3.3 Staturing: Use Pronouns to Present Authority Groups

The professors in academic lectures are speaking as representatives of larger groups including experts in a field and managers of the course. *Staturing* is when speakers use participant positioning to give their discourse more authority. In the following example, the speaker presents himself as the authority of knowledge. The referent of *I* may seem to be simply the speaker, but substituting this concept for the pronouns results in nonsense such as 'the speaker is not going to stand here and talk.' This statement is nonsensical because the speaker is going to stand in front of the audience and lecture, but he will not do so as a lecturer but as a response to the students. One aspect of him will not be talking, but the other aspect will be talking.

> Example 4.31 (surrj22, 17 of 17)
>
> You have to ask the questions. I don't lecture. Well, I lecture a little bit cause I, cause my answers are sometimes mini lectures. But I don't add any new material. I'm not going to stand up here and talk. What I'm going to do is answer any question you have about chapters 1, 2 and 3. And I I mean that literally, any question you have, whether it's something in the text, something you don't understand, whether it's something in my lectures you didn't understand. I'll work any problem in the book.   I'll work any problem on web assignment. Any problem on web assignment or the book. But you have to ask the questions. Once you run out of questions, I leave.   So, over the weekend. Study really hard,

work up your questions. Bring them to class and we'll work on them. I'll see you

Monday.

The referent of these *I* pronouns has a higher s-value. The speaker is presenting himself as an

authority who can represent the course to the students. More common is staturing using the *we*

pronoun. In the following excerpt, the speaker describes terms that his expert community uses.

Example 4.32 (surrj22 7 of 17)

So here's a set up, here's a set up for an acid base titration. It's pretty straight

forward, I'll just say that usually in an acid base titration. We're not very

interested, and we can ignore the amount of water that's produced. It's usually so

small, such a small amount, that it doesn't add uh uh significant amount to the

final volume. So we don't really care about it, totally insignificant. We can

usually ignore that last column. Don't worry about it at all. You can if you want.

To get all the numbers right. But uh, you don't have to. Uh, the salt can be a

problem, because remember that salts are either soluble or insoluble. If it's

soluble, if it's a soluble salt then it remains in solution, we can talk about molarity

and volumes for that salt. We can talk about the molarity of the salt.

Staturing gives the speaker authority as representative of a group or body of knowledge.

Staturing is most often done with a *we* that mostly excludes the listeners, but sometimes, *I* is

used in staturing.

4.2.4 Quantifying Usage and Abstraction

In this section, I present a short count of the relative prevalence of each type of value on

the Participant Model of participatory pronouns in order to highlight how common complex

usages of participatory pronouns are. I use the definitions from the codebook (Appendix B:

Codebook) to highlight the prevalence of the language functions and discourse strategies, as

well. The counts are taken as censuses of participant pronouns from two lectures, which were

chosen because of their overall distinctiveness from each other. This quantification of the model

is not intended to definitively describe how homogenous the usage is across disciplines,

speakers, gender, economic class, or audience; I will leave that analysis to researchers with a

professional interest in those topics. Instead, while maintaining the tradition of emergence, this

analysis has the goal of displaying how relevant and comprehensive my Positioning of

Participatory Pronouns is by showing how the theory fits and works for every pronoun in two

lectures. Rather than a definitive description of a population, this short quantitative analysis

furthered the process of theory creation (Appendix A: Process of Coding). In accounting for

every pronoun, the frequency of usage displays the prevalence of different values, functions, and

pronouns in general.

Table 4.2
Frequency of Referent Types

Category	Count	Percentage
Total	740	100%
Low r	366	49%
Mid r	225	31%
High r	149	20%
Low s	587	79%
Mid s	79	11%
High s	74	10%
Low e	280	38%
Mid e	153	21%
High e	307	41%

In Table 4.2 Frequency of Referent Types, I examine the frequency of each type of value

on the Participant Model. 740 pronouns were coded in the two lectures. Half of the pronouns

referred mostly to the speaker while the rest of the pronouns were evenly divided between the

listeners and the collaboration of the speech participants. Eight percent of the s-values were low

while ten percent were medium and ten percent were high. E-values were roughly evenly split

among the three categories. This analysis indicates that any theory that does not account for the

mid and high values for participatory pronouns would not be able to explain at least a quarter of

their uses.

In Table 4.3 Language Functions and Discourse Strategies, I examine the prevalence of

the language functions and discourse strategies. All the different language functions and

discourse strategies were common with economy being present in sixty-nine percent of the

pronouns as the most frequent and extending being present in nine percent of the pronouns as the

least frequent. My Positioning of Participatory Pronouns is necessary to account for all the uses

of pronouns. The language functions and discourse strategies are common parts of speech that

any theory of pronouns must explain.

Table 4.3
Language Functions and Discourse Strategies

Function	Count	Percentage
LF-Economy	510	69%
LF-Category	264	36%
LF-Juggling	132	18%
LF-Interchangeability	340	46%
DF-Exampling	231	31%
DF-Extending	66	9%
DF-Staturing	99	13%

CHAPTER 5. VERIFICATION OF THE FINDINGS

5.1 Member Checking

I conducted interviews with the speakers. In these interviews, I checked the conclusions of my research in a method of findings validation called member-checking. The speakers agreed that a number of different interpretations of each pronoun existed. They explained the intricacies of each of the pronouns and their intended referents.

The method of member-checking evolved as my project progressed. With the first two participants, I conducted a wide-ranging discussion. I started by talking about what was occurring in their classes and who the participants were. The professors stated that they were teachers and experts while the students were there to pass the class. The students' career trajectory was not toward the professor's; instead, the students were and would always be regarded as only a peripheral member of the professor's community. I focused the rest of the interviews, and the majority of the first interviews, on talking about specific pronoun uses.

I talked with the professors about their speech and asked them what they were trying to say in individual sentences and paragraphs. I would ask them to rephrase the sentence and substitute words for the pronoun. I would also ask if other substitutions of the pronouns would be possible. According to the professors' responses, I would alter the interpretations of the sentence on my Participant Model, checking if moving higher or lower on each axis more accurately expressed to what the pronoun was referring.

The last interview that I did contained many questions concerning whether my Positioning of Participatory Pronouns accurately fit the speakers' intention. The best way to report my member-checking is to include a transcription of the collaboration. I chose this interview because as the last interview, I explain the theory the best in this interview. I would like to begin by examining my discussion of one clip with the speaker (sbet interview).

(Sound Clip) ….. Annex and it's on the Highland Road side building. If you go

to 609 Life Science building, that's a closet and you won't find me there.

RTC: Okay, so if you say "YOU won't find me there" you're saying

PROF: the people in the class.

First, I played an audio clip of the speaker talking. Then I asked the speaker to whom he was referring. The speaker responded with an interpretation that has high r-value meaning the speaker says he is referring to the listeners to the exclusion of himself, not as a social group. The e-value of this referent is rather high because the *you* refers to an entity in a office located away from the current location of the speaker and listeners. I chose to focus on his s-value of social thirdness. His s-value is not clear so in the following excerpt, I explore his intention of the social group further by giving two interpretations with lower and higher s-values corresponding to more social influence and less social influence.

RTC: Okay, now could it be more broad in the sense that anybody who goes

won't find me there. Or could it be more specific, like you're thinking about not

just those in the class, but those who go for help won't find you there.

PROF: Anyone.   No person will find me there.

The speaker responds to my question by saying that the interpretation is a bit broader than anyone in the class and is meant to include any person. Later in this excerpt the speaker clarifies that by saying, "I don't care about other people. These are the people I have an obligation to." So the speaker said this utterance to mean that anyone looking for him could not find him in that room and the listeners are part of that group that might want to find him.

After clarifying his interpretation of *me,* I move to his use of *your* in an example. These examples examine the e-value of his pronouns.

RTC: Okay, you won't find me there because my office is not there.   You won't find ME. It's ME in the sense of the physical person standing in front of you or

PROF: Yes

RTC: All right and so I'll skip a few seconds ahead and   06:56

(Sound clip) Uh I've uh the easiest way to contact me is through e-mail, but my office phone has an answering machine.   So you can uh leave your name and message. But don't be one of those people who take a long time telling me the message but says your name really fast and your phone number really fast and I can't figure out who you are.

RTC: Okay, what about that one where uh where is says, "Don't be one of those people who spend a lot of time leaving a message and then like says your name really fast and your number really fast." What about that YOU right there. Who can that be?

PROF: The person leaving the message.

RTC: Okay, And I guess if you looked at it like in writing, you would probably write it out. You'd say, Don't be one of those people spending time leaving a message and then says his name real fast or her name real fast.

PROF: Like I tried to speed up just to kind of I say your name real fast because that's what they often do when they leave messages. They probably

RTC: Right.

PROF: I had one class …it was before a final exam. The student just went on for the longest time and then you know you know, real concerns and then mmmmm

RTC: And so when you say, like it says, Say your name really fast, could you substitute in, Don't be someone who says his name really fast.

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PROF: right, right, right.

RTC: And why would you think you use the YOU. I guess it wasn't a conscious decision or it was just something that you said instead of his or her.

PROF: Probably   just to avoid his or her, to be neutral.

RTC: Yea okay so and then that you are. In traditional analysis they would say like, don't be one of those people. One of those people. It sets up like a group of people in here. You are supposed to think of this set of people and then they say. After that whenever you say "his" it refers to people in that set of people. Now another way to think about it would be when you say YOUR, you are actually including you're thinking of not just any random set of people, but actually the people in the audience. And you really, like the You we are talking about the addressees. So which one do you think you're doing or are you doing both. What do you think you intend when you say like

PROF: I'm focusing on the people in the class.

RTC: Okay, Are you trying to put, so if you say the people in the class, then you say "then says your name really quick." It's you're not really talking about them right there really quick. You're really putting them in a different position right? It's kind of like you're asking them to imagine that they're calling and that type of thing. Okay…

PROF: Right

RTC: Okay, does that seem reasonable to say, that when you say that, you say, okay let's look at this situation, say you're calling me. I'm talking about ya'll, you are calling me.   Now don't do this, you know what I mean?

PROF: Right. 10:00

RTC: All right, so it's, it's a little bit more specific than just anybody calling me.

PROF: Right, I don't care about other people. These are the people I have an obligation to.

RTC: Because you're addressing them. Okay

PROF: Right

In this next excerpt the speaker discusses the interchangeability of pronouns. While he does not believe they are interchangeable in this instance, his reasoning confirms the Participant Model's description of the r-axis of participant relationship.

(Sound Clip) So I in the introductory material I discussed the fact that fishes, which for the most part are ectotherms that live in for instance

RTC: In the introductory material I discussed the fact that. So that would be kind of, how would, who discussed that

PROF: So my train of thought is that was the introductory lecture, and basically I was just outlining for them some of the topics that we would be considering. So I didn't really give an explanation, I just discussed that there are fishes that have subzero body temperatures. And don't form ice. So I guess my thinking was, this was something we hadn't gone into as a class. It was something that I just presented to them.

RTC: Okay, now do you think you could, like in the introductory material could you say WE discussed and do you think there would have been a difference if you say, So in the introductory material I discussed the fact that. Or could you say in the introductory material WE discussed the fact that. Or would that have a different meaning to you?

PROF: I think it would have a different meaning to me in this case. In this case it

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wasn't as interactive with the students. It was more okay this is what we are

going to do. So in subsequent lectures, we did more interaction with them. The

students asked questions and things and kind of made it more of a WE discussed.

RTC: Okay so it's, I in your case really starts with the speaker, and if you are

going to include a WE, you're going to do that because they are more involved in

it.

PROF: Right

RTC: Okay,18:00

Here the speaker talks of using pronouns to transport on the e-axis. First he transports them as

an experimenter then immediately refers to them as a fish.

(Sound Clip) Super cooled fish into contact with ice is a bad thing for the fish.

Alternately In super cooled water minus 1.5 degrees, …?

RTC: "If you put these super cooled fish" like, like obviously the fish aren't

there. And the Fish probably aren't in

PROF: There's a picture.

RTC: There's a picture of the fish. Okay, so if YOU put these super cooled fish.

Where are they when they are putting these super cooled fish? All right, you

know what I mean?

PROF: All right, Yea. On the screen there is a picture of a beaker with water

and an indication of what the water temperature is.   And then there is a series of

panels where in some instances where you are putting an ice cube in the super

cold water.

RTC: So you're saying if if if You the audience take uh super cooled fish and

do this like as on the picture on the wall

PROF: Right.

RTC: So you are kind of asking them to

PROF: To be the experimenter.   Right the experimenter.

RTC: So not in the class, but in a different context, like if you were in the Arctic.

PROF: Well, this is in the lab.

RTC: If you're in the lab, if you're in a lab here

PROF: And you set up to do this

RTC: So you kind of taking them out of that class.

PROF: Sitting in their seat

RTC: and you are saying Okay, imagine you're in the lab, you're doing this.

PROF: Right

RTC: All right, Does that you include just them in the audience? OR does it include a broader or is it more of an anyone or is it something in between as in uh

PROF: It's anyone but you know, I'm speaking to them so

RTC: Okay, Okay, So you really have them in mind doing the action. Okay. See if this is

(Sound clip) …for instance, if you're a fish and you're eating around ice. You might consume something that has ice crystals in it, okay, you have the same problem.

RTC: So, there that YOU is.

PROF: the fish, trying to put them in the mind, the mind set of being a fish

RTC: Okay. So If you have a fish, you're saying take ya'll now, you have the properties of a fish. Not just right where you are, but you have the properties of a fish in this kind of super-cooled environment. Okay, and there was no picture of

that I don't think. No like here take this, you never say…

PROF: There are pictures of fish from under the ice and there's algae growing on the bottom of the ice and you can see the fish having contact with it.

RTC: And you're saying - You guys are that fish. Imagine you are there. And you're eating ice and you might consume this and so you're kind of really asking them to so you have a problem so - they don't have a problem as the audience, but them as the fish have a problem.

PROF: Right.

RTC: Okay, and uhm

In the next clip the speaker assumes some group memberships for the audience.

(Sound clip) The fish feed on the undersurface of the ice (like) ethylene glycol, that you use in your car.

PROF: YOU The audience

RTC: All right YOU the audience use it in your car. You don't use it in your car here. Use it in your car at there house, when they're at their home changing their car so you are kind of assuming that they are apart of a car-owning group.

