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An empirical test of Analogical Modeling: the k/Ø alternation

Anton Rytting

Abstract

The k/Ø alternation in Turkish is a phenomenon that generative rule-based approaches have sought to explain by postulating the existence of multiple levels of representation and a bi-moraic minimality constraint on certain rules (Inkelas and Orgun, 1996). One lexicalist approach has sought to explain the alternation by postulating underspecified "archiphonemes" (van Schaaik 1995). However, this approach does not take into account evidence of psycholinguistic studies. Analogical Modeling seems a promising, fresh approach to explaining the phenomenon. However, one must first determine the best representation of the data in an analogical approach. Three possible representational schemata are tried and compared. In this limited study, the schema which is closely based on rule-based analysis performs generally better than a more general phonological representation. However, these discrepancies are quite possibly a result of the limitations of the corpus used; therefore, no certain conclusions can be drawn as to the nature of a most correct representation schema.

Introduction: consonantal alternations in Turkish

The final consonants of many Turkish stems display two different forms, depending on the surrounding phonological context. For example, it is very common for stem-final voiceless obstruents to become voiced when followed by a vowel-initial suffix (Lewis 1967, Sezer 1981, Inkelas & Orgun 1995):

(0a) kalıp ‘mold’ kalıp-lar ‘mold-PL’
kalıp-a ‘mold-DAT’ (Inkelas & Orgun 1995)
(0b) kurt ‘worm’ kurt-tan ‘worm-ABL’
kurd-u ‘worm-3SG.POSS’ (Sezer 1981)
(0c) a:j-in ‘tree-GEN’ (Lewis 1967:31)

Stem-final velar stops, on the other hand, behave quite differently. Although /k/ does voice to /g/ in a few borrowed words, most stem-final velar stops, both /k/ and /g/ either remain as they are or disappear entirely. The typical pattern is for the velar to delete intervocally.

(00) ešek (donkey) ešek-lar (donkey-PL)
eš-e-I (donkey-3SG.POSS)
yatak (bed) yatak-lar (bed-PL)
yata-ı (bed-3SG.POSS)
kelebek (butterfly)
kelebek-ler (butterfly-PL)
kelebe-I (butterfly-3SG.POSS)

This conditional deletion of stem-final velars is known in the literature as the k/Ø alternation (Zimmer & Abbott 1978, Sezer, 1981, van Schaaik 1996) or as velar drop (Inkelas & Orgun 1995). Both van Schaaik (1996:117ff) and Inkelas & Olgun (1995) suggest that this alternation is triggered in part by a resyllabification of the stem, in which the final velar attempts (and fails) to move from the coda of one syllable to the onset of the following syllable. This analysis seems plausible, for other rules also depend on the resyllabification of root-final consonants. As seen in example (0a-c) above, most final plosives alternate between [-voice] in coda position and [+voice] in onset position.
However, there are some exceptional cases to the \(k/\emptyset\) alternation where velar deletion does not apply. The majority of these cases fall into three categories: 3

1. Monosyllabic stems.

\[(1a)\]
\[
\begin{align*}
\text{köç (root)} & \quad \text{köç-e (root-DAT)} \\
\ast\text{kö-e} & \\
\text{ek (affix)} & \quad \text{ek-e (affix-DAT)} \\
\ast\text{e-e} & \\
\text{ok (arrow)} & \quad \text{ok-um (arrow-1SG.POSS)} \\
\ast\text{o-um} & \\
\text{lig (league)} & \quad \text{lig-I (league-3SG.POSS)} \\
\ast\text{li-I} & \\
\text{füğ (fugue)} & \quad \text{füğ-e (fugue-DAT)} \\
\ast\text{fü-e} & \quad \text{(Inkelas \& Orgun 1995)}
\end{align*}
\]

There are three common lexical exceptions to this global exception: *\(föck\) (many), yöck (there is not), and göck (sky) (see Lewis 1967, Sezer 1981). 4

There are three common lexical exceptions to this global exception: *\(föck\) (many), yöck (there is not), and göck (sky) (see Lewis 1967, Sezer 1981). 4

The same general exceptional pattern may be observed in monosyllabic roots of type (C)VC[+plosive] where the voicing does not alternate as noted above.

\[(1b)\]
\[
\begin{align*}
\text{at (horse)} & \quad \text{at-i (horse-acc)} \\
\text{sap (stem)} & \quad \text{sap-i (stem-acc)} \\
\text{koç (ram)} & \quad \text{koç-u (ram-acc)} \\
\text{(Inkelas \& Orgun 1995)}
\end{align*}
\]

2. Words (chiefly Arabic loanwords) where vowel before the final /k/ is long. 5

\[(2)\]
\[
\begin{align*}
\text{merak (curiosity)} & \\
\text{mera:kî (curiosity-3SG.POSS)} & \\
\text{infila:k (explosion)} & \\
\text{infila:kî (explosion-3SG.POSS)} & \\
\text{ittifak (alliance)} & \\
\text{ittifa:kî (alliance-3SG.POSS)} & \quad \text{(Sezer 1981)}
\end{align*}
\]

3. Roots followed by verbal or “non-native” affixes (see Sezer 1981)

\[(3)\]
\[
\begin{align*}
\text{meslek (profession)} & \\
\text{mesle-im (profession-1SG.POSS)} & \\
\text{mesle-I: (profession-al)} & \\
\text{na:zik (kind)} & \\
\text{na:zi-im (kind-1sg.copula)} & \\
\text{na:zik-en (kind-ly)} & \quad \text{(Sezer 1981)}
\end{align*}
\]

These exceptions have been accounted for in several ways:

Zimmer and Abbott (1978) and Sezer (1981) postulate a rule that deletes final /k/ after a vowel in polysyllabic words. I present a modified version here:

\[(4)\]
\[
[+velar] \rightarrow \emptyset \\
[+Syll] C_{0} [+Syll][\text{-long}] \_ + [+Syll][X]
\]

The X signifies a subset of native, denominal suffixes, in order to account for exception #3 (example 6, above). It is supposed that the suffixes in exception #3 utilize a different sort of boundary than native suffix morphemes. Sezer does not try to link his observations to an overarching theory, but his analysis is considered noteworthy for its descriptive adequacy.

Inkelas and Orgun (1995) essentially agree with Sezer's analysis, but they seek to provide principled justification for it. They account for exception #3 by assuming that Turkish words go through multiple levels of representation between the deepest lexical level and the phonetic realization, and that
certain rules such as velar drop are only applicable at certain levels. The suffixes in exception #3 attach sooner than the native denominal suffixes, before the velar drop rule is active. For exception #1, Inkelas and Orgun cite a language universal proposed by McCarthy and Prince (1986), the bi-moraic minimal size condition, which prevents (C)V roots from being further shortened by rules such as velar deletion. (Exceptions such as gök and tjok are assumed to be “prespecified” for a certain representation level, and thus immune to this universal.) Inkelas and Orgun’s analysis does not explicitly account for exception #2.

Van Schaaik (1996:113), on the other hand, argues that the alternation may be most elegantly accounted for by means of lexically stored “archiphonemes” /G/ → {g,Ø}, /K/ → {k,Ø}, which are phonetically “underspecified” in the lexicon, but are realized according to the phonological surroundings. All polysyllabic velar-final words are supposed to contain these archiphonemes; monosyllabic words contain fully specified /k/ or /g/. This analysis avoids the problem of finding theoretically justifiable rules to account for every word. However, it also fails to account for the productive nature of the k/Ø alternation. Zimmer and Abbott (1978) note that the k/Ø alternation applies not only to native words, but also to recently borrowed words:

(8) frikik (freekick)
    friki-I (freekick-3G.poss)

Furthermore, their experimental evidence suggests that the k/Ø is not only productive, but psychologically real. Zimmer and Abbott describe two psycholinguistic surveys testing the productivity of the k/Ø alternation, in which native speakers were asked to attach the vowel-initial suffix to various nonce-words. Their surveys included monosyllabic (stems) (exception #1) and several examples of “Arabic-sounding” stems, including one example of a long final vowel (exception #2). They did not test exception #3, which they evidently took to be a given. Although their results may not be conclusively supportive of productive rules, they do show a significant tendency for speakers to follow the rule described by Sezer (example 7, above). They report a clear correlation, significant to the .05 level, between number of syllables and /k/ deletion. Since nonce words cannot be supposed to exist a priori in a speaker’s lexicon, these data seem to indicate the presence of a word-independent phonological rule or tendency, contrary to Schaaik’s assertion. Schaaik’s strictly lexical approach is perhaps useful computationally, but does not seem necessary or desirable from a psychological standpoint. A psycholinguistically plausible model of native Turkish speakers must account for Zimmer and Abbott’s data.

The evidence for a rule-based approach is not inconsiderable. However, phonological rules do not readily account for variation in language, including variation among speakers, lexical exceptions, and language change. Zimmer and Abbott acknowledge that the k/Ø alternation is subject to all three types of variation. Moreover, their data also suggest limitations to the rule’s predictive power. With both monosyllables and polysyllables, the rule correctly predicts the subjects’ responses 80-90% of the time, certainly greater than what could happen by chance, but not completely convincing. If
the rule were fully productive, one might expect the speakers' judgements to have been nearly unanimous on all examples. *Prima facie,* it seems possible that the k/Ø alternation is not a rule as such, but a rule-like tendency based on analogy.

**The Analogical Modeling approach**

Analogy has long been posited as another possible explanation for morphological and phonological regularities, intermediate between lexical and rule-based approaches. At the time of Zimmer and Abbott’s work, few analogical accounts were sufficiently detailed to be testable by psycholinguistic experiments. More recently, several analogy-based computational algorithms have been developed, including Royal Skousen’s “analogical modeling” (1989). Rather than prescribing *a priori* the conditions under which a given phonological change will occur, like the velar-deletion rule above, Skousen’s program stores the most common examples of pertinent words (here, words ending in velar) culled from a corpus. Each example is matched with an appropriate outcome: here, whether or not the velar was deleted.

Skousen’s approach claims to be an alternative to rules, not to be used in combination with them. Therefore, it must be able to handle any observed pattern that can be accounted for by rules, as well as handle cases which rules do not. Much work is currently being done in the “messy” cases where rule approaches encounter difficulties – for example, Arabic broken plurals, the German plural system, and the negative prefixes in English. However, one must also show that the system can hold its own in those areas where rule-based approaches also do well. Although the rule-based approaches to the k/Ø alternation are not perfectly conclusive, they cannot be easily dismissed.

**The problem of Representation: how to apply Skousen’s model**

Skousen’s model relies on analogy, which entails judgements of similarity and difference between words. According to his approach, similar words are more likely to become models for each other than words which are less similar. However, this begs the following question: how can we measure similarity? Along what dimensions, and by what criteria, do we compare words?

Ultimately, if one is to postulate a method of analogy, one must make certain assumptions about how words are perceived and stored by native speakers.

There does not seem to be a clear consensus among those who use exemplar-based approaches how best to describe similarities between words. Like other exemplar-based approaches, Skousen’s Analogical Modeling algorithm uses a vector of variables to encode certain aspects of the words in the data set. However, there are infinitely many ways to represent a word, and it is not always clear which method of encoding is most appropriate or plausible for a particular problem. Three (of many) possible approaches are listed below:

1. **Straight sequencing.** One possible approach is simply a straight sequencing of the phonemes (or even orthographic characters, in the case of a nearly phonological spelling system such as Turkish) in the order in which they appear in the word. In the example of the k/Ø alternation, this might include all the letters in the word just before the final velar
consonant. This approach is computationally quick and easy. However, it has the consequence of comparing unrelated linguistic phenomena: vowels are matched up with consonants, onsets with codas, and so forth. For these reasons it may seem an implausible and inelegant method from a psycholinguistic point of view; however, it has proved effective in certain problems, such as identifying the language of an unknown text (see Lonsdale 1999 in this volume).

2. **The *a posteriori* approach.**
Alternatively, one could choose to represent those variables that are predicted to be important from rule-based and descriptive accounts. For example, if one were to code a variable set for the k/Ø alternation strictly following Sezer’s description, the variable set could consist of just four variables: (1) whether or not the final velar is intervocalic; (2) the length of the preceding vowel; (3) the number of syllables in the stem; and (4) the type of suffix after the stem (denominal, native, or otherwise). However, if the approach is taken to this extreme, it essentially becomes a rule approach in disguise, and also leads to separate, ad-hoc variable sets for predicting each separate phenomenon. One must wonder if humans have different “variable sets” for every aspect of their language, or if perhaps there exist some general principles by which we may generally construct data sets. Nevertheless, trying such an extreme *a posteriori* approach may prove useful as a benchmark against which to compare other approaches.

3. **A general representation.** Finally, one may attempt to identify or predict what features are actually perceived and salient in the language as a whole. (Ideally, this might include semantic factors as well as phonological factors. However, to keep things simple, we will primarily consider phonology for now). In the tradition of Skousen’s research on Finnish verbs (1989), this usually utilizes a syllabified representation of the stem in question so that onsets, nuclei, and codas of syllables line up accordingly. One such “general syllabified design,” using assumptions about Turkish syllabic structure shared by Schaaik (1996) and Inkelas/Orgun (1995), is used here. Different modifications of this general approach have been tested as well, including the introduction of vowel length, the monosyllabic vs. polysyllabic distinction, and the etymology of the word (Turkish, Arabic, Persian, or European).

**A comparison of the three approaches**

**A brief description of the data set**
For the purposes of comparing these approaches, the fifteen thousand most common Turkish words, collected from a ten-million word corpus of news-wire text, were examined for words whose roots ended in a velar followed by a vowel-initial suffix. This word list, sorted by frequency and morphologically parsed by machine, was provided by Dr. Kemal Oflazer of Bilkent University in Ankara, Turkey. Each qualifying entry was double checked for plausibility using the Redhouse and Oxford dictionaries. Proper names were excluded, on account of spelling peculiarities (see footnote 2), and certain unlikely parses were also excluded from the sample. Duplicate tokens of the same variable set were also excluded. This left 96 examples, of which
32 preserved the velar and 62 deleted it. In addition, there were two lexical exceptions, which show other outcomes (see footnote 2).

This list of 96 word stems was used as an "exemplar set" against which unknown Turkish words might be compared in order to determine whether or not to delete the velar. According to Skousen's theory, a list of known examples, similar to this list of common words, is stored in the mind. When a speaker is unsure of how to form a particular structure for a particular word (in this case, whether or not to delete the final velar from an unfamiliar word stem), he would search through this list of known examples to find a similar word or group of words, from which to predict the behavior of the new word. Since this prediction happens "on the fly," it is subject to certain probabilistic factors, such as imperfect memory.

Skousen's algorithm therefore gives a measure of the likelihood of a particular result being predicted for a particular word. Unlike rule approaches where there is exactly one answer predicted absolutely, Skousen's approach has the ability to predict multiple correct forms. It is assumed for the purposes of this comparison that there may be some correlation between the percentages predicted by Skousen's approach and the distribution of responses to certain unusual or non-existent (nonce) forms.

A brief description of the tests
One of the main purposes of this research is to determine which type of representation (i.e., straight sequencing, general syllabified, or extreme a posteriori) is most appropriate for approaching this type of problem. Accordingly, three separate representations of the 96 words were created and used as data (or "exemplar") sets. These data sets were tested against each other by use of the following tests:

1. Seven native polysyllabic nouns given as examples by Zimmer (1978). These nouns, as the "default" case, are all expected to delete the final velar.

2. Six uncommon monosyllabic nouns culled from the Redhouse and Oxford dictionaries. Forms of these words were sometimes present in the news-wire corpus, but very infrequently. According to the two dictionaries, all of these retain the velar as instances of exception #1.

3. Twelve examples of Arabic loan words where the final velar is preceded by a long vowel. In those dialects which preserve this vowel distinction, these words all retain the velar in illustration of exception #2 (see Sezer 1981).

4. Thirty-four nonce-forms ending in /k/ which were presented to native Turkish speakers in two surveys. Of these, fourteen were monosyllables expected to retain the velar as examples of exception #1, and one was an "Arabic-sounding" form with a long vowel preceding the /k/, example of exception #2. The remainder were expected to delete the final /k/. In all cases, the majority of the informants "predicted" the form that was expected from a rule standpoint. However, the responses were not always unanimous. The percentage of respondents answering differently than expected is given in the final column of tables 4 & 5.
Results

Overall, the best-performing representation schema by far was the “extreme a posteriori” schema, which represented only those characteristics which were known from the literature to be crucial. That it performed well is by no means surprising: by the very nature of the representation, each of the test items fit into a set of classifications, and one or more examples of that very same set of classifications was always present in the “exemplar” set. Therefore, there was no “leakage” for any of the classifications except for the monosyllables (exception #1). Here, the two exceptional words yok and cok caused some leakage toward a (wrong) prediction of velar deletion. Since monosyllabic stems of the form (C)VC were few in this data set, this leakage was stronger than what might normally be expected.

The “syllabified” representation schema, which (in the version used for this preliminary study) also included all the variables present in the extreme a posteriori representation plus a representation of the phonetic and syllabic structure of the root, outperformed the “straight sequencing” by a rather narrow margin. Indeed, the “straight sequencing” representation outperformed the uncommon monosyllables (test #2), and performed equally well on the monosyllabic nonce examples in Zimmer and Abbott’s two surveys. It is interesting that a relatively unsophisticated representation was able to capture the monosyllabic vs. polysyllabic distinction nearly as well as a representation which had a specific variable for this distinction.

Interestingly, none of the three representations closely modeled the performance of the survey subjects. Granted, it is perhaps an unfounded assumption that there should be a correspondence between these representations and an aggregate ratio of speakers’ opinions concerning non-existent words. However, until data become available on Turkish children’s language, such data remain the best indication of psycholinguistic reality on hand. Nevertheless, the closest fit was once again the “extreme a posteriori” representation. It actually performed “too well,” displaying less variation from the expected predictions than the subjects themselves. This may be partially explained by the fact that the algorithm was running on “perfect memory” mode, and some of the speakers in the survey had been absent from Turkey for some time. However, the patterns of leakage were not symmetrical between the model and the survey subjects. Whereas the model showed, due to the influence of the irregular examples, a very lopsided leakage toward velar deletion, the subjects showed nearly symmetrical leakage in either direction. This seems to indicate that the exceptional words are not playing as great a role in influencing their choices as this model would predict.

Indications for further research

There are several possible explanations for these discrepancies. First and most likely is the nature of the corpus used. Although the corpus itself is fairly large in size, it may not be reflective of actual everyday speech in its distribution of words. Specifically, it would not be surprising to find that everyday speech uses both a greater frequency and variety of monosyllabic stems than newswire text. Thus, it seems that the use of a larger and more complete list of word stems
would at once strengthen the overall gang
effect of monosyllabic stems and lessen the
impact of the irregular words yok and čok.
Using the same techniques with a more
carefully designed corpus or electronic
dictionary seems strongly advisable, and
until these or similar experiments are
performed with data more reflective of
everyday speech, no definite conclusions
may safely be drawn from these results. 7

Nevertheless, it may not be utterly premature
to consider some other, more theoretical
issues. Of all the phenomena tested, the
three AML representations suffered most
greatly in their ability to correctly predict the
behavior of the monosyllables (exception
#1). Inkelas and Orgun (1996) noted the
similarity between the exceptional behavior
of velar-final monosyllables and the
tendency of other obstruent-final
monosyllables to avoid the otherwise­
general pattern of voicing alternation (see
example 4, above). They link this to a
universal bi-moraic minimality constraint,
which overrides the typical patterns. This
suggests two possibilities from the
analogical paradigm. On the one hand, one
might suppose that there exists a set of
general or “universal” constraints which
override a general analogical mechanism of
language processing.

However, if there is a regularity in the
language, whether caused by external
“universal” constraints or language specific,
it should be present in the data set, and
therefore detectable by AML if the variables
in the representation schema and the
vocabulary in the data set are sufficiently
representative of the speaker’s own lexicon.
We have already seen that the vocabulary
available from news text seems

Nevertheless, Inkelas and Orgun’s
observations suggest another possible
avenue of investigation. They suggest that
the tendency towards exceptionality in
monosyllables results from a more general
pattern in Turkish. AML can capture that
more general pattern, but only if the problem
is viewed in a wider scope; not only taking
into account the velar drop data, but
encompassing all the data pertinent to final
consonant alternations in general. Even if
the conglomerate of velar-final monosyllabic
roots are large enough to maintain
themselves on their own (and they may not
be, even with more complete data), they may
use other (non-velar-final) monosyllables as
additional exemplars for retaining the
original final consonant. Along these same
lines, it is also possible that verbal stems,
which are mostly monosyllabic and nearly
always immune to consonant alternations,
also play a role. A test of this hypothesis
would be potentially more complex than the
k/Ø alternation alone, but it would also
afford a much larger exemplar set, making
the results more reliable.

**Conclusion**

A major purpose of the present research was
to see if some general principles for the
creation of representational variable
schemata could be tested by comparing three
diverse approaches. In the instance of the
k/Ø alternation, the current data suggest that
a straight sequence of letters or phonemes,
while not sufficient, nevertheless performs
better than might be expected. A syllabic
representation of the type used by Skousen
in his Finnish example (1989) outperforms the straight sequencing only by a small margin. The most accurate representation is one consisting of the variables assumed to be important from rule-based analyses. Unfortunately, none of the schemata performed as expected, given the experimental data from Zimmer and Abbott (1978). It seems most likely that this is reflective of the limitations of data taken exclusively from news-text, and therefore the comparison of the schemata does not lead to any certain conclusions, due to the inadequacies of the corpus involved. Additionally, it may possibly indicate too narrow a scope of inquiry, not taking into account more general aspects of the language.

Works Cited
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End notes
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2 In the orthography, this disappearing velar is still written, but with a special letter, ğ (called the “soft g”). In most dialects, however, this letter is not pronounced, but merely indicates a lengthening of the previous vowel (see Lewis 1967:5). This rule is applied not only to native words, but to most foreign borrowings, as well. Proper names are a special case: in the orthography, the stem of a proper name, which is marked off by an apostrophe for clarity, is usually still written with the final /k/ or /g/. In pronunciation, however, it is still deleted in all but the most careful speech.

3 In addition to these classes of exceptions, there are also individual exceptions (most of them loan words) which do not follow these patterns. Already mentioned is the case where /k/ voices to /g/; this is restricted to loan-words of the type (C)Vnk, such as renk (color-nom) / rengi (color-acc). Certain Arabic loan words seem to have an underlying geminate /k/, which surfaces in intervocalic
context: hak (truth-nom), hakki (truth-acc). Although hak and renk are quite common, words of this pattern are not particularly numerous in everyday speech.

The Redhouse dictionary lists yok and gok as being variable, but I have seen no examples in the corpus which retain the /k/.

Long vowels are not found in native Turkish words (with the exception of the compensatory lengthening found in the vowels before ğ). The long vowels in these Arabic loan words are not preserved in all dialects of Turkish, but in those which do, a preceding long vowel blocks the deletion of the final velar. There are two lexical exceptions to this generalization attested by Sezer: tahakkuk(+u) (verification) and mahrek(+I) (trajectory) (1981).

For example, an analogical model for predicting the alternation between a and an in English could theoretically consist of just one variable: whether or not the following word begins with a vowel ([+syllabic]) or a consonant ([−syllabic]). Such a representation schema would be extremely accurate, as long as just one word in each category were remembered; however, Skousen has (rightly) rejected such a schema as uninteresting. It would offer little if any insight into the variation of actual speakers, including “leakage” from the an towards the a, which is observable both in more complex schemata and in actual children’s speech.

Such a resource has been tentatively identified by the author and will be used in further research of this problem. The Turkish Electronic Living Lexicon (TELL), maintained at the University of California at Berkeley, incorporates data from the Oxford Turkish-English Dictionary and other sources, “filtered” through the intuitions of a native speaker. It therefore represents at least one native speaker’s active and passive vocabulary, and looks to be much more complete than relying on news texts.
An empirical test of Analogical Modeling: the k/Ø alternation

Appendix: Performance of the three representations compared

Table 0: Overall Performance over all Tests

<table>
<thead>
<tr>
<th></th>
<th>&quot;Leakage&quot; (or difference from 100% expected value)</th>
<th>Straight Sequence of letters</th>
<th>Syllabified with &quot;a posteriori&quot; variables</th>
<th>&quot;A posteriori&quot; variables only</th>
<th>Data from Zimmer’s surveys</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polysyllables</td>
<td>Average &quot;Leakage&quot;</td>
<td>7.003</td>
<td>0.054</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sum/Sqd. &quot;Leakage&quot;</td>
<td>1346.567</td>
<td>0.056</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Monosyllables</td>
<td>Average &quot;Leakage&quot;</td>
<td>33.025</td>
<td>53.805</td>
<td>27.38</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sum/Sqd. &quot;Leakage&quot;</td>
<td>11103.29</td>
<td>20435.09</td>
<td>5764.98</td>
<td></td>
</tr>
<tr>
<td>Words with long vowels</td>
<td>Average &quot;Leakage&quot;</td>
<td>65.939</td>
<td>44.841</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>before /k/</td>
<td>Sum/Sqd. &quot;Leakage&quot;</td>
<td>69614.62</td>
<td>44759.48</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Zimmer’s first survey</td>
<td>Average &quot;Leakage&quot;</td>
<td>20.083</td>
<td>13.844</td>
<td>7.143</td>
<td>13.889</td>
</tr>
<tr>
<td></td>
<td>Sum/Sqd. &quot;Leakage&quot;</td>
<td>27174.54</td>
<td>19566.56</td>
<td>4081.225</td>
<td>6172.84</td>
</tr>
<tr>
<td>Zimmer’s second survey</td>
<td>Average &quot;Leakage&quot;</td>
<td>31.523</td>
<td>22.49</td>
<td>11.904</td>
<td>16.667</td>
</tr>
<tr>
<td></td>
<td>Sum/Sqd. &quot;Leakage&quot;</td>
<td>51059.39</td>
<td>34577.47</td>
<td>8162.449</td>
<td>9256.198</td>
</tr>
<tr>
<td>Totals</td>
<td>Overall Average</td>
<td>31.515</td>
<td>27.006</td>
<td>9.285</td>
<td>15.278</td>
</tr>
<tr>
<td></td>
<td>Total sum of squared</td>
<td>160298.4</td>
<td>119338.7</td>
<td>18008.65</td>
<td>15429.04</td>
</tr>
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</table>

Percentage of words where the majority prediction was inaccurate

<table>
<thead>
<tr>
<th></th>
<th>Percentage Errors</th>
<th>Total Errors</th>
<th>Percentage Errors</th>
<th>Total Errors</th>
<th>Percentage Errors</th>
<th>Total Errors</th>
<th>Percentage Errors</th>
<th>Total Errors</th>
<th>Percentage Errors</th>
<th>Total Errors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polysyllables</td>
<td>0.00%</td>
<td>0</td>
<td>0.00%</td>
<td>0</td>
<td>0.00%</td>
<td>0</td>
<td>0.00%</td>
<td>0</td>
<td>0.00%</td>
<td>0</td>
</tr>
<tr>
<td>Monosyllables</td>
<td>33.00%</td>
<td>0</td>
<td>67.00%</td>
<td>0</td>
<td>0.00%</td>
<td>0</td>
<td>0.00%</td>
<td>0</td>
<td>0.00%</td>
<td>0</td>
</tr>
<tr>
<td>Words with long vowels</td>
<td>0.02%</td>
<td>0.04</td>
<td>50.00%</td>
<td>0.00%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>before /k/</td>
<td></td>
<td></td>
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<td></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>Zimmer’s first survey</td>
<td>20.00%</td>
<td>4</td>
<td>15.00%</td>
<td>3</td>
<td>0.00%</td>
<td>0</td>
<td>0.00%</td>
<td>0</td>
<td>0.00%</td>
<td>0</td>
</tr>
<tr>
<td>Zimmer’s second survey</td>
<td>29.00%</td>
<td>7</td>
<td>29.00%</td>
<td>7</td>
<td>0.00%</td>
<td>0</td>
<td>0.00%</td>
<td>0</td>
<td>0.00%</td>
<td>0</td>
</tr>
<tr>
<td>Totals</td>
<td>28.00%</td>
<td>20</td>
<td>32.00%</td>
<td>20</td>
<td>0.00%</td>
<td>0</td>
<td>0.00%</td>
<td>0</td>
<td>0.00%</td>
<td>0</td>
</tr>
</tbody>
</table>
Table 1: Performance on Test 1 (polysyllables from Zimmer 1978)

<table>
<thead>
<tr>
<th>Lexical Form</th>
<th>Surface Form</th>
<th>Correct Outcome</th>
<th>&quot;Leakage&quot; (or difference from 100% expected value)</th>
<th>Straight Sequence of Letters</th>
<th>Syllabified with &quot;a posteriori&quot; variables</th>
<th>&quot;A posteriori&quot; only</th>
</tr>
</thead>
<tbody>
<tr>
<td>efek+3sg.poss</td>
<td>efe+i</td>
<td>k:Ø</td>
<td>34.04</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>yatak+3sg.poss</td>
<td>yata+i</td>
<td>k:Ø</td>
<td>0.00</td>
<td>0.18</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>kelebek+3sg.poss</td>
<td>kelebe+i</td>
<td>k:Ø</td>
<td>0.00</td>
<td>0.01</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>köpük+3sg.poss</td>
<td>köpü+ü</td>
<td>k:Ø</td>
<td>1.34</td>
<td>0.01</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>ipek+3sg.poss</td>
<td>ipe+i</td>
<td>k:Ø</td>
<td>13.64</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>yastık+3sg.poss</td>
<td>yasti+i</td>
<td>k:Ø</td>
<td>0.00</td>
<td>0.15</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>kuyruk+3sg.poss</td>
<td>kuyru+u</td>
<td>k:Ø</td>
<td>0.00</td>
<td>0.03</td>
<td>0.00</td>
<td>0.00</td>
</tr>
</tbody>
</table>

Average "Leakage" 7.00 0.05 0.00
Sum of Squared "Leakage" 1346.57 0.06 0.00
Ratio of Wrong Responses 0.00% 0.00% 0.00%
Total Wrong Responses 0 0 0

Table 2: Performance on Test 2 (monosyllables from dictionaries)

<table>
<thead>
<tr>
<th>Lexical Form</th>
<th>Surface Form</th>
<th>Correct Outcome</th>
<th>&quot;Leakage&quot; (or difference from 100% expected value)</th>
<th>Straight Sequence of Letters</th>
<th>Syllabified with &quot;a posteriori&quot; variables</th>
<th>&quot;A posteriori&quot; only</th>
</tr>
</thead>
<tbody>
<tr>
<td>kök+3sg.poss</td>
<td>kökü</td>
<td>k:k</td>
<td>22.22</td>
<td>35.00</td>
<td>28.57</td>
<td>28.57</td>
</tr>
<tr>
<td>fıırk+yA</td>
<td>fıırke</td>
<td>k:k</td>
<td>0.00</td>
<td>19.03</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>jok+3sg.poss</td>
<td>joku</td>
<td>k:k</td>
<td>70.00</td>
<td>58.26</td>
<td>50.00</td>
<td>50.00</td>
</tr>
<tr>
<td>gık+3sg.poss</td>
<td>gıki</td>
<td>k:k</td>
<td>0.00</td>
<td>91.21</td>
<td>28.57</td>
<td>28.57</td>
</tr>
<tr>
<td>kık+3sg.poss</td>
<td>kiki</td>
<td>k:k</td>
<td>45.93</td>
<td>62.37</td>
<td>28.57</td>
<td>28.57</td>
</tr>
<tr>
<td>dok+3sg.poss</td>
<td>doku</td>
<td>k:k</td>
<td>60.00</td>
<td>56.96</td>
<td>28.57</td>
<td>28.57</td>
</tr>
</tbody>
</table>

Average "Leakage" 33.03 53.81 27.38
Sum of Squared "Leakage" 11103.29 20435.09 5764.98
Ratio of Wrong Responses 33.00% 67.00% 0.00%
Total Wrong Responses 2 4 0
An empirical test of Analogical Modeling: the k/Ø alternation

Table 3: Performance on Test 3 (words with long vowels before /k/ from Sezer 1981)

<table>
<thead>
<tr>
<th>Lexical Form</th>
<th>Surface Form</th>
<th>Correct outcome</th>
<th>Straight Syllabified with “a posteriori” variables</th>
<th>“A posteriori” only</th>
</tr>
</thead>
<tbody>
<tr>
<td>merak+3sg.poss</td>
<td>meraki</td>
<td>k:k</td>
<td>46.15</td>
<td>86.15</td>
</tr>
<tr>
<td>infalak+3sg.poss</td>
<td>infalaki</td>
<td>k:k</td>
<td>99.01</td>
<td>80.92</td>
</tr>
<tr>
<td>istimlak+3sg.poss</td>
<td>istimlaki</td>
<td>k:k</td>
<td>99.48</td>
<td>60.36</td>
</tr>
<tr>
<td>iftirak+3sg.poss</td>
<td>iftiraki</td>
<td>k:k</td>
<td>17.65</td>
<td>4.80</td>
</tr>
<tr>
<td>ittifak+3sg.poss</td>
<td>ittifaki</td>
<td>k:k</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>intibak+3sg.poss</td>
<td>intibaki</td>
<td>k:k</td>
<td>6.90</td>
<td>1.12</td>
</tr>
<tr>
<td>inhimak+3sg.poss</td>
<td>Inhimaki</td>
<td>k:k</td>
<td>47.83</td>
<td>5.44</td>
</tr>
<tr>
<td>istintak+3sg.poss</td>
<td>istintaki</td>
<td>k:k</td>
<td>94.32</td>
<td>11.22</td>
</tr>
<tr>
<td>tahkik+3sg.poss</td>
<td>tahkiki</td>
<td>k:k</td>
<td>99.12</td>
<td>96.76</td>
</tr>
<tr>
<td>tettik+3sg.poss</td>
<td>tettiki</td>
<td>k:k</td>
<td>97.77</td>
<td>88.99</td>
</tr>
<tr>
<td>ahlak+3sg.poss</td>
<td>ahlaki</td>
<td>k:k</td>
<td>98.83</td>
<td>98.33</td>
</tr>
<tr>
<td>istihkak+3sg.poss</td>
<td>istihkaki</td>
<td>k:k</td>
<td>84.21</td>
<td>4.00</td>
</tr>
</tbody>
</table>

Average "Leakage"                      65.94  44.84  0.00
Sum of Squared "Leakage"                69614.62  44759.48  0.00
Ratio of Wrong Responses                58.00%  50.00%  0.00%
Total Wrong Responses                   7       6       0
Table 4: Performance on Test 4 (Zimmer and Abbott’s first survey, 1978)

<table>
<thead>
<tr>
<th>Lexical Form</th>
<th>Surface Form</th>
<th>&quot;Leakage&quot; (or difference from 100% expected value)</th>
<th>Data from Zimmer’s surveys</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Rule-</td>
<td>Straight</td>
</tr>
<tr>
<td></td>
<td></td>
<td>predicted</td>
<td>Sequence</td>
</tr>
<tr>
<td></td>
<td></td>
<td>outcome</td>
<td>of letters</td>
</tr>
<tr>
<td>distik+3sg.poss</td>
<td>disti+i</td>
<td>k:Ø</td>
<td>0.00</td>
</tr>
<tr>
<td>ök+3sg.poss</td>
<td>ökü</td>
<td>k:k</td>
<td>0.00</td>
</tr>
<tr>
<td>arık+3sg.poss</td>
<td>arı+i</td>
<td>k:Ø</td>
<td>8.12</td>
</tr>
<tr>
<td>tekkerik+3sg.poss</td>
<td>tekkeri+i</td>
<td>k:Ø</td>
<td>1.18</td>
</tr>
<tr>
<td>mertek+3sg.poss</td>
<td>merte+i</td>
<td>k:Ø</td>
<td>0.00</td>
</tr>
<tr>
<td>bik+3sg.poss</td>
<td>biki</td>
<td>k:k</td>
<td>0.00</td>
</tr>
<tr>
<td>öküsek+3sg.poss</td>
<td>öküse+i</td>
<td>k:Ø</td>
<td>0.57</td>
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<tr>
<td>suk+3sg.poss</td>
<td>suku</td>
<td>k:k</td>
<td>81.08</td>
</tr>
<tr>
<td>tfınak+3sg.poss</td>
<td>tfına+i</td>
<td>k:Ø</td>
<td>3.85</td>
</tr>
<tr>
<td>taskik+3sg.poss</td>
<td>taski+i</td>
<td>k:Ø</td>
<td>0.64</td>
</tr>
<tr>
<td>tük+3sg.poss</td>
<td>tükü</td>
<td>k:k</td>
<td>90.00</td>
</tr>
<tr>
<td>somuk+3sg.poss</td>
<td>somu+u</td>
<td>k:Ø</td>
<td>0.00</td>
</tr>
<tr>
<td>müstemek+3sg.poss</td>
<td>Müstemek</td>
<td>k:Ø</td>
<td>0.00</td>
</tr>
<tr>
<td>nik+3sg.poss</td>
<td>niki</td>
<td>k:k</td>
<td>57.75</td>
</tr>
<tr>
<td>fubarık+3sg.poss</td>
<td>fubari+i</td>
<td>k:Ø</td>
<td>9.54</td>
</tr>
<tr>
<td>örpük+3sg.poss</td>
<td>örpü+i</td>
<td>k:Ø</td>
<td>0.00</td>
</tr>
<tr>
<td>agrafık+3sg.poss</td>
<td>agafi+i</td>
<td>k:Ø</td>
<td>1.71</td>
</tr>
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<td>hutıfuk+3sg.poss</td>
<td>hutıfu+u</td>
<td>k:Ø</td>
<td>83.33</td>
</tr>
<tr>
<td>istisak+3sg.poss</td>
<td>istisak+</td>
<td>k:k</td>
<td>30.56</td>
</tr>
<tr>
<td>ifek+3sg.poss</td>
<td>ife+i</td>
<td>k:Ø</td>
<td>33.33</td>
</tr>
<tr>
<td><strong>Average &quot;Leakage&quot;</strong></td>
<td></td>
<td></td>
<td><strong>20.08</strong></td>
</tr>
<tr>
<td><strong>Sum of Squared &quot;Leakage&quot;</strong></td>
<td></td>
<td></td>
<td>27174.54</td>
</tr>
<tr>
<td><strong>Ratio of Wrong Responses</strong></td>
<td></td>
<td></td>
<td><strong>20.00%</strong></td>
</tr>
<tr>
<td><strong>Total Wrong Responses</strong></td>
<td></td>
<td></td>
<td>4</td>
</tr>
</tbody>
</table>

**Sum of Squared "Leakage"** 27174.54 19566.56 4081.22 4081.22
**Ratio of Wrong Responses** 20.00% 15.00% 0.00% 0.00%
**Total Wrong Responses** 4 3 0 0
Table 5: Performance on Test 5 (Zimmer and Abbott’s second survey, 1978)

<table>
<thead>
<tr>
<th>Lexical Form</th>
<th>Surface Form</th>
<th>Rule-predicted outcome</th>
<th>Straight Syllabified with “a posteriori” variables</th>
<th>Syllabified with “A posteriori” variables only</th>
<th>Data from Zimmer’s surveys</th>
</tr>
</thead>
<tbody>
<tr>
<td>distik+3sg.pos</td>
<td>disti+i</td>
<td>k:Ø 0.00 0.00</td>
<td>0.00</td>
<td>27.27</td>
<td></td>
</tr>
<tr>
<td>tok+3sg.pos</td>
<td>toku</td>
<td>k:k 83.33 66.14</td>
<td>28.57</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>fomuk+3sg.pos</td>
<td>fomu+u</td>
<td>k:Ø 0.00 0.00</td>
<td>0.00</td>
<td>18.18</td>
<td></td>
</tr>
<tr>
<td>Hek+3sg.pos</td>
<td>heki</td>
<td>k:k 66.67 55.88</td>
<td>28.57</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>Mevduk+3sg.pos</td>
<td>mevdu+</td>
<td>k:Ø 1.48 0.55</td>
<td>0.00</td>
<td>18.18</td>
<td></td>
</tr>
<tr>
<td>uk+3sg.pos</td>
<td>uk</td>
<td>k:k 33.33 5.03</td>
<td>28.57</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>subarik+3sg.pos</td>
<td>subari+i</td>
<td>k:k 10.37 0.12</td>
<td>0.00</td>
<td>27.27</td>
<td></td>
</tr>
<tr>
<td>erafek+3sg.pos</td>
<td>erafe+i</td>
<td>k:Ø 0.00 0.79</td>
<td>0.00</td>
<td>27.27</td>
<td></td>
</tr>
<tr>
<td>ünük+3sg.pos</td>
<td>ünü+ü</td>
<td>k:k 42.42 0.04</td>
<td>0.00</td>
<td>36.36</td>
<td></td>
</tr>
<tr>
<td>ik+3sg.pos</td>
<td>iki</td>
<td>k:k 84.75 23.41</td>
<td>28.57</td>
<td>9.09</td>
<td></td>
</tr>
<tr>
<td>tıňak+3sg.pos</td>
<td>tına+i</td>
<td>k:Ø 3.85 0.19</td>
<td>0.00</td>
<td>27.27</td>
<td></td>
</tr>
<tr>
<td>ruk+3sg.pos</td>
<td>ruku</td>
<td>k:k 36.78 66.45</td>
<td>28.57</td>
<td>9.09</td>
<td></td>
</tr>
<tr>
<td>pentek+3sg.pos</td>
<td>pente+i</td>
<td>k:k 0.00 0.00</td>
<td>0.00</td>
<td>9.09</td>
<td></td>
</tr>
<tr>
<td>ük+3sg.pos</td>
<td>ükı</td>
<td>k:k 66.67 25.89</td>
<td>28.57</td>
<td>9.09</td>
<td></td>
</tr>
<tr>
<td>gik+3sg.pos</td>
<td>giki</td>
<td>k:k 44.79 67.15</td>
<td>28.57</td>
<td>9.09</td>
<td></td>
</tr>
<tr>
<td>müstermek+3sg.pos</td>
<td>Müsteme</td>
<td>k:Ø 0.00 0.87</td>
<td>0.00</td>
<td>27.27</td>
<td></td>
</tr>
<tr>
<td>istisak+3sg.pos</td>
<td>istisak+i</td>
<td>k:k 30.56 2.30</td>
<td>0.00</td>
<td>36.36</td>
<td></td>
</tr>
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Average "Leakage"  31.52  22.49  11.90  16.67
Sum of Squared "Leakage"  51059.39  34577.47  8162.45  9256.20
Ratio of Wrong Responses  29.00%  29.00%  0.00%  0.00%
Total Wrong Responses  7  7  0  0
Then one evening when they’re driving home, a thought occurs to Elaine. She says: “Do you realize that we’ve been seeing each other for exactly six months?” Silence fills the car. To Elaine, it seems like a very loud silence. She thinks to herself: Geez, I wonder if it bothers him that I said that. Maybe he feels confined by our relationship. Maybe he thinks I’m trying to push him into some kind of obligation.