RTC: You're kind of assuming they have cars, you're assuming a number of social things about them.

PROF: Right. 21:53

Here the speaker and I discuss how many possible s-value interpretations are possible.

(Sound clip)   In humans it's referred to as CJD. You don't have to write out the Disease unless you want to

RTC: All right. Who doesn't have to write that out?

PROF: The class.

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RTC: In this class you don't have to write that out.

PROF: Well it's up on the board. You know the abbreviation and then there's the uh you know the full spelling out. Just to partly, you know the reason to not have them write it out is so it doesn't you know, slow down the class so much when they have to write everything down.

RTC: Now I think an alternate interpretation of what you could have meant but obviously you didn't, you could mean in the profession you don't have to write that out because everyone, like you don't have to write out, carbon because everyone knows that C stands for carbon. So in introductions that not, that's a possible one but it's not

PROF: It's simply utilitarian in the classroom

RTC: That's a possible interpretation that you could have done, but that's not what you did in this one. Okay, uh.

PROF: I wonder whether the students noticed that?

RTC: And you also didn't mean to go kind of on a different side of the scale, you also didn't mean you don't have to write that out right now. You know. You weren't saying when you're taking notes you don't have to write that out right now, but in this class you do, but right now you don't. So that's a possible interpretation, but that's not what you meant.

PROF: Right, right

RTC: But see I'm just kind of looking at these different variations to see because sometimes you are referring to people right here right now this is what you need to do. I'm going to explain to you this. Sometimes you're talking about people in the classroom it seems like. Sometimes you're talking about kind of a broader

sense of when you're at home or … and sometime you are everybody. It takes a it

takes the speakers and puts them in a different situation. Like now you're a fish.

Okay so those are my kind of conclusions basically and I'm just sort of checking

them out to see what you say about them.

Here the professor is discussing how he thinks that the pronouns are a tool that he uses to

engage the students in the lecture.

PROF: So … there're 500 students in there. This is in XXX Auditorium and this

is the third or fourth time I've taught in there to a large number of students. The

idea is to try and engage the students. I don't even march in from the front. I

have a remote presenter so I just wander up and down among the aisles and spend

very few minutes actually directly up front. And so I think, thinking about the

pronouns usage, part of it is trying to use these words in a way to engage the

students and get them connected to the material. And 25:08

RTC: Okay Yea

PROF: I can see how I kind of switch between I and WE. I think you know. In

thinking about what you know, I don't think about which terms I want to use.

You know what my objective is in terms of connecting with the students.

This selection from my member-checking project demonstrates how the participants and I

cooperated together to construct my theory and validate my findings. While the participants

were not consciously aware of many aspects of their verbal behavior, they approved of my

findings and agreed that the main points corresponded with their experiences and intuitions.

5.2 Grammaticality and Three Tests of Environments

In this section, I discuss the results of grammaticality judgments and constructed

examples that vary the social or linguistic environment or substitute referents for the

participatory pronouns. These examples hold if considered in the academic discourse setting in

which this analysis was conducted. Rather than speak of the results of these tests individually, I

have integrated these tests around the three axes of the Participant Model. The results are

presented by axis followed by examination of the axes interacting together.

5.2.1 Relationships

When considering the use of participatory pronouns, the simplest case is one speaker and

one listener. In the following examples (5.A-5.C), the speaker is *I*, and the listener is *you*;

collaborating together they form *we*. (5.A-5.C) are possible utterances by a speaker to describe

three different physical actions. In (5.A), the speaker is moving a pencil on paper. In (5.B), the

listener is moving a pencil on paper. In (5.C), both the speaker and listener are moving the same

pen on paper.

(5.A) I am writing. This action builds hand-eye coordination.

(5.B) You are writing. This action builds hand-eye coordination.

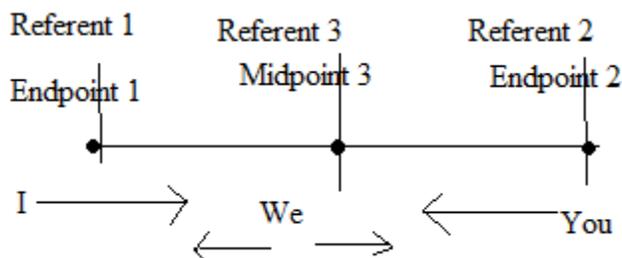(5.C) We are writing. This action builds hand-eye coordination.

Figure 5.1
Referents on the R-Axis

Creating an axis of the referents of these participatory pronouns, the referent of 5.A could

be placed on the left end, the referent of 5.B could be placed on the other end, and the referent of

5.C could be placed at the midpoint (Figure 5.1 Referents on the R-Axis). *I* would be associated

with the left-most endpoint, *you* with the right-most endpoint, and *we* with the referent near the

middle. The left-most endpoint would represent the speaker in complete isolation, and the right-most endpoint would represent the listener in complete isolation. The midpoint of this axis describes a referent in which both speaker and listener are equally contributing (5.C). The referent of *we* in 5.C is both the referents from 5.A and 5.B participating equally in the event.

So far this is a how a typical speaker might view the participatory pronouns. As I described in the theoretical background, the view of the referents of *I*, *we*, and *you* as unified individuals is not accurate; instead, these participatory pronouns actually refer to a reciprocal relationship between aspects of the speaker and his listeners. I would like to start with a personal example from actual, conversational speech. When discussing that this dissertation is about pronouns, one of my friends said, "I guess you go home and write about what I say." She meant 'This person talking guesses that you, the researcher, go home and write about what I, the Southerner, say.' To which I should have replied "No, I'm not studying so-called grammar mistakes." Unfortunately I said, "Yeah basically," because I thought she meant 'This person talking guesses that you, the researcher are going to go home and write about what I, the teacher, says.' I would like to focus on the fact that for this statement to have multiple interpretations the referents must be different. This example is an utterance where the referents of the participatory pronouns could not be unified individuals. The gloss 'Jane guesses Robert goes home and writes about what Jane says,' misses entirely the speaker's meaning of who is referenced. Similarly, interpreting the utterance as pointing to individuals is an equally weak interpretation; 'Entity A guesses Entity B goes home and writes about what Entity A says.' This type of interpretation as pointing to an individual easily resolves the mechanism of deixis but relies on some other level of interpretation to arrive at the correct glosses. I contend the meaning of the referents is best resolved within the mechanism of the deixis itself. The speaker is not referring to people writing or speaking; the speaker is referring to aspects of the speaker and listener doing those actions.

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The reference is not a person because the person is only important in the utterance in relation to the other person. A more accurate gloss would be 'I, who am speaking not listening now like you are, guess that you, who is a in a research relationship with me as the subject, go home and write about what I, as a worse speaker of the language in relation to you, say.' This interpretation relies neither on any Gricean implicature nor speech act constraint because the interpretation hinges on the locutionary meaning of the words in the sentence, specifically who is referenced by *I* and *you*.

The reference to a relationship is most obvious in the referent of *we*. Describing the collective contribution of referents from 5.A and 5.B as a new referent might not seem like the simplest solution. Perhaps the referent of 5.C should be considered (5.A and 5.B) and not a new entity because needlessly increasing referents may not seem necessary. The explanatory value and the accurate representation of speaker usage resulting from creating a new entity called Referent 3 will become more apparent as this examination progresses. At this point, I would like to argue for the referent of 5.C being a new entity because the collaboration of Referent 1 and Referent 2 is qualitatively different than simply the two doing the same action. If the speaker and listener were each writing with separate pencils on separate paper, then perhaps the speaker would be referring to Referent 1 and Referent 2 as distinct entities. Since the above situation actually describes collaborative effort, that is a social effort, I argue, and speaker usage has shown, that a new entity Referent 3 is formed.

As more support for this position, most deictic pronouns have new referents at every instantiation. *Now* is always changing by the moment. Pointing to different objects and saying, "This is red, this is red, this is red," is perfectly acceptable. Using participatory pronouns, pointing at different people in a crowd and saying "You, you, and you need to leave now" is also acceptable. The only innovation I am proposing is considering *I, we*, and *you* not as referring to

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individual people but as ultimately referring to relationships between speaker and listener so that "You, you, and you need to leave now" can be restated 'The person conversing with me, the person conversing with me, and the person conversing with me need to leave now.' Further evidence of this is found in the utterance "you, you, and you, we need to leave now," where the speaker is not stating the speaker needs to leave but is using the option of *we* instead of *you* to refer to the three other people. Because the referent of *we* is not an individual, it could be restated 'the three people who are in a social structure of conversation with me need to leave but I am not leaving because this *we* only refers to me as an imaginary, mental part of you.' In much the same way, *now* is not a reference to a time but a relationship between the utterance and time. *Now* could be restated 'sometime between the moment of this utterance and the beginning of our idea of *not now*.'

The referents of participatory pronouns are created at each utterance of the participatory pronouns. The referent is some combination of the speaker and listener. Even if the referent seems to be almost entirely the speaker as in 5.A or entirely listener as in 5.B the speakers' referent is actually the speaker with the listener imagining participation, as in 5.A, or the listener with the speaker imagining participation, as in 5.B. So the referents of participatory pronouns in the monologic academic context are points on the line between Referents 1 and 2.

In making this argument, I am implying that "you and I" is not a synonym for *we*. I have trouble finding a situation where "you and I" can easily be substituted for *we*.

(5.D) A: Hop into the car.

(5.E) B: But where are we going?

(5.F) B: #But where are you and I going?

From a Gricean perspective, "you and I" is not equivalent to *we* because the rule of Appropriate Quantity would state that implicatures are created by using more words than

necessary. Perhaps the implicature is that "you and I" is the exclusion of some other person who could be interpreted as part of the *we*. Perhaps (5.F) is just awkward because the use of "you and I" creates expectation of distinction that is not present in a simple *we*. Examples (5.G) and (5.H) are not equivalent because the expectation of getting sick in (5.H) seems to be a particular quality of the participants, like 'you and I have weak immune systems, but others don't.'

(5.G) It's cold out here. We are going to get sick.

(5.H) It's cold out here. You and I are going to get sick.

In my recorded data I have shown that when the participatory pronouns apply to large social groups, the *I*, *we*, and *you* lose some distinction from each other. Examples (5.I) and (5.J) demonstrate a constructed case where the substitution of "you and I" for *we* can more easily be used, but the ambiguity and awkwardness is still not resolved.

(5.I) As Americans, we know the cost of war.

(5.J) As Americans, you and I know the cost of war.

Returning to the simplified examples of 5.A-5.C, in these examples the assumption is that the speaker is conducting this monologue with the intention of conveying information to the listener, and that the speaker and listener are members at the same competence of the same homogenous speech community (share the same linguistic knowledge of the words and their meaning). If the speaker is indeed writing when the speaker utters 5.A, the speaker is making a factual statement about a referent near endpoint 1; a statement that aligns with physical action (Referent 1). Likewise, if the listener is writing when the speaker utters 5.B, the speaker is making a factual statement about a referent near endpoint 2 (Referent 2). In the same way in 5.C, if the speaker and the listener are both grasping the same pencil and writing, the speaker is making a factual statement about midpoint 3 (Referent 3).

The need for the referents to be relational becomes especially clear when the speaker uses 5.A-5.C to describe the same physical action. For example, the speaker can utter 5.A-5.C when the speaker himself is the only one moving the pencil on the paper. This is a speech situation that arises frequently in lectures. For example, the speaker utters (5.K) describing the speaker writing on the overhead projector immediately preceding (5.A), (5.B), or (5.C)

> (5.K) Taking out the marker to demonstrate on the overhead projector, the pen moves over the paper. What's happening?

> (5.A) I am writing. This action builds hand-eye coordination.

> (5.B) You are writing. This action builds hand-eye coordination.

> (5.C) We are writing. This action builds hand-eye coordination.

In the idealized situation of one speaker and one listener with the assumption that the speaker is referring to the same referent in (5.A-5.C), the referent is the speaker physically writing and the listener mentally participating in the writing. When mapping the participatory pronoun on the referent, 5.K would commonly precede 5.A because the physical action matches the prototypical usage of the participatory pronoun *I*. In contrast, 5.K could not felicitously precede 5.B because the prototypical usages of *I* and *you* are contrasting. *You* would not be commonly be used by a speaker in this situation of only one listener because the physical action does not match the prototypical usage of the participatory pronoun *you*. 5.K is commonly used before 5.C. This might sound a little odd since there is only one listener, but if the listener was a two-year-old child, this pronoun *we* can and is frequently used. *We* is able to be used in monologic narration to refer to the speaker doing the action. The speaker is given a choice of participatory pronouns because the speaker is attributing part of the action of writing to the listener.

In everyday speech, this type of construction is found when adults speak to children. In the case of the two-year-old child, the speaker is attributing part of the action of writing to the child perhaps the intention. By using *we*, the speaker is imagining the listener doing the action. Effectively the speaker is creating a new discourse referent between points 3 and 1. The referent is not the unified person of Referent 1 and not the equal partnership of Midpoint 3. Instead the referent is a point slightly to the right of 1. This is Referent A (Figure 5.2 Gradations of pronoun usage). If the child is contributing more to the writing such as telling the speaker what to write (Referent B) or physically helping write (Referent C), then the referent approaches the midpoint of Referent 3. I contend that in this context 5.A and 5.C are *functionally equivalent*. *Functionally equivalent* denotes that these expressions fulfill the speakers' intention to describe the action to the listener with no difference in the communicative meaning because the listener is able to make an *adequate interpretation*. 5.A and 5.C refer to the same referent.

Ref 1 Ref A   Ref B   Ref C Ref 3   Ref D   Ref 2

We

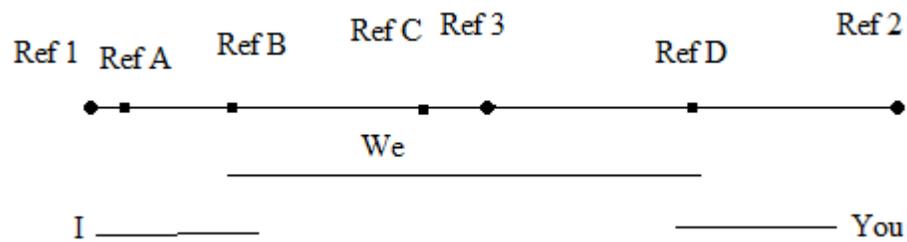I ____ ____   ———— You

Figure 5.2
Gradations of Pronoun Usage

Some other possible collaborations like the speaker telling the listener what to write, but the listener physically writing it, as in the act of dictation, would create a Referent D between Referent 3 and 2 so that a speaker who is dictating a letter to a listener but "having trouble" because the listener keeps breaking the tip of the pencil could say (5.L-5.N) felicitously to refer to Referent D.

(5.L) I am having trouble writing today.

(5.M) You are having trouble writing today.

(5.N) We are having trouble writing today.

(5.L) would be the most awkward because of the distance between the prototypical endpoint 1 and the actual Referent D is so far, but (5.M) and (5.N) would be able to be easily used. Thus, despite the fact that prototypically (5.M) and (5.N) have different meanings and, perhaps, (5.M) slightly pragmatically implies "the trouble" is 'entirely' the listeners fault while (5.N) implies that the speaker accepts some responsibility for the difficulties, in monologic academic lectures, (5.M) and (5.N) have functional equivalence because either *you* or *we* can refer to Referent D with no change in meaning. The reason for this is the importance of social participation as a *thirdness* in monologic academic lectures. Further examples will show at a certain level of social participation even (5.L) will lose its awkwardness.

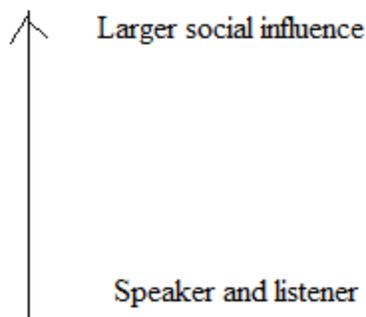Larger social influence

Speaker and listener

Figure 5.3
Social Thirdness

To account for social participation of nonlisteners and nonspeakers in the use of participatory pronouns, a vertical axis was added to the Participant Model so that as the social structure incorporates more people besides the speaker and the listener as the value on the vertical axis increases (Figure 5.3 Social Thirdness). The following example is an utterance where the referents have high social participation values when uttered in monologic academic lectures:

(5.O) As a part of the rational human race, {I, we, or you} make far-sighted choices.

Since the speaker and listeners know they are all human, they know they are all rational, but the number of rational beings far exceeds the number of people in the lecture hall. The thirdness of rational beings participating in the conversation changes the dynamics so much that *I, we*, and *you* lose their distinctiveness.

This loss of distinction only occurs when the speaker and listeners share a membership in this thirdness; however, this model can be used to chart the relations between participatory pronouns and their referents in a number of contexts. At a high level of social participation but below the level of rational beings is the level of figurehead. This allows priests to marry by saying:

(5.P) I now pronounce you man and wife.

and kings to declare war by saying:

(5.Q)We now are at war.

Not only are they performing a speech act in the Searle (1969) sense, but they using *I* to refer to themselves and the listeners in relation to the power bestowed by the rest of society in the first case, and the society of the kings, their citizens, and their government entities in the second. A guard admonishing a prisoner of war by stating:

(5.R)You will never win this war.

similarly refers not to the specific listener but to the listener as part of a much larger corporate body engaged in war. In these three cases, the participatory pronouns cannot be substituted for each other because the speaker and listeners do not share membership in the large corporate body to which the speaker or listener is a figurehead. Switching the *I, we*, or *you* would result in changed meanings.

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5.2.3 Environments

The third axis of the model is necessary to understand the referents of abstract situations found in academic speech (Figure 5.4 Transportative Environment). As the speakers use participatory pronouns, certain uses cannot be explained solely by the role of the speaker, listeners, and the social structure.

The utterances remove the speaker and listener from their physical presence to a more abstract presence. So the *I* of the speaker in the physical world may be *I* of the speaker in a hypothetical situation. The e-axis models the reduction of context from the immediate "natural," physical situation to more context-reduced, abstract situations. A zero e-value would refer to the speaker, listeners, and the thirdness in the physical situation where the utterance is uttered, as discussed in the prior examples. A high e-value would refer to referents in semantically created worlds. For example:

Hypothetical environment
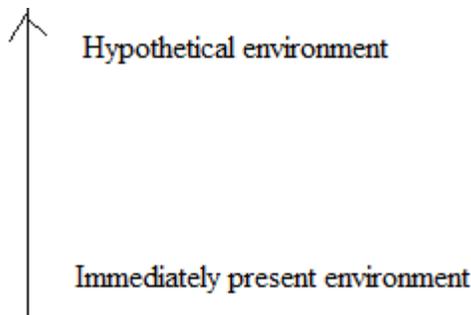
Immediately present environment

Figure 5.4
Transportative Environment

(5.S) Suppose **you** and **I** are each riding on light beams.

The referents of *you* and *I* are not the physically present speaker and listener but the speaker and listener in a very abstract situation. In this situation the referents are capable of riding light beams, so their physical properties have changed. This semantically constructed world is based on the meaning and associations of *light beams*. These words activate a set of alternate referents

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to be referred. The physically present *you* and *I* would not be able to physically withstand such forces so the new referents have few of the meanings or associations associated with the speaker and listeners in the physical world. In this abstract situation, the differences between participatory pronouns do not fuse the terms; yet, the loss of so many characteristics of personhood almost render the referents into the demonstratives of *this* and *that* (Figure 5.5 Loss of distinctiveness).

       This/I means an object of proximal spatial relation to the speaker, and *that/you* means an object of distal spatial relation. In this abstract situation, *we* is equivalent to properties in common to *this* and *that* such as the *these* and *those*. An example with a e-value between these two extremes of completely semantically created and the immediate physical context further illustrates the loss of personhood in the referents.

e-axis

this	these	that

Loss of identity

Loss of physical attributes

Loss of location

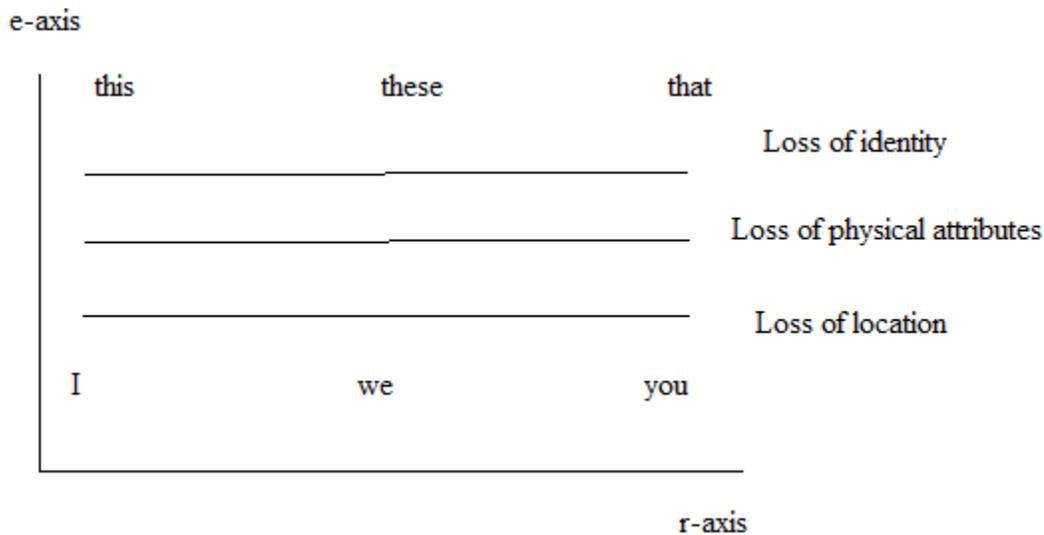I   we   you

r-axis

Figure 5.5
Loss of Distinctiveness

       (5.T) Suppose we had to do this class in that room next door.

This reference asks the students to keep their physical properties but not their environmental properties. (5.T) could be followed by:

(5.U) How would you feel?

But (5.U) could not follow (5.S) because the environment is so abstract that the referents have lost the properties of personhood.   A similar property can be found when referring to babies *in utero* since the babies lose their gender in the more detached, abstract situation (Tanz 1980).

5.2.4 Interaction of Axes

I would like to test some of the predictions of the Positioning of Participatory Pronouns. This theory accounts for many otherwise unexplainable uses of participatory pronouns. First this model explains why *I, we,* and *you* become more interchangeable as the level of social participation increases (Figure 5.6 Shared Membership).

Social Thirdness s-axis

they, one

I

we

you

Participant Relationship r-axis
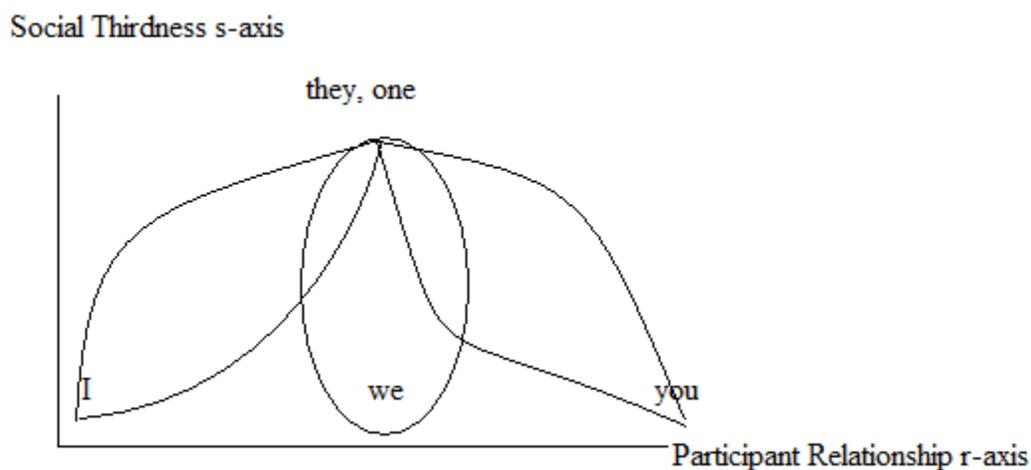
Figure 5.6
Shared Membership

This model implies that as the level of societal participation increases the differences between *I, we,* and *you* decrease. Using test phrases to examine examples of extreme social participation where large groups are involved and where only one person is involved demonstrates this principle.

(5.V) Who's heard of the Voyager? {I, We, You, They} launched it into space in 1972. It just exited the solar system.

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(5.W)Who's heard of the Berkeley Haunted House on Laurel Street? {I, We, You, They} built that in 1972. It's now in disrepair.

(5.X)Who's seen my swollen hand? {I, You, We, They} hit it yesterday. It is so swollen.

In (5.V), the four terms are interchangeable with little loss of meaning. *I* is the only one that carries a slight meaning that the speaker was personally involved while *they* carries a slight meaning of no involvement by the speech situation participants, but the focus is so far removed from the speech participants to the thirdness that I contend that these terms are interchangeable. The implication of *I* can be attributed to the existence of the use of *we* to refer to the person in large social situations. The use of *I* seems to be in the sense of 'I had them launched,' which is certainly the interpretation *I* of (5.W). (5.W) still maintains the interchangeability, but I contend that *they* does not have the same interpretation as the participatory pronouns because *they* implies no participation of the speech participants in the building. Unlike (5.V), (5.W) refers to group to which the participants do not belong: builders versus Americans. In (5.V), I contend that *they* could include the speaker or listeners and could even be said during an internal training at NASA; however, in (5.X) the hitting of the hand involves so little collective effort that the participatory pronouns have separate, prototypical meanings.

In contrast, if an audience and a speaker do not share common memberships, the difference between *I* and *you* will not disappear (Figure 5.7 Separate Membership).

(5.Y) (The human speaker addressing an animal listener) Being rational, {I, you, we} make far-sighted choices.

(5.Z) (The human speaker to you New Yorker) Being rational, {I, you, we} make far-sighted choices.

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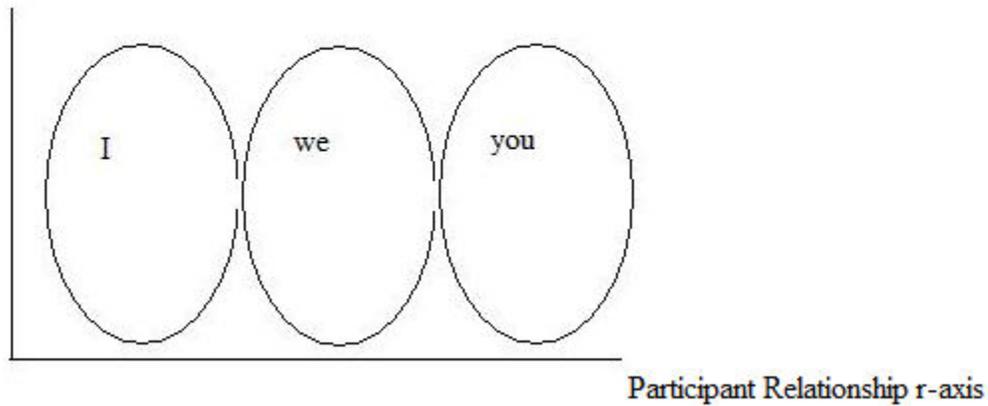(5.AA) (Me human speaking to you New Yorker) Being a Southerner, {I, you, we} make far-sighted choices.

Figure 5.7
Separate Membership

(5.Y) and (5.Z) show how *you* is able to be used when the common membership of rationality belongs to both speaker and listeners (5.Z), but not when the listener is not rational (5.Y). Similarly (5.AA) is an example of how a lack of common membership excludes certain participatory pronouns as choices. The monologic academic lecture (5.BB) is a special case in which the speaker and listeners form a community in which they share membership.

(5.BB) (We are in the same class) Here is the math problem. First {I, you, we} carry the one then {I, you, we} add the second column.

In (5.BB), any of the three participatory pronouns can be used in either situation, and they do not need to match so that a different one can be used first or second. If the class is given a power dynamic, the participatory pronouns are no longer interchangeable (5.CC).

(5.CC) (We are in the same class, I am the expert) As chemists, we call these acids, and you need to know that.

Grounding the discourse in the classroom activity adds some changeability, but the power dynamic maintains a distinction between the terms (5.DD).

> (5.DD) (We are in the same class, I am the expert) In this class {you, we, I} call these doozies, and {you, we, and I} need to know that when {you, we, I} do these problems.