And Roger is thinking: Gosh. Six months.

And Elaine is thinking: But hey, I’m not so sure I want this kind of relationship either. Are we heading toward marriage? Toward children? Toward a lifetime together? Am I ready for that level of commitment? Do I really even know this person?

And Roger is thinking: So that means it was ... let’s see ... February when we started going out, which was right after I had the car at the dealer’s, which means ... lemme check the odometer ... Whoa! I am way overdue for an oil change here. (Barry, 1996, p. 196)

And the conversation continues afterward. Roger can’t stop thinking about needing an oil change and Elaine can’t stop jumping from one idea to the next, trying to decide where the relationship is heading. Does this sound like two people from different worlds? Or just different sexes? This selection, condensed from popular humorist-writer Dave Barry’s Complete Guide to Guys pokes fun at the differences between the ways men and women think and communicate. While men’s and women’s differences have always been a hotly debated question, in recent years the debate has turned specifically to conversation. Just how do men and women speak differently, and does that contribute to the sexes misunderstanding each other? Deborah Tannen, a Brigham Young University linguistics professor, would answer with a resounding “Yes.” Her book about this topic, You Just Don’t Understand, was a number-one national bestseller; apparently, as Barry’s popularity and Tannen’s bestseller indicate, many people are asking these questions. Tannen’s books gives linguists and laymen alike the tools not only to analyze Roger’s and Elaine’s conversation above, but to analyze conversations in general. Men and women do communicate in very different ways, Tannen argues. Neither way is better, but we must consider and understand the differences in order to understand each other. And other critics of language are echoing Tannen’s concerns. Sally McConnell-Ginet et. al. maintain that asking questions of a language that works both “for and against women” is the key to furthering women’s authority. They ask, “What can a focus on women tell us about language in literature and society?” and “Does incorporating women’s perspectives and experiences challenge conventional models of language and language use, give us an appreciably different picture of the life of language?” (1980, p. xii).
Introduction
As I combed the academic research on gender and language, *genderlects*, as Tannen has coined them, my impression was that women have been unfairly treated when it comes to language. Not surprisingly, traditionally women's language is perceived as "powerless," while men's language remains powerful. Adrienne Rich states frankly, "This is the oppressor's language, yet I need it to talk to you" (*Women*, 1980, p. x). After looking at just a few titles in a collection of essays I found in *Women and Language in Literature and Society*, I saw that critics perceive language as sexist; "By and large men have controlled the norms of use" (1980, p. 58). Perusing the essays reveals that the inherent traits found in women's ways of communicating, which differ from men's, have also caused women to be relegated to inferior status. Many of these authors seem to suggest that, because men don't understand the way that women communicate, they think women are just not as smart as them. Virginia Woolf, perhaps one of the earliest authors to look at these differences closely in her works, seems to suggest a slightly different scenario. Although Woolf popularized and revealed women's methods of communication in her works, she also seems to argue that if indeed women's language is perceived as powerless, women are as much to blame as men.

To illustrate this point, I will first offer a brief review of Tannen's genderlect theories. Applying her theories to Woolf and to two of her contemporaries with similar modernist concerns, James Joyce and D. H. Lawrence, I will show the differences in how they present men's and women's conversations. Ultimately, Joyce and Lawrence portray women as Tannen would anticipate them to: typically, males show women talking like men, not women. Woolf writes women more dynamically and, from Tannen's perspective, perhaps more realistically. However, I concede Sally McConnel-Ginet's warning that "in literature . . . there are not the feedback possibilities between producer and interpreter that sometimes help clarify the contextual specificities of speech interactions" (1980, p. xiii).

Tannen's Genderlect Theories
I think most people would agree that men and women simply have different way of communicating; yet when pressed as to specifics the answers become vague references to women's emotions or mens' lack of them. Tannen pinpoints these differences, referring to men's communication as asymmetrical and women's as symmetrical. The different methods result from different goals in communicating. Tannen relates that men "engage the world" in terms of an "individual hierarchical social order in which he [is] either one-up or one-down." In communicating, men perceive themselves as involved in "negotiations in which people try to achieve and maintain the upper hand." The goal of the other person is to establish his superiority in the course of the conversation, or to reveal his inferiority. In the end, "Life, then, is a contest, a struggle to preserve independence and avoid failure" (Tannen, 1990, pp.24-25). For these reasons, male conversations can be seen in terms of an asymmetrical situation. The conversation has a directed goal: essentially, to determine a winner. For example, typical traits in women's conversations such as asking questions, being polite and indirect, and trying not to offend are the traits men
perceive as putting that speaker in the one-down position. Perhaps an explanation of women’s language will clarify this point.

Women don’t see the world as a contest, but as a “network of connections.” And in conversation, women are striving “for closeness”; they “seek to give confirmation and support, and to reach consensus.” Women work within a group instead of individually. Tannen goes explains that “Life, then, is a community, a struggle to preserve intimacy and avoid isolation. Though there are hierarchies in this world too, they are hierarchies more of friendship than of power and accomplishment” (1990, p. 25). Tannen makes the point that understanding these general differences will lead to better communication between men and women. Yet in the end, Tannen’s plea for understanding reverberates with sounds of women’s powerlessness.

Pretending that women and men are the same hurts women, because the ways they are treated are based on the norms for men. It also hurts men who, with good intentions, speak to women as they would men, and are nonplussed when their words don’t work as they expected, or even spark resentment and anger. (1990, p. 16)

It’s interesting to note that in her own communication Tannen reveals a tendency toward consensus and community, rather than making her efforts more dualistic. This is an admittedly brief explanation of Tannen’s theories; I will talk about specifics in more detail throughout the paper.

So what value can we derive from looking at Woolf and comparing her characters’ conversations to those of her contemporaries in terms of gender? As Claudia Harris, an English professor at Brigham Young University contends, “Virginia Woolf is the beginning of women’s studies. She revolutionized the way women were perceived in women’s studies” (1998). Moreover, I would argue that, along with changing the way women had been perceived, Harris put them under the microscope; in particular, she looked at women who shared her own middle-class status and portrayed their way of life and conversation. Perhaps she did this in order to advance the way women were perceived, similarly to Tannen, to show that differences don’t equal a choice between good and bad, powerful or powerless, but examining differences leads to greater appreciation and understanding. As Woolf argues in “A Room of One’s Own,” the novel does “[correspond] to real life, its values are to some extent those of real life.” Yet she goes on to explain that the values of men have been prized above those of women: But it is obvious that the values of women differ very often from the values which have been made by the other sex; naturally, this is so. Yet it is the masculine values that prevail. Speaking crudely, football and sport are “important”; the worship of fashion, the buying of clothes “trivial.” And these values are inevitably transferred from life to fiction (Abrams, 1993, p. 1965). And for that reason, critics see books about war as “important” and novels that deal “with the feelings of women in a drawing room” as “insignificant” (1993, p. 1965). Arguably, Woolf sought to change that through her own works, which tended to center in the drawing room and brought the women’s conversations previously considered “insignificant” to a level of importance and
examination. Orlando echoes this sentiment after becoming a woman: “better to be quit of martial ambition, the love of power, and all the other manly desires if so one can more fully enjoy the most exalted raptures known to the human spirit.” And she continues to describe those raptures as “contemplation, solitude, love” (Orlando, 1965, p. 160). If it weren’t for Woolf, I believe, there would be no Tannen—and men and women would be much less apt to consider their differences as something to be appreciated instead of a demarcation line for superiority.

**Men in Conversation with Men**

The first step in considering genderlects is to examine how men speak to men, and in particular, how they speak about women. Tannen would predict that conversations would center on contest to establish position. Not surprisingly, women often become the prize in a contest between men. For example, in Joyce’s play *Exiles* the tension between Robert Hand and Richard Rowan is over Bertha, Richard’s common-law wife. However, the conflict seems to lie more in the question of who possesses her. When Richard asks, “Do you kiss everything that is beautiful for you?” Robert responds, “Everything—if it can be kissed.” He then compares a woman’s temple to a flat stone, “It is silent, it suffers for our passion; and it is beautiful . . . And so I kiss it because it is beautiful. And what is a woman? A work of nature, too, like a stone or a flower or a bird. A kiss is an act of homage” (Joyce, 1976, pp. 555-556). He sees women as beautiful objects; and as an object, a pawn that he and Richard can vie for. When Richard sees Robert’s attempts for Bertha’s love, he pushes Bertha toward a relationship with Robert so he won’t lose her; but in giving her away he has, in Tannen’s words, “one-upped” Robert. To Archie he says, “Do you know what it is to give a thing?” -- the thing being Bertha. “While you have a thing it can be taken from you . . . But when you give it, you have given it . . . It is yours then for ever when you have given it. It will be yours always” (1976, p. 561). While most of us see giving as a selfless act, Richard reveal how he can use giving in order to possess and therefore to be in a superior position to Robert. The subtleties in the men’s discussion reveals this contest is not for Bertha’s love, but for her possession. To possess Bertha is to “one-up” the other man. Women as objects in a contest also comes into play in Paul Morel’s hospital conversation with Baxter Dawes in D. H. Lawrence’s *Sons and Lovers*. Paul’s first meeting with Dawes since Dawes severely beat him, Paul is now in the position of power. Because of Dawes’ size, Paul couldn’t fight and win; but once the circumstances had changed (and Dawes is the more vulnerable man), Paul chooses to face him again. Further, Paul has decided he no longer wants to see Clara and that Dawes can, in essence, “have her back” as his wife. How does Paul establish his position in this contest? First, physically he’s healthy, while Dawes suffers from typhoid. Next, he explains to Dawes why he had come, “Because Dr. Ansell said you didn’t know anybody here” (Lawrence, 1962, p. 381). Paul is in the position of power. He has made the decision to see Dawes when no one else will. Dawes tries to one-up Paul by telling him that he’s a “fool” if he rents a motor car to take his mother home. Yet the jab at power fails; it’s just weak in comparison to Paul. And although “it was evident that [Dawes] dared not face the world again,” Paul challenges the man to go to the “seahills” (p. 382), to go outside knowing Dawes won’t. Paul leaves feeling a “strong emotion that Dawes aroused in him, repressed, made him shiver” (p. 382).
emotion, power. Force. Dawes had beaten Paul (literally), and now Paul had a chance to return the favor. He would be Dawes’ only visitor and he would face Dawes and look into his eyes, letting Dawes realize he could face the world while Dawes dared not. Paul is in control. While the conversation doesn’t seem conflictive outright, the message is clear: Paul is establishing his dominance in the contest between the two.

Is this an isolated instance in Lawrence? Consider Bertie and Maurice in “The Blind Man”; they don’t get along with each other. Why? Perhaps because they haven’t established their hierarchical position: Maurice feels inferior to Bertie and for that reason doesn’t want to meet with him. But in Maurice asking to touch Bertie, the contest becomes more definitive. “I thought you were taller,” comments Maurice. Sensing he has nothing to fear from the other man, Maurice implores him to touch his face. Bertie, in the one-down position, must agree. Once Maurice realizes that he “knows” the other man and Bertie is “overcome” in “his own weakness,” Maurice feels ready to return to Isabel (Lawrence, p. 195). After all, Bertie is now the weaker of the two, knowing that Maurice is no longer intimidated by him. The men’s conversation and body movement center on establishing their position in relation to each other.

In general, we can consider that men communicate and see each other in terms of positions of power. Just as Woolf suggested that “war” was seen as an “important” topic for a novel, conflict and status make for “important” stories and themes, at least in part, for these male authors. They have experienced life as a contest between themselves and others and therefore their characters experience life the same way. And while it is harder to examine the conversations in literature (you can’t ask the characters to keep talking), we can at least see that Tannen’s theory is possible.

**Men Writing Women**

So what happens when these writers’ women converse? As Tannen predicts, the way that men communicate is typically how a man believes women communicate, as well: “Women and men are inclined to understand each other in terms of their own styles because we assume we all live in the same world” (Tannen, 1990, p. 179). Woolf noted, looking at book titles, that “women . . . [are] so much more interesting to men than men are to women” (Abrams, 1993, p. 1940). And that if she had to read “all that men have written about women,” then she would see “the aloe that flowers once in hundred years would flower twice before I could see pen to paper” (p. 1940). Men seem fascinated by the topic of womanhood, perhaps in part because, as Woolf claims, they question so much about women—Do they have a soul?, education?--to name only two questions. Perhaps these men also think of the topic in terms of a contest where women are in the one-up position. Woolf’s quote from Pope seems to carry this connotation -- “Most women have no character at all” (p. 1941). This is not to suggest that men can’t write realistically about women and vice versa, but instead, as Woolf seems to indicate, we need to be perceptive about the differences.

A few brief examples from Joyce show his development as a writer writing women characters. To return to *Exiles*, an attempt of Joyce’s to mirror real conversation and people, according to Harris, we find Bertha acting more as a sacrificing woman, more a caricature, if you will, than a dynamic woman. As Woolf explains in *Orlando*, women are not “obedient, chaste, scented, and exquisitely appareled by nature,” but it was “as a young
man, [that] she [as a man] had insisted that women must be “obedient, chaste, scented, and exquisitely appareled” (1956, pp. 156-7). The idea here is that women must fit into a mold offered them by men. And Bertha seems to fit into this idea of the obedient, subservient woman. She agrees to Richard’s request that she lead Robert on, seemingly to Richard’s amusement. In the end, Richard calls this act betrayal -- “I have a deep, deep wound of doubt in my soul” (Joyce, 1976, p. 626); yet it was he who asked Bertha to see Richard. As the obedient wife she responds, as Orlando might predict, by bowing to her husband’s insistence. She acknowledges she has inflicted the wound and pleas, “Forget me, Dick. Forget me and love me again as you did the first time. I want my lover. To meet with him, to go to him, to give myself to him” (p. 626). And Bertha is relegated to the one-down position through her meek and lowly conversation. Her language seems “powerless” because it is subservient.

Tannen explains that “Often, the labeling of ‘women’s language’ as ‘powerless language’ reflects the view of women’s behavior through the lens of men’s” (1990, p. 225). Yet in Joyce’s later works, his women seem to come alive and are more dynamic. (Perhaps it is because, as Woolf might suggest, Joyce has become a more adept observer.) In Ulysses, the Penelope section seems to break the bounds of two-dimensional characterization. Molly Bloom is an ordinary woman with ordinary concerns, “I must clean the keys of the piano with milk what’ll I wear shall I wear a white rose...” (Joyce, 1976, p. 706). Compare Bertha’s willingness to submit to her husband to Molly’s strength, “first I put my arms around him yes and drew him down to me so he could feel my breasts all perfume yes and his heart was going like mad and yes I said yes I will Yes” (p. 708, emphasis added). Although Molly is also involved in a relationship with a man, her thoughts reveal her power within the relationship. Molly doesn’t just submit to a man’s desires; she is an active player in the relationship, not in the one-down position, but on equal footing. If Bertha were involved in the same situation her thoughts might go something like this, “Richard kissed me passionately on the lips. I could feel his desire to have me so I pressed up against him.” The man’s desires become hers, whereas for Molly, her desires are what she acts on.

We can argue the development of Joyce’s female characters through a comparison of these two women. As Tannen reflects, her studies show that “male-female conversations are more like men’s conversations than they are like women’s. So when women and men talk to each other, both make adjustments, but the women make more” (1990, p. 237). Although Molly is a far differently characterized woman than Bertha, the tendency still is to interpret her thinking through the lens of a man’s understanding. In the end, Molly is acting out something. Her inner dialogue up to this point has been random and free (notice that her thoughts are presented as one long sentence), yet her ideas are centered toward securing her man (men). Tannen might point to men’s emphasis on action. For example, she says her mother complains to her father that she feels ill. The father “offers to take her to the doctor” and the mother is “disappointed” (p. 291). Why? Because the mother wanted to talk to her husband about it; she wanted sympathy. But the father was focused on action. What can I do to resolve the situation?, he would be thinking. And so it is with Joyce that we see portrayals of more powerless women, or women that seem to act more like men.

Consider also Lawrence’s portrayals of Elizabeth in “Odor of Chrysanthemums” and Mabel in “The Horse Dealer’s
Daughter.” Elizabeth seems almost in a power play with her husband. Her conversations with her son seem reminiscent of those she probably had with her husband in that “she saw the father in her child’s indifference to all but himself” (Abrams, 1993, p. 2085). When she calls for her son to come in from the brook, he responds in a “sulky voice”: they are vying for the one-up position. Later, when she pursues her husband, it seems almost as though she is looking for a fight with him. Her reaction at the end reflects this:

There had been nothing between them, and yet they had come together, exchanging their nakedness repeatedly. Each time he had taken her, they had been two isolated beings, far apart as now. He was no more responsible than she. (p. 2095)

Her desire to assign blame puts her in the position of power. Her thoughts reveal her desire to know her status in relation to her husband. I’m not arguing here that Elizabeth is a masculine character, but perhaps more that she reacts to her situation in terms of hierarchy: where does she fit? Where does her husband fit? Is she in a one-down position?

Mabel’s passionate exchange with Dr. Fergasan echoes the same type of power play that Elizabeth expresses. Their conversation subtly shows Mabel’s desire to both overpower and be overpowered by Dr. Fergason while he suffers the idea of being placed in the one-down position in relation to her. “Why did you?” she asks, “Who undressed me?” His affirmative response puts her in a position of power, “Do you love me, then?” (p. 2105). And she presses more emphatically, “You love me. I know you love me, I know.” Dr. Fergason submits to her will, although “He revolted from it, violently. And yet—and yet—he had not the power to break away.” Their power play ends in his marriage proposal, even though he “really, [had] no intention of loving her” (p. 2105). Perhaps this is a cynical view of a potentially touching scene, but is this interpretation possible? Are these characters responding to each other in terms of contest and hierarchical positioning? Dr. Fergason seems to love Mabel in the end, even though it cost him “painful effort” (p. 2106). But doesn’t the final plea sound more like one-upping, rather than an honest plea on Mabel’s part: “I feel awful. I feel awful. I feel I’m horrible to you.” Dr. Fergason’s response: “No I want you, I want you,” was all he answered, blindly...” (p. 2108). And Mabel assumes power. It’s not that Mabel is more masculine than feminine, but that her desire to affirm her status seems like a man’s interpretation of a woman’s action, rather than a realistic portrayal. As Tannen might argue, men can write women and women can write men, but each sex seems to interpret the other through their own understanding.

Part of my argument lies in the idea that Woolf really triggers the concern for women’s studies, not as outsiders or objects, as women were thought of for the most part in her age, but as people worth understanding. She makes this argument in “Professions for Women.” She felt as though she had to kill the “Angel in the House”—the idea of the woman on the pedestal, revered, but kept at a distance and confined to her position—and she felt she should “[tell] the truth about [her] own
experience as a body” (Abrams, 1993, p. 1989). She saw woman as more than a simple characterization study for a book as in “A Room of One’s Own” but as a dynamic character, a “body” with diverse experiences. It would have been easy for her to write about women in experiences that seemed more “important” in war or conflict, (contest) rather than “the drawing room,” yet it would not have been “telling the truth” about her reality as a woman. She explains this idea further, as Nelly Furman asserts in “Textual Feminism” in Woolf’s article, “Aspects of the Novel”:

If the English critic were less domestic, less assiduous to protect the rights of what it pleases him to call life, the novelist might be bolder too. He might cut adrift from the eternal tea-table and the plausible and preposterous formulas which are supposed to represent the whole of our human adventure. But then the story might wobble, the plot might crumble; ruin might seize upon the characters. The novel, in short, might become a work of art. (qtd. in Furman, 1980, p. 45)

**Dynamic Women in Woolf**

So what is the reality of woman? Although Orlando touts that “through all these changes [male to female], she reflected, she had remained fundamentally the same” (Woolf, 1956, p. 237), I would argue that Woolf is trying to make us look more closely at the differences between the sexes, rather than denying them all together. Tannen sees the essential difference in men’s emphasis on status versus women’s emphasis on connection and community. She explains that a woman’s “struggle is to keep the ties strong, keep everyone in the community, and accommodate to others’ needs while making what efforts they can at damage control with respect to their own needs and preferences” (1990, p. 152). For these reasons in general, women tend to play the role of peacemaker -- they emphasize similarities to establish connections; in terms of comparing their world view to status, women look to establish greater levels of friendship rather than power. Furthermore, they see control as a matter of a consensus. Tannen argues that women, instead of one-upping another person, seek agreement about something; and consensus leads to power for a woman.

I can think of no better example of a community of women than Woolf’s “A Society.” The story begins as “Six or seven of us were sitting one day after tea” (1985, p. 118). Already the topic differs from perhaps what was typical in Woolf’s day. The ladies are withdrawing to the drawing room, hardly the setting for a significant story. But a conflict in the story does arise when Poll describes her dilemma of having to read all the books in the London library before she can receive her inheritance. Poll reads what has been called a “book” to the horror of the other ladies. Indeed, the ladies concluded it couldn’t be a “book” because “the style in which it was written was execrable” (p. 119). Their ignorance gone, the women decide they must form a society to decide whether men have been “civilizing” the world, as they had thought. And they conclude that “Before we bring another child into the world we must swear that we will find out what the world is like” (p. 119). Consider the comments that Tannen might make even from the outset of this story. To solve the problem, the women form a society. They do not argue the point, but draw on the ideas and opinions of each other, form a consensus—that they don’t know the answer—and propose to study the answer a group, each gathering information
individually and then presenting it to the group for analysis: “So we made ourselves into a society for answering questions” (p. 119). Instead of solving the problem individually, or as a matter of contest, the women approach the problem in terms of community. A community issue, a community solution.

Similarly, when the women speak to one another it is to gather their information in order to reach a consensus. They don’t approach the issues as contests or as matters of status. When conflict does arise in Castillia’s pregnancy, the women argue but strive for a community solution, a “vote.” And before they vote they ask questions of one another. “What is chastity then? I mean is it good, or is it bad, or is it nothing at all?” Another woman, Poll, answers “chastity is nothing but ignorance—a most discreditable state of mind. We should admit only the unchaste to our society. I vote that Castilia shall be our President” (Woolf, 1985, p. 124). In seeking connections, Poll suggests that Castilia is not so different from the rest of them, but that being unchaste is merely a state of mind. As Tannen explains, “the general tendency among women [is] to seek agreement” (p. 167) and to emphasize the commonalities between women to establish greater ties of friendship. Castilia has done something that jeopardizes the sameness of the women, and the community is threatened in the difference. Poll lessens this difference by reinterpreting it: we are all unchaste, she argues; it’s a matter of definition. Whereas a man might see Castilia’s confession as a chance to gain a higher position of status, to one-up her, Tannen points out that “appearing better than others [or different] is a violation of the girls’ egalitarian ethic: People are supposed to stress their connections and similarity” (1990, p. 217). And furthermore, “For many women, openly opposing the will of others—or what they perceive to be others’ will—is unthinkable” (p. 184). With these things in mind, Poll’s plea for sameness seems perfectly acceptable. And the other women agree. Helen “[moves] that no one be allowed to talk of chastity or unchastity save those who are in love” (Woolf, 1985, p. 124). She tries to lessen the conflict by altering the topic.

Another way to consider women’s conversations in relation to men’s is a horizontal versus a vertical line. Tannen explains that women’s conversations, along with emphasizing similarities, are based on rapport; a man’s conversation, based on status, at times appears more directed for that reason. There is a definitive goal in the man’s conversation, one that is perhaps easier to understand, considering our still mainly patriarchal-centered society: striving towards status, one-up or one-down, the man’s conversation moves accordingly up or down a line. A woman’s conversation, on the other hand, moves along a horizontal line. Although friendship is the goal it is not seen in terms of up or down, but in a seemingly unending goal of networking. Woolf, at least in part, seems to recognize this difference. In Between the Acts, Isa and Mrs. Swithin appear to be speaking of nothing at all important.

‘At least so my dentist told me,’ she concluded.
‘Which man d’you go to now?’ Mrs. Swithin asked her.
‘The same old couple; Batty and Bates in Sloane Street.’
‘And Mr Batty told you they had false teeth in the time of Pharaohs?’ Mrs. Swithin pondered.
Batty, she recalled, only talked about Royalty. Batty, she told Mrs. Swithin, had a patient a Princess. ‘So he kept me waiting well over an hour. And you know, when one’s a child, how long that seems.’ ‘Marriages with cousins,’ said Mrs Swithin, ‘can’t be good for the teeth’ (1974, p. 33).

Is this the type of conversation worthy of prose? Worthy of being written and recounted in detail? What does the conversation establish? Viewed through the lens of hierarchal status, nothing. Viewed, however, through the lens of establishing friendship, rapport, and connections, everything. Throughout the conversation, the women seek to find connections wherever they can grasp them in an effort to find similarities between themselves (even if they are weak ones). Isa goes to a dentist. Is it someone Mrs. Swithin knows? No, no connection there. But finally, Mrs. Swithin does find a connection between Isa’s dentist and herself. And this connection is important. It establishes the women as part of the same community.

This same style—seemingly insignificant details with deeper meanings—reverberates throughout Woolf’s works. “Kew Gardens,” “Blue,” “Green,” what is their purpose? In terms of establishing connections, Woolf gives her readers a connection to her by sharing her experiences. She takes the tone of an observer giving her audience a rich description of the scene. Perhaps on at least one level, Woolf is offering her own experience on paper so that it becomes part of our experience and secures a connection between her readers and herself. And this is also why some readers may feel like they are a part of the work, participants such as the characters in Miss La Trope’s play. We become part of the audience in Between the Acts. We are as shocked by the revelation of the mirror as the audience. When the end of the story explains that “the curtain rose. They spoke” (1974, p. 160), the ambiguity of “they” allows us to place ourselves within the play. We are the players. We are part of the experience. Woolf can speak to us on equal footing and establish connections with us, point out our similarities instead of our differences.

Conclusion
Can any author truly capture the genders in a real conversation? Is that even a fair question? I don’t believe the quest is necessarily to write realistically, as much as write so that the reader identifies with the character and finds something true in himself or herself that he recognizes within the character. The final exchange between Gretta and Gabriel in “The Dead” seems to capture the essence of the disparity of men’s and women’s attempts at communication. Gabriel wants to hold Gretta, passionately draw her to him to have her yield to his “impetuous desire” (Joyce, 1976, p. 236). But he doesn’t voice his ideas. He can see that Gretta is upset. Their conversation turns to Michael and a lost love that died, in Gretta’s mind, for her sake. Gabriel presses her for details, even thinking she wants to go to him. Gretta explains his tragic death. Gabriel holds her hand for a moment “and then, shy of intruding on her grief, let it fall gently and walked quietly to the window. She fell asleep” (p. 240). If we consider this exchange in terms of Tannen’s explanations we understand the lack of communication in terms of gender. Gabriel sees Gretta’s confession as a threat to his position as her lover. He immediately thinks she wants to run away with Michael. Then, when he finds out Michael’s dead he believes she is still in love with him. He doesn’t quite understand
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why Gretta is telling him of the experience. Where is he in relation to Michael: one-up or one-down?

Gretta, on the other hand, wants to establish a connection with her husband, a connection that has been failing for quite some time. She tells the story hoping for understanding, hoping for a renewed connection. Instead, she finds a hostile reaction in Gabriel. Not wishing a further confrontation, which would only provoke a further severing of what little connection is left, she falls asleep. Joyce has perhaps realistically portrayed Gabriel’s feelings and frustrations, but has he Gretta’s? It’s told from his perspective. In Tannen’s mind we can conjecture she would point to the lack of understanding as a fundamental difference in the way, and goal, each communicates:

Because [women] are not struggling to be one-up, women often find themselves framed as one-down. Any situation is ripe for misinterpretation, because status and connections are displayed by the same moves. This ambiguity accounts for much misinterpretation, by experts as well as nonexperts, by which women’s ways of talking, uttered in the spirit of rapport, are branded powerless (Tannen, 1990, p. 225).

Gabriel and Gretta don’t understand each other. Just as Tannen demonstrated the strained ties between her father and mother in the example of her mother’s illness, so too, the same applies here. Isa feels sick at heart. Gabriel senses it. What can he do to fix it? is his essential reaction. Isa strives for sympathy and is upset when Gabriel seeks action instead of closeness. If men and women considered each other’s differences more closely wouldn’t it lead to greater understanding and truer communication? I believe that Tannen provided the linguistic door that other linguists are still trying to unlock. Tannen is the first to admit that there are exceptions to her theories that “asymmetries [exist] among women . . . and symmetries among the men” (p. 229), but if these theories provide better understanding, then the generalities seem acceptable.

Woolf seems to agree. Orlando claims that “up to this moment [when he became she] [he]she had scarcely given her sex a thought” (1956, p. 153). But once Orlando realizes women’s treatment and their essence he, as she, cries

At last, . . . she knew Sasha as she was, and in the ardour of this discovery, and in the pursuit of all those treasures which were now revealed, she was so rapt and enchanted that it was as if a cannon ball had exploded at her ear . . . (p. 161).

He understood her and she understood him, and the revelation had the power of a cannon ball. Deeper understanding leads to deeper fulfillment. So while I don’t claim all male authors misrepresent women and all women authors misrepresent men, considering their differences potentially leads to greater understanding, especially when it comes to women who have been misrepresented for so long. Woolf must have experienced the women she read in much of the fiction of her age similarly to how Tannen describes a man’s interpretation of a situation with a woman: “This man was surely telling the truth as he experienced it, because when women and men get together they interact according to men’s, not women’s norms” (1990, p. 235). And so it was with Woolf that she recognized women in fiction acting according to men’s norms, whether it be as
some sort of Angel in the House or speaking more like men. She began a closer examination of her sex, and not necessarily a kind one: “What fools they make of us—what fools we are!” (Abrams, 1993, p. 158). She began popularizing the drawing room, making the snail on the wall an object for greater contemplation. And she saw the ideal day when men and women would speak with each other without misunderstanding:

‘Are you positive you aren’t a man?’ he would ask anxiously, and she would echo, ‘Can it be possible you’re not a woman?’ and then they must put it to the proof without more ado. For each was so surprised at the quickness of the other’s sympathy, and it was to each such a revelation that a woman could be as tolerant and free-spoken as a man, and a man as strange and subtle as a woman, they had to put the matter to the proof at once. And so they would go on talking or rather, understanding . . . (Woolf, 1956, p. 258).

Each understood the other because each understood the differences. While Tannen’s theories remain imperfect, they continue in the tradition which Woolf started by looking more closely at women’s studies and in particular at women’s conversations, not in terms of better or worse, but in looking for understanding. Is her goal too lofty? Have we really gotten anywhere since Woolf? Tannen might argue ‘yes,’ that women today are being understood to a much greater degree than the women of Woolf’s day. Yet when I read Dave Barry’s recent commentary, I am struck by the quandary that still exists between men and women. And while Orlando may have been a combination of the seemingly best of each sex, a man’s “strength” and “a woman’s grace” (p. 138), I don’t think Orlando’s metamorphosis (both physically and emotionally) a viable solution. Rather, I believe I will do my best to recognize the differences and improve the disparity in my own relationships with the opposite sex; yet I believe I will still find Tannen’s more cynical side the more accurate: “We try to talk to each other honestly, but it seems at times that we are speaking different languages . . .” (1990, p. 279).

Works Cited
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Spanish Additions to the Cowboy Lexicon from 1850 to the Present

Heather A. Robles

Before the development of the windmill, barbed wire, and the modern machinery now used in the cattle industry, "cowboys" inhabited Texas and other western states and herded cattle all year. The work of the cowboy was unlike that of any other profession. For minimal wages, he worked seven days a week and was on call twenty-four hours a day. He regarded his job satisfaction as compensation for the low pay, and took pride in his skill at various herding and roping techniques. The first and, for a long time, best cowboys came from Mexico, since the cattle market in Mexico preceded the one in the United States. The first Anglo cowboys were young men from the East whose interest in the unknown West led them to their new career. They learned the trade from the Mexican vaqueros and, as a result, came to use Spanish vocabulary for many of their surroundings, techniques, and tools.