The Positioning of Participatory Pronouns implies that as the environment becomes more detached from the immediate the differences *you* and *I* lose personhood and become *this* and *that*.

> (5.EE) At this time, you are listening, and I am talking. Can you hear me?

> (5.FF) Suppose we are in New York City. You are listening, and I am talking. Can you hear me?

5.EE is grounded in the present. Since the utterance narrates an abstract location, 5.FF is less about *you* and *me* and more about the environment but still relies on properties of the referents. (5.FF) is not interchangeable with (5.GG).

> (5.GG) Suppose these are in New York City. This is listening, and that is talking. Can this hear that?

If the environment becomes more abstract the demonstratives become more substitutable for the participatory pronouns while maintaining the same adequate interpretation.

> (5.HH) Suppose we are riding light beams. You are listening, and I am talking. Can you hear me?

In (5.HH), the personhood is so reduced that the questions is about the environment not the people. *This* and *that* can easily be substituted (5.II).

> (5.II) Suppose these are riding light beams. This is talking, and that is listening. Can this hear that?

Examining this environmental displacement in the classroom example (5.JJ), (5.KK) and (5.LL) show the effect of the change of environment does not affect the distinction between the terms. However, 5.LL displays the loss of personhood involved in the change of the environment.

> 5.JJ Here is the math problem. First I carry the one. Then I add the second column. Can you see?

> 5.KK Imagine doing this math problem in a far away galaxy. First {I, you, we} carry the one then {I, you, we} add the second column.

> 5.LL Imagine doing this math problem in a far away galaxy. First I carry the one then I add the second column. #Can you see?

(5.LL) is only meaningful in the frame of the immediate sense of 'can you physically see now.'

Examining the situation where a speaker tried to introduce a high social participation into a highly abstract environment,

> (5.MM)Suppose we are riding light beams. I throw the ball to you. The (Voyager) satellites that we launched in 1972 are cruising by at 500 miles an hour? What is their perspective?

In (5.MM), *we* can only be interpreted as 'we the light beam riders,' not 'we the Americans'.

> (5.NN) Suppose you and I are riding light beams. I throw the ball to you. How do we feel about it?

> (5.OO) Suppose you and I are riding light beams. I am a member of an intergalactic beam riding association. I am always going to be three feet in front of your beam. How do you feel about my beam riding?

(5.NN) does not work since the social nature of *you* and *I* in these examples is unclear while (5.OO) allows some interpretation of feeling.

(5.PP) Suppose you and I are sitting here in a class next year. I am the teacher. I

decide to teach from the back of the class. How do you feel about my action?

5.PP is a medium abstract environment and a medium social structure.

In 5.QQ and 5.RR, *we* is not able to switch referents; the referents of the two *we*'s must be very

close. *We* can only be interpreted as beaming riding association in 5.RR. 5.SS-5.UU follow the

pattern of increasing the abstraction of the environment so that 5.TT allows a referent to

'Americans' but 5.UU does not allow a referent to be 'Americans.'

(5.QQ)Suppose we are leading NASA next year. We decide to launch spaceships

to the moon like we did in 1972.

(5.RR) Suppose we are leading the Intergalactic Beam Riding Association next

year. We decide to launch spaceships to the moon like we did in 1972.

(5.SS)Suppose we are sitting in class next year, and we hear that we have decided

to launch spaceships to the moon like we did in 1972.

(5.TT)Suppose we riding two light beams past the moon, and we hear that we

have decided to launch spaceships to the moon like we did in 1972.

(5.UU) Suppose we are riding two light beams, and we hear that we have decided

to launch spaceships to the moon like we did in 1972.

In this examination of validity, I linked my usage data with insights of constructed data

and grammaticality tests. The axes and implications of the Positioning of Participatory Pronouns

corresponded with the possible usage examples that I was able to construct. Examining possible

physical relationships in the participants, I verified the r-axis of the model. By constructing

situations where the social groups of the participants varied, I was able to verify the effects of

social thirdness. By varying the location of the discourse samples, I was able to verify the

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effects of the transportative environment. Finally, the implications of the theories on language functions and discourse strategies were tested using the basic elements of these effects.

5.3 Reliability

Turning to reliability of the Positioning of Participatory Pronouns, I conducted two tests of reliability. The first examined inter-rater reliability, and the second provided an audit trail of my analysis.

5.3.1 Inter-rater Reliability

I found Kappa statistics based on coding for several passages by another rater. The rater was a college graduate whom I had given several passages that were selected for their richness of coding. The axes were broken into nominal categories of high, medium, and low for the reliability testing. Fifty pronouns were part of the selected passages.

Table 5.1
Kappa Statistics

Variable	**Measure of Assn.**	**Sig.**
Pronouns	1	0.001
Participant Relationship	0.92	0.001
Social Thirdness	0.73	0.001
Transportative Environment	1	0.001
LF-Juggling	1	0.001
LF-Economy	1	0.001
LF-Categorical Referent	0.82	0.001
LF-Interchangeability	0.78	0.001
DF-Exampling	0.81	0.001
DF-Extending	1	0.001
DF-Staturing	1	0.001

Twenty-four pronouns were coded by each rater according to eleven categories. All categories had Kappa's of greater than 0.7 with significance of greater than 0.001 (Table 5.1 Kappa Statistics). Computed using Cohen's (1960) measure of inter-rater reliability, each variable is assigned a measure of reliability between 0 and 1 where 0 represents complete chance

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and 1 represents complete agreement. These levels of agreement are described as "substantial"
by Landis and Koch (1977).

These results indicate that the both raters substantially agreed on the coding. The lowest
coding agreement was for the social thirdness (.73) and interchangeability (.78) though neither of
these values are much less than the other values.

5.3.2 Audit Trail

This project was undertaken with an emphasis on the emergence of explanatory theory
from data. Documenting this process of emergence provides a basis for evaluating the rigor of
the analysis as well as providing a process that could be undertaken for future research in this
area. For brevity, I summarize here the process of interpretation of my data and my role in that
process. In the appendix (APPENDIX A-C), I have included a more detailed description of the
process. After many years of study, I come to this analysis of academic discourse with many
biases. I have tried in this work to note each one and take into consideration other interpretations
for the phenomena under investigation.

Among the perspectives that entered into my analysis were my experiences as a student,
teacher, and academic. While each of these roles provides me a perspective on my object of
study, I also have very personalized views of what each of these means. For example, as a low-
level academic only just entering the profession, I have a propensity to privilege contemporary
work because it often comes with the values of my generation. In this analysis, I set aside those
propensities in order to evenly evaluate the data.

Overarchingly, the main criteria of evaluation of my research have been the grounded
theory ideas of relevance, fit, and workability, which can be summarized as stating that my
research provides a solution to something important to the participants. The process of research
when described from the first kernel of an idea to the fruition of the project is a messy process.

Any research is filled with chaotic processes and highly systematized procedures. By including more details of the process of investigation, I permit other researchers to follow the reasoning of my project and its evolution into the current dissertation.

I have included in this work selected samples that were used in creation of the codebook and reliability test as well as the final codebook. I also include a summary of how my theory incorporated grounded theory procedures as it unfolded.

CHAPTER 6. DISCUSSION

6.1 Significance

Up until this point, I have only briefly introduced the works of other authors in order to present a full and comprehensive theory of my own. As my research seeks to be relevant to the participants and their issues, existing literature is not as important to the success of my project as it would be to researchers who are pursing goals of their professional field; however, since my Positioning of Participatory Pronouns is highly relevant to linguistics and several other fields of study, I would like to position my theory in relation to others and highlight its utility and challenges. Anthropologically, my theory provides a new set of questions to consider when evaluating interaction; principally, a new understanding of who the participants are and how they are related. Linguistically, my theory explicates the mechanism of reference for a class of deictic pronouns and provides an example of how Relevance Theory can be applied without the problematic issues of other applications. Pedagogically, my theory fundamentally recontextualizes how teachers view themselves and their students in the classroom.

6.2 Incorporation into the Existing Literature

To integrate my Positioning of Participatory Pronouns with existing theory, I use the literature as a constant comparative source of data. I test others' theories with my data to determine if my theory needs refining and if the existing theory can account for my data. For each existing theory examined, I am guided by the research question, "Are the insights of existing theory captured in the Positioning of Participatory Pronouns?"

Examining the literature, several disciplines provide a number of theories for comparison. First, I examine other broad communication theories. Next I examine other theories for their understanding of deictic reference. Then I refine the three components of participant positioning as well as examining other instances of language functions and discourse strategies.

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6.2.1 Pronouns and Relative Discourse Salience

Having previously discussed broad communication theories in Chapter 2. I would like to further situate the Positioning of Participatory Pronouns among these existing theories. Muhlhausler and Harré's (1990) social construction of pronouns and Mulkern's (2007) relative discourse salience are most applicable.

Muhlhausler and Harré's (1990) social construction of pronouns is most interested in cross-cultural comparisons. Where I focus on academic lectures in the United States Muhlhausler and Harre compare the distinction between pronoun systems of several languages and cultures. My work is more focused on the language and sociological representations for the participants rather than a broad statement of language and cultural systems.

 Muhlhausler and Harré (1990:132) call their understanding an "ethnographic hypothesis of relative salience," with culture determining the salience of the properties of the participants. Mulkern (2007:119) takes an integral approach to the discourse entities by considering the properties of the entities as a whole. Clamons, Mulkern and Sanders (1993) and Mulkern (2003) distinguish two types of discourse salience: inherent salience and imposed salience. Inherent salience is due to the centrality of an entity in the discourse while imposed salience is "the prominence or foregrounding given to an entity for the purpose of signaling how the speaker intends the hearer to subsequently rank discourse entities relative to each other" (Mulkern 2007:119). According to Mulkern (2007), using lower-referring expression on the Givenness Hierarchy to refer to an entity signals additional contextual effects. Applying this to my data, a speaker said, "These are some rocks that were brought back from the moon. You remember the US put somebody on the moon." If the speaker instead stated that "Some students remember the US put somebody on the moon," the listeners would be signaled to process the sentence more to see who those students are. Perhaps, the speaker is foregrounding those who had answered a

similar question correct on a recent test or students of a certain age. Mulkern (2007) specifies that imposed salience can be used for emphasis and for contrast. In the above example, the speaker would be contrasting groups who remember. Several linguistic devices can be used to impose salience including prosody, morphology, and specific syntactic constructions.

I want to consider if specific usages of participatory pronouns impose salience. If so, the choice of participatory pronouns could contribute another way of imposing relative discourse salience. Examining if specific usages of participatory pronouns in academic lectures impose relative discourse salience, I find no specific usages of participatory pronouns that impose salience using Mulkern's (2007) conception of discourse entities. For instance, I do not find the speakers using *I* instead of *you* to impose a salience; however, I do find the salience of various entities being used to further the discourse. Mulkern's (2007) salience views the referents as whole persons while my Positioning of Participatory Pronouns expands the definition of a person to include context and social interaction in which a person makes an utterance. My Positioning of Participatory Pronouns could be viewed as a framework that explains the discourse salience of the three principal factors of the participants, participant relationship, social thirdness, and transportative environment. Depending on the limits of the definition of relative discourse salience, my work is either an entirely fitting elaboration or an entirely exclusive conceptualization. My work could be described as specifying what aspects of an entity are salient in academic discourse, but I would prefer to characterize it as a separate conceptualization that shares some insights with the work on discourse salience.

6.2.2 The Nature of the Referents

6.2.2.1 Multiple Meanings

Examining the philosophical literature, a distinction is drawn between different types of meaning. Frege's (1892) distinguishes between *sense* and *reference*. His example is of Venus

being named "The Morning Star" and "The Evening Star" yet being one star. In this example, Venus is referred to by both phrases, but the two phrases have two different senses. Saying that the two referents are identical would not be a trivial matter, "The Morning Star is the Evening Star," since *morning* and *evening* are distinct. In the same way, my research describes many ways of referring to the participatns. I concur with Mulhausler and Harré (1990) that any pronoun can be used to refer to the speech participant. Saying that *I* can mean *you* is not trivial.

In Frege's framework, with regard to reference, both of the phrases mean Venus, but with regard to sense, the phrases have two different senses; I find some difficulty in incorporating this distinction into my model. The principal difficulty of incorporating Frege's distinction is that participatory pronouns have a limited *sense*. Kaplan (1977) calls these terms 'directly referential' meaning that in order to evaluate the proposition expressed by an utterance, using one of these words in a specific context, only the referent in that context is important. In other words, only the person referenced is important not the other people who could have possibly been referenced. Thus, saying *I* refers to 'the person speaking' is not correct, and saying *he* is 'the male person that the speaker is demonstrating' is not correct because only the person in that context is important while definite descriptions include others that could have been designated. Thus, the sense and reference distinction is not really applicable to the study of pronouns and does not need to be incorporated in the participatory pronoun model.

Miller (1982) further discusses the difficulty of fitting deictic pronouns into Frege's framework as he writes that Frege's example can be explained as a difference of *content*, using Kaplan's (1977) distinction between *content* and *character*. The Morning Star contains a certain content and the Evening Star has a separate content. Substituting deictic pronouns for the content, "This is that," the terms *this* and *that* could have the same content, but the sentence is given meaning by the character. *Character* is the manner of presentation of the content, like a

gesture. Kaplan distinguishes between pure indexicals, like *here* and *I*, which do not need a demonstration, and the other demonstratives, such as *you* and *there,* need of a gesture from the speaker. This understanding corresponds well with my Positioning of Participatory Pronouns.

6.2.2.2 Reflexivity

Reflexivity, the examination of self-reference, is concerned with the paradoxes of referring to oneself. Chisholm's (1981) analysis of the first-person describes the nuances of *I* while trying to avoid defining deictics by using other deictics. In his analysis, each *I* is separated by persons into aspects of themselves that are included in the referent, and each utterance of the first person is a new instance of the creation of the meaning of *I*. To refer to myself presupposes that I exist. If I say, "I am bald," I am presupposing that I exist and the property of *baldness* exists. I am attributing the property of *baldness* to an entity that I have constituted as myself regardless of whether this is true. Similarly in my data, when the speaker says "I move this chair," he refers to a part of the universe that he considers himself doing an action. Then when he says "I call these mononucleaic acids," he refers to a different part of the universe that he considers himself doing that action.