This paper will briefly discuss the Spanish terms found in cowboy English from the late 1800s to the present. The terms described are found in authentic literature written by cowboys describing the many facets of their profession. Included in the fiction and non-fiction sources are biographies, autobiographies, diaries, a book on campfire stories, novels, and books written by cowboys describing the "colorful" nature of their language. The terms are cross-referenced with definitions from western dictionaries, etymological dictionaries, and various Spanish regional dictionaries. In addition to identifying Spanish loanwords in the American cowboy lexicon, this paper also includes an analysis of the categorial and semantic changes common to many of these terms. These changes in category and meaning indicate the degree of integration of a specific term into the English language. Some, like the term "corral," have become highly integrated into English. "Corral" is recognized by nearly all English speakers, and most do not realize that the term comes originally from Spanish. It is used not only as a noun (like the Spanish term corral), but also as a verb, meaning to force an animal into an enclosure. "Corral" is also used metaphorically, in the sense of cornering a person (not just an animal). This paper will show how similar categorical and semantic changes have occurred in many borrowed hispanicisms, indicating that they have been accepted and integrated into the English language.

Spanish Borrowings in the Cowboy Lexicon

Clothing and Other Accessories

Many of the terms from the cowboy's wardrobe are originally from Spanish. Over his durable pants he wears chaps. The origin of the word chaps is Spanish, but there is some disagreement as to whether the word descends from chaparreras or chaparejos. Chaps can be worn to the ankle or to the knee. Shorter chaps are also known as "chinks," a term whose origin is attributed by many authors to the Spanish chincaderos or chigadores, although neither of these terms appears in modern Spanish dictionaries. Short chaps are also known as
armitas. The *Diccionario de Mejicanismos* gives the following definition for the term *armas de agua o de pelo*: "Llamábanse así dos piezas grandes de cuero de chivo, con pelo, casi cuadradas, que sujetas en la cabeza de la silla o atadas a la cintura del jinete, le cubrían pierna y pie, y le preservaban del agua. En caso necesario se tendían en el suelo para dormir sobre ellas. Las había ricamente adornadas. Hoy se han sustituido con las *chaparreras*, que no pueden prestar iguales servicios, porque no cubren el pie ni sirven para dormir" (p.80). According to this definition, *armas* are the predecessors of *chaparreras*. *Armitas*, then, correspond with the definition above and are a smaller variety of *armas*. Since chaps don't cover the feet, as the above definition of *armas* explains, cowboys used *tapaderos*, or "taps," which are leather coverings attached to the stirrups to protect the toes. The term derives from the Spanish *tapar*, "to cover." The cowboy's chaps and taps are often trimmed with shiny metal decorations called *conchos* or *conchas*. *Concha* is the Spanish word for "shell." Though the silver decorations have a shape similar to that of a shell, Spanish regional and general dictionaries do not provide a similar definition.

Other parts of the cowboy's wardrobe included the *poncho*, which was usually a blanket with a hole for the head. This term could also describe a waterproof shield, but in most regions "slicker" or even "fish" were more common. The cowboy's hat is often called a *sombrero*. The word is originally Spanish, and it refers to any kind of hat. To the cowboy, the *sombrero* is usually a hat with a wide brim. Another style of hat is the "ten-gallon hat." Contrary to popular belief, the name does not refer to its capacity, but derives from the Spanish *galón*, a braided decoration. American cowboys, misinterpreting the meaning of *galón*, added the number "five" or "ten" to the name of the hat to describe its large size. Some cowboy hats had a *barboquejo*, or chin strap. Another piece of the wardrobe was the *bandana*, which served a multitude of uses for the cowboy. In *The Time it Never Rained*, Elmer Kelton makes mention of the *huaraches* worn by Mexican migrant workers (p. 38). Many cowboys carried a *morral*, a pouch or sack, to carry their supplies.

**The Saddle**

Since the cowboy did most of his work on horseback, (many claimed they were uncomfortable when not in the saddle), the saddle and its accessories became a cowboy's most important equipment. Even though many cowboys ride horses belonging to the ranch that employs them, each has his own saddle. The saddle is secured on the horse by one or more "cinches." "Cinch" comes from the Spanish cincha. In English it has come to be used as a verb, as well, and has also adapted a metaphorical meaning, as illustrated by the popular Western author Louis L'Amour: "Hopalong rubbed his jaw, his blue eyes twinkling. 'I reckon that last argument cinches it, Sim! I sure was figgerin' on more pie!'" (p. 238). The leather strap that fastened to the cinch and held the saddle in place was called the látigo. Saddles were often heavily decorated with silver *conchos* and stamped leather, which indicated their worth.

The saddle horn is often referred to as an "apple," an "apple horn," or a "dally horn.." "Apple" is a probable calque from Spanish. The *Diccionario de Mejicanismos* offers a similar definition of the word *manzana*: "cabezal o parte delantera de la
silla de montar" (p.694). Spanish also has a verb related to the noun manzana: "Manzanear. tr. Entre charros y personas de a caballo, sujetar a la manzana de la silla de la res lazada, dando vuelta corrediza a la reata en torno de ella" (p.694). The meaning of this verb is similar to the English term "to dally" (also spelled "dalley"), which Hedges defines as "to take a wrap around the saddle horn with the rope" (p.334). The term "to dally" is a hispanicism that probably derives from the command form dale vuelta. It has also been attributed to the infinitives dar la vuelta and darle vuelta. Earlier versions of the term were "dolly welter" and "daily welter" (Erickson, p. 95). The term seems to have been adopted into English shortly after the turn of the century. However, it is not found in J. Frank Dobie's A Vaquero of the Brush Country (originally published in 1929); he instead talks of giving the rope a vuelta: "After a while I'd give the rope a vuelta (a turn) around a post, and by taking up the slack when the cow ran would finally get her tied up short" (p.6). In more recent cowboy lingo, a "daily" is one turn of the rope around the horn. Some cowboys prefer this method of securing an animal after roping it; others prefer the "hard-and-fast" approach, which involves tying the rope fast to the horn before roping. Among the cowboys that prefer the daily technique, the horn is referred to as the "daily horn."

In addition to the saddle, riding equipment also includes the reins and the headstall fastened onto the horse. One very common type of headstall is the "hackamore." "Hackamore" derives from jáquima, a Spanish word of Arabic origin. The bosal or bozal is a part of the hackamore, the noseband made of rawhide or braided leather, rope, or horsehair. The mecate (usually spelled mecáte), or hair rope, serves as reins and completes the hackamore. Mecate comes originally from the Nahuatl word mecatl, which the Diccionario de Mejicanismos defines as "tira larga y angosta o soga hecha de corteza vegetal" (p.711). The word's origin is not well-known among cowboys because its pronunciation has been altered and it is often spelled "McCarty."

When the cowboy rides his horse on a ranch, he always carries one or more ropes. There are a large variety of ropes that serve many different purposes, some retaining their Spanish names. A maguey rope is made of fibers of the maguey cactus and is used exclusively for "dally" roping, which means that it is never tied fast to the saddle horn when an animal is being roped. A "quirt," according to Mackey Hedges, is "a braided, rawhide riding crop or short whip" (p.336). The term has been attributed both to the Spanish word cuerda, cord, and to cuarta, horsewhip. The latter etymology seems to be more credible. The Diccionario de Mejicanismos gives the following definition for cuarta: "Látigo corto para las caballerías de silla. Es todo del cuero que llaman peal. Tiene en el cabo una asa o anillo del mismo cuero, con que se asegura a la muñeca, y en el otro extremo una pajuela o tira delgada, que es propiamente el azote" (p.319).

Ropes in general are referred to as "lariats" or "reatas" (also "riatas"). Both words derive from the Spanish word for a rope used to keep animals in a line, plus the feminine article: la reata. The term lazo, from lazo, is sometimes found, often as a verb. The ropes used for roping animals are made with a "honda" (often spelled "hondo"), a loop or eye in the end of the rope. A honda can be a loop made by tying a knot in the end of the rope, or it can be a
ring of rawhide or metal braided into the end of the rope. The loop used to catch an animal is made by passing the free end of the rope through the honda. The term does not derive from the Spanish hondo, but from hondón, an eye or eyelet. The uses of the rope include various roping techniques, many of which still use Spanish terminology.

Roping Techniques
A common roping technique is the mangana, a throw used to catch a horse. This throw is also known as "forefooting" and involves forming a loop that the horse steps into with his front feet. There are several variations on the mangana. The cowboy uses his foot to throw the loop in the mangana de pie. The mangana de cabra is used by shepherders, or pastores, to catch goats by the front feet (Dobie, p. 247). A common throw mentioned by Dobie is the pial, which is used to catch an animal by its hind feet (p.248). Watts gives "a rope" as a secondary definition for the word pial (p.243). Variations on the term pial are found in the Diccionario de Mejicanismos and Vocabulario Campesino Nacional (VCN). The DM notes that the term peal comes from the same Latin root as the word pie, and defines it as a type of rope:

"(De pes, pedis, como pie.) m. Soga, cuerda con que se laza la res, echándosela preferentemente a las patas; hecha de ordinario de fibra resistente, recia, torcida; llamada también reata o lechuguilla. Del sureste a Sur América, hecha de cuero crudo, curado con sebo, torcida y tallada" (p.820).

The DM also includes a verb form: "Pealar. tr. Forma vulgar de apealar, por echar el peal a la res, lazándola en carrera. También se dice pialar" (p.820). The (VCN) mentions the term pial, citing its use as a rope throw, a type of rope and a loop: "Lazada a la extremidad de la pata. . . Cuerda de cuero sin tejer ni torcer, que sirve para inmovilizar a la vaca cuando se ordeña. . . Lazo que atrapa las patas de una bestia" (p.84). The VCN also mentions the verb form: "PIALAR o APIALAR: Lazar de las patas a las bestias" (p.239). Hedges describes a throw similar to the pial, called the culo: "A style of throwing the rope so that it wraps around the rear of an animal and catches the hind feet from the back rather than from the side" (p.334).

The Ranch Hierarchy
The earliest cowboys were Mexicans, and they referred to themselves as vaqueros. In fact, among cowboys themselves, "cowboy" has never been a very common term. More common are "cowman" (vaquero) and "buckaroo." Buckaroo is an adaptation of the word vaquero. Caballero was also occasionally used to refer to a man on horseback. A group of cowboys or vaqueros was called an outfit or a corrida.

There are many levels in the hierarchy of a ranch. The owner of a ranch is known as the "rancher" or ranchero, the patrón, the señor, or even the Don. The owner's wife is called la patrona or la madama. The owner sometimes lives on the ranch, but often he is an absentee owner who counts on his foreman to run the ranch in his absence. Cowboys sometimes refer to a distant absentee owner as the presidente. The foreman (sometimes called the mayordomo, if he is Mexican) selects a trail boss to supervise trail drives and round-ups. The trail boss might then select a straw boss, or segundo, to assist him. Another
term for the straw boss is the caporal. Below the segundo are the vaqueros or cowboys, sometimes referred to as "punchers," as well as the cook, who never helps with the cattle, except in case of emergency.

At the bottom of the hierarchy is the "wrangler," or the man in charge of keeping the herd of horses and supplying each cowboy with a fresh horse whenever he needs a change of mount. The term "wrangler" existed in English as early as the sixteenth century. Henry V refers to himself as a the wrangler for the throne of France in William Shakespeare's King Henry V: "Tell him he hath made a match with such a wrangler that all the courts of France will be disturb'd with chases" (p.493). However, it is unlikely that early cowboys were familiar with this use of the term. It is more likely that the modern Western usage of wrangler comes from the Spanish caballerango, which the Diccionario de Mejicanismos defines as: "El mozo que en las haciendas o casas particulares cuida y ensilla los caballos" (p.162). Watts gives "wrango" and "wangler" as variations of "wrangler" (p.370). The wrangler of an outfit is usually the youngest and/or least experienced member of the crew. It is a position of little prestige, but considered to be a good starting place for young would-be cowboys. The wrangler is also called the remudero because he was responsible for the remuda, or herd of horses.

Animals
Some animal terms from Spanish refer to animals found only in the Southwest and Mexico. Since no English word existed, it is natural that cowboys and other newcomers to the West adopted the Spanish names. These animals include the coyote (originally from Nahuatl coyotl), the paisano (also "road runner"), the "javelina" (from Spanish jabalina-also known as the collared peccary), and the "tarantula" (a term originally from Italian).

The history of the word "buffalo" is unique. The American buffalo is more correctly referred to as the American bison. Buffalo comes from búfalo, which was the name the Spanish conquistadors originally assigned to the bison, which they found to be similar to the Indian buffalo. The term búfalo was first recorded in the Americas around 1530 when it was used by Nuñez Cabeza de Vaca to describe the bison found on the plains of Texas (Watts, p. 57). Another animal native to the Southwestern United States and Mexico is the puma. Puma is the Spanish word for the animal that in English can be referred to as puma, "cougar," and "mountain lion."

Cowboys also use a number of terms to refer to the stock and domestic animals that they work with. Some cattle breeds have names that come from Spanish, such as Santa Gertrudis cattle and "Corriente Steers." Corriente, a Spanish word meaning "common" or "ordinary," originally referred to steers in a generic sense. However, the term has taken on a more specific meaning. Hedges reiterates this, though he says that Corriente Steers are not exactly a breed of cattle: "Corrientes [sic] are considered a breed by some people today. In truth, they are a cross of several breeds of cattle found in Mexico and come in a variety of shapes and sizes. They are popular with team ropers because they usually have large horns compared to the size of their bodies" (p.334). Cattle in general are also referred to as novillos. A bull might be called a toro. Ramon Adams says that many old cowboys preferred to use the term toro in the presence...
of a lady in order to avoid the more vulgar term, "bull" (1961, p. 159). A wild or unmanageable steer is called either an outlaw or a ladino. Ladino is a Spanish term meaning "learned" or "clever," and cowboys use it to describe an animal that seems to have unusual intelligence. The DM says: "se le llama así [ladino] sobre todo al toro que habiendo estado en corral, al volver al campo no sólo es otra vez salvaje, sino que tiene una especie de conocimiento del hombre y esquiva los lazos que se le ponen para cogerlo" (p. 652). Motherless calves are known as "dogies" or sanchos. The origin of "dogie" is uncertain. It is probably a hispanicism, but whether it derives from a variant of adobe or from dogal, "halter," has not been established. It has, however, been proposed that the term is not of Spanish origin at all and perhaps derives from "dough-guts," an expression used by cowboys to describe the swollen bellies of malnourished calves (Blevins, p. 114). Another word for an orphaned calf is "leppie," or "lepe," which comes from the Spanish term lepe, which Sobarzo defines as an orphaned animal: "LEPE. adj. Dicese del animal, especialmente del becerro o del potrillo, que ha perdido la madre, sea por muerte de ésta o por otra circunstancia" (p. 140).

Cowboys have an equally rich Spanish vocabulary to describe horses. A caballo is a horse in general. A "bronic," or bronco (less common), is a horse that has not been "broken," or trained to wear a saddle and carry a rider. The DM confirms this definition: "bronco, ca. adj. Dícese entre gente del campo, del caballo no acabado de educar y reacio por lo mismo a la rienda y al manejo del jinete" (p. 152). In later cowboy literature, a bronc came to mean not just an unbroken horse, but any horse that had a difficult disposition and was hard to ride: "Through close supervision and careful culling, the rancher should be able to mount himself and his cowboys on the kind of horses he thinks are right for his type of operation. If he ends up with knotheads and broncs, he has no one to blame but himself" (Erickson, p. 71). A potro refers to a young horse, either unbroken or in the process of being broken. A "mustang" is a wild horse descended from the horses that had been stolen by Indians or those that escaped from the Spaniards during the colonization of Mexico. The word "mustang" is said to derive from the Spanish word mesteño. Dobie gives another possible etymology of the word:

It is the English corruption of mesteño or mesteña (feminine), a word already legalized in Spain when Copernicus asserted diurnal rotation of the earth. In 1273 the Spanish government authorized the mesta as an organization of sheep owners. On the long 'walks' between winter and summer ranges, many sheep were lost. They were called mesteños (belonging to the mesta). They were also called mostrencos (from mostrar, to show, exhibit). The estrayed animal had to be mostrado (shown) in public to give the owner a chance to claim it. Bienes mostrencos were, in legal terminology, goods lacking a known owner. . . Mestengo, a later form of mostrenco, is a word nearer to mustang than mesteño, and some etymologists have regarded it as the origin (Dobie, 1952, cited in Watts, p. 221).

Spanish terms are also commonly employed to refer to the color or breed of a horse. A grulla is a mouse-colored horse. A moro is
a blue-gray color. A pinto or "paint" is a two-colored horse, as if splashed with paint. A palomino is a horse with a golden color. According to Watts, the term palomino comes originally from the Spanish paloma, and makes reference to the grayish-golden color of the dove (p.237). Spanish terms are also found in references to groupings of animals. A group of horses including one stallion and several mares of the same coloring is known as a manada or mañada. A manada can also refer to a group of mares and colts, the lead mare wearing a bell and called the "belled mare" or the caponera. The group of horses from which cowboys choose their mounts is known as a "cavvy." The term comes from caballada, which has the same meaning as the English term: "Manada de caballos o de yeguas" (DM, p. 161). Other variations on the term include "cavvieyard," "cavvie," and "cavieta." Remuda is a synonym of cavvy. A herd of cattle is sometimes called a "rodear." This comes from the Spanish verb rodear, to encircle or round up. The term can also be used as a verb. Hedges explains this use of rodear in his glossary: "As a verb, it means to hold a herd of cattle, as in, 'We rodeared the cattle in a draw across from the dry lake.'" (p.336). A "paratha" or "parada" (also often parade, pronounced like the English "parade") is a smaller herd made up of animals separated from the rodear. Oreana pairs are an unbranded calf with his mother. A single oreana is an unbranded animal. The word (also spelled orejano or orejana) refers to animals that lacked the ear-mark or cut that identified the animal's owner.

The word "ranch" comes from the Spanish rancho. A ranch is also referred to as an hacienda. Structures on the ranch include the big house, which includes a cocina, the bunkhouse, and the "corrals." Fences on a ranch are made of wire, or alambre. In a Southwestern town, houses of poor quality are called jacales. Buildings constructed of adobe are called, simply, "adobes." Other structures with Spanish names include the town plaza, the café, and the "rodeo arena."

Innovations

Categorical Changes
Many of the Spanish terms mentioned above were not only adopted into English, but they also suffered categorial changes. This section will briefly detail some of these changes, listing the most notable examples.

Noun to Verb
English allows for nouns to easily transform into verbs. For example, to "photograph" someone is to take a photograph of him, and to "telephone" a friend is to call him on the telephone. The Spanish language does not allow for such a smooth transition from a noun to a verb. The Spanish noun corral, for instance, can be used in English as a verb, meaning to force an animal into a corral. To spur and "quirt" a horse is to urge him on using spurs and a quirt, or short whip. The term "wrangler," from caballerango, produced the verb "wrangle" in cowboy English, meaning "to herd and drive horses" (Watts, p. 369). Another example is the verb "to stampede," from the Spanish noun estampida. "Stampede" can be a transitive verb, meaning to cause a group of cattle to bolt, or an intransitive verb, meaning to suddenly take off running.
Verb to Noun
Just as English allows for nouns to become verbs, the reverse transformation is also permissible. You can call someone on the phone, or make a phone call. Some Spanish verbs that became nouns include "dally," from dale vuelta. One turn around a saddle horn came to be known as a "dally," and a cowboy's skill at roping was a measure of how he "took his dallies" (Hedges, p. 72). A common verb in cowboy English is "savvy," meaning to know or understand. The Spanish spelling, sabe, was often found as well. The following example is found in Ramon Adams's The Old-Time Cowhand:

"When scattered schools were established, and teachers imported from the East, the range-bred boy didn't have much respect for them wisdom-bringers because they were pilgrims. To 'im anybody that didn't savvy cows was a greener that couldn't teach a settin' hen to cluck" (p.13).

As a noun, the term refers to knowledge or understanding. It can be said of a person, "There's a heap of truth in that old sayin', 'Put a cowman afoot and he don't know a thing.' Yet the sayin' itself's a compliment to his savvy of hosses and cattle" (Adams, 1961, p. 12); or of a horse: "I was ridin' a big stout chestnut horse called Bob that had lots of cow savvy and was fast on his feet" (Green, p. 227).

Another Spanish verb that is used in English as a noun was pasear. As a noun it means a stroll, but is usually used ironically and refers to a fairly large distance: "Now, immediately after coming into possession of Payaso I made, for private reasons, a considerable pasear into the Devil's River country to the south and west" (Dobie, p. 123, emphasis mine). Finally, Hedges mentions rodear, which can be a verb, meaning to encircle or round up (the origin of the modern rodeo), or a noun, meaning a large herd of cattle.

Verb or Noun to Adjective
It has already been mentioned how the Spanish verb rodear could also serve as a noun, meaning a large herd of cattle. Another noun that came from rodear was "rodeo," which is a competitive event at which cowboys show their riding and roping skills. "Cinchy" is an adjective that comes from "cinch"; it refers to a horse that is sensitive to the saddle and difficult to ride: "He saddled him in the corral, and as soon as his cinch went tight, ol' Prescot went up in the air and over on his back. 'Kinda cinchy, ain't he?" was all that Dean had to say" (Hedges, p. 259). "Bronc" is also used as an adjective, referring to the disposition of a horse: "A snubbin' post is used when you rope a bronc horse or bad cattle and need to draw them up tight in order to do something to them" (Green, p. 179).

Attributives
In English, nearly any noun can become an adjective, which allows for formations such as "mana manner," which is found in Dobie's A Vaquero of the Brush Country: "He was deep in the joys of constructing, purely in an imaginative and mana manner, a ten-storied marble hotel at San Antonio for the use of old time trail drivers and the cattle people of generations to come" (p. xi). English also allows for nouns to be used as adjectives, without necessarily losing their classification as nouns, as in the combinations "ice cream cone" and "basketball team." In these examples the nouns "ice cream" and "basketball" serve to
modify other nouns, "cone" and "team." Spanish allows for this type of modification very infrequently. However, some Spanish nouns, after being integrated into English could be used to modify other nouns. "Rodear" and "rodeo" came to be used in this way, as in the "rodeo circuit," "rodeo boys," and the "rodear ground" (Hedges, 207). Similarly, the noun "cinch" and the verb "dally" serve as modifiers in constructions such as "cinch leather" and "dally rubber."

**Semantic Changes**

This section will discuss the semantic changes that many hispanicisms underwent after their adoption into English. The metaphorical use of "corral" has already been mentioned, where it comes to mean to corner a horse or a person. In addition to adopting metaphorical uses, Spanish terms adopted into English came to be used in redundant constructions and even produced new words with new meanings. All of these semantic changes indicated that the term in question had been completely integrated into the English language and was at that point subject to all of the possible transformations of the language.

**Figurative uses**

The cowboy's language is full of colorful comparisons and metaphors. In fact, the cowboy's unique and picturesque style of language has been the subject of books, such as *The Cowman Says it Salty* by Ramón Adams and *Happy Trails: A Dictionary of Western Expressions* by Hendrickson. The use of hispanicisms in metaphors shows their integration into his language. The verb "to cinch" is sometimes used metaphorically, as mentioned in a previous section. A new form, "to uncinch," also has a metaphorical meaning. In the following example, Adams (1961) refers to the cowboy's flair for profanity: "When he uncinched this talent and turned 'er loose, he was a top hand at it, and had mighty few equals" (p. 24). A cavvy refers to a herd of horses, but Ramon Adams makes reference to the "cavvy of graybacks" (fleas) that a cowboy might inherit if he wasn't careful about his hygiene (p. 71). Kelton uses the verb "to wrangle" to mean to argue: "Breed was a small matter, something to josh a competitor about -- like wrangling over Fords and Chevrolets" (p. 278). A "dally" is one turn of the rope around the saddle horn to keep a roped animal in place. Adams talks of a "dally" of the tongue that keeps a cowman's temper in place: "It was the greener's ignorance that made the range man hobble his lip and put a dally on his tongue: because the first time he said somethin' 'round a tenderfoot a herd of questions came foggin' his way" (1961, p. 18). A cowboy who liked to practice his quick draw was said to have the "pronto bug" (Adams, 187). One of the most colorful metaphors used by cowboys was that of the verb "to pecos": "To 'pecos' a man one shot him and rolled his body into the river -- the one river that drained an empire" (Dobie, p. 275).

**Redundant Constructions**

The topic of redundant forms falls under the section on categorical change, as well as under the section on semantic change. The hispanicism in such forms was generally a noun that had been converted into an adjective. As such, it became a modifier that referred to a specific variety of thing, rather than the thing itself. For example, *grama* is a Spanish term for grass. In the redundant formation "*grama* grass," however, it refers to a specific type of grass.
and distinguishes it from other varieties, such as "buffalo grass" (L'Amour, p. 22). Sometimes redundant forms do not imply a change in meaning, such as "wild mustang horse" and "lariat rope" (Erickson, p. 16).

New words (derivations)
A third source of proof that a Spanish word has been integrated into English is its propensity to produce new forms. For instance, the noun "stampede" led to the transitive verb "to stampede," from which the agent noun *stampeder* derives: "There was always some old "stampeder" or two layin' out on the fringe lookin' for boogers" (Adams, 1961, p. 36). A "mustanger" is a man who hunts mustangs. A "semi-bronc" is a bronc that is somewhat manageable, but still fairly wild (Adams, 1961, p. 247). The verb form of "cinch" produced the adjective "cinchy" (Hedges, p. 259), the verb "to uncinch" (Adams, p. 24) and the verb "recinch" (Adams, p. 248). "Locoed" derives from loco, as in "loco weed."

Conclusion
This paper has presented a detailed, but by no means exhaustive, list of Spanish terms found in cowboy English literature from the 1800s to the present. The categorical and semantic changes experienced by many of the terms have been explained. These changes indicate the degree of integration of a term into the English language. Further proof of this high level of integration is the fact that some terms have become so altered from their original Spanish form and so frequent in English that their origin is not ordinarily recognized by cowboys or other English speakers. (1971. The Cowman Says it Salty. Tucson, Arizona: University of Arizona Press.)

The use of such interviews, including acceptability judgments from the interviewees, would be an excellent addition to a future study because they would lend a current viewpoint to the study and they would enable the analysis of phonetic changes.

Note: An abridged version of this paper has been printed in *La Marca Hispánica*, a journal published by the Department of Spanish and Portuguese of Brigham Young University. This paper differs from that version in several aspects, including the incorporation of the section on innovations.

Works Cited


The 'Imperfective-Paradox' Paradox and other Problems with the Semantics of the Progressive Aspect

Stefan Engelberg

This paper is about the meaning of the progressive aspect, of which it has been notoriously difficult to give a satisfying account. A number of intriguing properties of its meaning were first brought out in formal semantic treatments. An event-semantics approach to the progressive that integrates concepts of normality and perspective as well as adequate lexical representations seems to be particularly promising. In section 1 I will present several problems connected with the semantics of the progressive that are crucial for shaping its truth conditions. Several solutions to these problems that have been suggested in the literature will be discussed. In section 2 I will sketch a preliminary account of the meaning of the progressive aspect. In section 2.1 the basic components that underlie the truth conditions of the progressive will be described. In section 2.2 I will present underlying lexical assumptions and the truth conditions for the progressive. Finally, in section 2.3, I will evaluate the proposal by revisiting the problems discussed.

1 Seven problems out of many

The imperfective paradox: One of the widespread traditional ideas about the meaning of the progressive conveys that sentences in the progressive aspect refer to events in progress, i.e., events that are not yet completed. This can be illustrated by a very simple scenario:

Scenario A: Rebecca stepped onto the street, walked towards the other side (t^A), and reached the sidewalk.

While this scenario can be described by a sentence in the simple past (1a), the event in progress at reference time t^A can be referred to by a sentence in the progressive, as in (1b).

(1) a. Rebecca crossed the street
    b. Rebecca was crossing the street

This leads to a very straightforward idea that has been formulated in terms of interval semantics by Bennett and Partee (1972) and that can be rendered in event semantics as in P1:

(P1) The Extensional Approach

PROG(p) is true if the event e described by PROG(p) is part of an event e' described by p.

P1 requires that the sentence in the simple form p be true in order for the progressive sentence PROG(p) to be true. But this is wrong. Another simple scenario shows that this condition does not, in fact, hold:

Scenario B: Rebecca stepped onto the street, walked towards the other side (t^B) when she stumbled over a pothole and hurt her leg so badly she didn't reach the sidewalk on the that other side.
We can still use (1b) to refer to this situation, which shows that the event does not have to culminate to make the progressive sentence true. This observation involves the well-known imperfective paradox (cf. Dowty 1979:146): With non-resultative verbs, the progressive sentence entails the sentence in the simple form (2a), while this is not the case for resultative verbs (2b), i.e., verbs that are lexically marked for a specific result state.

(2) a. [Rebecca was pushing the cart \[\rightarrow\] Rebecca pushed the cart]
   b. [Rebecca was crossing the street \[\rightarrow\] Rebecca crossed the street]

This has led most aspectologists to assume that some kind of intensionality is involved in the meaning of the progressive. Thus, Dowty (1979) provides us with an intensional version of P1, making use of the notion of "inertia worlds" which can "be thought of as worlds which are exactly like the given world up to the time in question and in which the future course of events after this time develops in ways most compatible with the past course of events." (Dowty 1979:148). In event semantics, his approach approximately amounts to the following:

(P2) The Normality Approach

PROG(p) is true iff in all inertia worlds the event e described by PROG(p) is part of an event e' described by p.

Thus, according to P2, to evaluate the truth of a sentence in the progressive we just have to look at those worlds where everything proceeds normally.

The interruption problem: Still, P2 cannot deal with numerous cases. To show this, we have to bring Rebecca into another unpleasant situation (cf. Vlach 1981:285f):

Scenario C: Rebecca stepped onto the street, walked towards the other side very inattentively \( (r^p) \) while nearby a bus was approaching her driven by a very inattentive driver.

If everything proceeds as can be expected from this course of events, the bus will hit Rebecca so that she won't reach the other side. Thus, P2 predicts that (1a) is false under this scenario, but it is not. An interruption coming from outside the event we are referring to, no matter if it could be expected or not, does not affect the truth of the progressive sentence. This leads Vlach (1981:288) to base the truth conditions for the progressive on the possible continuation of the event referred to:

(P3) The Continuity Approach

PROG(p) is true iff, in those worlds where the event e described by PROG(p) continues after the reference time of PROG(p), e will be a part of an event e' described by p.

The restriction in P3 allows us to do away with the bus in Scenario C and just look at those worlds where the walking event continues beyond the point where it got interrupted in the actual world. But Landman (1992:12) observed that the event might have continued beyond this point but then got interrupted a couple of seconds later because there was a second bus coming down the street. According to P3, the progressive sentence should now be false, but it is not. Thus, Landman (1992:12) suggested that to improve P3, the condition
The 'Imperfective-Paradox' Paradox

should include that \( e \) continues beyond any possible interruption.

**The impossibility problem:** The truth conditions in P3, even in their improved version, still cannot cope with another problem, as Landman (1992) observed.

**Scenario D:** Rebecca was on the beach near Bristol, England. She went swimming and swam a couple hundred yards towards the west \((r^R)\).

We can assume that if Rebecca continues what she is doing at \( r^R \) beyond that time and the sharks don't get her, she will end up in Newfoundland eventually. According to P3, the sentence *Rebecca was crossing the Atlantic* should be time under this scenario, but it obviously is not. It seems that if there is hardly any chance that the event culminates, the idea of its uninterrupted continuation does not license the progressive. Therefore, Landman (1992:25) tries to make the concept of "a reasonable chance on the basis of what is internal to \( e \) in \( w \)" part of the truth conditions of the progressive. A greatly simplified version of this is given in P4:

**P4** The reasonable-chance approach

\[ \text{PROG}(p) \text{ is time iff, in those worlds where there are no event-external interruptions, the event } e \text{ described by PROG}(p) \text{ has a reasonable chance to be part of an event } e' \text{ described by } p. \]

**The intention problem:** P4 still does not say what distinguishes 'event-external' from 'event-internal' and what counts as a reasonable chance (cf. Glasbey 1996:334).

Consider the following situation:

**Scenario E:** (adapted from Asher 1992:477): Rebecca, who was very depressed at the time, wanted to commit suicide and therefore stepped onto the street and walked towards the other side \((r^R)\) in order to get hit by a bus in the middle of the street.

Under this scenario, (1a) is inappropriate. To make an agentive progressive sentence true, the agent should not intend that the event does not culminate. Landman (1992) probably would say that if Rebecca does not even intend to cross the street, the event is not very likely to culminate. In this case, (1a) would correctly be predicted as false. But Landman does not discuss this problem. Naumann and Piñón (1997) try to account for the intention problem more directly and assume that for a sentence in the progressive to be true, the possible agent of the event referred to must - at reference time - be able to bring the event to its culmination and may not intend to not carry out the whole event. Somewhat simplified, their approach looks like this:

**P5** The intention-and-ability approach

\[ \text{PROG}(p) \text{ is time iff there is a world } w \text{ where the event } e \text{ described by PROG}(p) \text{ is part of an event } e' \text{ described by } p, \text{ and iff the agent (if there is one) is able to bring } e \text{ to a culmination and does not intend the non-culmination of } e. \]

But this seems to be too strict. According to P5, the sentences in (3) should be impossible since it is explicitly expressed that the agent intends the non-culmination of the event, but they are not. Intention seems to be an important parameter in the truth conditions of the progressive, but it is not a necessary condition for agentive progressive sentences.
(3) a. John intended not to kill Rebecca, but, nutritionally ignorant, he was killing her by feeding her too much tasty, but greasy, food

b. Although she really intended not to do it, she was making him a millionaire by placing all his money on the skinniest nag at the races

The perspective problem: Another problem is brought up by Landman (1992:30f) in the appendix of his paper. It is illustrated by the following scenario:

Scenario F: Rebecca was on a plane to Boston, which had started at nine o'clock; at ten o'clock, hijackers forced the captain to fly to Bismarck, North Dakota, where the plane landed at eleven o'clock.

Under this scenario we can truthfully utter not only (4a), but also (4b). This is surprising, since according to the semantics of negation, either \( p \) or \( \neg p \) should be true, but not both. This cannot be explained by any of the approaches discussed.

(4) a. Rebecca was flying to Boston when the plane was hijacked

b. Rebecca was flying to Boston; well, in fact, she wasn't, she was flying to Bismarck, but she didn't know that at the time

It seems that in (4a) we adopt a perspective that is different from the one we choose in (4b). In (4a) the actual outcome of the event does not play a role; I will call this the 'intensional perspective.' (4b), in contrast, is viewed as if from a later point of view. It takes the outcome of the event in the actual world into consideration; I will call this the 'extensional perspective.'

The 'imperfective-paradox' paradox:
Among the problems that one comes across when thinking about the progressive is a problem which is of a more lexical nature (cf. Engelberg 1998:308ff):

Scenario G: In court, the judge examines a witness; it is known that the witness observed all the incidents relevant to the case in question (from at least five o'clock to five fifteen) ...

Ignorant judge: "What was happening at five o'clock?"

Omniscient witness: "I was standing at the window at five and I saw that Rebecca was killing Jamaal while Linda was drying her hair."

... (Scenario G1) At five fifteen Jamaal was dead and meanwhile (because her hairdryer had broken or she had just decided to do so) Linda had stopped drying her hair, which was still pretty wet.

... (Scenario G2) At five fifteen Linda's hair was dry and Jamaal wasn't dead, since Rebecca had stopped strangling him (because the rope had broken or she had changed her mind).

Under scenario G1, the witness told the truth; he didn't commit himself to the claim that Linda dried her hair completely. But under scenario G2 we cannot accept his testimony that Rebecca was killing Jamaal, since he knew that Jamaal survived. The expected imperfective paradox doesn't show up, since we tend to conclude that Jamaal was dead afterwards. This is the 'imperfective-paradox' paradox. The
The 'Imperfective-Paradox' Paradox

following examples show that the denial of the event's culmination is nearly impossible for the progressive of some verbs:

(5) a. At five, Linda was drying her hair; but in the end, it wasn't completely dry.
   b. ??At five, Rebecca was killing Jamaal; but in the end, he wasn't dead.
   c. At five, she was crossing the Red Square; but in the end, she hadn't completely crossed it.
   d. ??At five, she was burning down the house; but in the end, she hadn't burnt it down.

The 'complex-event' problem: The last problem I want to discuss briefly shows up with verbs denoting causative events.

Scenario H: Jamaal was attacking Rebecca with a knife and stabbed her a couple of times (t^R_1), whereupon Rebecca collapsed; lying on the floor (t^R_2), she died in a few minutes.

Referring to the reference time t^R_1 sentence (6a) is perfect, while the same sentence uttered with respect to t^R_2 is false. According to the approaches discussed so far, this is unexpected. If we assume that to kill means something like 'cause to die,' what is happening at t^R_2 is part of the event described in (6b). For causative verbs whose causing subevent precedes the caused subevent, the progressive has to be related to the first, causing subevent.

(6) a. Jamaal was killing Rebecca
   b. Jamaal killed Rebecca

2 The meaning of the progressive aspect

2.1 The ingredients

Mereological relations: The truth conditions should express that the event e described by PROG(p) is a part of an event e' described by p, where e' can occur in a non-actual world. A part should be understood as a 'natural part,' which is not a mere temporal stage but something whose particular properties allow it to be delineated from other units. For example, a particular baseball game has as its parts a particular homerun, a particular catch, or a particular fast ball. Any natural part of an event is a subevent, i.e., an event itself which is temporally related to all other subevents. With respect to events referred to by causative verbs like to dry, a causing event (i.e., the action performed by the agent on the theme entity) and a caused event (i.e., the theme entity becoming dry) can be distinguished as immediate subevents (see section 2.2).

The interruption condition: In section 1 it was shown that certain kinds of external interruptions must be abstracted away from when judging the truth of a progressive sentence. The following scenario (adapted from Asher 1992) will show that Landman's (1992) vague idea of what is internal to the event is too generous.

Scenario I: Rebecca stood in front of a huge minefield, started walking, and walked about 50 yards into the minefield (t^R).

Under this scenario, the sentence Rebecca is crossing the minefield should be odd, since i) it is almost impossible that Rebecca
complete her crossing and ii) what is happening with the minefield (e.g. exploding mines) can be considered event-internal because the minefield occupies an event-related argument position. But most speakers find the sentence acceptable. Thus, a more restricted notion of what is internal to the event seems to be in order. I will assume that only so-called 'agent-internal interruptions' affect the truth of the progressive. These agent-internal interruptions have their origin in the immediate domain of the proto-agent; they include wrong or missing intentions and abilities or sudden changes in intention, ability, or physical structure of the agent. All other interruptions are considered external, e.g., the bus in scenario C and the exploding mines in scenario I.

The normality condition: Having abstracted away from external interruptions, the culmination of the event has to be modally restricted in a certain way to make the progressive sentence true. Some have suggested that the culmination has to be possible (Glasbey 1996, Naumann and Piñón 1997), some have assumed that there has to be a reasonable chance of culmination (Landman 1992), and other approaches might even imply that the culmination has to be probable to make the progressive true. I'm not quite sure if a mere possibility condition might be too weak, but a probability condition is definitely too strong:

\[ \text{Scenario J: Jamaal was participating in an amateur tightrope-walking contest. He usually falls off the rope three out of four times. He started walking on the rope that was tightened across the arena and took a couple of steps \( t^R \).} \]

This scenario can be easily referred to with Jamaal was crossing the arena, showing that even if it is only remotely possible that the crossing is completed, the progressive can be used. For the time being, I will assume that the modal part just says that, external interruptions aside, the completion of the event must be possible.

Perspective: The truth of a sentence in the progressive has to be evaluated with respect to perspective. To keep things as simple as possible, I will assume that there are just two perspectives, an extensional one and an intensional one, where the choice of a perspective is determined by semantic and pragmatic factors. We can conceive perspectives as functions from events to sets of worlds. The extensional perspective (i) assigns the actual world to the event, the intensional perspective (ii), and assigns to the event all worlds in which the event is not externally interrupted:

\[ (7) \quad \begin{align*}
\text{a. } & \text{Pers}^{\text{EXT}}(e) = \{ w^0 \} \\
\text{b. } & \text{Pers}^{\text{INT}}(e) = \{ w \mid e \text{ is not =stopped in } w \text{ by agent-external interruptions} \}
\end{align*} \]

2.2 The recipe

Lexical entries: As section 1 has shown, the lexical influence on the interpretation of sentences in the progressive has to be taken into consideration. With some verbs (to kill, to burn down), the result state is somehow prominent. These verbs evoke the 'imperfective-paradox' paradox. Furthermore, with verbs like to kill which involve more than one subevent, the progressive is related to the first subevent. I will therefore assume that the meaning of
verbs is expressed by lexical-event structures that capture these differences. Lexical-event structures contain variables for \( e' \) and \( e^2 \) as subevents, \( s \) as a result state, '*' as an indicator of a prominent result state, '<' as a temporal precedence relation, and '<>' as a relation of temporal overlap.\(^{12}\)

(8) a. to kill: \( e_1 \langle/\rangle_{\text{CAUSE}} e^2 < s^* \)
    b. to cross: \( e_1 < s \)

(8a), for example, expresses that a killing involves a first causing subevent (the agent acting upon the theme), a second temporally parallel or following caused subevent (the theme referent dying) and a result state (the being dead of the theme referent). This result state is marked as prominent.\(^{13}\) The meaning of this notion is admittedly vague. I suspect that either causative verbs that are rather unspecific with respect to the activities in the first subevent, or verbs with resultative particles involve prominent result states. Thus, the prominence marker might turn out to be derivable from other lexical information.

**Truth conditions:** As a starting point for a more refined theory of the progressive, I will assume that the progressive is a three-place relation PROG\((e,E,Persp)\) with the following truth conditions:

(P6) **The perspective approach**

PROG\((e,E,Persp)\) is true iff

(i) there is an event \( e' \) and a world \( w \) \( \uparrow \) \( Persp(e) \) such that \( e' \) occurs in \( w \) and \( e \) is a part of \( e' \);

(ii) \( e \) is of event-type \( E \) where \( E \) is the VP translation and is associated with its lexically projected event structure \( LES_E \),

(iii) \( e \) occurs in the actual world \( w^0 \) at reference time \( r^8 \) and has all of the properties that are specified in \( LES^E \) for the first subevent of \( e' \).

**Choice of perspective:** Finally, I will give a list of the semantic and pragmatic factors that determine the choice of perspective. In some cases, one perspective is forced; in other cases, both are equally available. The following list is not meant to be complete: We tend to choose \( Persp^{\text{EXT}} \) i) if the outcome of the event is conversationally relevant, ii) if adverbials like *in fact* or *actually* occur\(^{14}\), iii) if the lexically specified result state is prominent, and iv) if it is known that the event culminates. We tend to choose \( Persp^{\text{INT}} \) i) if the outcome of the event is not relevant, ii) if there is no information about the further course of the event available, and iii) probably by default.

### 2.3 Conclusion - the problems revisited

The preceding ideas are not meant to be a theory of the progressive. They rather serve to identify the components that have to go into the semantics of the progressive. A strict formalization of this idea is still another matter.\(^{15}\) Nevertheless, something like P6 seems to be on the right track to solve the problems discussed in section 1: the imperfective paradox does not occur because of \( Persp^{\text{INT}} \). The interruption problem is solved by integrating interruption in the perspective functions and by sharpening the border between internal and external interruptions. The impossibility problem is done away with by having introduced a possibility condition into the truth conditions. The intention problem does not occur because on the one hand, wrong or changed intentions are considered internal interruptions, and on the other hand, if there is a denial of the intention to bring the event to a culmination, the extensional perspective
is chosen. The perspective problem is solved by evaluating the truth of progressive sentences relative to a perspective. And finally, appropriate lexical representations help to solve the 'imperfective-paradox' paradox and the complex-event problem, the former because prominent result states trigger $Persp^{EXT}$, the latter because of the introduction of condition (ii) in the truth conditions.

One last remark: I know I put Rebecca through a hard time. For those of you who are worrying about her, let me tell you one thing: she's absolutely fine; right now, she's crossing the New Jersey Turnpike during rush hour.

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End Notes

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2To make these different approaches comparable, I will rephrase them in terms of event semantics. Since these reformulations are, of course, not straightforward translations of the original proposals, the criticisms may not always carry over to the original approaches.

3More precisely, the truth conditions Naumann and Piñón (1997) give require that
The 'Imperfective-Paradox' Paradox

the speaker believe that the agent does not intend the non-culmination of the event, but even for this version the sentences in (3) are counterexamples.

\(^4\)Cf. also Bononi (1997) for more refined examples of the perspective problem.

\(^5\)Asher (1992) and Glasbey (1996) employ different concepts of 'perspective' that I don't have space to discuss here.

\(^6\)There is an emphatic reading in which it is understood that the killing is not completed (I had to interfere; I mean, she was killing him!) which we also get for sentences in the simple future (She will kill him, I have to interfere!). Both have to be interpreted counterfactually.

\(^7\)I use the term 'proto-agent' in the sense of Dowty (1991). It refers to the event-participant that has the most agentive properties. A proto-agent is not necessarily an animated being.

\(^8\)It is not quite clear if a reasonable chance is at all different from mere possibility.

\(^9\)Asher (1992) assumes a default implication relation between the simple and the progressive sentence, which in some cases amounts to a probability condition (cf. Glasbey 1996).

\(^10\)Cf. also the examples in Bonomi (1997:187).

\(^11\)I'm aware that this is too simple. In particular, the problem of incompatible result states has to be taken into the consideration (c.f., e.g., Dowty 1979. Naumann and Piñon 1997): Referring to a falling coin, both sentences the coin is coming up heads and the coin is coming up tails are odd. The progressive does not seem to be possible if it refers to an event that is part of several equally probably culminations of events.

\(^12\)These are only partial event structures. Information about semantic relations, temporal and other properties of subevents is left out here. For an overview of this lexical event structure theory, cf. Engelberg (1999), and for a more thorough presentation of the theory, c.f. Engelberg (1998).

\(^13\)For different purposes, Pustejovsky (1995:72) employs a similar concept, head of an event, which he relates to the notion of foregrounding.

\(^14\)Under scenario C, these adverbials even allow one to refer to a miraculous completion of the event; c.f. the following example sentence from Landman (1992:30): I would never have believed it at the time, but she was actually crossing the Atlantic.

\(^15\)For limits of space, I have not discussed some recent approaches to the progressive like Asher (1992), Glasbey (1996), and Bonomi (1997), which do not change the overall picture of the problems we are confronted with very much, but rather provide interesting formalizations of the ideas of perspective, interruptions, and normally using, e.g., non-monotonic reasoning or channel theory. In particular, Bonomi's (1997) promising conception of event stereotypes deserves a more thorough treatment than I can give here.
New Perspectives in Nauruan Phonology

Lisa Johnson

In the corpus of research in Austronesian linguistics, serious study of the Nauruan language is conspicuously scarce. Though it is considered Oceanic, the exact genealogy of the language, spoken only on the Central Pacific island of Nauru, is still in question. Some have grouped it in the Micronesian family (Nathan, 1973), but Nauruan data only rarely appear in the literature on Micronesian languages (Bender 1973, for example). (See Figure 1 for the Ethnologue classification information.) In fact, any data on the language is difficult to find. The most comprehensive study of the language was completed in 1936 by a Catholic missionary. In fact, all early attempts to document the language or put it into writing were performed by missionaries from the Protestant and Catholic missions on the island. In the 1970’s, researchers at the University of Hawaii began studies with Nauruan informants. The results of their work include an article about the history of the language (Nathan, 1973) and an unpublished, non-circulating Survey of Nauruan Phonology.

The few publications in the Nauruan language give little information about Nauruan phonology. Attempts to standardize spelling (Kayser, 1936) have not been completely successful and at the present date, the Nauruan Language Bureau is still struggling to produce a Nauruan-English Dictionary. Even educated Nauruan speakers, with excellent command of both their native language and English, have difficulty reading printed Nauruan.

The primary purpose of this paper is to identify the sounds upon which the Nauruan language depends. The research is based on an analysis of written Nauruan texts, a discussion of previous studies, and work with native informants. After establishing basic principles underlying Nauruan phonology, I will identify areas requiring further research.

Method
The comparison of orthographic systems is based on the analysis of six texts, each employing a different system. The texts were compared with respect to number and type of graphemes, as well as to the frequency with which the graphemes were employed. Two texts provided the starting point for the research into Nauruan phonemics and phonetics: Kayser’s Grammar (1936), and Nathan’s “Nauruan in Austronesian Language Family” (1973). My own research with native informants consisted of interviews with seven adult speakers: two male and five female. All seven did not participate in every aspect of the study; rather, they contributed on a rotating basis, with two or three present and participating at any given time. The interviews were recorded in on-site notes and on video tape, though no instrumental analysis was done. The collected data fall into three categories:

1. In-depth discussion of individual sound segments and words containing those segments. The basis for this discussion was the list of sounds (and words exemplifying those sounds) included in Kayser’s Grammar. Other important data came from the informants themselves.
2. Pronunciation of words in isolation.
Two speakers at a time (three total) read the 215 words from the Basic Vocabulary section of the Swadesh List. Each speaker read each word twice.

3. Reading of texts containing full sentences. The texts included a passage from the New Testament (Matthew 5:14) and a story written as a primer for use in elementary schools.

Notes on Orthography
The earliest written texts in Nauruan—including hymnals, primers, Bible stories, and finally, the entire Bible—were produced by Christian missionaries early in the twentieth century. One of those missionaries, Deleporte, also published a Nauruan-German dictionary, which has since been translated into English (Trussel). In 1938, the Nauruan Language Committee attempted to standardize Nauruan spelling, but other texts published since that time do not always conform to the guidelines established by the committee. The spelling system in the Bible is still a sentimental favorite because of the impact of the book itself.

The six texts compared for this study are listed below.

1. Deleporte’s dictionary (Trussel).
2. Nauruan Swadesh list (Trussel).
3. List of words from Solange Petit-Skinner’s *The Nauруans* (Trussel).
5. Deleporte’s translation of the Bible.

Figure 2 shows the graphemes employed by each system. What I consider “rare” characters are enclosed in parentheses. A character is “rare” if it occurs only in loan words or in very low frequency. The character inventory and frequency for the dictionary is based on the distribution chart provided by Trussel with his English translation. The characters and frequencies for the Swadesh list, Petit-Skinner’s list, and the Bible Society stories come from my own exact counts. Since the length of the Bible precludes any exact count in a study of this scope, the information for that source is based on observation. No parentheses are included in the Language Committee column, since that source contains only recommendations on spelling, not actual text.

The first sixteen lines of the table illustrate a great deal of agreement in the representation of consonants. The consonants in the middle of the table—mostly rare—illustrate an attempt to provide a phonetic representation of allophonic variation. The proliferation of vowels in the table underscores the difficulty in classifying Nauruan sounds.

Phonemic Inventory
As the comparison of the orthographic systems demonstrates, the sounds of Nauruan are many and difficult to classify. In Nathan’s words:

From the outset let me state that Nauruan is an extremely difficult language to work with particularly with regard to the phonology. Pinning down the phonetics has been a particularly exasperating problem, while conditioning allophones has also proved a troublesome task. . . . Phonetically, Nauruan is one of the most difficult languages I have ever encountered. It has a number of phones
they don’t teach one about in phonetics class, one of which has escaped my analysis to this day. I think I can place it phonemically, but I can neither describe nor produce it to my or my informant’s satisfaction (1973).

I share Nathan’s frustration with the sounds of the Nauruan language. Though I have composed a list of proposed phonemes, there are many issues I have left unresolved. I consider this list a springboard for further research. Following each phoneme or set in the list is an analysis of previous research, as well as my evidence for the phonemes I have proposed. Minimal pairs and a discussion of allophones are included where available and pertinent.

Stops
Nauruan includes labial, dental, velar, and uvular stops. This section includes a general description of all stops, as well as special rules with more limited scope.

Aspiration
No stops are aspirated. Plain stops are found in all positions

/tuko/ to come
/kæwiit/ to bite

Unrelease
Final stops tend to be unreleased.

[kæmiít ] to bite
[owak ] big

Lenition
Kayser describes the stops /k/, /p/, and /t/ as being “slightly softer than in English” (1936, pg. 1). The exact nature of the “softness” remains to be determined. According to one informant, the soft /t/ in [jetl] is pronounced with the tongue actually between the teeth, and not on the alveolar ridge. Another example of a soft or light consonant comes from the word ebe, meaning hand. For some speakers, this stop is actually realized as a bilabial fricative: [eβe].

Voicing
The voicing of stops is a controversial issue in Nauruan. In 1938, the Nauruan Language Committee wrote, “The slight modern tendency to change terminal d to t (e.g., et for ed), is not to be recognized, since it is not universally used or favoured amongst Nauruans” (Kayser, 1936). The document also includes similar notes about final “g” and “p.” The end of the document contains a list of proper nouns written in the “new,” recommended orthography. Of the words with final stops, eleven have a voiced stop, and only two have a voiceless. Of the two, one was a borrowed word containing other spelling anomalies (Ishariot), and the other was used as an example of a different change in spelling convention, the deletion of the w in the word ouak (previously ouwak). (When speaking the final sound in this last example, one informant told me that it sounds “almost like a ‘g.’”) Because of insufficient data, it is unclear if the committee was trying to preserve a distinction between voiced and voiceless stops in word-final position, or if they were trying to say that all word-final stops should be considered voiced.

Both Kayser and Nathan include voiced and voiceless stops in their inventories. According to Kayser, the voiceless varieties tend to sound like the voiced counterparts, “even in words, derived from the same root” (1936). As evidence, he sites the following data:

katuk (to tie very fast)
kadugen (he now ties very fast)
kadugien (he has tied it very fast)

On the subject of voicing, Nathan explains that his inclusion of both voiced and voiceless stops was in deference to traditional orthography. In his opinion, the traditional “voiceless” stops are probably geminates (1973). I have found evidence for this view in the following minimal pair:

[eːbe] (sometimes [eːβe]) ebe
(hand) [eːppe] (stone)

Following Nathan, I propose one underlying stop for each point of articulation: /p/, /t/, /k/, and /q/. The voiced alternant (/b/, /d/, /g/, but no voiced uvular) may appear intervocally.

[ibɪɡibɪɡi] grass
[ɛbadeːjɪ] smoke

The “voiceless” stop is actually a geminate stop:

[bittiːne] this
[bitta] that

Although voiceless stops do appear word initially in the orthography, their presence could be explained by a misperception by foreign speakers. Not hearing the aspiration, these foreigners may have assumed the stop was voiceless. Examination of the loan word for butter provides a good example. Although it is traditionally spelled “bata,” reflecting the voiced /b/ and voiceless /t/ of English, the Nauruan pronunciation, [pudu], reflects the opposite voicing distinctions. According to one informant, the initial sound is “almost like p.”

In response to the Language Committee’s assertion that final stops should be spelled with a voiced consonant, we are left to wonder about their objection to the letters p, t, and k. Perhaps this latter set was undesirable because it did not accurately reflect the unreleased nature of word-final stops.

Secondary Features: Labialization and Palatalization

An important secondary feature of several Nauruan sounds is labialization. This rounding of the lips added to the labial stop produces the contrasting phoneme /pʷ/. The following minimal pair illustrates the distinction between the plain and labialized labials:

/aepaep/ to kill
/aepʷaepʷ/ to wave or beckon

Although Nauruan words also have a palatalized labial stop, this sound does not appear to be contrasting.

[iːbɪ] ashore
[ebɿak] water

Nasals

Nauruan has three nasal consonants: /m/, /n/, and /ŋ/. Like stops, word-final nasals are unreleased. The /ŋ/, like the /n/, can appear in syllable onsets as well as codas. This is an important difference between the Nauruan sound and its English equivalent.

/ŋabɛn/ his boss
Labialization and Palatalization of /m/

Like the labial stop, the labial nasal shows a contrasting, rounding feature. The following data, though not quite a minimal pair, illustrate the difference between the plain /m/ and the labialized /mʷ/:

/ʌ mʷæn/ he is clever
/e mæn/ or /ɪ mæn/ he is dead

The palatalized labial nasal is non-contrasting.

Liquids

Kayser and Nathan offer very different descriptions of Nauruan rhotics. Kayser describes the Nauruan r as having, “besides its ordinary pronunciation,” which we are left to interpret for ourselves, “a second one peculiar to the Nauruan language. To produce this sound, which seems to belong to the cerebral-dental class, the tip of the tongue is raised towards the fore-part of the palate” (1936, pg. 2). These two sounds (the normal one and the peculiar one) may correspond to the /ɾ/ phoneme described by Nathan as having two allophones, /ɾ/ and a flap (1973, pg. 482). Nathan’s other phoneme, called “barred r,” is even more difficult to classify. According to him, its “exact nature is unknown. It may be palatalized—or at least it may pattern like the palatalized stops. It sounds partially devoiced and appears to be quite fortis.” This may correspond to the trilled /ɾ/ both Kayser and native informants describe. The trilled /ɾ/ can be either short or long. For now, the long variety will be represented by a geminate ([ɾɾ]). The following words illustrate the long and short-trilled /ɾ/.

[ʌɾɾ ɾɾ ɾɾ] shore, beach
[ι:bur bur] white, or white person

The nuances in rhotics are very difficult for foreigners to acquire. One informant explains that Nauruan r’s differ in length, strength, and place of articulation. He describes one allophone as being in the front of the mouth with the tongue spread out and the air passing by the sides of the tongue. The lateral allophone he describes accounts for the rare presence of the letter “l” in four of the orthographic systems examined (see Figure 2).

[dilko] (meaning unknown)

Since it is still unclear which liquid sounds are contrasting, all liquid phonemes are currently represented by either /ɾ/ or /ɾɾ/.

Glides

Nauruan has two glides, /j/ and /w/. In onsets, these glides are usually pronounced as expected:

wanga [wɔŋga]
yan [jæn] in

In the coda, however, these segments are subject to certain changes. The final /j/ becomes a soft, palatal fricative.

mey [mɛj] or [mɛç] thick

In the speech of some people, this change has become more generalized, occurring in both the initial and medial positions.

/jɛt/ becomes [jɛt]

The letter w at the end of a word is realized in a completely unexpected sound. Instead of a back, rounded off-glide, the letter w at the end of a word represents a rounding,
then closing, of the mouth with air building up behind the lips. Phonetically, I've chosen to represent this sound as a voiceless \( m \) (\([m]\)), since it seems to approximate the sound best. In the phonemic transcription, I'm leaving the letter \( w \) until I can determine exactly what sound underlies it.

\[ \text{[totom]} \text{ to give} \]
\[ \text{[mi: \textit{Am}]} \text{ to fear} \]

\textit{Vowels}

Nauruan vowel sounds pose a particular problem. The sheer number of vowels in the Nauruan orthographic systems (Figure 2) demonstrates the difficulty others have had in identifying and classifying these sounds. Though the phonetic realizations of these sounds are numerous, I believe I can represent the phonemic inventory with the vowel chart in Figure 3.

\textit{Vowel Length}

As illustrated in Figure 3, Nauruan vowels can be either long or short. The short vowels are produced very fast and have a tendency to reduce more than long vowels.

Examples with long vowels:

\[ \text{[be:be:]} \text{ light (not heavy)} \]
\[ \text{[ete:nə]} \text{ ear} \]
\[ \text{[mi:mi:ç]} \text{ to sleep} \]

Here, long and short vowels are represented as phonemically contrasting, explaining the difference in the following pair of words:\(^2\):

\[ /e:be/ \text{ hand} \]
\[ /ebe:/ \text{ slow} \]

\textit{Vowel Reduction and Syncope}

Vowels are clearly reduced under certain circumstances. Some vowels reduce to schwa, and the \( /u/ \) may reduce to an \( [i] \).

\[ /\text{waŋa:}/ \text{[wəŋa:]} \]
\[ \text{gorūrū/} \text{gorəɾə}/ \text{[gɔɾɾə]} \text{ to float} \]

In some words, syncope leads to consonant clusters:

\[ /\text{awaran}/ \text{ root} \quad [\text{awarn}] \]
\[ /\text{eparajit}/ \text{ salt} \quad [\text{ebarjitət}] \]

Vowel length and stress undoubtedly play a role in lenition and syncope, but the exact rules are yet to be derived.

\textit{Assimilation}

Assimilation is a widespread phenomenon, affecting both consonants and vowels. Though some issues have been discussed in the sections on individual phonemes, other important assimilatory phenomena are discussed below.

\textit{Assimilation of Place}

Though assimilation of point of articulation may explain allophonic variation in consonants (e.g., explain some of the variation in pronunciation of /\( r \)/ and /\( n \)/), our primary concern here is the vowels. Two important rules apply:

\[ \text{(a) } [+\text{back}] \circ [-\text{back}] / \text{ C } \quad [+\text{coronal}] \]
\[ \text{(b) } /I/ \circ [-\text{front}] / \text{ C } \quad [+\text{round}] \]

According to rule (a), the back vowels /\( u/\) and /\( o/\) become central vowel [t] and the front vowel [t], respectively, when preceded
by /t/. According to rule (b), /l/ becomes the central vowel [H] when preceded by a labialized (sometimes called velarized) consonant, such as /pw/ or /mʷ/. Thus...

/dudu/ [kumød0d0] /papʷiˌi̯i̯/ become
[baru]tō water /kumedodo/ rat

[papʷiˌi̯i̯] Nasalization
Although Nauruan does have nasalized vowel segments, they don't appear to be contrasting. At least some can be explained by a process of assimilation. Preliminary research suggests that nasal assimilation can be both regressive and progressive, as illustrated by the examples below:

[jæn] in
[En̥ːnæː:] foot or leg

Since nasal vowels sometimes do appear without nasal consonants—such as in the word [e ], meaning yes,—it remains to be determined whether nasalization represents an underlying distinction, a process of assimilation (perhaps accompanied by subsequent nasal consonant deletion), or an idiosyncratic pronunciation.

Assibilation
The phoneme /t/ undergoes a regular, predictable change. This phenomenon is expressed in the following rule.

\[ t \rightarrow [+ \text{continuant}] / \_ \_ \_ I \]

The [+continuant] feature is manifested in several ways. The most basic allophone produced by this rule is the affricate [ts]. In fact, most spelling systems spell such words with a ts. In another variant, the [t] is lost altogether, leaving only the [s]. One final variant of the assimilated /t/ is the palatalized (non-strident) affricate [ʒ]. While a certain speaker may prefer any one of these variants, it should be noted that one of the three options always appears. Thus, /tim/ may be pronounced as...

[tim]
[sim]_
[ɕim]_
... but never as *[tim].

Other Phonological Issues
Defining the phonemic inventory, as in this paper, may lead to a better understanding of other phonological processes in Nauruan. Though these issues cannot be discussed completely in a paper of this scope, I will point out some observations and some areas requiring future research.

Stress
Although Nauruan stress has been described in fairly simple terms (Nathan, 1973), there is no general agreement about stress patterns in the literature. The rules presented by both Nathan and Kayser are summarized below.

Nathan’s rules:
1. Stress penultimate with final open syllables.
2. Stress final with most (but not all) final closed syllables.
3. Stress initial with reduplications (most of which are frozen).

Kayser’s rules:
1. Stress first syllable of disyllabic words.
2. For words with more than two syllables, stress the penult if it is long, or the antepenult if the penult is short.
3. For derived words, always stress the suffix.
4. Stress the prefixes o- and ka- in causative verbs.
5. Stress the “initial sound which constitutes the absolute form of substantive.”
6. Certain vowels have priority when stress is assigned to one of two adjacent vowels.

Except for a preference for stressing the penult, these sets of rules have very little in common.

The main problem in describing stress assignment arises from the problem of defining stress. Though it relates to some degree of prominence assigned to a particular segment, the exact nature of that “prominence” is elusive. According to Kenstowicz, typical phonetic features that indicate stress are the pitch contour and vowel or consonant length (1994). But when change in pitch contour and vowel length don’t coincide, which determines the stress?

Wolff claims that vowel length was probably the greatest correlate to stress in Proto-Austronesian (1993). He asserts that some roots were marked for a stressed penult, and some for a stressed final syllable. “Alternatively, we could analyze these as roots with a long-vowel penult or roots with a short penult. Which of the two analyses is correct is impossible to determine at this time” (Wolff, 1993, pg. 1). In a related article, Rehg asserts that stress and pitch are assigned independently of each other. He presents rules assigning stress and pitch contour for several Micronesian languages (Rehg, 1993). The problem of stress assignment will probably not be solved without further research into the issues of vowel length and pitch contour.

Structure
According to Rehg (1993), a more complex syllable structure is one thing that distinguishes Micronesian languages from Polynesian languages. In this respect, Nauruan appears to resemble languages in the Micronesian family. While the open syllables V and VC are the most common, the language does tolerate closed syllables under certain conditions.

1. monosyllabic words
2. word-final syllables
3. word-internal syllables that are products of reduplication or compounding.
4. words with geminate consonants, if the first of the geminate consonants is considered the coda of the preceding syllable, as in /in.nen/, his mother

Summary
This paper only scratches the surface of Nauruan phonology. But by describing the phonemic inventory of the language and explaining certain conditioned changes, I hope to lay the groundwork for future research projects. Areas of further study include vowel lenition, syllable structure, stress patterns and metrical theory, and reduplication.

Works Cited
New Perspectives in Nauruan Phonology


Imwien omo bwe dogum. Suva, Fiji: The Bible Society in the South Pacific.


Available: www.trussel.com/kir/naudel.htm


End Notes

1 Because lip rounding is accompanied by a simultaneous raising of the tongue toward the velum, labialization is also known as “velarization.”

2 Although vowel length offers a convenient explanation for the difference, another possible explanation, that of a stress contrast, cannot be ignored. Nathan, who also proposes an underlying contrast in vowel length, admits that “length may or may not be predictable but appears to be connected with stress” (1973). The connection between vowel length and stress will be addressed in greater detail below.

3 With further research, I may be able to generalize this rule to include other front vowels, as well.

4 I haven't heard this, though it certainly is possible. Another example, /tiranje/ (snake), pronounced sometimes as [siranje], illustrates the point.
Figure 1
*Nauruan in the Austronesian Language Family*

Austronesian, Malayo-Polynesian, Central-Eastern, Eastern Malayo Polynesian, Oceanic, Central-Eastern Oceanic, Remote Oceanic

![Diagram showing the relationship between Nauruan and other Austronesian languages.]
### Figure 2
*Comparison of Nauruan Orthographic Systems*

<table>
<thead>
<tr>
<th>(grapheme)</th>
<th>Deleporte Dictionary</th>
<th>Swadesh List</th>
<th>Petit-Skinner</th>
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1 This letter was omitted from list, but included in notes.
2 This symbol is actually a letter o with an overwritten apostrophe. (This symbol was probably selected because it was easy to type on a typewriter. On a computer, however, it is difficult to reproduce.)
3 Letter u with overwritten apostrophe. (See note 2 above.)
The NuclearTone of English Intransitives*

Yuichi Endo

The purpose of this paper is to propose the underlying stress contour of “Johnson died”-type intransitive sentences in English and to give a good explanation for a variety of stress alternation it takes in actual speech. The general framework to be used here is Chomsky’s minimal analysis (1995). As phrase structure, I assume VP-inernal hypothesis. My assertion implies that phrase stress is uniquely assigned by defining the constituent structure of the phrase.

1. Concept of Underlying Stress
Every word has a syllable that is pronounced stronger than the other syllables. In the word thirteen, word stress falls on the second syllable. This is the stress contour of thirteen in (1), when it is pronounced in isolation without any context. When it is used in actual speech with context, however, the situation changes. If (2) is used in a basketball game, stress would fall on the first syllable of thirteen, as well as fourteen. Assigning main stress to the second syllable of thirteen and fourteen would not help to make a clear distinction between them. (3) shows a eurhythmic stress alternation in the phrase. By moving s(trong) stress from the second syllable to the first in thirteen in (3), the sws stress pattern is more eurhythmic than wss, which shows clashing of stress.

(1) thirteen
(2) thirteen, fourteen
(3) thirteen men
(4a) and (4b) illustrate the different stress contours of phrasal category (i.e., noun phrase) and lexical category (i.e., compound noun). Stress falls on board in (4a) and on black in (4b). If context is considered, their unmarked stress forms may be changed. In (5), contrastive stress falls on black and blue, and so black is pronounced stronger than board in the noun phrase “a black board.” Also in (6), contrastive stress falls on the second part of the compound nouns, and so board carries strong stress in the compound noun “blackboard” in this particular context.

(4) a. [black bóard]NP
   b. [bláckboard]N
(5) I want a black board, not a blúe board. (cf. (4a))
(6) Did you say “blackb0ard” or “blackbird”? (cf. (4b))

2. The NSR and the Underlying Stress Contour of “Johnson Died”
It might be supposed that intransitive sentences in English also have the unmarked stress form and show a variety of stress alternations, depending on their contextual meaning in discourse. So what should be the underlying stress contour of “Johnson died”? Traditionally, the stress contour of English phrases and sentences has been explained by the so-called Nuclear Stress Rule (henceforth, NSR). (7a) is the NSR proposed by Chomsky and Halle (1968), which shows how [1 stress] on the right-hand word in a phrase remains as it is to the end of its derivation. (7b) is the NSR by Liberman and Prince (1977). In their metrical analysis, s(trong) stress is assigned...
to the right node of the tree diagram, so that they can get weak-stress contour. (7c) is the NSR by Halle and Vergnaud (1987). Their analysis is based on the theory of principles and parameters. The point is that their theory also mentions the right-headedness of the phrasal category.

(7) a. NSR (Chomsky and Halle, 1968, p. 90)
   \[ V \rightarrow [1 \text{stress}] / [\#X_1 \text{Y}_2] \]
   1 stress
   where Y contains no vowel with the feature [1 stress]

b. NSR (Liberman and Prince, 1977, p. 257)
   In a configuration [cAB]c:
   If c is a phrasal category, B is strong.

c. NSR (Halle and Vergnaud, 1987, p. 264)
   (i.) Parameter settings on line N
   \( N \geq 3 \) are [-BND, +HT, right]
   (ii.) Interpret boundaries of syntactic constituents composed of two or stressed words as metrical boundaries.
   (iii.) Locate the heads of line N constituents on line N+1.

However, a problem arises when it comes to the stress contour of “Johnson died”-type intransitive sentences. Contrary to the theoretical anticipation of the NSR’s, the linguistic fact is that strong stress falls on the subject of the sentence, but not in the second sentence. Namely, the unmarked stress form of “Johnson died” is considered to be (8a), but not (8b). And the problem seems to be that the unmarked stress form of (8a) does not observe the end-focus principle. So the topic I would like to discuss in this paper is the apparent peculiarity of the stress assignment of “Johnson died”-type intransitive sentences to propose the underlying stress form be obtained by defining their syntactic constituent structure.

(8) a. Jónson died.
   b. Johnson died.

3. Some Descriptive Approaches to the Stress Placement of “Johnson died”
According to Selkirk (1995, p. 559), (9a), (9b) (= (8a)), (10a), and (10b) can be answers to (11a) or can be embedded in the subordinate clause of (11b), each of them as a whole expressing new information. F in (11b) stands for the focus of the sentence.

(9) a. Jónson died.
   b. Jónson died. (= (8a))

(10) a. The sún came out.
    b. The sún came out.

(11) a. What’s been happening?
    b. I was only thinking that [. . . ]F

We see that stress accent falls only on the subject in (9b) and (10b) and on two words in (9a) and (10a) would be described as integrative, and (9a) and (10a) as non-integrative. In the above description by Selkirk, it is still not clear which pattern should be recognized as basic or underlying. She simply says both patterns are possible. According to Fabor, the stress pattern of eventives is integrative; that is, there is only one strong stress in a sentence, except when the eventives have human agentives. The non-integrative pattern, as is shown in (12(ii)-(vi)), is used in definitionals, contingency uses, allegoricals, hyperbolicals, and eventives with human agentives. Following (12), only (9b) would be
supposed to be the unmarked stress form of “Johnson died” because the sentence seems to belong to eventives in (12(I)) instead of in (12(vi)). In other words, the subject “Johnson” alone has the nuclear tone of this sentence in its unmarked pattern. In this framework, (9a) cannot be rival of (9b) as the underlying stress form of “Johnson died.”

(12) Integrative
(I) Eventives
(Except for (vi))

Non-integrative
(ii) Definitionals (e.g. Péguins swim.)
(iii) Contingency Uses (e.g. Tréspassers will be prosecuted.)
(iv) Allegorical (e.g. Time passed.)
(v) Hyperbolicals (e.g. My feet are freezing.)
(vi) Human agentives (e.g. Jésus wept.)

Schmerling (1976) compares (9a) with (9b) to conclude (9b) to be without any presupposition and focus. According to Schmerling, the stress contour of (13b) allows presupposition and focus based on knowledge about the events and happenings of the world, and (13a) does not. In (13b), “Truman” is considered to be the presupposition and “died” to be the focus. Cinque (1993, p.260) writes “As Schmerling recalls, when (13b) was uttered, President Truman had been written and spoken of by the news media for some time because of his ill health; so it was appropriate to consider him as part of the presupposition, whereas the news was the termination of his critical state. President Johnson, instead, died somewhat unexpectedly. He was not on people’s minds as Truman had been, so it would have been inappropriate to take him as part of the presupposition.”

(13) a. Johnson died. (= (8a)) (9b))
   b. Truman died. (cf. (8b))

This interpretation of (13) corresponds well with the observation that the unmarked stress contour of “Johnson died” is (8a (=9b)), but not (8b).

Concerning the end-focus stress of (13b) or the non-integrative stress pattern of (12(vi)), we will take a brief look at Quirk (1985). According to Quirk, constituents of a sentence are liable to be placed in observance of the order of communicative value. Namely, from the beginning to the end of a sentence, communicative value of the sentence constituents (i.e., the words) gradually tends to increase. In this sentence, constituents of intransitive sentences are insufficient in number. From the viewpoint of communicative dynamism, (14a) and (15a) require some more words with new information after the verbs. (14a) and (15b) are more stable in construction.

(14) a. Mary sang.
   b. Mary sang for hours.
(15) a. My friend cooked.
   b. My friend cooked enthusiastically.

It is noteworthy that Fabor and Quirk set different unmarked terms for (12(vi))-type eventives. This is another issue to be dealt with. In this paper, however, I will not go into these details. Going back to Selkirk’s (9a) and (9b), we take (9b) as the underlying stress contour of “Johnson died.” In Tokizaki (1996), the problem of (9a) and (9b) is relationally dealt with by separating stress and tone, which we will see in the next section.
4. Past Accounts for the Apparent Idiosyncracy
So far, several explanations have been given as to why the underlying stress contour of “Johnson died”-type intransitive sentences should be integrative with main stress on the subject. Among them are Tokizaki (1996) and Cinque (1993).