6.2.2.3 Indefinite *You*

Most analyses of pronouns have separated *you* into distinct classes (Hyman 2004). My work has rejected this notion, and I have included the following example to show that *you* is simply another one of the participatory pronouns that refers to a referent in my three-dimensional model.

> Example 6.1 (2010 s clip)
>
> In biological systems **you**[1] don't have to know much about this conservation of energy. **You**[2] have to know that energy comes from the sun, and it gets burned up. Okay so why do **I** even say it? Because it is in the book. The second one is

my favorite though because it doesn't make any sense either but it's really

important to biology. Okay the second law says every energy transfer increases

disorder now that mean that if **I** move this chair...

Examining this sample of text, the professor is talking about the laws of thermodynamics. Examining the referents of *you*[1] and *you*[2], other analyses of the referent of these pronouns would have the *you* referring to the addressees, that is to say the audience. Thus, 'in biological systems, (you in the audience) don't have to know much about this conservation of energy (you the audience) have to know that energy comes from the sun…' This interpretation is obviously not the right referent because the professor is not making a point about the classroom; instead the professor is making a point about the relation of physical and biological principles. Other analyses would have the *you* being an indefinite *you* that does not refer to a specific person; thus, the *you* could be substituted for *one*. Thus, 'in biological systems, (one, or anybody, does not) have to know much about this conservation of energy (one, or anybody, has) to know that energy comes from the sun…' This interpretation more closely approximates the professor's intent, but the professor is not making a general statement between physical and biological principles; instead, the professor is making a general statement that applies specifically to those in the audience. The correct interpretation would combine both of my two glosses to say 'in biological systems, (students at a level of involvement like you) don't have to know much about this conservation of energy (students at a level of involvement like you) have to know that energy comes from the sun…' This interpretation has the referent being a category of a group of specific people such as the audience; in essence the referent is a specific group of people in the context of being members of a larger specific group. Unlike other analyses, the Positioning of Participatory Pronouns captures these two senses. The r-value is between Midpoint 3 and Endpoint 2, near Endpoint 2, which captures the idea that the referent pertains mostly to the

audience as learners; a gloss of his utterance could be 'the first law of thermodynamics is not important to peripheral members of the biology community.' The s-value is high capturing the idea that the statement applies not only to the listeners but other people like them. The e-value is midlevel, meaning that the statement is not completely applicable to the current environment nor is statement about a completely abstract place. This e-value relates that the speaker is making a statement about a referent that operates in an environment that is more abstract than the current classroom, but not so abstract that the environment loses physical properties.

By using this example that does not fit categorization of *you* into classes, I would like to highlight the relevance of the Positioning of Participatory Pronouns. Other previous examples also support this position.

6.2.3 Participant Relationship

Turning to the relationship among referents rather than the referents themselves, Buhler (1982) puts the speaker in the role of sender by using *I* and puts the addressee in the role of receiver by using *you*. Calling the three deictic words of *I, here, now* the point of origin of the deictic field, Buhler uses a coordinate system to emphasize that these three deictics situate the speech in this field.

My Positioning of Participatory Pronouns describes the participatory pronouns as designating a relationship. Cicourel (1970:147) describes similar findings in explaining that a reciprocity of perspectives is needed for communicative interaction so that each participant would probably have the same experience of the immediate scene if they were to change places "that members assume and assume others assume it of them, that their descriptive accounts of utterances will be intelligible and recognizable features of a world known and in common and taken for granted." Examining empirical evidence of the referent being relational, motherese, the way adults speak to children, is shown to contain a lack of *you* and *I* references. The reciprocal

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you/I system may seem inappropriate to parents whose children have not mastered it (Tanz 1980:50). Tanz (1980:59) provides an example how children apply shifting and how autistic children, and young children, may use *you* as the child's name and *I* as the mother's name. This is an example of not understanding that *I, we*, and *you* map onto a dynamic, relational referent instead of a static one.

The relation between the referents and the pronoun is flexible in both my model and the understanding of other researchers. For example, speakers often depersonify babies designating the baby as *it* instead of *he* or *she* (Tanz 1980:51). Also doctor frequently say, "How are we today?" (Tanz 1980:51). From an experimental perspective, Brown (1995) provides examples of speakers using *I, we*, and *you* in purely relational terms disconnected from prototypical meanings. When giving directions to someone in the other room, the speakers would say "in line with your first oil well" (Brown 1995:121), such as the following example:

> When speaker A speaks of *your first oil well* to B…he speaks of an entity in a location which he, as speaker, is in relation with and which he knows that B, as hearer, is already in relation with. He speaks of 'the first oil well that you and I mutually know about and have just recently on this very map agreed on.'
> (Brown, 1995:121)

The oil wells in these experiments are not owned by the participants, but are called "your first oil well" to mean 'the first oil well you see and we both know about.'

Taking each referent of *I, we*, and *you* as unique instantiations of the speech participants entails understanding the relationships between the participants. Buhler (1982) speaks of how imagination and transposition are the roles of deictic pronouns; they take the participants to different spaces. Goffman's (1979) work is foundational in the understanding of participants in conversation through his participation framework. His metaphor of *footing* describes the interactional positions of the participants, also developed as *stance*. Levinson (1988) and Hanks (1990) find deixis especially important in determining the participation frameworks. Jakobson

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(1971) refers to deictic pronouns as shifters since they shift the conversation from the narration to the physical presence. Wortham (1996) provides a framework for analyzing how deixis shifts the interaction to include other objects in the environment. He emphasizes that *we* in speech helps organize the conversation by providing a representation of the speaker's footing. Wortham codes each shifter used and its referent noting the person, spatiality, temporality, tense, and whether it refers to a narrated or narrating realm. This deictic map reveals patterns in the conversations.

All of these researchers emphasis the importance of participants in speech, and my Positioning of Participatory Pronouns situates the participants in a readily understandable, relevant framework that emphasizes who the participants are and their relations to each other.

6.2.4 Social Thirdness: Intersection of Language and the World

In addition to the participant relationships that I described in the previous section, my Positioning of Participatory Pronouns accounts for participants in the speech situation who are not physically present. The importance of this type of analysis is found in other works as well.

Bahktin (1981:293) states "All words have a particular 'taste' of a profession, a genre, a tendency, a party, a particular work, a particular person, a generation, an age group, the day and hour. Each word tastes of the context and contexts in which it has lived its socially charged life." Because of these associations, Bahktin (1981) views each speech situation as a triangle between the speaker, hearer, and a *thirdness*, which represents the socio-cultural dimension of the conversation. Bahktin's dialogic triangle is used by Brody (2001) to explain the indexical properties of speech. So, speech uses and, at the same time, contributes to the thirdness associated with the words. McConnell-Ginet (2008) also discusses how social practice is essential in determining meaning and reference.

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Examining this thirdness, Aronoff (2007) writes of the influence of linguistic and extralinguistic factors in determining the morphology of words. At one extreme, chemical words represent the intersection of language with a logical system such that chemical names can extend for many lines and be completely decompositional. At the other extreme language intersects with nonlogical systems to form words like "refugee" that have many definitions that are not compositional in nature but are the result of the diverse associations with the words. In such examples, the intersection of language and socio-cultural systems results in words whose meanings are derived linguistically and sociologically. (Aronoff 2007)

More than other words, participatory pronouns are constrained by socio-cultural systems and facilitate the formation of socio-cultural systems because by nature they are linguistic signs that point to socio-cultural relations between the speaker and the listener. Modern conceptions of speech describe speakers as creatively presenting different aspects of themselves as they speak (Goffman 1981, Schilling-Estes 1998, Eckert 2000, Coupland 2001). Through these images, the speakers project sides of their life that they would like to emphasize. In the university lecture, these projections reveal the speakers presenting themselves during a single lecture in a variety of roles including *source of knowledge*, *friend, supervisor*, *stranger*, etc. I demonstrate in my study that participatory pronouns refer to a variety of kinds of referents that include abstract and imaginary group memberships of the participants.

Speech also reveals properties of the individuals who use linguistic resources to differentiate themselves from the thirdness. Johnstone (1995) focused on how four individuals using their linguistic resources to display their personality. She found that:

> As speakers decide, consciously or unconsciously, how to sound, they pick and choose from among the available ways of sounding…They themselves understand their language…(and) are motivated at least as much by the need for self expression-the expression of a unique, differentiated self-as they are by the necessity to replicate social ideologies." (Johnstone 1995:198).

Johnstone (1996) also examined academic speech by two individuals at an academic conference to understand how they use linguistic resources in academic expression. Her study emphasized effective communication in the same environment by two speakers with different styles of speech. This phenomenon of the speakers placing themselves in the social milieu is well accounted for through the social thirdness axis of my Positioning of Participatory Pronouns.

6.2.5 Transportative Environment

As referents vary between physical and mental associations with the participants, the abstractness of referents becomes more of an issue. Though some abstract entities are more prototypical than others, Hegarty's (2003) list, adapted from Asher (1993), of prototypical properties of abstract entities includes the lack of spatiotemporal location, non-material constitution, and a lack of causal efficacy as characteristics of abstractness. My study shows that the referents of participatory pronouns represent all aspects of the spectrum between prototypical abstract entities and prototypical concrete entities. As the e-value of the referents increases, the referents lose an exact spatiotemporal location and material construction. My results confirm the variance of abstract entities from physical entities in speech.

Greimas and Courtès (1979) emphasize that the referents of pronouns not only vary in abstractness but include aspects such as time and place. The personal pronouns place the speaker in a spatial relationship with the physical world and social. This engagement and disengagement of narration, which some translate as 'shifting in' and 'shifting out,' places the speech into the physical world. Continuing on this theme of pronouns containing spatio-temporal information, Pederson et al. (1998), found that:

> Since it seems, based on our findings, that the different frames of reference cannot be readily translated, we must represent our spatial memories in a manner specific to the socially normal means of expression. That is, the linguistic system is far more than just an AVAILABLE pattern for creating representations: to learn to

> speak a language successfully REQUIRES speakers to develop an appropriate mental representation which is then available for non-linguistic purposes."
>
> (Pederson et al, 1998:586)

So, Perderson et al. found that social conventions in mental representations are not only available to speakers but are necessary for forming mental representations.

As these works indicate, the referents of participatory pronouns vary depending on the abstractness of the referent, which, in terms of location, corresponds to the e-axis on the Participant Model. As the e-axis increased, the nature of the referents correspondence with the pronouns changed.

6.2.6 Language Functions and Discourse Strategies

Of the four language functions and three discourse strategies that I found in my research, economy is the most attested in other literature while interchangeability and categorical referents have been noted. The other function, juggling, and the discourse strategies (exampling, extending, staturing) are identified for the first time in my research. Interchangeability has been noted by Mulhausler and Harré (1990), but I explained the conditions and extent of interchangeability. The term categorical referent has also been noted in Sacks (1992) and integrated by Malone (1997) with essentially the same meaning as my grounded theory-derived term; however, my Positioning of Participatory Pronouns makes these conditions for categorical reference clearer and disambiguates who the referents are and how they are recovered. While Malone (1997) still clings to the notions of persons and indefiniteness in pronouns which conflicts with Muhlhausler and Harré's (1990) findings, I provide a much simpler and more comprehensive analysis that integrates Malone's insights with Muhlhausler and Harré's to reconceptualize participatory pronouns.

Focusing on economy, Chafe (1994) and Laury (2005:72) state that referents at the forefront of speakers' environment do not require much processing (less activation cost) for

already active referents, so they can be used for cheap referents such as when it is "not necessary to strongly activate, since they are not going to or meant to become topical or focal." Laury (2005:73) then states that first-mention pronouns can be considered an example of the iconicity of languages "in that the form of the pronoun reflects both its cognitive level of activation and its importance in and for the discourse." Laury notes that semantically light pronouns are used for first mentions of referents which are not important in discourse and will not be rementioned. Laury does not consider that pronouns are also used for in-focus referents, so the iconicity of pronouns, while holding for first mention pronouns, should not be generalized to all pronouns. Laury (2005) finds referents can be type identifiable like occupational categories and particular referents such as individuals. Ziv (1996) and Fox (1987) found that pronouns can be used when the speaker is not capable of identifying a specific referent and the listener is not expected to identify a specific referent. This literature collaborates my findings of how participatory pronouns are used not only because I also find economy and categorical referents in participatory pronouns, but my Participant Model also explains how the interpretation ends at a certain level of understanding that is adequate for the communication.

6.3 Mapping the Participatory Pronouns on the Model Cross-Linguistically

I would like to speculate on how the Positioning of Participatory Pronouns could work in other dialects and languages. I mean this section as a challenge for future work. On my Participant Model, the referents could be symbolically encoded in words in an infinite number of ways depending on the language (Figure 6.1 Other Languages). In English, the words *I, we,* and *you* incorporate all the referents. I know of no other languages that divide the r-axis of relationship into more than three words, but where *I/we* and *we/you* begin varies. If the speaker and listener consider themselves one being, then the distinction between *I*, *we*, and *you* can have

more overlap. For example husbands, often call relatives to say, "We're pregnant," or "We just gave birth," referring to the pregnancy as occurring in both individuals.