The intention of Tokizaki is to make clear why Selkirk recognizes two different kinds of intonational phrases for one sentence. His paper does not seem to be interested in deciding which of the two should be the underlying stress contour of the sentence, but it tries to describe why two nuclear tones can be possible in (16a) and why only one nuclear tone can be used in (16b).

(16) HLM HL
    a. (Jóhnson)IP (died)IP (cf. (9a))
       H ML
    b. (Jóhnson died)IP (cf. (9b, 8a))

According to Tokizaki, the fall-rise plus fall intonation pattern of (16a) is typically seen in sentences with Topic-Comment semantic structure. One new piece of information given in one intonational phrase is an ideal correspondence from the viewpoint of semantics. But the sentence is too short to be divided into two intonational phrases. Consequently (16b), which is pronounced integratively in one intonational phrase, will be more economical and natural than (16a).

In any case, Tokizaki concludes, as Selkirk does, that either pronunciation will do in this particular sentence.

In my view on the underlying level of stress, the problem with this kind of argument lies in the parallel treatment of (16a) and (16b). They do not make a distinction between the underlying level and the level of performance. Only at this level of performance could it be said that both (16a) and (16b) are possible or probable. Since both “Johnson” and “died” are lexical words, each of them probably carries some degree of sentence stress and could be pronounced with nuclear tone. But my view is that there may be only one main stress underlying a single sentence. If we allow two main stresses in one sentence, we face a theoretical defect. If we have only two possibilities, i.e., (16a) and (16b), we have to conclude that the underlying stress should be (16b). Another question might arise as to why (17) cannot be the underlying stress contour of “Johnson died.”

(17) MHL
    (Johnson died)IP

In Cinque (1993), the unmarked stress of the form of the phrase is well determined by its syntactic constituent structure. Stress prominence in a phrase is treated as a mere reflection of depth of embedding. The right-most location of the most deeply embedded phrase (as determined by the direction of branching). And this approach makes it possible that languages with right-branching structure like English can be treated or analyzed in the same way as ones with left-branching structure like Italian. However, even in Cinque the unmarked stress contour of the sentence concerned is still determined by predictability among its sentence constituents, since no postverbal subject is possible in English. The word order of “Johnson died” cannot be converted to “*Died Johnson” with phrase stress on “Johnson.” So he claims that the subject
position is occupied by the least-predictable element, which is to be the focus of the sentence, and the predicate position is occupied by the most-predictable element, which is to be the presupposition of the sentence. Namely, "dying is one of the possible accidents that may occur to someone." In Cinque, this apparent deviation of the intransitive construction in stress assignment is beyond the scope of his syntactic theoretical explanation.

5. Stress Assignment by Defining the Constituent Structure
My proposal is that the stress contour of intransitive sentences in English should be uniquely assigned by its syntactic information.

The general framework to be used here is Chomsky's minimal analysis (1995). As phrase structure, I assume VP-internal subject hypothesis. My assertion implies that phrase stress is uniquely assigned by defining the constituent structure of the phrase. I claim that phrase stress be assigned by (18b). By definition (18b(I)), I treat constituent structure (19). Complement receives strong stress in its minimal domain.

(18) a. Assumptions:

General framework in Chomsky
(1995, Ch3) for minimal analysis
Phrase Structure

-VP-internal subject hypothesis

b. Definitions:
(I) Internal Domain
If $\beta \in \text{MinD}(\alpha)$, $\beta$ is stressed.
(ii) Functional Projection is not in stress domain.

I treat the following constituent structure as reflecting definition (18b(I)).

\[
\begin{array}{c}
\text{Johnson died.} \\
\hline
\text{VP} \\
\hline
\text{NP I V} \\
\text{Johnson} \wedge \\
\uparrow \\
\text{V NP} \\
\text{Died} \uparrow \\
s
\end{array}
\]

(19)

In the relationship between Head and Complement, I assume strong stress is to be assigned to the Complement. In other words, in (19)\$ falls on the trace, so that the relative prominence may be on NP instead of V in the framework of VP-internal subject hypothesis. [Johnson]NP and [t]NP make a chain in this analysis.

-VP-internal subject hypothesis

b. Definitions:
(I) Internal Domain
If $\beta \in \text{MinD}(\alpha)$, $\beta$ is stressed.
(ii) Functional Projection is not in stress domain.

I treat the following constituent structure as reflecting definition (18b(I)).
The constituent analysis of structure (21) is the same as the one in (19). $S$ is assigned to the trace, and NP is stronger than $V$ again. But the stress on the subject pronoun is later reduced by the Monosyllable Rule devised by Selkirk (1972). "He" is pronounced weaker than "died," unless there is a special emphatic stress on "He."

(21) He died.

In the relationship between Head and Complement, I assume strong stress is to be assigned to Complement. In other words, in (19) $S$ falls on the trace, so that the relative prominence may be on NP instead of $V$ in the framework of VP-intemal subject hypothesis.

It should be noted that stress is assigned to a node of the tree diagram. When we refer to the unmarked stress form of the intransitive constructive in (19), we are not considering the concrete stress level of each word of the sentence when used in an actual situation.

When the subject is replaced by the personal pronoun "He," for instance, the situation changes. (20a) is marked, and (20b) is unmarked.

(20) a. Hé died. 
b. He died.

(22) illustrates the constituent structure of the transitive construction "hit the man (him)."

It shares with (19) and (21) the relational problem of $V$ and NP dominated by $V'$ . In (22), strong stress remains to the right of the phrase structure since there is no NP movement in this configuration. "The man" is pronounced stronger than "hit." When the NP is "him," however, the Monosyllable Rule applies. Consequently, strong stress on "him" will be reduced, so that "him" may be pronounced weaker than "hit."

(22) hit the man
(him)
6. Conclusion
This paper has centered around “Johnson died”-type intransitive sentences in English. I claimed that apparent idiosyncracy of the stress contour of “Johnson died” could be well explained in the framework of minimal analysis. The proper treatment of personal pronouns was also reconfirmed. My argument suggests that the underlying stress contour of the phrase in general is uniquely determined by its syntactic information.

*This is a revised version of Endo (1997) written in Japanese. I would like to thank Masayuki Oishi, Kuniya Nasukawa, and James M. Vardaman, Jr., for their insightful comments and suggestions.

Works Cited
Linguistic Contributions to Music Theory: A Multimedia Presentation

Cory D. Crawford

[This paper reflects the actual presentation in which an assistant played samples from various musical pieces to illustrate theoretical points.]

I must first apologize for the title. I had expected to have everything outlined and presented using "high" technology, but a wise word from those with more experience in computer mishaps than I successfully encouraged me to ask the assistance of a much more competent resource. Thus Andrew Crane, a good friend, gifted musician, and accomplished performer, will be at the piano assisting me in demonstrating examples of music theories.

In this paper I will present an overview of scholarly research pertaining to music and its connections to language. I will hopefully speak in such a way that all will be able to understand, even when speaking of a realm outside that of traditional linguistics, namely music theory. I will examine the questions "Is there a link between music and language?" and "If so, what can linguistic theory offer to music theory?" I will show that there is a link between them and that linguistic theory has in fact made significant contributions to music (cognitive) theory.

I suppose that we should begin with a question posed by Charles Ives: "whither music?" (Bernstein 1976). This question is by no means new to humans. Humans seem to have always been drawn toward music. There has never been any culture (that we know) devoid of music. And philosophers have speculated for thousands of years on the nature and structure of music. So why present a paper on music theory at a linguistics conference? I suspect that many here have wondered about the structure of music, and if there exists a correlation of musical structure to language. Neubauer points out that Rousseau postulated music is derived from language, that music evolved from a permutation of speech acts (1986:100). Similarly, Diana Raffman cites Howard Gardner as stating that

An analogy to language may not be out of place here. Just as one can tease apart a series of levels of language -- from the basic phonological level, through a sensitivity to word order and word meaning, to the ability to appreciate larger entities, like stories -- so too, in the realm of music, it is possible to examine sensitivity to individual tones or phrases, but also to look at how these fit together into larger musical structures . . .

Buried far back in evolution, music and language may have arisen from a common expressive medium . . . Many scholars suspect that linguistic and musical expression and communication had common origins and, in fact, split off from one another several hundred thousand years ago (1993:11-15).
SIMILARITIES
Even a superficial examination of music and language reveals many similarities. They both exhibit progression in time, written systems, definite structures, a hierarchical nature in the structure, and a signifier and a signified (although there is some debate now among theorists as to whether there is meaning conveyed in all music). In music as well as in language there are conveyers (the composers) and perceivers (the listeners). Stress and length are used in both to accent a certain word, chord, note or motif (which is called prosody). Finally, there exist different musical idioms as there are different languages.

The histories and applications of music theory and linguistic theory are also similar. Early musical "grammars" were largely prescriptive (even to the point of dictating which chords were allowed and which weren't) and complex. Currently, there are minimalist theories at work in both, making the simplest interpretation the best; (Schenker is the most famous name associated with musical minimalist theory). There have been behavioralist principles applied to both (in music, the behavioralists hold that all music is interpretation and representation--in its most rudimentary form, imitation of birds and other such animals, and even human speech, in some cases).

Current applications are similar in both fields: computer analysis, recognition, and reproduction. There are volumes of books and journals and conference proceedings treating music as a formal language. I will not discuss these areas today more than stating that the fields exist. Semantics and semiotics are also expanding fields in both linguistic theory and music theory.

Cognitive studies is another growing field in which both linguistics and music are being examined.

But perhaps the field in which linguistics has been the most successful at application of theory is the field of generative grammar. In 1973 Leonard Bernstein delivered the Norton Lectures at Harvard on precisely the point of a merger between linguistic and music theories. He had realized some 40 years before that in several different musical idioms there was a series of notes that seemed to be at the foundation of several pieces. He wanted to make a connection between these, but the dominant behaviorist theories of the time caused him to reject any tie between the two faculties. Later, he read Chomsky's works and found new light to the possible solution to his problem: the series of notes was, in fact, related at some deeper structural level, and the notes had undergone a transformation of some sort to emerge as the surface structures of the different pieces (Bernstein 1976). He therefore gave those lectures as a preliminary attempt at a merger of the theories. It was a valiant attempt, although too strict (he even wanted to call notes morphemes, chords words, and groups sentences).

GT TM
Enter Fred Lerdahl and Ray Jackendoff. They, too, had profound interest in musical grammars: Lerdahl, the composer and musical theoretician versed in linguistic theory and logic, and Jackendoff, the well-
known cognitive linguist and performing pianist. They took Bernstein's initiative and explored and developed a connection between linguistics and music for 10 years. They posited that a strict application of linguistics to music such as was Bernstein's was ineffective (and probably just plain wrong). They applied linguistic principles of innate structure to existing music theory in their work, A Generative Theory of Tonal Music (henceforth, GTTM). They incorporated already existing ideas of reduction found in the central theorem to the Schenkerian hypothesis, "The listener attempts to organize all the pitch-events of a piece into a single coherent structure, such that they are heard in a hierarchy of relative importance" (Peel and Slawson 1984:273). They developed a theory and a system of rules that are strikingly similar to Generative theory. It is now appropriate to look at what the theory entails and at the implications and effects of the theory.

The goal of such a theory is to be able to formally describe the mental organization and intuitions of a listener who is experienced in a musical idiom. Lerdahl and Jackendoff state at the outset that theirs is not a comprehensive theory: they concentrate on the hierarchical components and omit elements such as timbre and dynamics. They specifically examine the following hierarchical elements: Grouping Structure, Metrical Structure, Time-Span Reduction, and Prolongational reduction. These four components are subjected to certain rules, called Well-Formedness, Transformational, and Preference Rules. These rules are based on traditional methods of analysis. We shall leave the present discussion at this point and look for a moment at these methods in a simple, abridged manner.

The classical system of musical analysis is based on the seven principal notes of the octave: A, B, C, D, E, F, and G. [Andrew Crane plays the notes on the piano.] A scale beginning with one of these notes becomes the basis, or key, for a piece of music. Let's assume the piece that we want to analyze is in the key of C major (major and minor have reference to the intervals between each of the seven notes that comprise a scale). This means that the order of our notes is C, D, E, F, G, A, and B. Now, in addition to scales ordered by this series of notes, we have groupings of notes that sound simultaneously in a piece, called chords. Chords are 'built' upon one of those notes. For instance, a C chord could contain the notes C, E, and G. If we assign this chord a roman numeral, this becomes I, or tonic chord, because it is built upon the first note in our series. Similarly, a chord built on G would be the V (or dominant) because it is the fifth note in our series. The reason for the assignment of the roman numeral is that, as such, we can talk about any scale, and we are not limited to the key of C. Thus in a scale beginning on A, E will be the dominant, or V. To illustrate this concept, Andrew will now play a simple piece that most here are familiar with, "Sweet Hour of Prayer" (Bradbury 1985). He will also simultaneously call out the roman numerals that correspond to the chords being played. [Andrew plays.] As one can easily infer, this system of analysis is limited and only describes the notes that sound together. With this in mind, we continue with GTTM.

As mentioned earlier, there are 4 hierarchical components of music that are subject to the three types of rules. The first, Grouping Structure, has to do with the
segmentation of music into motives, phrases, and sections. Metrical Structure is the structure of the strong and weak beats that comprise a piece. Time-Span Reduction is the process that distinguishes the hierarchy of pitches with respect to their grouping and metrical structure. Finally, Prolongational Reduction assigns hierarchies of tension, relaxation, continuity, and progression, both harmonically (simultaneous sounds) and melodically (sounds over a period of time). The rules that these four components are governed by are also defined. Well-Formedness Rules determine the possible analyses of a piece. For example, Grouping Well-Formedness Rule 1 states that "Any contiguous sequence of pitch-events, drum beats, or the like can constitute a group, and only contiguous sequences can constitute a group" (345). The Transformational Rules are special cases that apply distortions to otherwise hierarchical descriptions. For instance, sometimes there will not be a clear line between the end of one group and the beginning of another. This is due to the Transformational Rule of Grouping Overlap. Lastly, the Preference Rules predict the structure that the listener will prefer. Grouping Preference Rule 1 states to "Avoid analyses with very smaller [sic] groups--the smaller, the less preferable" (345). Now we can see where the traditional analysis (roman-numeral, mentioned above) plays a role. The roman numeral analysis allows us to speak of the preferences of listeners according to chord structures. For instance, Time-Span Reduction Preference Rule 2 states that "Of the possible choices for a head of time-span T, prefer a choice that is . . . relatively closely related to the local tonic [or roman numeral I, as we discussed previously]" (350). Similarly, a listener will hear the dominant chord (V) as a point of maximum tension.

In short, this theory is designed to account for the structure that a listener assigns to a piece. According to Figure 1, a listener hears the musical surface, and immediately the well-formedness rules are consulted. Then if there are transformations to be made, those figure in to the analysis before passing to the preference rules, where all the possible underlying analyses are weeded out and a preferred analysis emerges. (Figure 2 is placed next to Figure 1 to show the similarities and differences between Generative Grammar and GTTM.) Figure 3 shows an example of a piece that has undergone the analysis set forth in GTTM. The top tree structure is a graphical representation of Prolongational and Time-Span Reductions. Notice that it resembles tree-structure diagrams frequently seen in linguistic theory. Below that same staff we see a series of dots. This is a graphical representation of the hierarchical metrical structure, and the long horizontal lines are a representation of Grouping Structure. The two staves below the first represent the reduced notes that a speaker 'hears.' (Note that the first staff is an already reduced form--I include it here for simplicity in explanation.) In both cases the smaller branches of the tree structure are lopped off, leaving only the strongest branches, or heads, in the lower reductions. To musically illustrate this, Andrew will play the first staff shown in the diagram, followed by the second and third. [Andrew plays.] I should add here that while it is obvious that the field of Linguistics has impacted this theory of music, there are some fundamental differences between
generative theory in linguistics and GTTM. Linguistics focuses on transformation and competence (or grammaticality), while GTTM has as its central foci ambiguity and preference. In other words, GTTM could be considered an offshoot of linguistic theory, but it should not be taken as linguistic theory. It has entirely different goals and objectives. We should not try to merge the two in too strict a manner, as Bernstein did.

At the end of GTTM, Lerdahl and Jackendoff briefly discuss the relevance of their work to other areas in the cognitive sciences. They begin with musical universals. A rule is a universal when it applies in the same way in every idiom of music. This means that each idiom must utilize the component to which the rule is sensitive. For example, they hypothesize that metrical preference rule 4, which states that stresses are heard as strong beats, is a universal. It is counterintuitive to imagine an idiom which considers a stressed note as a weak beat. They further hypothesize some overall characteristics of universals, such as

1) "Musical intuitions are organized along the four hierarchical dimensions"
   and
2) "The structure of a piece in each component is determined by the interaction of well-formedness rules, preference rules, and transformational rules" (280).

Next they turn to the question of musical innateness. They posit that the unlearnibility of the grammar, or the complexity of the grammar, is a strong argument for innateness. So a listener could not infer, or realize, the existence of a prolongational component: it has to be innate. Secondly, a postulation is offered that because universals exist in music, different musical idioms are seen as differences in the musical grammars.

Lerdahl and Jackendoff finally treat the question of contemporary music (such as 12-tone or serial compositions). The authors avoid making value judgments of atonal music, but they propose that atonal music contradicts the innate musical organization of the mind because the lack of a tonal center (or tonic) makes prolongational reduction collapse. There is also often in this kind of music a lack of regular metrical structure. These weakenings of the hierarchies pose problems to the listener, causing a lack of global analysis and a resort to local analyses. While these systems are most certainly not devoid of structure, that structure "is not accessible to the listener." Following this presentation I will play a tape of some contemporary 12-tone music, and you may see if these arguments are true for you or not.

In preparation for this paper, I have communicated via email with Ray Jackendoff about this grammar. I asked him about the strengths and weaknesses of his and Lerdahl’s theory. He counted the fact that they were able to make music theory "psychological in an explicit way" as their greatest contribution to music theory (1999). From my research on their work, I can say that music theorists would agree. Jackendoff said that its greatest strength was the "degree to which it can deal with so many structural aspects of a whole piece in a global way." Its greatest weakness, according to Jackendoff, lies in "no treatment of affect." "But," he adds, "that's because nobody has a treatment of affect in general which could be applied to music."

This work received a mixed review.
The journal of the Yale School of Music seemed bent on disproving the theory by highlighting weaknesses in applying GTTM's analysis to certain pieces (Peel and Slawson 1984). Other journals commented in the same vein. Still others hailed it as a long-sought connection between the two related sciences. I asked Jackendoff if Bernstein was aware of their work. He replied, "Sure, he was aware of our work. But I had written a slightly critical, though mostly laudatory review of his book, and Bernstein being Bernstein had nothing but contempt for us afterwards" (Jackendoff 1999).

Despite its critics, GTTM seems to have become a touchstone for cognitive musical theoreticians. Their theory still continues to receive attention from music theorists and cognitive scientists alike. I discovered a journal entitled *Music Perception* published by the University of California at Berkeley that is devoted to psychological music research. There are countless articles related to our discussion today, many ostensibly drawing the connection between language and music. And I found two that provided specific empirical evidence for the analytical success of GTTM. Nicola Dibben from the University of Sheffield showed "evidence of listeners' ability to match a performed reduction of an extract of tonal music to the piece of music from which it was derived" and also that her experimentation demonstrated evidence for "the internal representation of tonal music in terms of a hierarchy of events such as that proposed by Lerdahl and Jackendoff (1983)." A final experiment by Dibben showed that listeners were unable to match derivants (reductions) of atonal music to the original piece. "This research suggests [that] atonal music is not perceived in terms of a hierarchic structure" (Dibben 1994:1). Another experiment, conducted by Ilene Deliege, tested the grouping rules in musicians and nonmusicians. She says that "the results show the validity of the rules." But another interesting point is that "the two categories of subjects [did] not show a radically different grouping behavior" (Deliege 1987:325).

POSSIBLE FURTHER RESEARCH
GTTM has raised other questions worth investigation. First, what is the role of inexperienced listeners? What can we learn from listeners inexperienced in a musical idiom? Perhaps this would help in finding the answer that Lerdahl and Jackendoff pose about the source of the experienced listener's knowledge: "To what extent is it learned, and to what extent is it due to an innate musical capacity or general cognitive capacity?" (1983:4). Another area already alluded to is aesthetics and affect. What do cognitive capacities such as the one proposed have to do with aesthetic qualities? Or also, what does GTTM mean to brain localization theory? Do experienced listeners exhibit increased language capacities? Here at BYU there is a group working on a theory different than Generative Grammar, which is called Analogical Modeling. How can analogical modeling be applied in the context that has been discussed today? These are just a smattering of questions of which some have begun to be investigated, but for the most part are yet to be answered.

CONCLUSION
GTTM has been fundamental to the
psychological treatment of music cognition. And linguistics was fundamental in the development of GTTM. We have seen today by the application of similar theories that it is probable that language and music are closely related. We have also seen that linguistics has contributed to the development of music (cognitive) theory. I hope that the resemblance between linguistics and GTTM has been obvious, as I have not had the time to delineate each similarity. I also hope that this presentation will stimulate further discussion, thought, and research, as there is much more to be done. Thank you.

Questions:
1. How does Jackendoff's theory apply to other musical idioms, for instance, Gamalan, which doesn't utilize the fifth of the scale?

Answer: Jackendoff and Lerdahl would say that their rules apply inasmuch as the construct on which the rule is based exists in the musical idiom. So if there is not a fifth degree of the scale, such as is the case with Gamalan, the rules which have to do with the fifth of the scale will not apply. Because the dominant is a major player in the creation of musical tension, the other rules might need to be modified to adjust the relative importance of rules having to do with tension in the music in that specific idiom. The theory doesn't collapse because there is still a hierarchy that is accessible to the listeners. In Gamalan a certain chord or series of chords is simply not utilized, so the rules that have to do with that series of chords will not apply, just as the rules about head-first languages will not apply to head-last languages.

2. Does Jackendoff make any statements as to the similarities between innate musical structures and innate language structures?

Answer: I am not aware of any explicit statement as to the relationship between innate structures of language and music, yet we read in GTTM that "much of the complexity of musical intuition is not learned, but is given by the inherent organization of the mind, itself determined by the human genetic inheritance" (281). This suggests that the inherent organization of the mind affects all innate structures in a similar way. However, on the next page we read of an "innate musical capacity," suggesting that innateness is subdivided into different mental components. I would posit that innate musical structures and innate linguistic structures are closely linked but not exactly equivalent.

Works Cited
25.


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Figure 1. Model from *A Generative Theory of Tonal Music* Adapted from Lerdahl and Jackendoff 1984:10.

Figure 2. The Aspects Model of Language. Adapted from Harris 1993:93.
Figure 3. An example of GTTM analysis. From Lerdahl and Jackendoff 1983:267.
K‘ombineishy_n P‘ijahago K‘ok‘ak‘olla Juseyo
(I‘ll Have a Combination Pizza and Coca-Cola):
English Loanwords in the Korean Language

Leif Olsen

“Hawaiian p‘ija-edä p‘ainaep‘urago p‘ep‘oroni mani nöö juseyo!” (“We want the Hawaiian pizza—go heavy on the pineapple and pepperoni!”) is not an uncommon thing to hear these days in South Korea. Not far from the historic Kyöngbok Palace, you can enter a Pizza Hut, Wendy’s, or Burger King and the whole menu is in hangulized English. Hangul is the Korean alphabet, a phonetic system of vowels and consonants, which has the versatility to transform English loanwords into familiar Korean phonemes. Koreans have borrowed thousands of foreign words. Many of those words are entering the language continuously—so many that already five percent of Korean vocabulary is foreign-derived (Tranter, 1997, p. 132). Ninety percent of those foreign words are from English (p. 132).

English loanwords are not limited to fast-food cuisine, but they can also be heard in Korean marketplaces describing clothing and furniture (süvet‘ô [“sweater”], türesü [“dress”], t‘eibül [“table”], and sop‘a [“sofa”]) and as commands on basketball courts (P‘aesü! [“Pass!”], Shyut! [“Shoot!”]). English has infiltrated Korean popular music and literature. It’s on T.V. (t‘ellebi), on the radio (radio), and in the news (nyusü), especially the sports section (süp‘och‘ü sekshyon). To what extent has English affected the Korean language? This paper 1) explores the history of English loanwords in Korean, 2) gives a brief introduction to romanized Korean and hangulized English in order to explain Korean phonetics and phonemes, and 3) exposes the ever-increasing use of English loanwords in everyday conversation.

History of English Loanwords in Korean
To trace the origin of English loanwords in Korean, we need to go back to the mid-to late-1500’s when Koreans set up trade with Portugal, Spain, and shortly thereafter with the Netherlands. These early visitors were the first to open Korea to trade relations with the West and introduce Western words (Pae, 1976, pp. 304-5). The words ppang, from the Portuguese word pão for bread, tambae (“cigarette”), from the Spanish tabaco for tobacco (p. 306), and ammonia, originally borrowed from the Dutch (p. 303), can be seen in any corner store. Also as a result of this early Western influence, a huge number of Koreans were religiously converted. Hence, a Christian vocabulary also developed, as in Yesu Kürisüdo, Jesus Christ. Today Korea is the most Christian nation in mainland Asia. These early traders opened the Korean language to foreign words and set the groundwork for the subsequent barrage of English loanwords.

From 1910 to 1945 Korea was occupied by Japan. Japanese was taught at school and everyone was required to adopt a Japanese name. Ironically, it was in these bleak circumstances that Koreans began to glean their vast English vocabulary when “some established Western loanwords in Japanese were borrowed into Korean” (Tranter, 1997, p. 135). Tranter has called
these words “hybrid Anglo-Japanese loans” (p. 132).

At the beginning of the 20th century, when the Japanese were successfully modernizing Korea, along came foreign ideas, clothes, and foods—and, of course, the loanwords that name them. For example, it was through the Japanese that Koreans received the word for shirt. The Japanese first changed it to shatsu and then Koreans pronounced it their own way to say shyassū (Tranter, 1997, p. 136). Some other hybrid loans from that period include bucket and propeller. The Japanese transcribed them to fit their phonology, and Koreans subsequently changed the Japanese variations to pakkessū (p. 136) and p’uroprop’era. Koreans have revised the orthography for many hybrid Anglo-Japanese loanwords to imitate the English pronunciation more closely, or they’ve simply taken them out of the language (p. 139). They have since changed p’uroprop’era to p’uroprop’ellō to sound more like the English original, propeller.

The tremendous influx of foreign loanwords began after 1945 and continues to this day. As Koreans quickly espoused practices from abroad, their vocabulary increased. Going polling (“bowling”), following the latest clothing p’aeshyŏn (“fashions”), doing eŏrobiks (“aerobics”), eating fast food, getting a p’amap (“perm”)—all of these are common activities for Koreans. These activities are generous sources for introducing English loanwords. The past 50 years have seen Koreans let many foreign words into their language. Most recently, computers and the internet have added a multitude of English words into Korean, including these: sop’ūt’iweō (“software”), sŏbŏ (“server”) (Tranter, 1997, p. 144), and int’ŏnet (“internet”).

### English Words Transcribed to Korean

**Hangul**

When Koreans use loanwords in their language, they spell it out in their language’s alphabet, called hangul. This unique phonetic system was developed in 1446 by King Sejong the Great, and South Korea celebrates National Alphabet Day (Hangullal) to honor him. With the invention of hangul, Korean became accessible to more people and now 96% of the nation’s 45 million people are literate (“Korea, South,” 1996).

This 500-year-old alphabet can be seen all over the streets of Korea. Flashing hangul neon signs in Inch’on and Seoul invite people to come have panilla aisūk’ārim (“vanilla ice cream”), eat sūt’eik’ū (“steak”) and use a haendūp’on (“handphone,” which is a “cell phone”). Hangul is even found on streets in Los Angeles and Chicago and on University Avenue in Provo. From the above examples, it is obvious that Koreans change the pronunciation of English when they hangulize it.

First, let’s briefly explain how Korean is romanized. The apostrophes ‘ indicate aspirated consonants (/tʃ/, /k′/, /t′/, /p′/), used frequently in loanwords. The vowel /ə/ is a mid, back, rounded vowel, equivalent to the IPA /ʌ̃/ sound, and /ũ/ is a high, back, rounded vowel and is closest to /ʊ/. The /u/ phoneme is used abundantly between double and triple consonants and makes some loanwords sound choppy, like t’osūt’ū (“toast”), sūt’ūraik’ū (“strike”), p’urench’i p’ūrai (“french fries”), and sūt’ūrēsū (“stress”). But as Koreans have become more aware of actual English pronunciation, these /u/ sounds have begun
I'll Have a Combination Pizza and Coca-Cola
to disappear, as the study with the school students shows (Appendix A).

_Hangulization_ also requires a brief explanation. To transcribe English into the Korean alphabet, there are some changes that need to be made. For example, the consonants /z/, /l/, and /ʃ/ don’t exist in modern Korean. The following chart includes some of the major changes:

<table>
<thead>
<tr>
<th>English</th>
<th>Korean</th>
</tr>
</thead>
<tbody>
<tr>
<td>/ʃ/</td>
<td>/p'/ or /h/</td>
</tr>
<tr>
<td>/θ/</td>
<td>/t/, /d/, or /t'/</td>
</tr>
<tr>
<td>/ʒ/</td>
<td>/t' or /d'/</td>
</tr>
<tr>
<td>/s/</td>
<td>before certain vowels, /ʃ/</td>
</tr>
<tr>
<td>/v/</td>
<td>/b/ or /p'/</td>
</tr>
<tr>
<td>/z/ and /ʒ/</td>
<td>/ch/ or /ʃ/</td>
</tr>
</tbody>
</table>

*/ In Korean /ʃ/ and /θ/ are allophones for the same Korean character, the liquid _riul._

The Korean alphabet cannot account for every English sound, thereby making some loanwords indistinguishable at first glance. Although differences can be distinguished from context. The minimal pair _pork_ and _fork_ are both _p'ok'ǔ_ in Korean. _Race_ and _lace_ are both _reisū_; _laser_ and _razor_ are both _reijo_. _Rōbō_ can be both _lover_ and _rubber._ Also, the /n/ in Korean is “assimilated when juxtaposed to the liquid phoneme [ʃ], since they all share the same point of articulation” (Pak-Covell, 1989, p. 5). The Korean /n/ becomes an /ʃ/ when it comes directly before or after the Korean liquid _riul_ (see list above). _Walnut_ is spelled _wolmǒt_ but pronounced _wolmǒt_, and _Greenland_ is spelled _kǔrinlaendǔ_ but said _kǔrilaendǔ_.

A study conducted at the Meridian School, a private school in Provo, revealed interesting pronunciations of English-derived loanwords. Seven Korean students, ages 14-18, were shown 21 flashcards, each with two loanwords written on them. The first word was printed in English and the second in Korean. I asked each student to pronounce the first word as though they were speaking English, and the second one as though they were speaking their native language. For the most part, the students read the flashcards accurately in both languages. But the students, having a substantial background in English, pronounced some of the Korean words in unpredicted ways.

One interesting “mispronounced” feature was the loss of the intermediary /u/ in consonant clusters and after some consonants, as in the examples _toast'ǔ_ (“toast”), _ice cream, dunk shoot_, and _bus_. An initial /ʃ/ was even pronounced in _lamp'ǔ_. See Appendix A for more detailed results. Greater knowledge of the English language among the youth apparently has an influence on the pronunciation of English-derived loanwords in Korean.

Students in Korea take a mandatory ten years of English in the schools. Recently native English speakers have been teaching at schools, private institutes, and universities. Thousands of Korean students have studied abroad in English-speaking countries, mostly the U.S., Canada, Australia, New Zealand, and the U.K. Business and government also send their employees to these countries to learn English and conduct transactions. The younger generation get their English off American T.V. programs and the radio. Who knows — maybe new consonants for /ʃ/, /v/, and /z/ will officially enter the Korean language.
English Loanwords in Popular Usage
To demonstrate dramatically how much English has influenced the Korean language, I studied various sources that present contemporary Korean language. These sources include a sports article and a skiing advertisement, both from the *Hankuk Ilbo* (1998), one of Korea’s major newspapers.\(^4\) Also an article about postmodernist art from *Shigak* (Jo, 1997), a journal of art studies, and a T.V. dramedy, *Weding Türesü* ("Wedding Dress") (Yi, 1997) were carefully analyzed. I chose those particular subjects—football, skiing, international art, popular T.V.—because English loanwords appear frequently in those domains.

Red pencil in hand, I began to underline every loanword in the newspaper article and advertisement, and it surprised me that among all the words the reporter used, 35% are English-derived loanwords! Many are team names like *Tenb6 Pürongk'osu* ("Denver Broncos"), *Kurinbei P'aek'osLi* ("Green Bay Packers"), and *P'ich'ubagi'i SLit 'illasLi* ("Pittsburgh Steelers").\(^5\)

The advertisement bidding all to come ski in Utah is about 30% loanwords. Place names, such as Park City, Deer Valley, and Alta, and the words *full day* are printed in the ad in plain English. An official study of 1994 Korean newspaper advertisements showed that 27 out of 50 “had at least one English word in the main caption” (Tranter, 1997, p. 145). Both newspaper items I examined contain loanwords pertaining to their respective topics of football: *t'im* ("team"), *ch'aemp iön* ("champion"), *t'ai* ("tie"), röníngbaek ("running back"), and *ödöbaent iji* ("advantage"); and skiing: *k'osü* ("course"), p'audö ("powder"), sük'i ("ski"), sük'iö ("skier"), and *Yut'a* ("Utah").

For a full list of loanwords see Appendixes C and E.

At a contemporary postmodernist art show in Kwangju, South Korea, artists from all over the world gathered to share their talents. Koreans needed to collect foreign words for this occasion—an international convergence of theories and artistic ideas. Jo’s article (1997) was quite long, and even though there were many loanwords from various languages, they only accounted for 5% of the article. The English-derived loanwords include *k'omisyonó* ("commissioner"), *imiji* ("image"), *p'osü'ti* modónijum ("postmodernism"), sük'ech'i ("sketch"), and *süp'onsó* ("sponsor").

The T.V. series *Weding Türesü* ("Wedding-Dress") (Yi, 1997) is about a wedding dress designer, her younger sister, and their family. The show attests to the influence of English loanwords in Korean. Recently produced, loanwords appear at a rate of one word every minute and 12 seconds. In everyday conversation, words like *mit'ing* ("meeting," which means "blind date"), *t'omato* ("tomato"), *poillö* ("boiler"), and *pijunisü* ("business") appear.

For a full list of loanwords to Jo (1997) and Yi (1997), see Appendixes B and D.

Conclusion
North Korea, still under communist rule, refuses to accept English loanwords into their language. North Koreans promote their own Korean words for radio, television, ice cream, and bus. With the peninsula’s impending reunification, we wonder which words will survive: the “pure” North Korean words or the South Korean English loanwords—or will both words be used interchangeably? I predict that with English’s wider international usage, the loanwords will eventually overrule.
I’ll Have a Combination Pizza and Coca-Cola

Koreans recognize that English is the world’s language. Fluency in English is a really valuable asset. It’s even mandatory in many well-paying jobs. English vocabulary pronunciation is becoming more and more anglicized. English is so prevalent that many Koreans are unaware that their words for “part-time job,” arūbait’ū (“Arbeit”) and “theme,” t’ema (“Thema”) really came from German, not English. But to many of the older generation in the Land of the Morning Calm, this hysteria for oeraed (“foreign words”) is seen as dishonorable. “There are kids these days who forget their culture; they prefer hamburgers and bread to kimchi,” they sadly note. But even South Korean senior citizens still use the loanwords for bus and taxi.

One of the Questions Raised After the Presentation
Q: Which has had more of influence on the Korean language –British English or American English?

A: Definitely American English. The U.S. military has had a presence in Korea since the Korean War and many Koreans regularly watch AFKN, the U.S. military’s T.V. station that airs popular American sitcoms. The Korean-to-English (Han-Yông) dictionaries include an appendix showing the differences between British and American usage. Recently, there have been some Korean-to-American English (Han-Mi) dictionaries published.

Works Cited
http://www.sil.org/ethnologue/countries/KorS.html.


End Notes
1 The Korean-to-English transcriptions are based on standard romanization principles by the Korean Ministry of Education.
2 Korea in this paper refers to South Korea, unless otherwise noted.
3 Before hangul was created, Koreans had been using ancient Chinese characters. Chinese-derived words name much of the medical and philosophical terminology in Korean. Although different, Chinese derivatives in Korean may be compared to Greek and Latin roots in English.
4 These newspaper articles were taken from the Los Angeles edition of the Hankuk Ilbo, so the loanword content was significantly high. There are an estimated 1.3 million ethnic Koreans in the United States (Grimes, 1996).
5 I included proper nouns in the study to demonstrate the versatility of hangulizing Western names.
Appendix A

This list shows the results of a study conducted with seven Korean students enrolled in Meridian School ESL classes. Students read loanwords written on flashcards – two times each: once in written English letters and once in Korean hangul. Rather than comment on the English words, I only point out the "mispronunciations" of the Korean words. The parts in bold record where the students did not pronounce the word in the predicted hangul pattern.

<table>
<thead>
<tr>
<th>Word</th>
<th>Predicted hangul pronunciation</th>
<th>Mispronunciation</th>
</tr>
</thead>
<tbody>
<tr>
<td>banana</td>
<td>panana</td>
<td></td>
</tr>
<tr>
<td>Burger King Whopper</td>
<td>Pŏgŏ K’ing Wap’ŏ</td>
<td>&quot;bus&quot;</td>
</tr>
<tr>
<td>bus</td>
<td>pŏsŭ</td>
<td>&quot;CD&quot;</td>
</tr>
<tr>
<td>CD</td>
<td>ssidi</td>
<td></td>
</tr>
<tr>
<td>computer</td>
<td>k’ŏmp’yut’ŏ</td>
<td>&quot;ice k’ūrim&quot; &quot;ice cream&quot;</td>
</tr>
<tr>
<td>guitar</td>
<td>kit’a</td>
<td>&quot;lamp’ŭ&quot;</td>
</tr>
<tr>
<td>ice cream</td>
<td>aisük’ŭrim</td>
<td></td>
</tr>
<tr>
<td>lamp</td>
<td>raemp’ŭ</td>
<td>&quot;news&quot;</td>
</tr>
<tr>
<td>McDonald’s Big Mac</td>
<td>Maekdaldnŏ Pingmaek</td>
<td></td>
</tr>
<tr>
<td>news</td>
<td>nyusŭ</td>
<td></td>
</tr>
<tr>
<td>O.K.</td>
<td>ok’ei</td>
<td></td>
</tr>
<tr>
<td>piano</td>
<td>p’ıano</td>
<td></td>
</tr>
<tr>
<td>pizza</td>
<td>p’ija</td>
<td></td>
</tr>
<tr>
<td>scarf</td>
<td>sūk’ap’ŭ</td>
<td></td>
</tr>
<tr>
<td>service</td>
<td>ssŏbisŭ</td>
<td></td>
</tr>
<tr>
<td>shower</td>
<td>shyawo</td>
<td></td>
</tr>
<tr>
<td>slam dunk (dunk shoot)</td>
<td>tŏngk’ŭ shyut</td>
<td>&quot;dunk shoot&quot;</td>
</tr>
<tr>
<td>superman</td>
<td>shyup’ŏmaen</td>
<td>&quot;sup’ŏmaen&quot;</td>
</tr>
<tr>
<td>supermarket</td>
<td>shyup’ŏmak’et</td>
<td>&quot;t’ellevision&quot;</td>
</tr>
<tr>
<td>television</td>
<td>t’ellebijŏn</td>
<td></td>
</tr>
<tr>
<td>toast</td>
<td>t’osūt’ŭ</td>
<td>&quot;toast’ŭ&quot;</td>
</tr>
<tr>
<td>wood</td>
<td>udŭ</td>
<td></td>
</tr>
</tbody>
</table>

All native Koreans, the students’ ages ranged from 14-18, average 15.8.

Time spent in the U.S. ranged from 10 months to eight (nonconsecutive) years, average two years.

Three lived with host families, and the rest with their own families. Four of them spoke mostly Korean in the home.
Appendix B

In an article published in Shigak, a journal of art studies, Jo (1997) uses loanwords to discuss an international art exhibit, the Kwangju Biennale. About 5% of the article is loanwords. (The numbers below indicate how many times each loanword appeared.)

Some non-English loanwords are piennalle (biennale, Italian), which appears 23 times, and nwiangsü (nuance, French).

Appendix C

An article about the Super Bowl in a Korean newspaper, the Hankuk Ilbo (1998), exposes the rampant influence of English on Korean. Two Roman numerals appear in the article, XVIII and XXXII, and over 35% of the article is loanwords.

Super Bowl 22
Denver Broncos 13
AFC 11
Green Bay Packers 5
team 5
Terrell Davis 4
NFC 4
champion 3
Pittsburgh Steelers 3
tie 3
Las Vegas 2
NFL 2
running back 2
advantage
all
AP
betting line
Buffalo Bills
conference
Detroit Lions
game
home field
jinx
Kansas City Chiefs
Minnesota Vikings
Oakland Raiders
park
playoff
pro
ranking
running game
rushing yard
San Diego
Barry Sanders
tackle
trophy

(abbreviations are printed in roman letters.)
I’ll Have a Combination Pizza and Coca-Cola

Washington Redskins  Woshingt’ön
                     Redûsûk’insû

Appendix D

The following lists loanwords from the first two episodes of Wedding Tûresû ("Wedding Dress") (Yi, 1997), a T.V. dramedy.

English loanwords:
OK 17 ok’ei
belt 4 pelt’û
cell phone 4 haendûp’on
     ("handphone")
wedding shop 4 weding shyop
apartment 3 ap’at’û
message 3 meseji
wife 3 waip’û
honeymoon 2 hônîmun
humanism 2 hyumônïjûm
meeting 2 mit’îng
sign 2 sain
taxi 2 t’aekshi
television 2 t’ellebi
towel 2 t’awol
UCLA 2 Yussierei
anyway  eniweî
Berkeley  pôk’ûlli
boiler  poillô
bus  pôsû
business  pîjûnisû
café  k’ap’î
coffee  k’ôp’i

cup  k’ôp
departure  tip’ach’yô
drama  tûrama
dress  tûresû
dry  tûrai
fitting  p’it’îng
golf  kolp’û
level  rebel
meeting  mit’îng
nightclub  nait’ûk’ûllop
office  op’isû
open  op’ûn
prize  p’ûraijû
scarf  sük’ap’û
sexy  seksî

shower  shyawo
single  shing-gûl
tomato  t’omat’ô
visa  pija
wedding dress  weding tûresû

Phrases in English:
"The dialed number is . . ."
"Ladies and gentlemen, we are now sorry to delay our departure to . . ."
"That’s OK . . ."

Signs in English:
LAVATORIES
EXIT
NO SMOKING
CHARACTER
HANNA WEDDING

Total number of English loanwords: 104

Playing time of two episodes: 120 minutes

An English loanword appears on average: every 1 minute and 12 seconds

Appendix E

This “Yut’a-esô Sûk’î” (“Ski in Utah”) advertisement in the Hankuk Ilbo (1998) consists of over 30% foreign words.

ski  7  sût’a
Park City  4  (sic)
        (Words without romanized Korean are printed in the ad in English.)
Deervalley  3  k’osû
full day  3  Ollîmp’îk
Alta  2
course  2
Olympics  2
pm  2
stars  2
Utah  2
Hilton Hotel  2
Hollywood  2
Powder  2
Salt Lake  2
shopping  2
skier  2

Yut’a  Hilt’ûn Hot’el
Hotliut  p’audô
Solleik  syáp’îng
sük’iô
Who is “him”? Determining Pronominal Reference

Deryle Lonsdale

1. Abstract
In this paper we look at contexts where determining the references of pronouns is problematic to varying degrees. A computational technique, discourse centering, is applied to those contexts and predictions about preferred scenarios are discussed. Though no comprehensive solution is proposed, this informal presentation highlights places in the scriptures (particularly in the Book of Mormon) where such situations arise.

2. Introduction
In this paper we discuss a technique for determining (or picking) the appropriate reference from among (a set of) possible referents. Of interest to this conference is that the data to be used in this presentation, by way of illustration, is taken from the scriptures.

Computational techniques have been developed in recent years to encode algorithms for determining discourse reference which have been explored in the syntactic and pragmatic literature. One such technique, discourse centering [Gordon et al., 1993, Brennan, 1995, Grosz et al., 1995], has been applied to some degree of success in a variety of languages [Turan, 1995] and text types.

In Japanese, for example, it is possible to encounter sequences such as the following [Walker et al., 1992]:

(1) Taroo ga kooen o
   Taroo SUBJ park in sanpositeimasita.
   walking-was Taroo was taking a walk in the park.

(2) Ziroo ga Ø hunsai no mae
    Ziroo SUBJ OBJ fountain of front
de mitukemasita.
in found
    Ziroo found (Taroo) in front of the fountain.

(3) Ø Ø kinoo no siai no
    SUBJ OBJ yesterday of game of
kekka o kikimasita.
scores OBJ asked
    (Ziroo) asked (Taroo) the score of yesterday’s game.

In the first sentence, an individual, Taroo, is introduced into the discourse. In the second sentence, a zero pronoun (which is licit in Japanese) is used to refer to the object. Here the “missing” object is taken to refer to the individual introduced in the opening sentence. In the third sentence, two zero pronouns are used -- one for the subject and one for the object. Still, it is possible to understand the underlying meaning, given established syntactic and discourse principles of the Japanese language.
Note that an alternative sequence, where the subject is dropped in the second sentence, is also possible:

(4) Taroo ga koon o
Taro SUBJ park in
sanpositeimasita.
walking-was
Taro was taking a walk in the park.

(5) O Ziroo o hunsai no mae
SUBJ Ziroo OBJ fountain of front
de mitukemasita.
in found
(Taro) found Ziroo in front of the fountain.

(6) O O kinoo no siai no
SUBJ OBJ yesterday of game of
kekka o kikimasita.
scores OBJ asked
(Taro) asked (Ziroo) the score of yesterday’s game.

The first step, that of generating referents, is simply a listing of all referents which could possibly be involved in a given instance of anaphor. The second step, filtering, involves the use of standard grammatical procedures to rule out otherwise possible referents. The third step, ranking of plausible referents, involves a procedure called transition ordering. In the next section we will consider the transition ordering step, which is the most technical part of the algorithm.

3. Fundamental definitions
Implementation of the centering algorithm can be summarized as a three-step process [Walker et al., 1992]:

- GENERATE a set of possible referents
- FILTER out unlikely referents
- RANK the remaining referents

3.1 Constraints
For each utterance $U_i$ in a discourse segment $U_1, \ldots, U_m$:

1. There is precisely one backward looking center $C_b$.
2. Every element of the forward centers list, $C_f(U_i)$, must be realized in $U_i$.
3. The center, $C_b(U_i)$, is the highest-ranked element of $C_f(U_{i-1})$ that is realized in $U_i$.

In the next section we will illustrate how these constraints are applied.

3.2 Rules
For each $U_i$, in a discourse segment $U_1, \ldots, U_m$:

1. If some element of $C_f(U_{i-1})$ is realized as a pronoun in $U_i$, then so is $C_b(U_i)$.
2. Transition states are ordered: CONTINUE > RETAIN > SMOOTH-SHIFT > SHIFT.
The latter rule states that
CONTINUE is a more preferable transition
to RETAIN, which is preferred over
SMOOTH-SHIFT, and so on.

Table 1 gives a summary of the scenarios leading to various transition values between subsequent utterances.

<table>
<thead>
<tr>
<th>Cb(Ui) = Cb(Ui-1)</th>
<th>Cb(Ui) ≠ Cb(Ui-1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONTINUE</td>
<td>SMOOTH-SHIFT</td>
</tr>
<tr>
<td>RETAIN</td>
<td>SHIFT</td>
</tr>
</tbody>
</table>

Table 1: Summary of transition types [Walker et al., 1992].

4. An example
Having sketched the algorithm, we are ready
to apply it. Consider the following example,
where narrative discourse is taken from the
Book of Mormon.

... and Laman went in unto the
house of Laban, and he talked with him as
he sat in his house. And he desired of
Laban the record... (1 Nephi 3:11-12)

In this passage we have three clauses
which admit several possible readings,
depending on the referents we ascribe to the
different pronouns. We next describe,
clause-wise, the possible readings and how
one can apply the centering algorithm in
their analysis.

Laman went in unto the house of
Laban;

Here we have the introduction of two
discourse referents which will be tracked
over the next several clauses: Laman and
Laban.1 We index the referents in their order

of appearance, with subscripts I and j
respectively.

and he talked with him.

Here we have two pronouns, the
subject he and the oblique him, whose
reference must be determined. We assume
that the subject pronoun could apply to
either Laman or Laban. Given this, though,
we are constrained in our interpretation of
the pronoun him. In particular the latter, by
general principles of pronominal and
anaphoric binding, cannot likewise refer to
the same referent as the subject; disjoint
reference is mandatory. Note that:

John talked with him.

can only be interpreted with disjoint
reference; otherwise one would need to say
instead:

John talked with himself.
This is a straightforward application of Binding Theory in syntax. The process of ruling out possible indexing scenarios on standard grammatical principles we call "contraindexing."

Hence, as we consider the present clause we are left with two possible indexings:

\[ \ldots \text{and he}_i \text{ talked with him}_j, \text{ or} \]
\[ \ldots \text{and he}_i \text{ talked with him}_j, \text{ where} \]
the former can be rephrased
\[ \ldots \text{and Laman talked with Laban}, \]
and the latter
\[ \ldots \text{and Laban talked with Laman} \]

Given that there are two possibilities at this point, we will later call on the centering algorithm to rank them.

\[ \text{as he sat in his house} \]

In this sentence we have several possible indexings. The two pronouns, \textit{he} and \textit{his}, can each take either \textit{i} or \textit{j} as indices:

\[ \text{as he}_i \text{ sat in his}_j \text{ house} \]
\[ \text{he}_i \text{ sat in his}_j \text{ house} \]
\[ \text{as he}_j \text{ sat in his}_i \text{ house} \]
\[ \text{as he}_j \text{ sat in his}_i \text{ house} \]
\[ \text{as he}_j \text{ sat in his}_i \text{ house} \]
\[ \text{as he}_j \text{ sat in his}_i \text{ house} \]
\[ \text{as Laman sat in Laman}_i \text{ house} \]
\[ \text{as Laman sat in Laban}_j \text{ house} \]
\[ \text{as Laban sat in Lagan}_i \text{ house} \]
\[ \text{as Laban sat in Laman}_j \text{ house} \]
Table 2 contains a summary of the plausible indexings for the latter two clauses. The first column, when filled with an asterisk, indicates that the given indexing violates either contraindexing or the assumption that the discussion took place in Laban’s house.

<table>
<thead>
<tr>
<th>he</th>
<th>talked to him</th>
<th>while he</th>
<th>was in his house</th>
<th>contraindexing</th>
</tr>
</thead>
<tbody>
<tr>
<td>*</td>
<td>i</td>
<td>i</td>
<td>i</td>
<td>contraindexing</td>
</tr>
<tr>
<td>*</td>
<td>i</td>
<td>i</td>
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<td>contraindexing</td>
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<td>*</td>
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<td>i</td>
<td>contraindexing</td>
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<tr>
<td>*</td>
<td>j</td>
<td>i</td>
<td>i</td>
<td>Laban’s house</td>
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<td>j</td>
<td>j</td>
<td>Laban’s house</td>
</tr>
</tbody>
</table>

Table 2: Listing of plausible referents for a sentence.

Note that four possible readings still remain for the sentence:

*he spoke with him as he sat in his house*

namely:

*Laban spoke with Laman as Laman sat in Laban’s house*

*Laman spoke with Laban as Laban sat in Laban’s house* respectively.

It should be noted that, exceptionally in this case, the set of those four possible readings is not problematic: with any one reading we still have a discussion between Laman and Laban and which takes place at the latter’s house. The distinction drawn in
these alternatives is with whose actions are being discussed. One could imagine other passages of discourse where such situations would be less than straightforward, and where complete disambiguation might be necessary for purposes of clarity.

Now given these four possibilities, it is possible to assign them ranking given the centering algorithm. We will trace through an application of the algorithm to the three sentences in question to illustrate how this is done.

First, consider the sentence:

\[ \text{Laman went in unto the house of Laban} \]

Here the backward-looking center \( C_b \) is the entity \( \text{Laman} \) since the discourse previous to the clause in question focuses on him. The set of forward-looking centers, \( C_f \), contains both \( \text{Laman} \) and \( \text{Laban} \) since both are mentioned in this sentence. We will take \( C_b(1) \) and \( C_f(1) \) to mean \( C_b \) and \( C_f \) (respectively) for the first sentence.

\[
\begin{align*}
C_b(1) &= \{\text{Laman}\} \\
C_f(1) &= \{\text{Laman}, \text{Laban}\}
\end{align*}
\]

Note that in this case \( \text{Laman} \) is both \( C_p(1)^2 \) and \( C_b(1) \).

We next consider the sentence:

\[ \text{and he talked with him} \]

Here we have two possible licit indexings:

\[
\begin{align*}
\text{he talked with him} & \text{ (call this sentence 2a)} \\
\text{he talked with him} & \text{ (call this sentence 2b)}
\end{align*}
\]

Consider first the former sentence, 2a. We set \( C_b \) to \( \text{Laman} \) since this is the most prominent realized member of \( C_f \) from the previous utterance (i.e. the value \( C_p \)). We map our assumed indexings for this sentence into \( C_f \).

\[
\begin{align*}
C_b(2a) &= \{\text{Laman}\} \\
C_f(2b) &= \{\text{Laban, Laman}\}
\end{align*}
\]

Here we also have a \text{CONTINUE} transition from sentence 1 to sentence 2b since \( C_b(2b) = C_p(1) \) and \( C_f(2b) = (C_b)^1 \): in this case all values again refer to \( \text{Laman} \).

Next, we consider the third clause:

\[ \text{as he sat in his house} \]

Here, even though we assume \( \text{his house} \) refers to \( \text{Laban's} \), we have two possible readings, depending on the value for \( \text{he} \):

\[
\begin{align*}
\text{as Laman sat in Laban's house} & \text{ (call this sentence 3a)} \\
\text{as Laban sat in Laban's house} & \text{ (call this sentence 3b)}
\end{align*}
\]

\[
\begin{align*}
C_b(3a) &= \{\text{Laman, Laban}\} \\
C_f(3b) &= \{\text{Laban, Laban}\}
\end{align*}
\]

In considering how this clause combines with the previous one, we now get four possible scenarios for consideration:

- If we follow the first reading for the previous clause (2a) and assume the first reading for this one (3a), we obtain a backward looking center value \( C_b(2a+3a) = \{\text{Laman}\} \) since this is the most prominent member of \( C_f(2a) \) realized in 3a. Consequently, we have a \text{CONTINUE} transition since \( C_b(2a+3a) = C_p(2a) \) and
Cb(2a+3a) = Cb(2a), all values yielding Laman.

- However, if we follow the first reading for the previous clause (2a) and assume the second reading for the present clause (3b), we obtain Cb(2a+3b) = \{Laban\} since Laban is the most prominent member of Cf(2a) realized in 3b. Hence in this case we have a SHIFT transition since Cb(2a+3b) \neq Cp(2a) and Cb(2a+3b) \neq Cb(2a).

- If we follow the second reading (2b) for the previous clause and assume the first reading for this one, we obtain for this clause Cb(2b+3a) = and Cf(3a) = \{Laman, Laban\}. This is a SMOOTH-SHIFT transition since Cb(3a) = Cp(2b) but Cb(3a) \neq Cb(2b).

- If we follow the second reading for both the previous clause (2b) and this one (3b), we obtain for this clause Cb(2b+3b) = \{Laban\} and Cf = \{Laban, Laban\}. This, too, is a SMOOTH-SHIFT transition following reasoning sketched in the previous item.

Taking stock of our progress to this stage, we can summarize the transition patterns in terms of the possible indexing scenarios we have adopted:

\[
i j i j \quad \text{CONTINUE + CONTINUE}
\]
\[
i j j j \quad \text{CONTINUE + SHIFT + CONTINUE}
\]
\[
j i i j \quad \text{CONTINUE + SMOOTH-SHIFT + SMOOTH-SHIFT}
\]
\[
j i j j \quad \text{CONTINUE-SMOOTH-SHIFT + CONTINUE}
\]

The numbers in the last column represent preference rankings based on the transition hierarchy. Hence the algorithm judges that the most natural, or least jarring, sequence would be paraphrased as:

\[
\ldots \text{and Laman went in unto the house of Laban, and Laban talked with Laman as Laman sat in Laban's house.}
\text{And Laban desired of Laban the records} \ldots
\]

A schematic illustration of application of the centering algorithm for the
steps we have considered is given in Figure 1.

5. Other examples
Appendixes A and B list several passages from the (first half of the) Book of Mormon and from the Pentateuch (King James Version) respectively which contain passages ambiguous in the ways our example passage was.

Many involve dialogue; in these cases contextual clues from the conversational turns can inform the reader as to proper referent identification. In some cases, though, possibilities abound;

occasionally such passages require significant deliberate attention to the resolution process.

And Joseph . . . went up to meet Israel his father . . . and presented himself unto him; and he fell on his neck, and wept on his neck a good while (Genesis 46:29).

One might wonder, in this passage, who fell on whose neck.

By way of illustration we give two other similar passages, one from the Bible and another from the Book of Mormon.

Laman went into the house of Laban
Cb (Laman)  
Cf (Laman, Laban)
    /
   / \     
  /   \    
he talked with him
Cb (Laman)  Cb (Laman)  
Cf (Laman, Laban)  Cf (Laban, Laman)  CONTINUE  CONTINUE
    /
   / \     
  /   \    
while he was in his house
Cb (Laban)  Cb (Laman)  Cb (Laban)  Cb (Laban)
CF (Laban, Laban)  Cf (Laman, Laban)  Cf (Laman, Laban)  Cf (Laban, Laban)  SHIFT  CONTINUE  SMOOTH-SHIFT  SMOOTH-SHIFT

And he desired of Laban
Cb (Laban)  Cb (Laman)  Cb (Laman)  Cb (Laban)
Cf (Laman, Laban)  Cf (Laman, Laban)  Cf (Laman, Laban)  Cf (Laman, Laban)  CONTINUE  CONTINUE  SMOOTH-SHIFT  CONTINUE

Figure 1: Decision tree for centering-based processing.
Who is “him”? Determining Pronominal Reference

And if a man smite his servant... and he die under his hand; he shall be surely punished. Notwithstanding, if he continue a day or two, he shall not be punished: for he is his money (Exodus 21:19-20).

Now Alma, seeing that the words of Amulek had silenced Zeezrom, for he beheld that Amulek had caught him in his lying and deceiving to destroy him, and seeing that he began to speak unto him, and to establish the words of Amulek... (Alma 12:1).

The latter passage is so massively ambiguous that concerted effort must be made to completely resolve referents. Hand-application of the centering algorithm for this example becomes quickly impossible.

6. Conclusion

So far we have discussed a previously proposed algorithm for discourse centering, and shown its application to sample passages of scripture. In this section we pause to mention the implications for such an approach and possible further related research.

First and foremost, the centering approach was developed as a method for calculating and ranking preferences in ambiguous environments. As such it is not just a subjective system but embodies a quantitative method for ranking preferred readings in complex passages. This is useful in the context of natural language processing, since the algorithm can be coded up in a computer language and used by a computer in text or dialogue understanding.

Secondly, the approach is claimed to provide a predictive framework for determining pronoun reference. This implies that one could, for example, investigate on-line processing in human subjects by interrupting their reading of certain passages and asking what interpretations are preferred at that time, and how such preferences might change as more text is encountered.

An intriguing area for further research is how these mechanism might interface with grammatical principles. It has been noted that some languages process lexical, morphologic, or syntactic devices that are used to signal transitions in discourse reference. Both formalist and functionalist literatures discuss various methods that different languages use for this purpose. 3

More speculatively, assuming the availability of grammatical devices for marking discourse referent transition in a given source language, they could perhaps be observed in a target language translation which adheres closely to the source in content and style. If particular devices used to flag infelicitous, jarring transitions in a source language were rendered directly via translation, their reflects would be discernable in the target language text. Occasional mention has been made of such frequently occurring discourse transition markers as “Now...,” and so on, as they appear in English translations of scripture. Could there be a discourse-transition component in their appearance and frequent use?

As a descriptive tool, evaluation metric, and springboard for further study, the centering algorithm provides interesting insights into discourse referent tracking. Though we have only touched on a few of its basic properties, it promises to be helpful for those interested in studying how
languages use referents and how we interpret them.

End notes

1In fact, there is also a third, the house, which will not be treated in our discussion.

2Cp is defined as the first, or most prominent, member of Cf.

3For example, see [Bates, 1997].

References


7. Appendix A

<p>| 1 Nephi 1:10 | Mosiah 8:6 | Alma 5:59 |
| 1 Nephi 3:11 | Mosiah 17:5-7 | Alma 11:26-39 |
| 1 Nephi 3:13 | Mosiah 17:11-12 | Alma 12:1 |
| 1 Nephi 3:24 | Mosiah 18:15 | Alma 12:7 |
| 1 Nephi 7:1 | Mosiah 19:4-6 | Alma 15:18 |
| 1 Nephi 11:27 | Mosiah 22:5 | Alma 18:13-16 |
| 2 Nephi 11:2-3 | Alma 1:7-11 | Alma 18:18-19 |
| Jacob 7:8-11 | Alma 4:16 | Alma 18:23-43 |
| Mosiah 6:6 | Alma 4:16-19 | Alma 19:7-8 |
| Mosiah 6:6 | Alma 5:41-42 | |</p>
<table>
<thead>
<tr>
<th>8. Appendix B</th>
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</thead>
<tbody>
<tr>
<td>Genesis 2:19, 21-22</td>
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<tr>
<td>Genesis 3:24</td>
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<td>Genesis 4:4-5</td>
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<td>Genesis 4:17</td>
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<td>Genesis 4:26</td>
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<td>Genesis 5:4</td>
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<td>Genesis 5:29</td>
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<td>Genesis 14:14-16</td>
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<td>Genesis 18:17-19</td>
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<tr>
<td>Genesis 28:6</td>
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<td>Genesis 31:20-23</td>
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</tbody>
</table>
Foreign Language Training for LDS Missionaries: Historical Antecedents and Foundations for Current Church Policies and Institutions

Lynn Henrichsen

In 1830, just one language -- English -- was used in the Church of Jesus Christ of Latter-day Saints. One-hundred-fifty years later, in 1981, that number had grown to 71 (Deseret News 1983 Church Almanac 1982, pp. 252-253). Only 15 years later, in 1996, the number of languages in the Church had mushroomed to 175 (Deseret News 1997-98 Church Almanac, 1996, p.6).

Communication is crucial in accomplishing the mission of the Church. Nevertheless, as the Church becomes increasingly international, language differences often impede or block communication. What can and should the Church do when such differences hamper the preaching of the gospel, the perfecting of the saints, or the redeeming of the dead? On the other hand, what steps can or should be taken to respect language diversity and preserve language resources among the Saints in a worldwide Church?

Furthermore, should these decisions be made at Church headquarters and implemented uniformly around the world, or is it better to allow for local decision making, adaptation, and “bottom-up” development? Such questions fall within the domain of language planning, the theme around which this paper revolves.

The research that this presentation reports on is intended to help provide a historical perspective that will assist future language planning and policy development in the Church. It looks at instances and trends in past language-policy formation processes related to the provision of support systems for missionaries learning the language of the people to whom they are to preach the gospel. Such a view can help us know how best to proceed in this and other language-related areas in the future.

Language Planning -- General Background Information

Language planning is a “political and administrative activity for solving language problems in society” (Jernudd & Das Gupta, 1971, p. 211). It is “an activity whereby goals are established, means are selected, and outcomes predicted in a systematic and explicit manner” (Rubin, 1971, p. 218). Language planning is usually seen as a process involving three activities: (1) the identification of a language problem, (2) the development of a language policy, and (3) the implementation of a language plan.

Language Problem

A language “problem” typically occurs when more than one language or language group comes in contact with other languages or language groups within a community, between communities, or even between nations. This contact often produces some tension or instability as communication becomes more complicated, limited resources must be allocated, or relative
status becomes important for speakers of these languages.

**Language Policy**

Once a language problem is identified, a language "policy" may be introduced by some person or organization in a position of power. This policy is a strategy, complete with overall goals or desired consequences, as well as general methods, which can be used to approach and resolve the identified language problem. Language policy creation "involves the construction of an over-all design of organized action that is considered necessary for economic utilization of resources and that is directed by a formally constituted authority" (Jernudd & Das Gupta, 1971, p. 195).

**Language Plan**

The actual modifications or actions that are based on the language policy constitute what is called a language "plan." This plan consists of methods and practices through which the language policy is realized. In other words, a language plan "is the vehicle for implementing a language policy; it tries to solve the problem ..." (Kaplan 1992, p. 144).

To summarize, ideal language planning begins with the clear identification of a language problem. The process then proceeds carefully through policy formation and the development of plans for implementing that policy, which are then carried out.

Sometimes in the real world, however, language problems are not clearly understood, policies are accidental or relative in nature, and planning for implementation is haphazard or incomplete. Language planning may involve only a spontaneous reaction to a social situation and that language policy may be merely "a vague, unarticulated notion of 'what should be'” (Eggington & Baldauf, 1990, p. 89). Sometimes, in the rush to arrive at a solution and do something about a solution, the planning phase of the process just described is shortchanged. While certain aspects of a language situation may be considered and planned, other aspects may be ignored. The result is what is called "defacto language policy and planning" or "unplanned language policy and planning" (Baldauf, 1993/94, p. 85). In such cases, the outcomes may, not unexpectedly, not always be what was intended. False starts and, later, backtracking, may be frequent. Time, energy, and other resources may seem to be wasted, but perhaps that is the price that must be paid for the development of a successful, workable, real-world policy.

**The Provision of Language-Learning Support for LDS Missionaries**

One of the first things that the history of the LDS Church’s policy regarding the provision of systems to support foreign-language learning by missionaries illustrates is the large, developmental price paid for the missionary-training policies and institutions that we currently enjoy and may even take for granted. Our current policies and institutions have taken over 150 years to develop. That history will now be presented within the language problem, policy, and plan framework just explained. Other lessons that this history teaches will then be discussed, and implications for Church language policy and planning in other areas will be suggested.

**Problem**

In regard to missionaries and foreign languages, the language problem is very
evident. When missionaries are sent outside of their native language communities, they often do not speak the language of the people to whom they have been sent to preach the gospel. This communication block prevents them from doing what they have been called to do.

**Policy**
The general Church policy that missionaries should learn the language of their proselytes is based on a well-known LDS scripture (D&C 90:11): “For it shall come to pass in that day, that every man shall hear the fulness of the gospel in his own tongue, and in his own language, through those who are ordained unto this power . . .”

Joseph Smith elaborated on this basic idea. In 1841, for instance, he preached, “When devout men from every nation shall assemble to hear the things of God, let the Elders preach to them in their own mother tongue, whether it is German, French, Spanish, or Irish, or any other . . .” (Smith, 1954/1976, p. 195).

Brigham Young followed, established, and elaborated on this same policy. In 1860, for instance, he urged,

>We should be familiar with the various languages, for we wish to send missionaries to the different nations and to the islands of the sea. We wish missionaries who may go to France to be able to speak the French language fluently, and those who may go to Germany, Italy, Spain, and so on to all nations, to be familiar with the languages of those nations (Young, 1860, p. 39).

In this same, practical vein, Elder John Taylor, speaking in the Tabernacle in 1852 on his return from a three-year mission to Europe, noted, “It is good for the Elders to become acquainted with the languages, for they may have to go abroad, and should be able to talk to the people, and not look like fools. I care not how much intelligence you have got, if you cannot exhibit it you look like an ignoramus” (Taylor, 1852, p. 19).

This idea is so firmly established that we can hardly imagine missionaries not learning the language of the people they work with. Nevertheless, such has not always been the case. Nor has the policy that the Church should provide special language training to its missionaries always been well established. In fact, this policy has been the subject of considerable debate over the decades. During that time, Church policy has evolved from one of providing no official preparation (leaving missionaries to rely on the gifts of the spirit and their own self-preparation) to its current state of first-rate, Church-sponsored preparation, manifested in our world-famous Missionary Training Center.

**Plan**
The plans for putting this developing policy into practice have also evolved through several stages over the years. First, however, it was necessary for the language problem to arise and be recognized.

In the earliest days of the Church, most missionaries were English speakers and went to the United States, Canada, or Great Britain. In other words, there was virtually no language problem for them. Everyone involved spoke essentially the same language.

Later, as the Church’s missionary efforts expanded to other lands where English was not spoken, many missionaries simply served in their native lands or returned to them. In such cases, they could
already speak the language so there was really not much of a language problem to be concerned about, either. For example, my great-grandfather, Erik C. Henrichsen, a native of Denmark, joined the Church in that country in 1868. A year later, he was called to serve a mission in Denmark and Norway, which he did. Two years after that, in 1871, he immigrated to Utah (Erik C. Henrichsen, 1902, p. 439). Thirty-two years later, in 1903, at age 56, he was called to return to Scandinavia and serve another mission in Norway (Henrichsen 1988, pp. 367 & 387). For him, speaking the language of the people he taught on his mission was very natural and simple. Danish, after all, was his native language, and Norwegian a very close relative of Danish.

Of course, it wasn’t always so easy for every missionary. Even in the early days of the church, missionaries were called to labor in foreign lands where they did not speak the language of the people. As this problem manifested itself and gradually grew more daunting and complex, Church language policy and planning progressed through several stages:

1. Emphasis on Self-Preparation
2. Special Programs Developed and Implemented Locally
3. Adjunct Programs at Church Schools
4. Dedicated, Independent, Church Supported Institutions

Church policies and institutions for missionary preparation in general have gone through these stages. Those devoted to foreign-language learning by missionaries have followed them -- usually decades later.

In the remainder of this paper, I will briefly describe these efforts.

Self-Preparation
The linguistic problems that early LDS missionaries had to overcome were difficult but not insurmountable, and for many decades the emphasis was on individual effort and self-preparation. Elder John Taylor’s mission to Europe from 1849 to 1852 provides a good example of this emphasis. Although he went to France, at first he worked with Englishmen there and preached in his native English. After experiencing difficulties with this audience, however, Elder Taylor decided, “I would let the English alone, and turn to the French. I went from there right into the city of Paris...” Of course, this meant learning to speak French. As he noted in 1852, when reporting on his mission, “You may inquire, how did you get along preaching? The best way that we could, the same as we always do. We went to work (at least I did) to try to learn the language a little.” Elaborating on his French language-learning experience, he said,

We found many difficulties to combat, for it is not an easy thing to go into France and learn to talk French well; but at the same time, if a man sets to work in good earnest, he can do it. I have scratched the word ‘can’t’ out of my vocabulary long since, and I have not got it in my French one (Taylor, 1852, pp. 18-21).

Elder Taylor went on to explain the need for study: “You may say, I thought the Lord would give us the gift of tongues. He won’t if we are too indolent to study them. I never ask the Lord to do a thing I could do for
myself.” Elder Taylor’s statement characterizes the early, widely encouraged and long-held Church philosophy of missionary self-preparation through individual study.

This emphasis on individual self-preparation began to change, however, when English-speaking Church missionaries first encountered and used more difficult, non-European languages. This happened first in the Pacific in the 1840’s. The first linguistic pioneer in this area was Addison Pratt. As a young man he had sailed the Pacific in whaling vessels and become acquainted with the languages of the region. Later, he returned to his native New England, where he married and then joined the Church. Eventually, after migrating to Nauvoo to join the saints there, he was personally called by the Prophet Joseph Smith to open a mission to the South Sea Islands. This mission was the first organized Church mission to a non-English-language area. It was preceded only by British and Eastern States missions. Departing on June 1, 1843, Elder Pratt eventually made his way to Tahiti, where he enjoyed considerable success. After five years there, he returned to the United States and joined his family in the Salt Lake Valley. There, during the winter of 1848-49, he taught a class in the Tahitian language for prospective missionaries before going back to Tahiti (Pratt, 1950, preface and pp. 245-247). Except for the School of the Prophets in Nauvoo, which really focused more on religious instruction, Elder Pratt’s 1848 Salt Lake City class was the earliest known instance of a special Church-sponsored school or program for teaching missionaries the language of their missions. It was a noteworthy pioneering precursor to today’s Missionary Training Centers, but it seems to have been over a century ahead of its time.

For many decades, the emphasis on missionary self-preparation continued to predominate.

As late as 1962, when the Missionary Foreign Language Institute was starting at BYU, many high-level Church leaders still questioned whether such an institute should even exist. Several “General Authorities were determined to avoid anything that resembled a professionally trained clergy” (Cowan, 1984, p. 27). Even some who favored professional-quality foreign-language instruction for missionaries thought that they should do it “at their own expense” (Cowan, 1984, p. 27). After all, missionaries support themselves in most other ways. The Church does not provide missionaries with free clothing and scriptures. Why should it provide free language training?

But in order to understand the full process of developing, approving, and implementing the plan to establish the Missionary Foreign Language Institute in the 1960’s, it is necessary to go back much farther in time -- to the Pacific in the mid-1800’s. In 1850, the Sandwich (or Hawaiian) Islands mission was organized. At first, the elders sent from Salt Lake City preached only to the other whites (or haoles) and in English. Elder George Q. Cannon’s momentous decision to preach to the natives of these islands and his determination to learn the Hawaiian language in order to do so are legendary. As he himself said,

I made up my mind to acquire the language, preach the gospel to the natives and to the whites whenever I could obtain an opportunity, and thus fill my mission. I felt resolved to . . . master the language and warn the people of
these islands, if I had to do it alone (Cannon, 1882, p. 22).

With the help of the Spirit, and never permitting an opportunity of talking with the Hawaiian to pass, he achieved his goal, providing a sterling example of missionary dedication and self-preparation.

Some of the other missionaries in Hawaii, however, did not enjoy the same degree of success that Elder Cannon did. Working toward some proficiency in Hawaiian, they used rather primitive language-teaching aids, such as a piece of paper with useful sentences in Hawaiian (and their English traditions) written on it (Cannon, 1882, p. 24). They quickly became discouraged. Elder Reddick Allred, a missionary in Hawaii in Cannon's time, reported in his journal entry of 14 April 1853, “many of the natives came in to talke with us, but they would all talke with us, but they would all talke at once & so fast that it was like the ‘sounding brass’” (Allred, 14 April 1853). He probably wondered if he would ever learn to speak Hawaiian and noted, “The other missionaries [of protestant denominations] it was said was two & three years getting the language before they attempted to preach.” Some of the courageous Mormon elders “commenced in 3 & 4 months” (Allred, 18 April 1853).