Social Thirdness s-axis

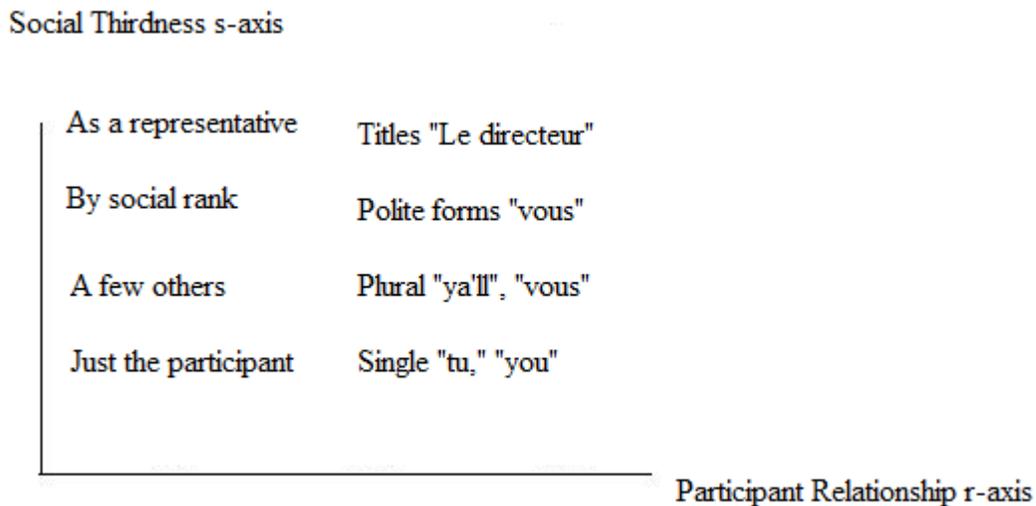| As a representative | Titles "Le directeur" |
By social rank	Polite forms "vous"
A few others	Plural "ya'll", "vous"
Just the participant	Single "tu," "you"

Participant Relationship r-axis

Figure 6.1
Other Languages

As the number of listeners increase, the original aspects of word distinction still exist, but now the speaker can refer to listener A, listener B, both, a third party, or a combination. From the perspective of the speaker and each listener, the speaker can designate 'you the original listener', or 'you the original listener and third person'. This distinction is symbolically instantiated in the southern United States as "you" and "ya'll," in French as "tu" and "vous," or it can be undifferentiated such as the standard English "you" and "you." Whether this plural address is symbolically encoded in a new word form is specific to the social group.

Adding a second person to the speaking group, the *I* can refer to the social group of the speaker or can refer to individual. In English the social group is sometimes encoded with an exclusive *we* and sometimes with an *I* as a corporate head, such as "At Horton Homebuilders, {I, we} build quality buildings." So the *we* form extends toward Endpoint 1 in English, but Malayalam and most other Dravidian languages encode this distinction, called clusivity, in the lexicon so the exclusive *we* is encoded with a new word form.

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Adding a larger socio-cultural system, politeness forms and other forms for addressing the speaker with more or less of his corporate group, the listener with more or less of his corporate group, and the possibilities of the speaker and listeners working more or less together with the rest of their groups expand the opportunities for the referents to be encoded in new word forms. These new word forms assume the roles of participatory pronouns (Figure 6.1 Other languages). The word forms have new initial biases and encode different instructions for retrieving the referent, but they still correspond with the Participant Model and the Positioning of Participatory Pronouns.

This would be how the system stands if the speaker and listener groups were entirely separate; however, a group of people interact to form a shared endeavor shared thirdness. Much as parallel lines appear to come together at long distances when viewed from the perspective of each line, the further the social system is involved the more other participants, *I* and *you,* lose their meaning so that near the point of extreme participation of others beside the speaker and listeners you, *I* and *we* lose their meaning as differences between speakers because even *they* and *one* and can be used (previously shown in Figure 5.6). Examining the historical relations of several Indo-European languages, *I* and demonstratives seem to have sound and verb relations, such as the close relation between *here* and *I* in Armenian and a common source of the Latin *ego* and *hic* (Buhler1982). These cross-linguistic findings corresponds to the prediction of my Positioning of Participatory Pronouns. The linguistic signs of each language differ and encode different mechanisms but the underlying Participant Model and the overarching Positioning of Participatory Pronouns continues to have explanatory value.

6.4 Summary

In this dissertation, I have presented a new way of examining speech that is highly relevant to the speakers in academic discourse. I answer the question of who is participating in

the speech situation and how these participants relate to each other, social entities, and physical spaces. I answer these questions through the concept of participant positioning, which also resolves the most important recurring issue in academic lectures, what is the context of interpretation of the utterances. These issues of participation and the context of interpretation are especially clear in the use of certain pronouns in academic lectures that I dub participatory pronouns. My Positioning of Participatory Pronouns explicates the referent and mechanism of reference for *I*, *we*, and *you* while demonstrating the integral nature of participant positioning.

Linguistically, my findings detail several previously undescribed uses of deixis and present a model of retrieving deictic referents. Uniting linguistic phenomena that were once separated, my findings explain the uses of pronouns and how they relate to one another. The theory is a specification of Relevance Theory is a specific speech situation. I explain the previously undescribed process of juggling referents. I relate the importance of economy in pronouns as well as the mechanism for pronouns to refer categorically to aspects of individuals and to interchange with each other.

Sociologically, my findings explain the social structures and sources of authority that academics use to teach and convey discoveries. Principally, the academic lecture involves three main social spaces and three main physical spaces. The social spaces referenced can be grouped as expert spheres, collaborative spheres, and personal spheres. The physical spaces can be grouped as the physical present, the transported reality, and the imaginary.

The social spheres are negotiated for relevance and authority. The speakers refer to expert spheres to give their utterances authority through a process that I called staturing. The speakers refer to personal spheres to give their utterances relevance through a process that I called extending. The collaboration sphere refers to the social process occurring at the time of utterance of the lecture. Many of the interchangeable pronouns occur in this sphere.

The physical spaces are used to move the social spheres into contexts where the scientific discoveries are more easily comprehensible; I call this process exampling. Using the pronouns to refer to individuals in new locations, the utterances are meant to be interpreted in new contexts.

Pedagogically, my findings indicate approaches for more effective academic communication. Instead of evoking images haphazardly, the speaker could be more deliberate in his use of examples. The speakers can also be more aware of the images that they evoke and whether those images are truly relevant to the listeners. For example, patriotic uses of pronouns do not correspond to all the experiences of the audience and thus, are likely to be misinterpreted by some students. Similarly, staturing is effective when used appropriately, but staturing too much presents a limited vision of the world.

As a whole, my research invites further work into the dynamics of language, society, and academia. As previously mentioned, participant positioning is highly relevant to many types of symbolic interaction. Sociologically, my findings could be used to provide a survey of the social dynamics of academia by examining what participant relationships are most common in academia, what social thirdness is most relevant, and what transportative environments are essential to each discipline. Pedagogically, examining the differences between native and nonnative speakers' usages of participatory pronouns would aid both language learning and intercultural communication. Linguistically, examining how different languages encode the mechanisms of reference would allow more effective comparisons than the current understandings of pronominal systems. Knowing that different languages maintain the essentials of Positioning of Participatory Pronouns would provide insights into how language is stored. Within any given language comparing the social thirdness would allow for identification of intra-personal speech styles. These are some of the many extensions of this work, but the work also

stands on its own by uniting unnecessarily complex linguistic conceptualizations, explaining in detail many linguistic processes, and most importantly, giving the participants insights into how they are communicating.

REFERENCES

Aronoff, Mark. 2007. In the Beginning was the Word. *Langauge* 83. 803-830.

Asher, Nicolas. 1993. Reference to Abstract Objects in Discourse. *Dordrecht Review* 106. 748-765.

Bakhtin, Mikhail. 1981. *The Dialogic Imagination: Four essays.* Trans. by MichaelHolquist and Caryl Emerson. Austin: The University of Texas Press.

Benveniste, Émile. 1974. *Problèmes de linguistique générale.* Paris: Gallimand.

Biber, Douglas. 2003. Variation among University Spoken and Written Register: A New Multi-Dimensional Analysis. *Corpus Analysis Language Structure and Language Use,* ed. by P. Leistyna & C. Meyer. 47-70. Amsterdam: Rodopi Press.

Blackman, Bernard. 1983. Toward a Grounded Theory. *Intercultural Communication Theory: Current Perspectives*, ed. by W. GudyKunst, 283-292. Beverly Hills: Sage.

Brody, Jill. 1995. Lending the 'Unborrowable': Spanish Discourse Markers in Indigenous American Languages. *Spanish in Four Continents: Studies in Language contact and bilingualism*, ed. by Carmen Silva-Corvalán, 132-137. Washington, DC: Georgetown University Press.

Brody, Jill. 2001. "Orientación en espacio, tiempo y cultura tojolab'al por medio de plática," *Tlalócan*13:119-168

Brown, Gillian. 1995. *Speakers, Listeners and Communication.* Cambridge: Cambridge University Press.

Brown, Roger and Albert Gilman. 2003. The Pronouns of Power and Solidarity. *Sociolinguistics: The Essential Reading,.* ed. by Christina Paulston and Richard Tucker. 156-176. New York: Wiley Blackwell.

Brown, Penelope and Stephen Levinson. 1978. Universals in Language Usage: Politeness Phenomena. *Questions and Politeness*, ed. by. E. Goody. 56-310. Cambridge: Cambridge University Press.

Burke, A. and John Swales. 2003. "It's Really Fascinating Work": Differences in Evaluative Adjectives across Academic Registers. *Corpus Analysis: Language Structure and Use,* ed. by C. Meyer & P. Leistyna, 1-18. Amsterdam: Rodopi Press.

Buhler, Karl. 1982. The Deictic Field of Language and Deictic Words. *Speech, Place, and Action: Studies in Deixis and Related Topics.* ed. by R. Jarvella and W. Klein, 9-30. Chichester: John Wiley and Sons.

Chafe, Wallace. 1994. *Discourse, Consciousness, and Time: The Flow and Displacement of Conscious Experience in Speaking and Writing.* Chicago: University of Chicago Press.

Chisholm, Roderick. 1981. *The First Person: An Essay on Reference and Intentionality.* Brighton, UK: The Harvester Press.

Cicourel, Aaron V. (1970). Basic and Normative Rules in the Negotiation of Status and Role. *Recent Sociology, No. 2. Patterns of Communicative Behavior,* ed. by H. P. Dreitzel. 4-45. New York: The Free Press.

Clamons, R., Ann Mulkern, Gerald Sanders. 1993. Signaling Salience in Oromo. *Journal of Pragmatics.* 19. 519-536.

Clive, Seale, Giampietro Gobo, and Jaber Gubrium. 2004. *Qualitative Research Practice.* New York: SAGE.

Cohen, James. 1960. A Coefficient of Agreement for Nominal Scales *Educational and Psychological Measurement.* 20. 37-46.

Cornish, Francis. 1996. 'Antecedentless' Anaphors: Deixis, Anaphora, or What? Some Evidence from English and French. *Journal of Linguistics.* 32. 19-41.

Cornish, Francis, Alan Garnham, H. Wind Cowles, Marion Fossard, & Virginie Andre. 2005. Indirect Anaphora in English and French: A Cross-Linguistic Study of Pronoun Resolution. *Journal of Memory and Language.* 52. 363-376.

Coupland, Nikolas. 2001. Language Situation and the Relational Self: Theorising Dialect-Style in Sociolinguistics. *Style and Socilinguistic Variation,* ed. by John Rickford and Penelope Eckert, 185-210. Cambridge: Cambridge University Press.

Davies, Bronwyn, & Rom Harré. 1990. Positioning: The Discursive Production of Selves. *The Journal for the Theory of Social Behaviour.* 20(1) 43-63.

Dechaine, Rose-Marie, & Martina Wiltschko. 2002. Decomposing Pronouns. *Linguistic Inquiry.* 33(3) 409-442.

Eckert, Penelope. 2000. *Linguistic Variation as Social Practice: The Linguistic Construction of Identity in Belten High.* Malden, MA: Blackwell Publishers.

Filimonova, Elena. 2005. Introduction. *Typology and Case Studies of the Inclusive-Exclusive Distinction,* ed. by E. Filimonova. ix-xii. New York: John Benjamins.

Fillmore, Charles. 1982. Towards a Descriptive Framework for Spatial Deixis *Speech, Place, and Action: Studies in Deixis and Related Topics.* ed. by R. Jarvella and W. Klein. 31-60. Chichester: John Wiley and Sons.

Fox, Barbara. 1987. *Discourse Structure and Anaphora: Written and Conversational English.* Cambridge: Cambridge University Press.

Frege, Gottlob. 1892. Uber Sinn and Bedeutung. *Zeitschrift für Philosophie und philosophische Kritik*, 100. 25-50.

Glaser, Barney. 1998. *Doing Grounded Theory: Issues and Discussions.* Mill Valley, CA: Sociology Press.

Glaser, Barney. 2001. *The Grounded Theory Perspective: Conceptualization Contrasted with Description.* Mill Valley, CA: Sociology Press.

Glaser, Barney and Judith Holden. 2004. Remodeling Grounded Theory. *The Grounded Theory Review.* 4(1). 1-24

Glaser, Barney and Anslem Strauss. 1967. *Discovery of Grounded Theory.* Mill Valley, CA: Sociology Press.

Glasser, William. 1986. *Control Theory in the Classroom*. New York: Harper.

Goffman, Erving. 1974. *Frame Analysis.* Cambridge: Harvard University Press.

Goffman, Erving. 1979. Footing. *Semiotica.* 25(1). 1-29.

Goffman, Erving. 1981. *Forms of Talk.* Philadelphia: University of Pennsylvania Press.

Greimas, A. J., and J. Courtes. 1979. *Sémiotique: Dictionnaire raisonné de la théorie du language.* Paris: Hatchette

Gundel, Jeannette, Nancy Hedberg, & Ron Zacharski. 1993. Cognitive Status and the Form of Referring Expressions in Discourse. *Language.* 69 (2). 274-307.

Hanks, William. 1990. *Referential Practice.* Chicago, IL: University of Chicago.

Harré, Rom. & van Langenhove, Luk. 1999. The Dynamics of Social Episodes. *Positioning Theory*, ed. by Harré, Rom & van Langenhove, Luk, 1-14. Oxford: Blackwell.

Hegarty, Michael. 2003. Semantic Types of Abstract Entities. *Lingua*. 113. 891-927.

Huang, Yan. 2000. *Anaphora: a Cross-Linguistic Study.* Oxford: Oxford University press.

Hyman, Eric. 2004. The Indefinite You. *English Studies: A Journal of the English Language and Literature.* 195-219.

Jakobson, Roman, 1971. Shifters, Verbal Categories, and the Russian Verb. *Selected Writings*, vol 2, Roman Jakobson. 130-147. The Hague: Mouton.

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Jarvella, Robert and Wolfgang Klein. 1982. A Brief Introduction. *Speech, Place, and Action: Studies in Deixis and Related Topics.* ed. by R. Jarvella and W. Klein. 1-8. Chichester: John Wiley and Sons.

Jesperson, Otto. 1924. *The Philosophy of Grammar*. New York: University of Chicago.

Johnstone, Barbara. 1995. Sociolinguistic Resources, Individual Identities, and Public Speech Styles of Texas Women. *Journal of Linguistic Anthropology.* 5(2): 183-202.