Interestingly, at that time, Brother Jonathan Napela, a strong Hawaiian Church member and leader, suggested that all new missionaries come to his house for two months for language training. Napela himself proposed to teach them. In Allred’s words,

Napela came down & spent the day with us talking, reading &c . . . . He said he wanted to keep us in school 2 months & then we might go for he thought we would begin to keep us in school 2 months & then we might for he thought we would begin to talk in that time to get to our places of appointment (Allred, 27 April 1853).

This plan sounds remarkably similar to the current MTC language programs that the Church did not develop officially for another 100 years. Ironically, the Hawaii missionaries themselves seem to have rejected it at that time as being impractical and as taking them away from their labors. Some argued that they had been sent to preach the gospel, not study foreign languages. They were apparently not ready for the next stage -- special language programs. Nor was the Church. For nearly a century, missionaries who did not already know their mission language were sent to their fields of labor and expected to learn the language there, sink-or-swim fashion, essentially on their own, with the help of their companions, local members, and the Spirit.

For some, this approach worked -- especially as long as most English-speaking missionaries were learning European languages closely related to English. Even in such cases, however, missionaries often struggled for a long time and served with reduced effectiveness because of their language-learning difficulties.

This immersion approach turned out to be even less successful with the more difficult Asian languages. In 1901, Elder Herbert J. Grant opened the Japanese mission. Even Elder Grant, who was famous for never giving up, eventually abandoned his attempts to learn the Japanese language after spending two years there (Britsch, 1992, p. 32; Heber J. Grant, 1972,
Foreign Language Training

A. B. Madsen, 1970). One can only imagine what effect President Grant's frustrating language-learning experience had on the later evolution of Church language policy regarding language instruction for missionaries.

Fifty years later, in 1955, missionaries sent to Hong Kong (part of the newly opened Southern Far East Mission) experienced the same language-learning frustration. They received no special Church-sponsored language training, and, not unexpectedly, they found learning Cantonese on their own to be extremely difficult. In the face of these difficulties and persecution that they suffered, they almost gave up and returned home (M. Bohn, personal communication, 16 February 1999). Fortunately, President Grant Heaton was able to engage the services of an investigator, Ng Kat Hing, to give basic Cantonese language lessons to the missionaries (Ricks, 1992, p. 51).

The missionaries’ experience in Hong Kong was not a unique one. As time went by and as the Church expanded into increasingly difficult linguistic situations, the need for special missionary preparation in languages became even more widely recognized by Church leaders. In addition, Church resources for providing such preparation grew. Little by little, special programs for preparing missionaries were developed. At first, as in Hong Kong, these programs were small, local efforts. In the early days of the Church, they focused on missionary preparation in general. Special language-learning programs did not come until many years later.

The first of the special Church programs for missionary training in general was the School of the Prophets. This institution of learning was established in Kirtland in 1833, less than two months after the revelation known as section 88 of the Doctrine & Covenants was received. Section 88 outlined an extensive curriculum “Of things both in heaven and in the earth . . . things which are at home, and things which are abroad; the wars and the perplexities of the nations.” The sixty students, primarily prospective missionaries, attended “for the avowed purpose of better fitting themselves for the arduous duty of proclaiming an unpopular message to the world” (Bennion, 1939, p. 7). The program of study included more than theology. Political science, literature, and geography were also taught. Interestingly, however, the only foreign languages mentioned were Greek, Latin, (and later Hebrew), which were useful for studying ancient writings, but not for preaching the gospel (Bennion, 1939, pp. 8, 11).

Although it did little in the way of foreign-language training, the School of the Prophets established firmly the idea that Church members called to serve as missionaries would benefit from special schooling. This concept was a foundation stone for the development that would follow. For instance, it paved the way for Addison Pratt’s Tahitian language classes in Salt Lake City in 1848. Still, the development of large-scale, long-term, Church-sponsored programs to help missionaries learn the language of the people to whom they would preach the gospel was over a century away. Numerous small, local language-learning programs were developed first.
As the Church grew, formal, organized missions were established in many foreign lands. In many of these missions, the mission presidents provided on-site language training for arriving missionaries. These local efforts produced mixed results.

In some areas, such as the Finnish Mission, this training was well organized and met with a considerable degree of success. The mission president sent newly called missionaries a few sheets of "language helps" (mostly useful phrases to memorize), which they were to study prior to their arrival. Then, for the first week after these missionaries arrived in the mission field, they attended intensive Finnish courses taught by experienced missionaries. In the evenings, however, the new missionaries would go out proselytizing among the Finns. This experience not only provided the missionaries with valuable practice, but also gave them additional motivation to learn Finnish. After a week, new missionaries were able to tell the Joseph Smith story in Finnish, and they were then sent out to proselyte. Periodically, however, they returned to the mission home for additional language course work. They also studied on their own. The mission attitude was that language learning was part of a missionary's responsibility, and missionaries continued to learn new vocabulary and develop their Finnish skills up until the time they were released (M.J. Luthy, personal communication, 18 February 1999).

In many other mission areas around the world, however, the missionaries' language-learning experience was not so positive, and the quality of the language training they received was not unsatisfactory. For instance, "early in 1947, Elder S. Dilworth Young of the First Council of the Seventy toured the Spanish-American Mission located in the Southwestern United States. In his official report of this tour, Elder Young pointed out . . .

The chief difficulty to good missionary work is the inability of the missionaries to speak Spanish. The president is under the necessity of keeping missionaries for a month, oftentimes, to give them even an idea of the language. Then they often go out to learn further from companions who know little more than they do.(Spanish-American Mission, 1947, in Reports on Mission Tours by General Authorities, MS, Church Archives; as cited in Cowan, 1984, p. 8).

Furthermore, providing this training took the presidents and senior missionaries away from other important responsibilities. Something else needed to be done.

**Adjunct Programs at Church Schools**

The next stage in the development of Church language policy and planning in this area was to make missionary training part of adjunct programs at Church schools. Here again, general missionary preparation preceded specialized foreign language training by many decades.

**General missionary preparation at Brigham Young Academy and other Church schools**

In 1840, under Joseph Smith's direction, the University of the City of Nauvoo was established. "In it, mathematics, chemistry, geology, literature, history, German, French, Latin and Greek were taught" (Bennion,
It is likely that many future missionaries studied at this "first municipal university in America" (Bennion, 1939, p. 22).

During the latter nineteenth century, Church schools were founded in Utah, and they soon created programs for missionary training. In 1833, missionary meetings were added to the offerings of the Theological Department at Brigham Young Academy in Provo. Returned missionaries and even General Authorities addressed the young men. By 1894, missionary classes at BYA were being well attended (Cowan, 1984, pp. 1-2). Academy President Benjamin Cluff, Jr., enthusiastically promoted these classes. In an 1899 letter to the First Presidency, he noted:

It is often asserted by missionary presidents that many of our young men who are called to preach the gospel are wholly, or in part, unprepared, not because they have a strong testimony, but because they are ignorant of the principles of the gospel and of the scriptures. These missionaries must study, therefore, a year at least before they are ready to do much work (General Board Minutes, 1 May 1899; as cited in Wilkinson, 1975, p. 271).

He then offered to organize a missionary-training program at Brigham Young Academy at no additional charge to the Church. This course got underway in February of 1900, and enrollment averaged 120 per year.

Those receiving mission calls were requested to report first to Brigham Young Academy for training. Mission presidents enthusiastically praised the results. Elias Smith Kimball, Jr., president of the Southern States Mission, described Church schools as 'the natural nurseries of missionaries -- educating the mental and spiritual alike.'

He praised the results of the BYA missionary-training program highly, saying, "A thorough, faithful course in one of our Church schools places a young man in the missionary field one year in advance of another who has not been blessed in a similar way" (Elias Smith Kimball, Sr., to Benjamin Cluff, Jr., 5 March 1899, Cluff Presidential Papers; as cited in Wilkinson, 1975, p. 272). So favorable were the results that "each missionary call from President Snow was accompanied by a request for the new missionary to take a preparatory course at Brigham Young Academy" (Wilkinson, 1975, p. 273). The BYA went on to organize a "Missionary Department" that brought as many prospective missionaries as possible to the campus. "Participation was available only to those called by the First Presidency."

All participants were required to present, at registration, a recommend from their Bishop which entitled them to free tuition in a missionary-oriented core of classes. These classes included instruction in theology, public speaking, vocal music, language, penmanship, correspondence, and the conducting of meetings (Cowan, 1984, p. 4).

Similar programs were soon initiated at Ricks College in Idaho and at the LDS
University in Salt Lake City. There, Elder B. H. Roberts addressed three evening sessions per week, and Evan Stephens, the well-known composer of LDS hymns and conductor of the Tabernacle Choir, trained the missionaries in music (Cowan, 1984, pp. 4-5). Training in modern foreign languages, however, was apparently not part of the curriculum. For that, it would be necessary to wait nearly fifty years.

**Foreign language training at Brigham Young University**

In his 1947 report on the Spanish-American Mission, Elder S. Dilworth Young extolled the benefits of specialized foreign-language training for missionaries. Arguing that it would greatly increase their effectiveness, he proposed that

three months of intensive study at Brigham Young University under Brother [Gerrit] de Jong [a professors] would make it possible for the missionaries to be of value in the field immediately. This period could well be a part of the mission time, and would save time by the increase in usefulness of the missionaries upon their arrival in the field (Spanish American Mission, 1947; as cited in Cowan, 1984, p. 8).

Apparently, the time was finally getting to be right for this idea, proposed in Hawaii by Jonathan Napela a century earlier.

In December of that same year, the entire First Council of the Seventy sent a proposal on this same subject to the First Presidency. This document outlined many features of the program and... recommended that Brigham Young University become the missionary training center for the Church.

Its authors said,

'We feel that much more could be accomplished in a two year period of time with three months of that time devoted to intensive training.'... the 'new Army method of teaching foreign languages' could help the missionaries learn as much as possible during the brief period of three months (Unanimous Report Made by the First Council of the Seventy to the First Presidency, December 3, 1947; as cited in Cowan, 1984, pp. 8-9 & Appendix A).

Around this time, the idea of missionary training at BYU was also being discussed by the language faculty. As early as the winter of 1950, Professor H. Darrel Taylor of the Department of Languages spoke of "instituting special classes at the BYU for those who had been called on foreign missions." He reasoned that in these classes, missionaries could learn not only the language, but also the culture, customs, and history of the countries where they had been called to serve. The classes would help lessen the culture shock experienced by new missionaries, and they could also serve as as a screening function for those lacking the aptitude for language learning (Taylor & Taylor, 1981, p. 103).

In 1952, "in a five-page letter to the First Presidency," the new president of BYU, Ernest L. Wilkinson, "pointed out the advantages of combining the Salt Lake Missionary Home with a language-training program at BYU. He claimed that BYU faculty members could teach every language" (Wilkinson to the First...
Presidency, August 7, 1952, cited in Cowan, 1984, p. 11). For the next nine years, however, committees met and made recommendations. Finally, in 1961, things began to move when visa problems for missionaries called to Mexico provided an unexpected, but welcome, catalyst. Typically, they had to wait three months from the time of application until their visas actually arrived. Joseph T. Bentley, former president of the Northern Mexican Mission, “proposed the inauguration of a program at BYU by which the newly called missionaries could learn missionary methods and the Spanish language while waiting to receive their visas” (Bentley to Ernest L. Wilkinson, September 19, 1961; Bentley to Marion G. Romney, September 20, 1961; as cited in Cowan, 1984, p. 18). The First Presidency and Quorum of the Twelve approved Bentley’s proposal in October.

Missionary Foreign Language Institute at BYU
On November 1, 1961, President Wilkinson proposed to the BYU Board of Trustees the establishment of a “pilot program for a Missionary Foreign Language Institute at BYU.” With urging from President Marion G. Romney and Elder Gordon B. Hinckley, the Board approved this pilot program. Extract from Church Board of Education minutes, November 1, 1961, cited in Cowan, 1984, p. 19). Darrel Taylor, chairman of the Department of Languages, went to work immediately organizing the “LDS Missionary Foreign Language Institute.” Shortly, Ernest J. Wilkins, a BYU professor of Spanish, was named as the institute’s first director. President Wilkinson cautioned,

Since it is a pilot study the General Authorities will properly be examining it for any flaws or weaknesses, and there will be many in the Church critical of it because it is a departure from past practices, and any departure is difficult for some members of the Church to accept (Cowan, 1984, p. 20).

Many details on the history of this institute can be found in Richard O. Cowan’s excellent history of the Missionary Training Center and its predecessors. It opened on December 4, 1961, with fourteen elders going to Argentina and fifteen going to Mexico. They lived in the Hotel Roberts in downtown Provo and attended classes in the Alumni House. The Institute’s operations were subjected to rigorous scrutiny. Its successes and continuation were by no means a foregone conclusion. For instance, “President Moyle questioned the appropriateness of expending Church funds to provide training in Spanish for some missionaries while no comparable program was provided for those assigned to learn other languages.” It would be more fair if they would “attend an intensive Spanish course at BYU at their own expense” (Cowan, 1984, p. 27). Some proposed that missionaries needing a foreign language be given a tentative call six months prior to their entrance into the field and be asked to enroll for one semester at BYU where they would take an intensive language course plus classes in history, geography, religion, and other related subjects (Ernest J. Wilkins to Advisory Council, March 4, 1963, cited in Cowan, 1984, p. 43). These competing proposals were “intensely debated,” but as you can undoubtedly figure out on your own, the institute successfully
navigated these waters and went on to become the Language Training Mission, not just a BYU-sponsored language institute.

**Church Missionary Home in Salt Lake City.**
Dedicated, independent, Church-supported institutions for missionary training in general had been around for about forty years. In October of 1921,

a committee of the Twelve met with mission presidents who had come to general conference and considered the advisability of having all missionaries undergo two weeks training on the temple block under the direction of the bureau of information’ (Mission Annual Reports, 1922, Ms Church Archives; as cited in Cowan, 1984, p 5).

Nearly three years later, “in May of 1924, the First Presidency approved a “Church Missionary Home and Preparatory Training School.” It was located at 31 North State Street and could accommodate 64 missionaries. Compared to today’s MTC complex, this building was small, but it is noteworthy as the first independent, Church-sponsored institution devoted exclusively to missionary preparation. By 1926, the Missionary Home program was extended to two weeks. Seventy-one classes were taught and included “English and foreign languages, singing, genealogy, ... personal health and hygiene, ... gymnasium exercises and swimming, table etiquette and manners” (Snows, 1928, p. 553). This program and the building that housed it were later refined and expanded. Given the breadth of topics addressed in just two weeks, however, it is obvious that in-depth serious foreign-language training could not be accomplished. That training had to wait for the establishment of the BYU Missionary Foreign Language Institute. Even that institute, however, was not an official Church program. At first, as noted above, it was merely a BYU program operating on an experimental basis.

**Language Training Mission**
In mid 1963, however, the status of the pilot Missionary Foreign Language Institute was changed. On April 30 of that year, it was granted permanence and mission status. The name was changed to “Brigham Young University Foreign Language Institute Mission.” (later shortened to “Language Training Mission”) (Cowan, 1984, p. 45), and Dr. Wilkins was called and set apart as its president (Cowan, 1984, pp. 44-45).

Within a month, the operations of the LTM (which had been spread through at least four different campus buildings) were consolidated in Knight Mangum Hall, a former “women’s dormitory located on the southeast edge of campus” (Cowan, 1984, p. 46). This spacious building had twenty classrooms and space for up to 200 missionaries. “The move into this building cleared the way for the addition of training in new languages” (Cowan, 1984, p. 47). As Elder Hinckley had insisted, “If the Missionary Language Institute is good for Spanish-speaking missionaries, it is also good for others and there should be no discrimination” (Wilkins to Advisory Council, March 4, 1963, as cited in Cowan, 1984, p. 47). As personnel, housing, and teaching materials became available, new languages were added, (1967), and French (1967). By 1968, instruction was offered “in all sixteen languages then being used by
missionaries” (Cowan, 1984, p. 49). In that year, two additional LTMs were created -- one at Church College of Hawaii (for Asian and Pacific languages), and another at Ricks College (for Scandinavian languages and Dutch).

**Missionary Training Center**

In 1974, ground was broken for the large new LTM complex near BYU, and over the next two years the diverse operations in Hawaii and Idaho were consolidated. In 1978, pilot groups of English-speaking missionaries came to the LTM. Based on data gathered from that experience, the First Presidency decided that “all missionaries would go directly to the LTM in Provo for training, and that the Salt Lake Missionary Home would be closed” (Cowan, 1984, p. 108). Subsequently, because of the more comprehensive nature of the training it now offered, the name of LTM was changed to the Missionary Training Center (MTC). For further details on the development of the LTM and MTC, see Richard O. Cowan’s excellent, in-depth history, *Every Man Shall Hear the Gospel in His Own Language: A History of the Missionary Training Center and its Predecessors*. Another good resource on LDS Church language teaching and learning policies and practices over the years is Cynthia Hallen’s 1982 M.A. thesis, titled *LDS language teaching and learning: Highlights from 1830 to 1982* (Department of Linguistics, Brigham Young University). Yet another is Grant Shields’ 1976 doctoral dissertation, titled *Language challenges facing the Church of Jesus Christ of Latter-day Saints in preaching the gospel to every nation* (Department of Church History and Doctrine, Brigham Young University).

**Conclusions Regarding the Process of Developing Language Policy and Plans in the LDS Church**

In retrospect, it is apparent that Church language policy, plans, and institutions for helping missionaries learn their mission languages did not emerge fully developed. They were not the products of decisions made by committees of language-planning experts. Rather, they developed gradually over a period of 150 years in the councils of the Church leaders and devoted academics, in the laboratory of the real world, and in response to increasingly pressing language problems.

The last few decades starting in the 1960's, have seen a clear shift away from the old “sink or swim” and self-preparation approaches to missionary preparation in general and missionary language learning in particular. Now the Church provides strong support when The Church provides them with teachers, first-class physical facilities, and even computer-assisted language instruction. In retrospect, the shift in Church policy and plans for missionaries learning foreign languages took place slowly, but the end was radically different from the beginning.

The evolutionary, problem-driven, bottom-up, experiment-supported process that eventually led to our current policies and institutions for helping missionaries learn the languages of the people to whom they have been called to preach the gospel has been followed in other language-related areas in the Church, also. The translation of the scriptures, for instance, was originally done by individuals who acted mostly on their own and independently prepared themselves for the work. Their early, local pilot efforts pioneered the scripture-translation process. Later, units and
individuals in the Church higher-education system provided assistance. Eventually, the current, highly refined Church policies, procedures, and facilities for translation emerged.

**Stages in the Process of Developing Specialized, Church-Supported Institutions**

Once specialized institutions for missionary language learning were established, they still went through various stages of development. These can be grouped into four major steps:

1. Small-scale experiment (after much deliberation, recommendation, and preparation)
2. Evaluation
3. Refinement
4. Expansion and consolidation

This four-step process would seem to constitute the Church’s unofficial yet historically established procedure for developing and implementing language plans. Details and examples related to each of these stages in the development of Church policy and plans for providing foreign-language training for missionaries follow.

**Small-scale experiment**

After years of waiting for the Church to start a program based on the deliberations and recommendations of many committees and leaders, in September of 1960 “President [Henry D.] Moyle suggested that [BYU] begin doing something ‘in a limited way’ on its own” (Cowan, 1984, p. 13). Shortly thereafter, the BYU Missionary Committee proposed a program in which two pilots of missionaries would receive training at BYU. One group would consist of missionaries going to English-speaking missions and would spend four weeks on campus. The other group would be made up of missionaries going to Spanish-speaking missions. Because of the language instruction they would receive, missionaries in this second group would spend an additional two weeks on campus.

Apparently, however, these plans were not implemented “until the fall of 1961 when an unforeseen problem provided the stimulus that moved the project from discussion to reality” (Cowan, 1984, p. 14). As noted above, missionaries going to Mexico had to wait three months to receive visas. In mid-September, Joseph T. Bentley proposed that they receive missionary and Spanish-language training at BYU while awaiting their visas. By October, the proposal had been approved by the First Presidency and Quorum of the Twelve, and on November 1, 1961, the BYU Board of Trustees approved the formation of a pilot LDS Missionary Foreign Language Institute.

The very next day, Darrel Taylor, chair of BYU’s Department of Languages, submitted a specific plan outlining the Institute’s personnel and budgetary needs. At his recommendation (Taylor & Taylor, 1981, p. 104). Ernest J. Wilkins, a professor of Spanish, was named the Institute’s first director. Within a week, Wilkins was reporting on progress and making additional recommendations, such as changing the official name from “LDS Missionary Foreign Language Institute” to the more manageable “Missionary Language Institute” to the more manageable “Missionary Language Institute” to the more manageable “Missionary Language Institute” (Wilkins to Bentley, November 13 & 14, 1961; as cited in Cowan, 1984, p. 21).
Just a few weeks later, the first group of missionaries (14 going to Argentina and 15 going to Mexico) arrived, and the Institute was officially opened on December 4, 1961 -- only a month and three days after its approval by the Board of Trustees. This quick implementation was possible because the plans approved during November of 1961 were not new. They represented the culmination of proposals, inspired deliberations, committee reports, responses, and directives dating back at least to 1947. Finally, after this decade-and-a-half discussion, the time was right to move forward (Cowan, 1984, pp. 22-23).

The new MFLI, although still a small-scale experiment, was finally a reality.

**Evaluation**

Although it had received the approval of BYU's Board of Trustees, the First Presidency, and the Quorum of the Twelve, this experimental pilot program was still subjected to evaluation of all sorts. Apparently, some of its strongest supporters in the earlier committee deliberations turned out to be its more careful examiners in this stage. For instance,

following an excursion to the Salt Lake Temple on January 12 [1962, about a month after the start of the Missionary Foreign Language Institute at BYU], the elders were invited to meet with Elder Gordon B. Hinckley. He frankly encouraged the missionaries 'to tell him what was wrong with the program and to suggest how they would improve it.' They made a number of critical, but useful, suggestions that were later addressed as the program developed (Cowan, 1984, p. 28).

Elder Hinckley was not the only Church General Authority to investigate the new Missionary Foreign Language Institute. Several "Church leaders were concerned that the missionaries' experience at BYU not to be a waste of time" (Cowan, 1984, p. 36). Elder Marion G. Romney actually made a personal visit to a Spanish class. "One day, about three months after the Institute had started, Elder and Sister Marion G. Romney came to check on the program personally." They actually joined a class in progress, and the teacher was instructed to "treat the Romneys the same as anyone else in the class." This he did quite convincingly.

Elder Romney wanted to sit next to his wife, but Steve had them sit on opposite sides of the room, explaining that this would be better for their pronunciation. Elder Romney insisted that he already knew Spanish, having been raised in the Colones. [The teacher] replied that this was 'pocho [border] Spanish' and was not pure. [He] really drilled the class. When Elder Romney left at noon, he told Wilkins that he wondered 'if the kids could take that kind of treatment' (Frederick G. Williams, "History of the Language Training Mission," August 8, 1996, p. 11; as cited in Cowan, 1984, p. 36).

Feedback from mission presidents who received missionaries who had gone through the Institute was also received and, fortunately, was "quite encouraging." One president in Argentina
considered the results of the Institute’s programs ‘very favorable.’ Elders coming from the MFLI, he insisted, were ‘much further advanced than most of the missionaries . . . who have been in the field from six months up to as high as a year.’

A mission president in Mexico wrote, “Seldom have missionaries come into the field with greater enthusiasm and desire to do missionary work” (Cowan, 1984, p. 41).

Elder A. Theodore Tuttle, the General Authority supervisor for all for South American missions . . . was convinced that elders coming from the program in Provo had (1) an amazing facility in the language compared to the others who had studied language elsewhere; (2) a well-developed missionary spirit . . .; (3) a desire to get out and go to work immediately; (4) study habits which carried over into the subsequent study of the language and the Gospel (C. Laird Snelgrove to Wilkins, March 17, 1962; Wilkins to Wilkinson, March 29, 1962; Wilkins to Spencer W. Kimball, April 3, 1964; all cited in Cowan, 1984, 1984, p. 41).

If the problems had been too great and the successes few, the experimental Institute program might have been rejected and something else tried. As the preceding comments illustrate, however, the experimental program was very successful. Consequently, it moved on to the next stage -- refinement.

Refinement

Although the pilot program was judged successful, it still needed refining in several areas. Missionaries visiting with Elder Hinckley had complained that they felt like they were in school instead of on a real mission (Cowan, 1984, p. 29). Accordingly, one of the major refinements was to change the name of the Missionary Foreign Language Institute to the Language Training Mission. At the same time, it was granted mission status and Professor Wilkins was called as the mission president.

Another refinement was related to missionaries’ Sunday activities. In the MFLI’s first days, elders attended Sunday Church meetings at the Spanish-American branch in Provo. This arrangement was later abandoned, and special, on-site Sunday meetings and gospel classes were set up for the missionaries at the LTM (Cowan, 1984, p. 29).

A third major refinement was the development of a specialized language-learning curriculum for missionaries. Within a relatively short time, a tailor-made Español para misioneros textbook was created and published by the LTM (Cowan, 1984, p. 34). Although similar in many respects to Español a lo vivo (a highly successful Spanish textbook authored by Ernest Wilkins and Terrence Hansen for college students), the dialogs and drills in Español para misioneros focused on language and situations typical to missionary work. In subsequent years, this book went through many editions and served as a model for similar missionary textbooks in a variety of languages -- Navajo, Serbo-Croatian, Swedish, Mandarin, etc.

A final refinement worth mentioning here is the reduction in the length of time missionaries spent at the LTM. Initially set
at three months, this time was later reduced to only two months.

**Expansion and Consolidation**

As it went through refinements and enjoyed continuing success, the LTM was expanded in size and scope, and the pilot programs were consolidated. As noted earlier in this paper, the number of missionaries participating increased as did the number of languages in which the instruction was given. Portuguese and German were added in 1964, Navajo and French in 1967, and by 1968 instruction was offered in sixteen languages (Cowan, 1984, p. 49). Expanding this training to all foreign-language missionaries was both a sign of the LTM’s success and a way of addressing Elder Hinckley’s “concern over the inequality of providing language instruction for only some Spanish-speaking missionaries but offering no comparable help to any others” (Cowan, 1984, p. 43).

By the late 1960’s, the Church had Language Training Missions operating in three locations -- Provo, Utah; Laie, Hawaii (for Asian and Pacific languages); and Rexburg, Idaho (for Scandinavian languages and Dutch). In the mid-1970’s, however, these diverse operations were consolidated into one large Missionary Training Center in Provo, where training was offered for all missionaries, not just those learning a foreign language. Later, this MTC model was exported to a variety of locations around the world so that missionaries from many nations could receive similar training without going to Provo.

**Lessons and Prospects for Church Language Problems, Planning, and Policy in Other Areas**

The Church began the [twentieth] century with 271,681 members who nearly lived in Utah and the West. It is projected that the Church will end the century with nearly all lived in Utah and the West. It is projected that the Church will end the century with nearly 11 million members in more than 165 lands. In February of 1996, the milestone was reached of having more members outside the United States than within (p. 121).

If present trends continue, the prediction is that by the year 2025 Church membership worldwide will total 35 million. Twenty-six million (or 75%) of these Latter-day Saints will live outside the United States, and most of these people will not be English speakers.

These statistics lead to the conclusion that providing language training for LDS missionaries in the future will become even more complicated and challenging. For instance, missionaries will need to function in more languages, and many of them will not start from an English-language base.

As the Church becomes more and more international in its membership and activities in the years to come, language problems similar to, but more complicated than, those of the past are bound to occur with increasing frequency. These problems will certainly not be limited to the provision of language training for missionaries. Nevertheless, the lessons to be learned from the development of policy and plans for providing foreign-language training for missionaries may prove valuable in addressing other language problems in the Church. These lessons can assist our rapidly internationalizing Church in making the best choices as it encounters and deals with other
language problems. Obviously, with the quickening pace of the work, we will not always be able to afford to wait over a century for appropriate policies and plans to develop and be implemented.

As this paper has explained, much has already been done in the way of policy, planning, and program development in the development of support systems for missionaries learning the language of the people to whom they are to preach the gospel. Also noted have been the significant developments in the translations of latter-day scriptures, Church manuals, magazines, temple ceremonies, and other materials from English into other languages.

In several other language-related areas, however, we still seem to be pioneering today. These areas include . . .

- Programs to help Church leaders with limited English improve their skills in order to communicate with Church headquarters and visiting authorities

- Missionaries’ teaching of English to speakers of other languages as a service or proselytizing tool

- The provision of minority-language Church units (branches, wards, forums, etc.) or other forms of linguistic support (e.g., concurrent translation into their language) for members who do not speak the majority language in an area

- Programs to help non- or limited-English-speaking Latter-day Saints who live in English-dominant societies learn English so they can integrate, participate in, and benefit from Church programs and activities

- The use of English and/or local vernaculars as the language of instruction in Church Education System schools operating in non-English societies.

In these areas, problems are still being recognized and policies and plans developed. In many of these areas, the current Church policy still seems to be self-preparation and immersion, as it once was for more missionaries who needed to learn a foreign language. Nevertheless, in some of these areas preliminary plans are being piloted and evaluated. This state of affairs raises a number of interesting and important questions, such as the following: Will Church language policy and plans go through the same stages in these areas as they have in translation and missionary foreign-language training? As the Church grows in size and resources and language problems become more pressing and complex, will we continue to use the evolutionary, deliberative, experiment-based policy-development approach of the last century and a half? Will we eventually have policies, plans, and institutions for preparing missionaries to teach English to speakers of other languages, or to help Latter-day Saint leaders and members learn English as a second or foreign language? These are fascinating questions, but I don’t have answers for them today. Only time will tell.

I can tell you this much, though. In all of these areas there historical antecedents that are worth knowing more about, as well as future challenges that will require a great deal of work. I invite you to join me in researching the history and supporting the
future development of LDS Church language policy and plans in these important, language-related areas. As President Gordon B. Hinkley has challenged, we can and should build a superstructure on the foundation our forebears have left us (Hinckley, 1997, May, p. 67).

This is a season of a thousand opportunities. It is ours to grasp and move forward. What a wonderful time it is for each of us to do his or her small part in moving the work of the Lord on to its magnificent destiny” (Hinckley, 1997, November, p. 67).

Nowhere is this more true or important than in the area of Church language policy and planning.

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PREFERENCES FOR NARRATIVE PRONOUNS IN TEXTS ON ENGLISH LITERATURE AND COMPOSITION

Kevin Klein

While personal and impersonal object pronouns—*I, we, you,* and *one*—aren't the words that directly convey a paper's argument, they do help determine an author's rhetorical stance by establishing tone. Readers can sense critical writing as colloquial or formal, condescending or collaborative, all by how these few short words appear in the paper.

I became interested in how these narrative pronouns contribute to the tone of critical writing when I tutored the papers of freshman students in a philosophy-based honors literature course a couple years ago. Either because of the apparent formality of the subject's discourse or because of the students' high-school training, most didn't even dare suggest that anyone had read or would be reading their papers. They coyly or perhaps ignorantly clung to passive verb constructions, and they put together sentences using the impersonal *one* with dehumanizing frequency. First of all, *I* told the students it was okay to use *I* and *we.* These pronouns connect readers to a personable narrator and elicit reader participation in the paper's development. I also told them not to use *one* as a narrative pronoun because, as I imagined, nobody in English writing uses it anymore. These pronouns connect readers to a personable narrator and elicit reader participation in the paper's development. I also told them not to use *one* as a narrative pronoun because, as I imagined, nobody in English writing uses it anymore. I decided to check with writing-style manuals and English professors to be sure I had given the students accurate advice. What I found surprised me: none of my sources offered any definite conventions for narrative pronoun use. The grammar books merely gave examples of how to use each pronoun, and the professors I talked to generally felt that any of the narrative pronouns works fine, as long as it doesn't detract from the subject matter. After examining various English literature- and composition-related writings to verify what I learned from the professors and manuals, I realized that the authors use narrative pronouns strictly according to their rhetorical purposes instead of following established rules like those for contractions and sentence-ending prepositions.

NO RULES IN WRITING MANUALS

My first proof of the lack of conventions for narrative pronoun use came as I searched through writing manuals for such rules. Diana Hacker's manual *Rules for Writers: A Brief Handbook* (1996) shows how to make pronouns and antecedents agree, but it gives no examples of when to use each pronoun (pp. 424-5). Similarly, Muriel Harris's *Prentice-Hall Reference Guide to Grammar and Usage* (1997) doesn't prescribe contextually appropriate personal- pronoun use (p. 90).

However, I did find some handbooks willing to take a stand. James McCrimmon's *Writing with a Purpose* (1967) argues that the pronoun *one* produces a highly formal tone. McCrimmon gives the following guidelines on using one as an impersonal subject pronoun:
In a very formal style the impersonal pronoun is sometimes used throughout. Ex: 'Under such conditions one laments one's utter incapacity to be of any genuine service.' When the antecedent is an impersonal one, the third person pronoun is generally used, unless the style is very formal. Ex: 'One must watch his step with that girl' (p. 421).

Another handbook that suggests style in narrative pronouns is The Scott, Foresman Handbook for Writers (Hairston & Ruszkiewicz 1996). This manual states that students get confused about the kind of tone to adopt for their papers because some of their teachers don't allow them to use the pronouns I or we. Consequently, these students will adopt the anonymous, more academic-sounding passive voice and the subject pronoun one (p. 362). However, the manual claims that "most writers today recognize that using I is both natural and sensible even in relatively formal work" (p. 363), and it gives guidelines for using the first-, second-, and impersonal third-person pronouns in writing. First, the handbook prescribes: "use one when you want to express a thought that might be yours, but which should be understood more generally" (p. 364). And it gives an example of one in the following sentence: "One cannot know what his or her future holds" (p. 364).

While the handbook admits the awkwardness of the possessive "his or her," it doesn't present the option of saying one's, which McCrimmon reserves for very formal papers in Writing with a Purpose. Next, the manual says to use you when giving instructions or directions or when the passage's purpose is to address the readers directly and personally (p. 363). Finally, the manual warns: "avoid we or us as a chummy way of addressing your reader" (p. 364).

The guidelines from Writing with a Purpose and The Scott, Foresman Handbook for Writers reveal little new or specific information about style and tone, but the fact that they come from only two out of the seven writing manuals I researched shows that perhaps the authors of the other five manuals considered the rules too implicit or undefinable to include in their explanations.

PROFESSORS' PREFERENCES
I found the range of opinions among English professors regarding narrative pronouns slightly greater than those expressed in the writing manuals. I interviewed professors of Renaissance literature, poetry writing, critical writing, honors freshman composition, and the director of Brigham Young University's (BYU) Writing Across the Discipline program. Originally, I went to these professors with the expectation that they would differ on which pronouns they preferred, but agree that one had become obsolete. However, in my interviews with the professors I discovered that while each did prefer different pronouns, they all believed each pronoun under question, including one, could be used effectively in English-related writing.

Despite their wide range of specialties, almost all the professors agree that one should be used precisely and sparingly. Gideon Burton, professor of English Renaissance literature, admits that he prefers other pronouns to one, but he has no objection to students using one if it's the best way they can say what they mean (personal communication, October 20, 1997). Similarly, poetry professor Lance Larsen believes that one is okay as long as it's the appropriate pronoun in a specific
situation. He uses as an example the title of a Galway Kinnel collection of poems, *When One Has Lived a Long Time Alone*, explaining that he tried but could not think of a more accurate way to phrase the title. However, Larsen also believes that *one* tends to elevate a beginning writer's diction. For example, novice writers almost always follow *one* with pompous modals like *must* and *may*, or with the never-contracted *cannot*. It's much more common to read *one cannot* than *one can't* (personal communication, October 21, 1997). Also, novice authors sometimes use *one* for its scientific-sounding authority. English-writing instructor Beth Hedengren remarks that "a red flag goes up" if she reads *one* in a critical paper because she feels the author will try to pass off academic jargon for authoritative proof (personal communication, October 27, 1997).

Opposite from *one* on the formality spectrum is *you*. Whereas *one* can make an author sound falsely analytical and detached, *you* often exposes an author's attempt to herd unwilling readers into his camp. Kip Clark, a teacher of introductory intensive-writing courses at BYU, remarks that the use of *you* may make fallibly universal assumptions about readers (personal communication, October 29, 1997). And Deirdre Paulsen, former Director of BYU's Writing Across the Disciplines program, feels that *you* can be overly prescriptive, as well as redundant (personal communication, October 28, 1997). That is, new writers often try to force the reactions of their readers to fit the state of persuasion they attempt to establish. And its redundancy follows the same flaw as with *I*: just as the author doesn't need to identify herself with "I think" or "I believe," the audience doesn't have to be addressed as *you* to know who it is.

As with *you*, many professors dislike *we* in English papers because it forces them into agreement with the author. Paulsen comments, "The pronoun *we* bothers me because I don't like to be told what I think." Larsen agrees, stating that the pronoun *we* assumes the reader is part of the writer's thinking base. However, Burton prefers *we* to the other pronouns discussed. Clark also prefers *we* to any other pronoun, but he counsels students to be aware of the tone their professors prefer and to choose their pronouns accordingly. And regarding the first-person singular pronoun, none of the professors held strong or even variant opinions regarding *I*. They all agree that it's fine to write "I think" or "I believe" in research papers (and obviously in personal essays or thought papers), as long as authors don't overuse these phrases.