Johnstone, Barbara. 1996. *The Linguistic Individual.* Oxford: Oxford University Press.

Kaplan, David. 1977. Demonstratives: An Essay on the Semantics, Logic, Metaphysics, and Epistemology of Demonstratives and Other Indexicals. Paper presented for Symposium on Demonstratives at a Meeting of the Pacific Division of the American Philosophical Association.

Kerbrat-Orecchoni, Catherine. *L'Énonciation de la sujectivité dans le langage.* Paris : Librarie Armand Colin.

Kiesling, Scott. 1998. Variation and Men's Identity in a Fraternity. *Journal of Sociolinguistics* 2(1) 69-100.

Kiesling, Scott. 2004. Dude. *American Speech.* 79(3) 281-305.

Kripke, Saul. Speaker's Reference and Semantic Reference. *Midwest Studies in Philosophy* 2:255-276.

Kroch, Anthony. 2001. Syntactic Change. *The Handbook of Contemporary Syntactic Theory.* ed. by Mark Baltin & Chris Collins. 689-729. Malden, MA: Blackwell.

Labov, William. (1966). *The Social Stratification of English in New York City.* Washington, D.C.: Centre for Applied Linguistics.

Landis, J. R. and Koch, G. G. 1977. The Measurement of Observer Agreement for Categorical Data. *Biometrics*. 33. 159--174

Laury, Ritva. 2005. First and Only: Single Mention Pronouns in Finnish. *Minimal Reference: The Use of Pronouns in Finnish and Estonian Discourse*, ed. by Ritva Laury, 56-74. Helsinki: Finnish Literature Society.

Levinson, Stephen. 1988. Putting Linguistics on a Proper Footing. *Erving Goffman, Exploring the Interaction Order*, ed. by P. Drew and A. Wooton, 161-227. Newbury Park, CA: Sage.

Littlejohn, Stephen and Karen Foss. 2004. *Theories of Human Communication: With Infotrac*. New York: Thomson Wadsworth.

Malone, Martin. 1997. *Worlds of Talk: The Presentation of Self in Everyday Conversation.* Malden, MA: Polity Press.

McConnell-Ginet, Sally. 2008. Words in the World: How and Why Meanings Can Matter. *Language.* 84(3) 474-496.

Mendoza-Denton, Norma. 1997. *Chicana/Mexicana Identity and Linguistic Variation: An Ethnographic and Sociolinguistic Study of Gang Affiliation in an Urban High School.* Ph.D. dissertation. Stanford University.

Miller, George. 1982. Some Problems in the Theory of Demonstrative Reference. *Speech, Place, and Action: Studies in Deixis and Related Topics.* ed. by R. Jarvella and W. Klein. 9-30. Chichester: John Wiley and Sons.

Morse, Janice. Considering Theory Derived from Qualitative Research. *Completing a Qualitative Project: Details and Dialogue,* ed. by J. Morse. 163-90. Thousand Oaks, CA: Sage Publications.

Muhlhausler, Peter & Rom Harré. 1990. *Pronouns and People: The Linguistic Construction of Social and Personal Identity.* Oxford: Blackwell.

Mulkern, Ann. 2003. *Cognitive Status, Discourse Salience, and Information Structure: Evidence from Irish and Oromo.* Ph.D. Dissertation. University of Minnesota.

Mulkern, Ann. 2007. Knowing Who's Important: Relative Discourse Salience and Irish Pronominal Forms. *The grammar-pragmatics interface,* ed. by Nancy Hedberg and Ron Zacharski. 113-142. Amsterdam: John Benjamins.

Ochs, Elinor, Patrick Gonzales, and Sally Jacoby. 1996. "When I come down I'm in the domain state": Grammar and graphic representation in the interpretive activity of physicists. *Interaction and Grammar,* ed. by Elinor Ochs, Emanuel Schegloff, and Sandra Thompson. 328-369. Cambridge: Cambridge University Press.

Ochs, Elinor, Sally Jacoby, and Patrick Gonzales. 1994. Interpretive Journeys: How Physicists Talk and Travel Through Graphic Space. *Configurations.* 2(1) 151-171.

Pederson, Eric; Eve Danziger, David Wilkins, Stephen Levinson, Sotaro Kita and Gunter Senft. 1998. Semantic Typology and Spatial Conceptualization. *Language.* 74(3) 557-89.

Peirce, Charles. 1932. *Collected Papers of C.S. Peirce,* ed. Chales Hartshorne and Paul Weiss, vol. 2 Cambridge, MA: Harvard University Press.

Petrie, Gina. 2003. ESL Teachers' Views on Visual Language: A Grounded Theory. *Reading Matrix: An International Online Journal.* 3. 137-168.

Powers, John. 1995. On the Intellectual Structure of the Human Communication Discipline. *Communication Education.* 44, 191-222.

Sacks, Harvey. 1992. *Lectures on Conversation*, vols 1 and 2. ed. Gail Jefferson. Cambridge, MA: Blackwell.

Schiffrin, Deborah. 1987. *Discourse Markers*. Cambridge: Cambridge University Press.

Schilling-Estes, Natalie. 1998. Investigating "Self-conscious" Speech: The Performance Register in Ocracoke English. *Language in Society.* 27: 53-83.

Scott, D. 1996. Making Judgments about Educational Research. *Understanding Educational Research*, ed. by D. Scott and R. Usher. 74-87. Routledge: New York.

Searle, John. 1969. *Speech Acts: An Essay in the Philosophy of Language.* London: Cambridge University Press.

Silverstein, Michael. 1976. Shifters, Linguistic Categories, and Cultural Description. *Meaning in Anthropology,* ed. by Keith Basso and Henry Selby, 11-55. Albuquerque: University of New Mexico Press.

Simpson, R.C.; S. L. Briggs, J. Ovens, and J. M. Swales. 2002. The Michigan Corpus of Academic Spoken English. Ann Arbor, MI: The Regents of the University of Michigan.

Sperber, D. and D. Wilson. 1986/95. *Relevance: Communication and Cognition.* Blackwell: Oxford. (First published 1986, second edition 1995.)

Strauss, Anselm and Juliet Corbin. 1990. *Basics of Qualitative Research: Grounded Theory Procedures and Techniques.* Sage Publications.

Swales, John. 2001. Metatalk in American Academic Talk: The Cases of "Point" and "Thing." *Journal of English Linguistics*. 29. 34-54.

Tannen, Debora. 2005. *Conversational Styles.* Oxford: Oxford University Press.

Tanz, Christine. 1980. *Studies in the Acquisition of Deictic Terms*. Cambridge: Cambridge University Press.

Tarp, Gertrud. 2006. Student Perspectives in Short-Term Study Programmes Abroad: A Grounded Theory Study. *Living and Studying Abroad: Research and Practice*, ed. by A. Feng and R. Crawshaw. 157-85. Clevedon, England: Multilingual Matters.

Vygotsky, Lev. 1978. *Mind in Society: The Development of Higher Psychological Processes*. Cambridge, MA: Cambridge University Press.

Wedgwood, Daniel. 2005. *Shifting the Focus: From Static Structures to the Dynamics of Interpretation.* Amsterdam: Elsevier.

Wenger, Etienne. 1998. *Communities of Practice Learning, Meaning, and Identity.* Cambridge: Cambridge University Press.

Wortham, Stanton. 1996. Mapping Participant Deictics: A Technique for Discovering Speakers' Footing. *Journal of Pragmatics.* 25. 331-348.

Ziv, Yael. 1996. Pronominal Reference to Inferred Antecedents. *Coherence and Anaphora.* ed. by Walter De Mulder and Liliane Tasmowski. *Belgian Journal of Linguistics* 10:55-68. Amsterdam: John Benjamins.

APPENDIX A: PROCESS OF CODING

A. Constructing the Model Using Grounded Theory

A.1 Problem Statement

I started by collecting, coding, and analyzing lectures to see what emerged. I was vaguely interested in the styles of speech that professors use. As I was listening to lectures and interviewing professors a phenomenon emerged, the professors were constantly expressing relationships through pronominal reference and positioning the participants and utterances in different contexts.

Grounded Theory (GT) solves the main concern of the participants by generating a theory that resolves the preponderance of incidents (Glaser 2001). The main concern of the professors is how to situate their content in a way that is accessible to the students. The professors want to bring to the students a body of knowledge accumulated by a social group that is apart from the students. The professors' speech positions the students into the realm of this knowledge.

A.2 Data

The data were lectures that I observed in person and through on-line databases. As the project evolved, I included interviews with the speakers as data. Finally I used the other literature and existing theories as data.

Glaser (2001:145) states that "all is data." Data in GT are not limited by preconceived categories of classifying participants, such as gender or age, or by existing classifications in the literature. Any category in the analysis must be derived from the data present. Even though the main concern might not be something of which the participants themselves are aware because they are not constantly evaluating their practices, data of any type contributes to the GT regardless of its construction and voice.

A.3 Open Coding

I started coding the nature of the referents of the pronouns with substantive codes by comparing data to data for similarities and then linked data to data in theoretical codes. This section lists the codes that emerged and the distinctions in each of the codes. As GT requires, these codes are related to each other and delimited later in the process.

The following styles were coded based on the subject/task of the speech: abstract, concrete, and personal. To distinguish between types of anaphora, discourse anaphora and intrasentential anaphora were coded. The focus of discourse was coded by topic, comment, and discourse marker. The referent was coded as a singular person and a group of people. To account for whether abstractness of the personal pronouns plays a role the referents were categorized as abstract or physical. Deixis was coded if the words were used not to refer to an abstract referent or a referent in the discourse but to point to a physical referent. Anaphors were classified as discourse or intrasentential. The discourse anaphors were coded as referring to a referent from the text or a referent in the community. The intrasentential anaphors were coded in each sentence. The cognitive status was classified according Gundel et al's. (1993) hierarchy, with the top three statuses considered most important since the referents were often at least in focus, activated, or familiar.

The referent was classified as abstract or physical which may seem easy to classify, but in reality the referent was often the physical participants located in an abstract space so a further distinction was required. The community memberships of the referents were coded with scholarly, teaching, learning and world communities. The role of the speaker was coded as the speaker could be referring to himself as a teacher, friend, or scholar.

Soon, the analysis made clear that this type of coding was too simplistic. My analysis of the data was leading to a different way of understanding deixis that does not focus on the

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structure but rather uses the changing referent. The coding variables were changed and adapted because the initial coding strategies were too simplistic. The cognitive statuses of the referents were hard to determine. Pronouns should only be used for in-focus referents, but pronouns were used for multiple entities that did not all seem to be in focus. The degree of abstractness was also difficult to code.

The previous codes based on the properties of the referents were abandoned in favor of a strategy of stating what the referents are. To describe the properties of the referents requires knowing what they are. The referents fit the following theoretical codes. The physically present speaker (the professor in the classroom), the physically present listeners (the students in the classroom), the physically present speaker in the imagined situation (classroom examples), the physically present listener in the imagined situation (classroom examples), the speaker and his imagined far-flung community (academic community), the speaker and his imagined community outside the gates (lecturers), the listener and his imagined community (the students of the university), the speaker and listeners in their shared imagined community (Americans), the speaker and listeners in their shared properties (rational beings), the listeners in their shared properties (rational beings), the lecturer in his role as friend, and the lecturer in his role as teacher. Focusing on these data-derived categories best explained the process of pronominal reference.

A.4 Core Variable

Searching for a category that related and explained the open codes, positioning of the participant became the core variable of this study. All the other categories have positioning in common. The speaker positions what is said using a deictic pronoun. The position of the utterance locates that utterance in the field of environment and social groups while also reifying the position of the speaker and listeners.

A.5 Axial Coding and Delimiting

The theoretical codes from the open coding could be further integrated into concepts that were examined axially in order to view the phenomena described in the codes from a variety of perspectives. Axial coding is looking at each category as an axis of how it relates to the others. I have chosen to use a framework of axial coding developed by Corbin and Strauss (1990). The example below relates on the main phenomenon on an axis to examine its different aspects (Table A.1 Axial Coding of the Main Concern).

Table A.1: Axial Coding of the Main Concern

    Phenomenon
        Positioning by pronouns
    Causes
        Disconnect between language and culture
        Disconnect between referent and sign
        Authority bringing in more than just participants
    Context
        Conflict between narrating and narrated
        Conflict between present and abstract
        Speaker is presenting multiple aspects
        Listeners are present in multiple aspects
    Action strategies
        Use pronouns to bring content to the physical
        Use pronouns to refer to salient communities (patriotic)
        Use pronouns to make examples understandable
        Use pronouns to present authority groups
    Consequences
        Juggling of pronouns
        Cheapness
        Categorical referent
        Interchangeability of pronouns in shared membership
    Composition
        Relationship
        Thirdness
        Environmental Abstractness

Examining each aspect of Chart 1 starting with the phenomenon, the phenomenon under consideration in this axis is positioning by pronouns. Positioning is found in every pronoun encountered. Several causes of positioning are evident; causes are the variables that lead to

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positioning. Positioning is necessary because of the disconnection between language and culture. Certain cultural aspects are not symbolically represented in the speech, and the speaker has a desire to introduce them in the discourse. Positioning is also necessary because of the disconnection between the linguistic sign, the pronoun, and its referent. As writing is recognized as being decontextualized, monologic speech is deconstextualized as well. The referent might not be present in the immediate environment, and the existing linguistic signs point to referents in the immediate environment. This disconnection of sign and referent is filled by positioning. Finally positioning is caused by the need to introduce social entities into the lecture to convey authority. The speakers are not speaking as just themselves, but as representatives of a large social group with a body of knowledge.

Context is the background variables of positioning; positioning is situated in the context of conflict and multidimensionality. The speaker is in conflict about bringing a narrated discourse into the narrating event and bringing a body of knowledge into the immediate environment. This conflict of interpreting the experience of one membership of the speaker into something that is understandable to the learner of a different membership group is the context of positioning.

The action strategies are the purposeful behaviors of the speakers; in this case, the speakers are purposefully using positioning to bridge the conflicts mentioned before. Positioning is used to make the abstract more concrete as when professors use pronouns to bring scientific ideas to the level of the students. Inversely, positioning is also used to explain everyday occurrences in scientific, abstract ways. Positioning also brings in the speakers' membership groups as signs of authority and the listeners memberships groups as signs of relevance.

The consequences of these action strategies are both intended and unintended. Positioning results in the same pronoun being used repeatedly to refer to different referent in a

phenomenon called *juggling*. Because the referents of the pronouns can possibly overlap, the pronouns themselves become interchangeable. Because the listener is subconsciously familiar with positioning the participatory pronouns are used rather cheaply, meaning that they can be used to add much benefit with little processing effort. Finally, the positioning allows a simple statement to be rather general to a specific group of people by creating a categorical referent.

Three core categories encompass and select for the properties of positioning. A full range of values were found in the data for the relationship of the participants to each other, the introduction of a social thirdness, and the transportation to a different environment.

To apply the axial coding from the concept of positioning to the substantive dimension of participatory pronouns is an easily accomplished descriptive step. Each instance of participatory pronouns was about positioning people and the environment. A reciprocal relation existed between the speaker and listeners where *I* could not exist without *you*. The speaker and listeners were connected to each other in the speech situation but also in the group memberships that they shared. The interconnection of people referred to individuals and groups of people not present in the speech situation.

The pronouns were used in a number of ways. They brought content from the abstract to the physical. They brought abstract groups to the content. They brought the audience into the content, and they gave authority to the speaker. With these movements, spatio-temporal relations were important including time, tense, and position of the narrated speech and the narrating speech.

The language contained linguistic tools that seemed to be expanded for cultural purposes so that one sign signified a variety of referents. The speakers also struggled to resolve the conflict between the *narrated* and the *narrating* events. The speakers are presenting multiple aspects of themselves and referring to multiple aspects of the listeners using a small number of

signs. In effect the speaker is *juggling* pronouns, bring them in quickly and using them in succession to refer to different referents. At times the linguistic signs became interchangeable so that a speaker could maintain the referent using different signs. This referent could be a single individual or a category of people that included single individuals.

A.6 Theoretical Sampling

Collecting data to feed the theory, I used theoretical sampling to guide my collection. I started by collecting two lectures and interviews from professors in chemistry and physics and examining six transcripts from the MICASE database from a range of disciplines. I found the natural science lectures to be the most monologic, which appealed to me because I was able to focus on the speaker. I also noticed that the pronouns in the natural sciences presented a large range of values that would be useful for generating theory. From the interviews, I found that lecturers had some awareness of the phenomenon. I recorded three lectures of one of my participants in this phase. For the other participant, I recorded two sections of the same class for a total of four lectures. My interviews at this stage included sections designed to elicit a variety of speech styles.

My next sample broadened the areas of the natural sciences to include professors from biology and geology. I recorded two lectures from each one, and my interviews were more free form in conforming to the standards of grounded theory.

After reflecting on the previous samples, my theory was well saturated. I switched my theoretical sampling strategy to focus on observations and reflections. I recorded one more chemistry professor in two lectures using the same format as before. Also I listened to four biology lectures of one professor with an emphasis on observation using the grounded theory perspective of not recording but jotting notes afterward.

A.7 Saturation

Saturation of the data is achieved using the three categories of the relationship of the participants, the social thirdness, and the transportative environment. All the codes from the open coding could be explained by these three axes working in conjunction in each instantiation of the pronouns. The theory is saturated by integrating these three aspects into positioning and conceptualizing away from the data to relationships between categories.

A.8 Memos

Memos were made as concepts emerged and the codes were clearly put into the codebook to define the categories. As categories related to each other, I created theoretical memos to discuss these links.

A.8.1 Code Memos

As codes were consolidated and delimited from the open code and axial codes, three codes were needed to determine the positioning of each participatory pronoun: participant relationship, social thirdness, and transportative environment. These three aspects were determined using the algorithm developed in the full model explained in the results section; however, the following is a description of the codes (Appendix C: Codebook). The values are not coded absolutely because the values are important in relative terms instead of absolute terms. The coding unit is the pronoun itself while the context unit is the proposition surrounding the utterance and at times, the discourse system.

The relation of the participants is how the participants are involved in the utterance. The range of participation can vary from only the speaker doing the action to only the listener doing the action. In between these two extremes are collaborations between the speaker and listener in the utterance. These collaborations attribute part of the action to the speaker and part of the action to the listener. In the middle of the two extremes is a perfect collaboration in the utterance

where speaker and listener are both equally involved. This collaboration can occur in the form of the speaker and listener working together to accomplish the utterance or working independently but at the same level of involvement to accomplish the utterance.

The social thirdness is the level of participation of social entities that are not the speakers or listeners. In parallel to the coding of the relationship of the participants, the social thirdness is a measure of the participation of a group in the accomplishment of the utterance. The range of this code is from no social thirdness where the speakers and listeners alone accomplish the proposition of the utterance to a massive social thirdness where a large number of other participants of which the speakers and/or listeners are a small part accomplish the utterance.

The transportative environment is the place of action of the proposition. This code is how much of the present environment is necessary for the fulfillment of the proposition. The range of this code is from full environmental participation to little environmental participation.

The causes and context are descriptors that are not coded for each pronoun because these are background factors that contribute but are not analyzed at the individual pronoun level. The action strategies and consequences can be determined from the composition codes. In examining these, the unit of analysis changes from the pronoun to the series of pronouns and the discourse is these codings. Juggling involves changing composition for the same pronoun. Cheapness introduces a participant not previously mentioned in the discourse. Categorical referents refer to social groups with the pronouns. Interchangeability is when the same referent is used with different linguistic signs.

Action strategies align with a different code combinations. Exampling is a high environmental value. Exampling encompasses the action strategies of bringing content to the listeners and listeners to the content. Extending is a high thirdness value encompassing bringing in salient communities.

A.8.2 Theoretical Memos

The core category is positioning because deictics in all their forms relate language to context. In particular, the participatory pronouns designate who is participating in the speech situation and where it is occurring. From this core category of positioning, the three important aspects of the referents are apparent: participant relationship, social thirdness, and transportative environment. The participant relationship aspect of the referent is how much of the speaker and listener is being referred to; this is the relation of speaker to listener. The thirdness aspect is who else is being referred to; this is the relationship of speaker and listener to society. The transportative environment is where the participants are situated; this is the relationship of the participants to the environment.

Positioning is how an utterance situates the context. This explanation may seem the inverse of other ways of thinking where utterances have their own meanings and context affects these meanings. Such a view of language as an independent concept may seem appropriate in contexts where speakers are rapidly exchanging utterances as in a conversation or in writing where the context is difficult to determine and some would even say decontextualized. In the academic lecture the utterances are not really independent entities that are affected by changes in context. If this were the case some outside indicator would be needed to aid the listeners as to when context is changing, perhaps a gesture to indicate to whom the speaker is referring or a discourse marker that explicitly notes a change of context and what the new context is. Instead of these types of contextualization cues, the academic lecture has a speaker rapidly switching among contexts. This switching is often articulated by the participatory pronouns. Positioning is a deft term because the speaker is constructing these contexts which can be articulated as positions in the social and physical world. The speaker uses the participatory pronouns in effect to state who is involved in the utterance and where the utterance is positioned. There are two

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sources that aid the interpretation of the participatory pronouns: group memberships and words evoking images.

The group memberships are social groups of which the speaker and listeners are aware. Theses social groups are occasionally evoked with keywords such as *chemists*. The word *chemists* by itself does not denote a social group but instead the word evokes a shared cultural perception of the speaker and listeners. The social groups are never explicitly elaborated with such descriptions as "you know the guys with lab coats who conduct experiments." Such explicit introductions would be not be felicitous because these groups must be known to the participants in order to be referenced by participatory pronouns. So the speaker has a variety of groups to which he belongs and the speakers has a variety of groups to which he thinks the listeners belong; some of these group memberships are shared by both speakers and listeners. A few of the groups are not involved in the lives of either participant, but they exist outside of the participants' immediate world. In the academic lecture the speaker positions the utterance by speaking from and to these membership groups, as surely as if the participants changed costumes. The listeners can interpret the membership groups with some accuracy if they wish, as I will do in later examples, but the benefit of determining the exact social group referenced is not worth the processing in most cases. Simply determining the size of the social group is enough to interpret the sentence, as the participatory pronoun model will show. Determining which of the social groups of that size that the speaker wishes to reference is not always a necessity. As the model will state, determining the magnitude of the social group is relatively easy to do in a deductive way. Picking among the social groups is nondeductive, and likely involves a trial-and-error hypothesis testing.

The words that evoke images are most pertinent to the transportative environment. The environments do not seem to be as activated as the social groups. The social groups do not need

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to have any characteristic surrounding words while the environments almost always needs at least a word to switch. Perhaps this distinction exists because the social groups while being linked to a certain typical environment transcend environments; the social groups are always present in the participants, but the environment is the current one unless another one is evoked.

A.9 Tests for Validity and Reliability

In addition to the ability of the GT to be inherently rigorous and generalizable due to its constant comparative methods and abstraction, I have used five further tests of validity and two tests of reliability. GT provides a research approach that generates a theory that entirely explains all the data from the study. In my case, my model entirely explains the uses of participatory pronouns in large monologic, academic lectures. Though Glaser (2001) rejects the application of quantitative and qualitative paradigms to GT, I include accounts of these issues to broaden the appeal of my study. GT accounts for all data and does not reject any data as bias or invalid so I use data in the following section as checks and refinements that improve my theory and set my theory in a framework of existing theory.

In the quantitative analysis paradigm, grounded theory is internally valid because it measures the constructs that it sets about to measure by explaining all of the data. In the qualitative analysis paradigm, the theory has truthiness because the method is clearly defined and consistently applied. I would like to add the internal validity check of member checking. In addition, using the literature post hoc to challenge and support the data-derived categories is another check of internal validity. The third check of internal validity is the grammaticality judgments since this type of experiment checks data derived in use to data stored internally in the speaker's language system.

Expanding findings is the idea of the external validity and generalizability, I include several checks of external validity in an effort to broaden the findings. GT holds that external

validity would be achieved through constant comparison with new data. Any other extension beyond data would cause the problem that grounded theory was designed to correct. So in this light, I use the literature as a source of data to refine my categories. I also use access to the speaker language system to construct other possible sentences broaden the application of the theory. For internal reliability, I provide an audit trail of the method and formation of the theory. For external reliability, I provided results from an inter-rater reliability test.

APPENDIX B: CODEBOOK

Examples of each code were not included in this codebook in order to save space. They are integrated into the text of dissertation.

Participatory Pronoun (PP)

> Definition: the form of linguistic sign used to designate a referent

> Range: three targeted forms

> Levels coded: Three signs are coded.

> PP_I

>> This level is when the *I* form is used.

> PP_we

>> This level is when the *we* form is used.

> PP_you

>> This level is when the *you* form is used.

Participation Relationship (PR)

> Definition: how the participants are involved into the utterance.

> Range: vary from the speaker only doing the action to the listener only doing the action.

> Levels coded: Three levels of PR are coded.

> PR_Speaker

>> This level is when the speaker only is doing the action.

> PR_Speaker/Listener

>> This level is when the listener and speakers are collaborating in the action.

> PR_Listener

>> This level is when the listener only is doing the action.

PR_Speaker/Listener is in between the two extremes of PR_Listener and

PR_Speaker are collaborations between the speaker and listener in the

utterance. These collaborations attribute part of the action to the speaker

and part of the action to the listener. In the middle of the two extremes is

a perfect collaboration in the utterance where speaker and listener are both

equally involved. This collaboration can occur in the form of the speaker

and listener working together to accomplish the utterance or working

independently but at the same level of involvement to accomplish the

utterance.

Social Thirdness (ST)

Definition : the level of participation of social entities that are not the speakers or

listeners.

Range: Vary from the speaker and/or listeners only, no social thirdness, to the speaker

and/or listeners as a small part of a much larger group, high social thirdness.

Levels Coded: Three levels of (ST) were coded.

ST_none:

This level is when no social thirdness is involved.

ST_medium

This level is when a some thirdness can be easily counted and delimited is used.

ST_overwhelming

This level is when a large social thirdness is involved that overwhelms the

listener and/or participants

Transportative Environment (TE)

> Definition: the place of action of the proposition. This code is how much of the
>
> environment necessary for the fulfillment of the proposition is constructed in the
>
> imagination
>
> Range: from no imagination participation to full imagination participation
>
> Levels: Two levels coded
>
> TE_Physical
>
> > No imagined environment is necessary; the current physical environment is
> >
> > > sufficient.
>
> TE_Imagination
>
> > The place of action requires some imagination.

<u>Language Functions</u>

Juggling (LF_J)

> The same participatory pronoun is used in the same utterance or two adjoining
>
> utterances to refer to different referents. Examine the utterance and previous
>
> utterance to see if the form has remained the same but the referent has changed.

Economy (LF_E)

> Substituting a specific group would require more than one word

Categorical referent (LF_CR)

> The pronoun refers not just to the speakers or listeners but to a category of people

Interchangeability (LF_I)

> One pronoun could be substituted for another with no significant change in
> meaning.

<u>Discourse Strategies</u>

Exampling (DS_Exa)

> The pronouns are used to make abstract concepts or distant places more real.

Extending (DS_Ext)

> The pronouns are used to extend a concept to another group of speakers.

Staturing (DS_Sta)

> The speakers use the pronoun to represent a group larger than themselves

APPENDIX C: CODING SHEET

Find an *I*, *we*, or *you*.

Participatory Pronouns

      PP_I   PP_we   PP_you

Remove the pronoun from the sentence. What code best fits into that space?

Participant Relationship

      PR_speaker   PR_Speaker/listener   PR_Listener

Social Thirdness

      ST_none   ST_medium   ST_overwhelming

Transportative Environment

      EA_Physical   EA_Imagination

Language Functions

      Juggling

      Economy

      Categorical Referent

      Interchangeability

Discourse Strategies

      Exampling

      Extending

      Staturing

VITA

Robert Thomas Connor was born in Oak Ridge, Tennessee. He attended the United States Coast Guard Academy from 1997 to 1998 before deciding to pursue his creative interests at Vanderbilt University where he received a Bachelor of Engineering in Biomedical Engineering in December of 2000. Afterwards, he joined the Peace Corps and served in Kantchari, Burkina Faso. Upon returning to the United States, he taught in Washington, D.C., while pursuing his Master of Arts in Teaching English as a Second Language, which he received in August of 2005. He spent the next three years on a Board of Regents Fellowship at Louisiana State University.