Overall, these interviews prove that several professors of similar subjects at the same university differ in the styles of writing they prefer. More importantly, the interviews demonstrate the importance of narrative pronouns in how these professors formulate their opinions of writing style and acceptable tone.

**ACADEMIC WRITERS AND THEIR PREFERENCES IN PRINT**

The above professors' pronoun preferences do not reflect exactly current conventions in English writing. To get a broad sampling of English-related texts, I studied essays in journals, essay collections, and anthologies. I have quoted the sentences that contain exemplary pronouns completely in order to show the rhetorical context to which each pronoun contributes, but I've reserved my analysis for the section following these
Preferences for Narrative Pronouns in Texts on English Literature and Composition

 examples. The writing samples most frequently contain the pronoun *we*, followed by *I, you, and one.*

The pronoun *we* appears in many writing contexts. Shakespearean scholar Herschel Baker writes with *we* in his essays on the historical plays in *The Riverside Shakespeare*. Baker ends his essay on *Henry V* (1974) with the following sentence: "Significantly, two of them [Nym, Bardolph and Pistol] are hanged and the other slinks away, but in the din of Henry's triumph we hardly hear them go" (p. 934). Also, two of the four essays in the December 1996 issue of *College English* exhibit the pronoun *we*. First, Kurt Spellmeyer establishes a communal tone in his introduction by writing, "Although we tend to see ourselves as working in the era after theory... We are, perhaps, trapped in theory" (p. 893). And similarly, Kristie S. Fleckenstein begins her essay in the same issue of *College English* with the sentence, "Consider for a moment the metaphors that permeate our theoretical thinking about the nature of being" (p. 914).

Writers also frequently employ the first-person singular pronoun. Both Spellmeyer and Fleckenstein invoke *I* in the same essays I've used to exemplify *we*. In *The Critical Experience*, (1994) a collection of essays about literary theories, English Professor David Cowles opens his discussion of Formalism with these lines: "Let me begin with excuses. I'm going to be reductive here" (p. 7). In another essay in the same book, Bruce Young states, "I would argue that all who read, and certainly all who write about literature, are in a sense moral and philosophical critics" (p. 36). Lastly, *The St. Martin's Guide to Writing* (1995) contains an essay by Elisabeth McPherson that is a textbook example of using the first-person-singular pronoun.

The essay, titled "Where Were We, Where Are We, as Community College English Teachers," begins, "It may be presumptuous of me to talk about both the past and present of two-year college English. I know a good deal more about where we were than where we are" (p. 422).

*You* finds its way mostly into instructional writing like that of *The St. Martin's Guide*. The chapter on how to teach sentences and paragraphs contains the sentence, "If you have previously taught Christensen's sentence theory, that is a natural place to start" (p. 253). Also, Young's article about Moral and Philosophical Criticism relies on *you*: "Why, then, has it been out of favor during much of the twentieth century? You may find the beginnings of an answer if you think about your first encounters with moral criticism" (p. 23).

While I believed all along that *one* had died out from English writing, I actually found examples of it in different places. First, Marilyn L. Williamson uses it in her article "Review: Shakespeare Studies: Gender, Materialism, and the Cultural Other" in *College English* of December 1996. She writes, "This is not to say that one cannot detect change in Shakespeare and Gender; for example, if one knows the feminist critique of Shakespeare" (p. 958). And Gail Houston's essay on Psychoanalytic Criticism in *The Critical Experience* contains the following: "One might interpret William Faulkner's 'A Rose for Emily' as an example of the return of the repressed" (p. 140).

RHETORICAL SITUATION DETERMINES PRONOUN CHOICE
From my analysis of when and which narrative pronouns occur in various fields of English-related writing, I have discovered that writers use the pronouns according to their rhetorical purpose. In critical or expository writing, authors generally focus completely on the text and the theoretical elements used to interpret it. Because of this, it is possible for Anne Barton not to employ any narrative pronouns at all in her essays on Shakespeare's comedies in *The Riverside Shakespeare*.

In contrast to critical analyses, explanations of theory such as those found in *The Critical Experience* seek to connect with readers to explain the concepts. Thus Cowles's article in the book contains the pronoun *I*, Young's uses *you*, and Houston's exhibits a rare *one*. Simply put, these authors rely on whichever pronoun they feel will make their translations of difficult concepts as fathomable as possible to their student audience.

Closely related to theoretical explanations are instructional essays, which must establish communality and cooperation with readers in order to be effective. This is not to say that their authors have to write them in colloquial dialogue; rather, when the essays do include narrative pronouns, more of them are *you* than in the other categories of English writing that I have discussed. The essay "Teaching the Sentence and the Paragraph" in *The St. Martin's Guide to Teaching Writing* represents many other essays in the book in that it relies on imperatives and suggestions phrased with "you should" to instruct the teaching of writing. For example, the fifth chapter of *The St. Martin's Guide to Teaching Writing*, titled "Practical Issues in Teaching Writing," contains the following sentences:

> In writing marginal comments, you will want to balance advice and criticism with praise. Try to avoid the temptation to comment only on form and to point out only errors. You can and should use conventional editing symbols, but do not let them be your only marginal effort. Nor should you use a mere question mark if you do not understand a section; instead, spell out your question. (pp. 85-6)

This excerpt demonstrates the practicality of the pronoun *you* in instructional writing. Not only does using *you* establish tutelary parity between the author and reader, but also it strengthens the advice in the passage from mere indirect suggestion—"Teachers should avoid the temptation"—to suggestion and even command: "Try to avoid the temptation."

**CONCLUSION**

I made a surprising discovery in comparing the December 1996 *College English* issue with the *College English* of November 1957. Since I believed that the pronoun *one* had lost favor in English-related writing, I expected to find many more instances in the 1957 issue than in the 1996 issue. The truth is, I found only one use of *one* in each issue. The 1957 *College English* exhibited basically the same style of pronoun uses—a predominance of *we*, followed by an occasional *I* and *you*—as the 1996 issue. This implies that some stylistic tendencies of narrative pronoun use in English writing have changed little over the past forty years. Despite this fact, however, students like myself and the ones I followed aren't learning specific conventions for appropriate pronoun use. Professors themselves maintain their own opinions about how to
use each pronoun, and it is doubtful English writing will ever have universally accepted prescriptive rules for pronoun use. However, I have examined how English professors and teachers use pronouns to establish rhetorical positions in their own writings, and I believe the descriptive evidence I have gathered will help students learn to write with a comfortable, appropriate tone for their subject.

Remember those freshman students I described in my introduction? They managed to glean a sense of pronoun aesthetics from my crude, intuition-based suggestions for their first papers ("Try not to say you too much." "Don't use one. It sounds old."). Once they accepted on faith my pronoun conventions, they wrote their second papers with more confident authorial presence and more thoughtful reader acknowledgment. While the second set of papers still contained the usual tense switches, aimless theses, and inchoate paragraphs, at least the students expressed themselves with discursive decorum in their collective use of narrative pronouns. I had given them appropriate, albeit instinctive, advice for these critical-writing assignments, but I'd like to show them my actual findings-not only so I can back myself up with evidence, but also so I can give them pronoun guidelines for the different rhetorical situations they will face in future writing assignments.

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The Individual Effects of Suprasegmentals on Nonnative Speakers’ Comprehensibility

Deborah Smith Carlston and Mark W. Tanner

In an American grocery store, Juan, a forty-year-old native Spanish speaker, is looking for ice cream and milk. He approaches a clerk and asks: “Can you please help me find the ice cream and milk?” The clerk answers: “The ice is outside in the freezer, and the cream and milk are on aisle seven.” Juan, wanting only two items, does not understand why the clerk told him where three items were located. Nor does he understand why the clerk did not tell him where to find ice cream. He asks again: “I’m sorry, but I’m looking for ice cream and milk. I don’t want to know about ice or cream.” The clerk is very confused by this and thinks Juan is playing a joke on him. He says: “Why can’t you people learn to speak English?” and walks away.

The above situation, although fictitious, is nonetheless a representative illustration of a breakdown in communication due to a nonnative English speaker’s suprasegmental error and to a native speaker’s perception of this error. In Juan’s case, he used incorrect pitch patterns which caused the clerk to misunderstand him as well as to treat him quite rudely.

The impact suprasegmental errors have on comprehensibility, or understandability, has been studied in a variety of fields for several decades. As early as 1942, a study regarding the comprehensibility of deaf speech conducted by Hudgins and Numbers showed that 74% of the sentences they rated and judged as “intelligible” shared the common characteristic of good rhythmic, or stress and pitch, patterns. It is interesting to note that these sentences were characterized as intelligible despite articulatory errors (Cited in Gold, 1980, p. 405).

More recently, Le Dorze, Dionne, Ryalls, Julien, and Ouellet (1992) studied the effects that prosodic instruction had on the speech of a 74-year-old woman diagnosed with Parkinson’s disease. The results of their study were that, with appropriate instruction, the woman was indeed able to improve her manipulation of prosodic variables. Furthermore, she was perceived as more comprehensible after instruction than she had been before instruction.

Research in the area of suprasegmentals has further shown the impact that various prosodic elements have on comprehensibility (Maassen, 1986; Mehta and Cutler, 1988; Jović, 1990; and Howell and Young, 1991). However, despite their proven impact on comprehensibility, none of these studies ever examined the comparative impact that individual prosodic elements have on comprehensibility.

In addition, the role suprasegmentals play in speech comprehension has also been researched in English as a Second Language (ESL) and language fields (Lanham, 1984; Van Els and De Bot, 1987; and Stevens, 1989). In Stevens’ study, he surveyed students of International Teaching Assistants (ITAs) and asked them what kinds of difficulties they encountered with understanding their ITAs. His research showed that most of the undergraduates involved in the study, when asked what problems they had in understanding their ITAs, generally did not “point to articulatory deficiencies.” Rather, they mentioned
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suprasegmental factors (Stevens, 1989, p. 182).

On a similar plane, Anderson-Hsieh, Johnson, and Koehler (1992) analyzed the relationship between nonnative speakers’ SPEAK test scores of intelligibility and the speakers’ deviance in segmentals, prosody, and syllable structure. The highest correlation found in this study was between prosody and intelligibility. Thus, the “results indicate that the prosody appears to have a greater influence on the pronunciation rating than do either segmental or syllable structure error rates” (Anderson-Hsieh, Johnson, and Koehler, 1992, p. 545).

The importance suprasegmental factors have on pronunciation ratings and intelligibility was further confirmed in a 1995 study conducted by Munro. In this study, listeners were asked to identify foreign-accented speech for samples where segmental information had been significantly muffled using a low-pass filtering technique. The listeners did very well at identifying the samples, which led Munro to conjecture that speaking rates, intonation patterns, and timing had a more significant effect on the listeners’ judgments of accent than did segmental information. In the production of ESL materials, resources designed to teach pronunciation have recently included more instruction and tasks in the areas of stress, pausing, and intonation. While the manipulation of prosodic variables has shown to be influential on comprehensibility perception, very little empirical research has been conducted to determine which specific prosodic elements play the larger role in native English speakers’ perceptions of nonnative speakers’ comprehensibility. In fact, most of the research done to date regarding the influence various kinds of suprasegmentals have on comprehensibility has been conducted only in speech and hearing sciences, and this kind of research has not been extensive or recent. Consequently, the purpose of the present study is to identify which suprasegmental type (stress, pitch, or pausing) plays the larger role in influencing native English speakers’ perceptions of nonnative speakers’ comprehensibility.

Literature Review

One of the few studies available which compares the influence that separate elements of prosody have on comprehension was conducted approximately two decades ago by Parkhurst and Levitt (1978). In their study, 600 speech sample passages from 40 deaf children (each child reading 15 sentences) were acquired from previous research conducted by Smith (1972). Once the speech samples were obtained, they were analyzed by a trained speech pathologist who was provided with phonetic transcriptions of the passages. The pathologist analyzed the samples and rated them in four areas: adventitious sounds, excessive duration, pitch breaks, and pauses.

After the four areas were analyzed, the scores obtained in these areas were compared to intelligibility scores which were previously obtained from Smith’s (1972) study. Intelligibility scores were obtained by having a number of listeners (not given in the Parkhurst and Levitt study) who were unfamiliar with deaf speech listen to the speech samples and write down what they understood. The percentage of words correctly understood was used as the intelligibility measure.

Intelligibility scores and suprasegmental errors were analyzed using a multiple linear regression. Results indicate that prosodic errors definitely had an impact on intelligibility. More specifically, adventitious sounds, although not commonly
thought of in the ESL field as suprasegmentals, were seen as the most influential in affecting intelligibility scores. However, stress and pitch were also shown to be significant factors in determining intelligibility. Finally, pausing was also shown to be a factor, though its relation to intelligibility wasn’t as marked as that of pitch and stress.

Although the results of Parkhurst and Levitt’s research are useful, a few limitations exist that must be noted. The first limitation is that only one person rated the samples for prosodic errors. The second problem is that samples were given intelligibility ratings based on the percentage of words correctly transcribed from the speakers’ speech samples. The third, and perhaps more serious problem, deals with the lack of control the researchers had on the roles that segmentals and syllable structure played in raters’ intelligibility judgments. Since this study did not intend to compare segmentals to suprasegmentals, the influence segmentals and syllable structure had on comprehensibility ratings was ignored. Therefore, it is quite possible that some of the results of this study were distorted due to the varying levels of segmental and syllabic competence among the 40 deaf speakers.

Following Parkhurst and Levitt’s research, Metz, Samar, Schiavetti, and Sitler (1990) tried to compensate for segmentals’ influence on understandability in their research concerning the impact eight selected segmentals and six selected suprasegmentals had on intelligibility of hearing-impaired students. The types of suprasegmentals that were investigated were the following: pitch changes in both declarative and interrogative sentences; stress comparisons for the change of pitch in vowels, vowel length, and “vowel intensity between stressed and unstressed syllables in a contrastive stress paradigm” (Metz, Samar, Schiavetti, and Sitler, 1990, p. 33); and sentence length.

To test the impact these variables had on intelligibility, eight hearing-impaired students who had been classified as having varying levels of intelligibility were chosen to participate in the study. Various speech samples were collected from the participants in order to assess segmental and suprasegmental difficulties. Pitch changes in declarative and interrogative sentences were assessed by having participants read five pairs of sentences. Each pair consisted of one sentence which ended with a period and the identical sentence ending with a question mark. Vowel duration, vowel pitch changes, and vowel intensity differences in stressed and unstressed words were examined by having each participant read sentences which placed contrastive stress on monosyllabic words. “For example, in the sequence: ‘Was it a small bat? No, it was not a small bat. It was a big bat,’ the word big in the third sentence would receive more stress than it would in the sequence: ‘Was it a big ball? No, it was not a big ball. It was a big bat’” (Metz, Samar, Schiavetti, and Sitler, 1990, p. 478). Finally, sentence duration was studied by having participants read fifteen simple sentences (four to six words) three times. All suprasegmental and segmental aspects were examined acoustically, and intelligibility was measured by non-impaired hearing listeners who heard participants’ recordings of monosyllabic words. Scores were based on the percentage of words correctly identified. Once intelligibility scores were obtained, they were correlated to specific suprasegmental and segmental deviance, as acoustically analyzed. Results indicated that contrastive stress was the most influential (of the six suprasegmental types studied) in comprehensibility ratings.
Although Metz, Samar, Schiavetti, and Sitler's (1990) study tried to focus on the meaning that suprasegmental manipulations carry, a few weaknesses are still present in their research. One of the main weaknesses deals with the fact that intelligibility ratings were obtained by listening to and transcribing isolated, rather than contextualized, words. In natural speech, true comprehensibility involves hearing contextualized speech and paying attention to the words being spoken as well as to the main message that is being delivered. Hence, comprehensibility should be assessed by listening to words within a larger context and reporting on what has been understood (main ideas and individual words included). Calculating understandability solely by using percentages of isolated words which have been correctly transcribed undoubtedly skews "true" comprehensibility ratings.

In addition, Metz, Samar, Schiavetti, and Sitler's (1990) study does not account for the influence that participants' individual segmental and syllabic structural proficiency may have had on intelligibility ratings. In other words, the segmental errors of this study were acoustically analyzed and correlated to intelligibility ratings, but segmental and suprasegmental errors were not compared. For instance, perhaps someone scored very low on segmental production but did extremely well on suprasegmental production. Because intelligibility ratings were obtained from listening solely to isolated words and not to connected, conversational speech, it is likely that this individual received a low intelligibility score. In other words, this individual's suprasegmental proficiency will have only a small effect on his/her intelligibility score because suprasegmental effects on comprehension are more marked in clauses, sentences, and passages.

Furthermore, because this individual's proficiency in suprasegmentals will only slightly affect his/her intelligibility score and his/her segmental proficiency will greatly influence the intelligibility score, one can be quite assured that this intelligibility score will be low. This low score, when correlated to suprasegmental production, would perhaps erroneously show that suprasegmentals were not very important for intelligibility, but that segmentals were extremely important.

A final limitation of previous research concerning which types of suprasegmentals most impact comprehensibility is that the limited amount of studies available do not look at the same variables. For example, Parkhurst and Levitt's (1978) study includes adventitious sounds, duration, intensity, and pausing, while Metz, Samar, Schiavetti, and Sitler's (1990) research includes sentence length and different kinds of pitch and stress.

**Method**

In order to determine which types of suprasegmental errors are most influential in native English speakers' perceptions of nonnative English speakers' comprehensibility, speech samples were obtained from a native female Spanish speaker and were manipulated to create passages which each employed pitch, stress, and pausing errors (see Appendices A, B, and C). These types of errors were chosen because it was believed they would be the easiest to manipulate and that they represented a good sampling of the existent types of suprasegmentals. In addition, a passage with no stress, pitch, or pausing errors was also obtained from the same speaker to serve as a baseline for analysis. These four passages were then systematically ordered using a Latin Square design and were then played to 148 native
English-speaking subjects who rated the individual passages for comprehensibility. Additionally, a demographic survey was created to obtain 1) general information about subjects, 2) second-language learning experience, 3) linguistic learning experience, and 4) frequency of contact with Spanish. A detailed description of participants, research apparatus, and procedures follows.

Participants/Raters. The participants in this study were 148 adult university students from eight fall semester 1998 English 115 classes offered at Brigham Young University (BYU) in Provo, Utah. For the semester in which this study was conducted, 1,927 students were currently enrolled in English 115 courses. All eight participant English classes were comprised of intact groups for which students registered independently before or shortly after the beginning of fall semester 1998.

Apparatus. In order to compare the comprehensibility effects of one type of suprasegmental to another type, a passage was created in which each separate variable (stress, pitch, and pausing) was manipulated. In addition, the researchers were concerned about creating passages that did not detract listeners to the point of their assigning comprehensibility ratings based on content or segmental errors rather than suprasegmental errors. To eliminate this concern, and to allow for suprasegmental manipulation, one passage of 155 words was created which would syntactically allow for the manipulation of all three prosodic elements being researched in this study.

In order to manipulate the passages, nonnative prosodic errors had to be determined. To accomplish this, three female native English speakers and three female nonnative intermediate Spanish speakers were recorded reading the passage. Spanish speakers were chosen because they are the largest nonnative-speaking minority population in the state of Utah. All recordings were done with the SoundEdit 16 Version 2 software package. Once the recordings were complete, all six recordings were analyzed by the researchers for pitch patterns, pause lengths, and multi-syllabic stressing instances, as follows:

- Pitch patterns were quantified by listening to all speech passages and indicating numerically the degree of the rise and fall of pitch occurring before punctuation marks. The levels of pitch ranged from 1 (for a pitch pattern that had reached its lowest point) to 5 (for a pitch pattern that had reached its highest point); pause lengths were calculated by measuring the amount of space between offset of voicing at the end of a word to the onset of voicing for the next word; and multi-syllabic stressing instances were determined by listening to the speech samples and indicating where the primary stress on each multi-syllabic word fell.

Once the nonnative English and native English speech samples were analyzed, “natural” nonnative Spanish-speaker errors were identified for the three prosodic areas. In this study, any nonnative speaker deviation from the established mean of the native English speakers’ pronunciation was considered an “error.” After these natural errors were identified, a highly proficient female native Spanish speaker was recorded reading the passage. Next, her reading passage was analyzed using the methods described previously. Once the proficient Spanish speaker’s passage had been analyzed and suprasegmental errors were quantified, four pitch changes were made to ensure that the pitch patterns in the Spanish speaker’s passage were the same as those in the native
English speakers' samples. In addition, the mean pause lengths after select words and all punctuation marks for the three native English speakers were inserted into the Spanish speaker's passage.

Finally, three changes in the Spanish speaker's stress patterns were also employed. All changes in pitch, pausing, and stress were made in order to produce a nonnative English speech passage which mirrored the native speaker passages and was void of suprasegmental errors (at least in the prosodic areas being studied). Once the passage without stress, pausing, or pitch errors was created, it was further manipulated in three main ways: 1) Pitch patterns were changed, 2) Stress patterns were altered, and 3) Pause lengths were elongated. Manipulation of the first passage involved inserting 15 pitch errors. These pitch errors were accomplished by having the advanced Spanish speaker record select sentences of the passage while using incorrect pitch patterns. The words in which these erroneous pitch patterns were applied were then pasted over words in the speech-passage version with no suprasegmental errors, thus creating a speech passage which had pitch errors but lacked pausing and stress errors. All pitch alterations were made in accordance with the pitch errors that had been previously identified in the three nonnative intermediate Spanish speakers' speech samples.

The technique used to create the second and third main manipulations of the text was exactly the same as was used in the pitch-manipulated version. The only difference was that 15 stress errors were inserted in the second version while all other prosodic elements were held constant, and 15 pausing errors were inserted in the third version while all other prosodic elements were held constant.

It is important to note that the advanced Spanish speaker was not asked to record a version of the passage where she employed erroneous pausing patterns. Rather, "incorrect" pause lengths were simply inserted by using the SoundEdit 16 Version 2 software package. These "incorrect" pause lengths were determined by comparing the mean length of the native speakers' pauses to deviations in nonnative speakers' pauses. After this analysis, 15 of the 17 highest incidences of nonnative-speaker pause-length deviations (mean length = .351 seconds, s.d. .195 seconds) were then pasted into the speech sample. Pausing errors at syntactical boundaries, although measured, were not used in this study because it was believed they would increase, rather than decrease, comprehension (see Blau, 1990).

Finally, segmental errors, although existent, were held constant across all four versions of the speech passage. This was easily accomplished since the only parts of the speech passage that were manipulated were the prosodic elements being studied. In addition, suprasegmental errors not being investigated in the present study (i.e., rhythm, syllable duration, etc.), were also held constant in the same way as were segmentals across all four versions of the speech passage.

All speech-passage manipulations carried out in this study were done so with the intent of creating speech samples which elicited comprehensibility ratings based solely on the suprasegmental variables being studied. In other words, great care was taken to ensure that all manipulations helped to better 1) separate out (as much as possible) or eliminate the effects that one type of suprasegmental has on the production of another and 2) to account for or eliminate the influence that segmentals have on
comprehensibility perceptions across all four speech passages.

Once the four versions of the speech passage were properly manipulated, they were each assigned a number: the passage without any of the suprasegmental errors being studied was assigned #1; the passage with stress errors was #2; the passage with pausing errors was given the #3; and the passage with pitch errors was #4. After numbers had been assigned to the passages, they were systematically randomized, using a Latin Square design, over four tapes. Tape 1 was ordered #1,# 3,# 4,#2; Tape 2 was ordered #4, #1, #2, #3; Tape 3 was ordered #3,# 2, #1, #4; and Tape 4 was ordered #2, #4, #3, #1. This randomization was necessary in order to help diminish any potential bias of comprehensibility ratings due to passage order.

Procedure. All 148 raters completed a demographic survey which asked them to indicate their gender, age, language-learning background, and amount of exposure to Spanish speakers of English. Raters then heard each of the four passages and completed a rating sheet for each one in succession. Raters were instructed to rate each passage on a 100-point scale for level of comprehensibility and to not change any previous ratings once they heard other passages.

Results
A repeated-measures analysis of variance (ANOVA) showed a significant difference between the comprehensibility ratings for the four passages \( (F = 5.91, p < .0006) \). This analysis showed no significant differences between the passage with no errors and the passage with pitch errors \( (F = 2.62, p < .1061) \).

The independent variables in the study were the type of errors manipulated in the four passages: no prosodic errors, pitch errors, stress errors, and pausing errors. The dependent variables in the study were the comprehensibility scores. All comprehensibility scores were based on a 100-point Lickert scale with 1 being “completely incomprehensible” and 100 being “completely comprehensible.” An analysis of variance using the SAS statistical program was run to determine the differences between the comprehensibility scores for the passage with no errors and the passages with stress, pitch, and pausing errors. This analysis of variance was run on a mixed model with random effects which accounted for the repeated-measures nature of the data.

The mean values and standard deviations for all the prosodic variables investigated in this study are illustrated in Table 1, and results of the analysis of variance are presented in Table 2. For the passage with no errors, a mean comprehensibility score of 91.78 (out of 100) was obtained, showing that in general, most subjects perceived the speaker as quite comprehensible. Mean comprehensibility scores for the passages with stress errors, pausing errors, and pitch errors were also quite high (86.89, 87.87, and 89.83, respectively).
The Individual Effects of Suprasegmentals

Table 1
Mean Scores and Standard Deviations for the Passages with No errors, Stress Errors, Pausing Errors, and Pitch Errors

<table>
<thead>
<tr>
<th>Passage</th>
<th>Mean Comprehensibility Score</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>No errors</td>
<td>91.78</td>
<td>10.54</td>
</tr>
<tr>
<td>Stress errors</td>
<td>86.89</td>
<td>14.03</td>
</tr>
<tr>
<td>Pausing errors</td>
<td>87.87</td>
<td>13.69</td>
</tr>
<tr>
<td>Pitch errors</td>
<td>89.83</td>
<td>12.87</td>
</tr>
</tbody>
</table>

Although the mean comprehensibility scores for the five passage types were quite high and clustered within a five-point range, an analysis of variance indicated a significant difference between the comprehensibility ratings for the four passages ($F = 5.91, p < .0006$). Consequently, the data show that a definite difference existed in the native speakers' perceptions of the nonnative speech samples used in this data. More specifically, the greatest significant difference in subjects' assignment of comprehensibility ratings was found to be between the passage with no errors and the passage with stress errors ($F = 15.72, p < .0001$).

Table 2
Comprehensibility Differences Between Passage with No errors and Passages with Stress, Pitch, and Pausing Errors

<table>
<thead>
<tr>
<th>Passage</th>
<th>$F$ Value</th>
<th>$&lt; p$ Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stress errors</td>
<td>15.72</td>
<td>.0001</td>
</tr>
<tr>
<td>Pausing errors</td>
<td>8.83</td>
<td>.0031</td>
</tr>
<tr>
<td>Pitch errors</td>
<td>2.62</td>
<td>.1061</td>
</tr>
</tbody>
</table>

Discussion
These data seem to partially support the results from both Parkhurst and Levitt's (1978) and Metz, Samar, Schiavetti, and Sitler's (1990) studies indicating that out of the variables investigated in this research...
(stress, pitch, and pausing) and under the most stringent levels of significance, stress appears to exert the strongest influence on native English speakers' perceptions of nonnative-English-speakers' comprehensibility. However, under regular levels of significance ($p < .05$), the data from this study implicate that pausing and stress both play equally significant roles in native English speakers' perceptions of nonnative speakers' comprehensibility.

Because the results obtained in this study show that suprasegmental errors make a difference in native English speakers’ perceptions of nonnative comprehensibility, they help to strengthen the argument for suprasegmental instruction—especially for more proficient speakers (Gilbert, 1984; Wong, 1987a; Stevens, 1989; Morley, 1991; and Anderson-Hsieh, Johnson, & Koehler, 1992). On a similar plane, the results also seem to indicate that in pronunciation teaching, an added emphasis on learning to use correct stress patterns could be beneficial in raising native English speakers’ perceptions of nonnative comprehensibility levels. Likewise, the data also show that frequent pausing decreases comprehensibility. Hence, an added emphasis on learning to reduce the number of pauses in an utterance could also prove to be a beneficial undertaking in the pronunciation classroom.

In contrast, the results obtained in this study suggest that erroneous pitch patterns within an utterance or at the end of an utterance appear to have little influence on native English speakers’ perceptions of nonnative English speakers’ comprehensibility. Consequently, the data appear to indicate that pronunciation instruction involving pitch manipulation would not be as beneficial in elevating perceptions of nonnative comprehensibility as would other areas of suprasegmental instruction.

The researchers were a bit surprised that the data did not identify the passage with pitch errors as being significantly different from the passage with no errors. In reviewing the data, there are a few factors that could have influenced native speakers’ perception of pitch and its influence on perceived comprehensibility. First, when the researchers were analyzing native English speakers’ speech samples in order to determine appropriate pitch, stress, and pausing patterns, they noticed that each of the three native English speakers differed slightly in the types of pitch (either rising or falling) that they employed in certain instances. More specifically, not all the native speakers used rising-falling pitch for all statements or wh-questions. This was a problem for the current research because the three speech samples from the native speakers were to serve as a grounding for the pitch patterns that native English speakers regularly use. Consequently, because of the lack of agreement of pitch usage among the native speakers, the researchers had a difficult time creating the manipulated passage which employed 15 “naturalistic” pausing errors. More specifically, they were unsure as to where and what types of pitch errors should be inserted into the passage. As a result of this difficulty, the researchers inserted pitch errors into the passage which deviated from at least two of the native speakers’ speech samples but may have been in harmony with a third native speaker’s pitch patterns. Consequently, the resultant passage may have been comprised of pitch “errors” with which participants in the study may have been quite familiar, thus causing raters to not be adversely affected by hearing these errors in a nonnative speech sample. In addition, it could be possible that the
particular pitch "errors" that were inserted into the passage had little effect on comprehensibility perceptions; a second explanation as to why the passage with pitch errors was not significantly different than the passage with no errors could be due to the fact that all people have differing pitch levels in their speech. As a result, it might have been necessary for pitch changes/errors in the manipulated passage to be more dramatic so that the pitch changes would have been noticed as being erroneous rather than merely conforming to someone's individual pitch pattern; a third explanation could be that the number of pitch errors in the passage were not sufficient for native speakers to distinguish the passage as less comprehensible; fourth, it is possible that different types of pitch errors are more disruptive than the ones used in this study. If so, these are the types of errors that should have been imported into the pitch-errors passage so that a stronger influence on native English speakers' perceptions of nonnative English speakers' incomprehensibility could have been exerted; and/or a fifth explanation as to why the passage with pitch errors was not significantly different than the passage with no errors could plainly be that pitch errors are not big deterrents in native English speakers' perceptions of nonnative speech.

**Conclusion**

The goal of this study was to determine which suprasegmental errors (of stress, pitch, or pausing) had the greatest impact on native English speakers perceptions of nonnative English speakers' level of comprehensibility. In light of this information, implications for pedagogy and instruction, limitations of the current research, and directions for future research are discussed below.

**Limitations.** One important limitation of the research design used in this study was the repeated listening of a passage with the same content. During the administration of the instrument, a very small number of subjects indicated that once they had heard the text two to three times, they felt the text was comprehensible despite the fact that each passage had specific prosodic elements that had been varied. Hence, although a Latin Square design was used to help eliminate passage-familiarity bias, the researcher still feels this limitation is one that would need to be addressed in future research.

Another limitation of the study deals with the generalizability of the findings. This limitation exists on two levels. On the first level, the results cannot be generalized to all nonnative speakers because the nonnative speaker used to create the instrument was a highly proficient, female, native Spanish speaker. In other words, it cannot be claimed that stress and pausing errors are significant factors in determining native English speakers' perceptions of comprehensibility for all nonnative speakers. Similarly, one cannot assert that pitch errors are not significant deterrents to comprehensibility for all language groups. Rather, such claims can only strictly be applied to highly proficient, female Spanish speakers. On the second level, the native-speaking subjects used in the current study were not characteristic of the general population in that 95.9% of them had second-language learning experience and

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69.5% had Spanish or Portuguese language learning experience. Hence, the results obtained in this study cannot necessarily be generalized to a more linguistically naive population.

A third limitation of the research was that in creating the passage sample which employed 15 pausing errors, the researcher encountered some difficulty in inserting pauses where the highly proficient Spanish speaker used to make the recording did not originally place them. Pauses were therefore inserted electronically. With these pausing insertions, the resulting passage included a few examples where the voicing was not continuous, thus creating speech which had a slight mechanical sound.

A fourth limitation to this study involved asking native-speaking subjects to make comprehensibility judgments regarding a piece of text read by a nonnative English speaker. Because the text was read rather than being spontaneous speech, the speech was more carefully articulated, and the researchers believe that fewer overall errors were made than if the speaker had produced a piece of spontaneous speech.

Directions for Future Research. The influence of suprasegmentals on native speakers’ perceptions of comprehensibility needs further research. Following are a few ideas for future research concerning native English speakers’ perceptions of nonnative English speakers’ comprehensibility.

One possibility for future research involves creating four passages with different content but with similar phonological and syntactical characteristics. These passages would then have different types of suprasegmental errors inserted into each of them, after which the passages would then again be ordered using a Latin Square design. By so doing, passage familiarity should not interfere with the data collection. Furthermore, to help eliminate the “mechanical” sound of the speech sample with pausing errors, future research must have the speaker whom they are recording pause at locations where pausing insertions are desired and then electronically adjust the pause length. This should eliminate any of the unnatural voicing breaks which occurred in the original study.

A second recommendation for future research would be to use different language and proficiency groups to read the speech samples and then have more naive audiences listen to the samples and assign comprehensibility ratings. By using differing language and proficiency groups, it would be possible to strengthen the claims made in this study and/or to see if perceptions of comprehensibility are influenced differently as a result of suprasegmental errors according to language and proficiency groups.

A third idea would be to manipulate spontaneous nonnative speech rather than read speech. This type of research obviously presents more of a challenge in that passage control, constitution, and manipulation would be more difficult; however, since spontaneous speech is generally used in most communications, using spontaneous speech versus read speech would provide an even more accurate view of how suprasegmental errors influence native English speakers’ perceptions of nonnative English speakers in everyday encounters.

A final idea for future research would be to investigate exactly how many and what types of stress and pausing errors are needed in a passage for the speaker of the passage to be perceived as less comprehensible. By establishing what types of errors and how many errors cause a disruption in perceptions, ESL pronunciation teachers would be able to teach those items which most strongly affect
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perceptions, thus helping more nonnative speakers of English, such as Juan, to be better understood by the people in their surrounding communities.

- NS Pitch Patterns
* NNS Pitch Manipulations

Appendix A
Reading Passage - Pitch Manipulations

There are several necessary steps one should not overlook when searching for a suitable apartment in which to live. A systematic process is usually best.

First, start by answering a few questions. In what style or type of neighborhood would you like to live? Would it generally be better to be close to work or school or to be close to family? Do the owners allow pets? How much money can you afford to spend on rent, utilities, transportation, and furnishings? Use good judgment, your rent should not be more than forty percent of your total income.

Next, review classified ads in the newspaper for the areas you’ve checked. Examine the ads regularly, since new listings usually appear on different days. After you have clearly identified several potential choices, schedule appointments with the landlords and inspect each one of the units. Finally, determine for yourself which apartment best meets all the criteria you have established.
Appendix B
Reading Passage - Stress Manipulations

There are several necessary steps one should not overlook when searching for a suitable apartment in which to live. A systematic process is usually best.

First, start by answering a few questions. In what style or type of neighborhood would you like to live? Would it generally be better to be close to work or school or to be close to family? Do the owners allow pets? How much money can you afford to spend on rent, utilities, transportation, and furnishings? Use good judgment, your rent should not be more than forty percent of your total income.

Next, review classified ads in the newspaper for the areas you’ve checked. Examine the ads regularly, since new listings usually appear on different days. After you have clearly identified several potential choices, schedule appointments with the landlords and inspect each one of the units. Finally, determine for yourself which apartment best meets all the criteria you have established.
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Works Cited


Varying Aspiration Levels of the / ř / Phoneme: An Analogical Modeling Project

Jon Weatherford Stansell

Analogical modeling is the method by which a computer program takes an item (in this case, a word) for whom a certain characteristic is unknown and compares it against a data set of items with verifiable characteristics. This generates a percentage of similarity to those items that are phonetically alike, and thus generates the test item's probability of sharing their characteristics. This process replicates a neural process whereby, when we come to a place where known, immediately recallable language ends, we make analogies with known items to generate a like utterance to fill that obligatory context (such as generalizing -ed as a past tense marker for an unknown verb). This generates standard, rule-like behavior without actually referring to a "rule." My study is focused on exploring the phonetic environments that determine aspiration of one of the most unusual phonemes that I am aware of: the Czech language / ř / or r-hachek. This alveolar flap is found in no other language in the world and is little understood and even less well pronounced by non-natives, including phoneticians. This analogical modeling project supports the claim that there are three different / ř /-phoneme aspiration levels (heavy-, medium-, and light-), which were thought initially to be a function of the pre- / ř / phonemic environment. The analogical modeling program generated other phonemic concerns which also seemed to have an effect on predicting aspiration.

One example of this is a /k/ directly before an / ř /, which showed a different aspiration than other consonant-initial / ř / clusters. The model shows many other phonemic environments to cause varying effects on the level of / ř / aspiration. This project shows that assigning "rules" for unknown phonemes in their phonetic environments may be more difficult than initially expected.

The / ř / Phoneme

Though normal pronunciation of / ř / is a simple alveolar flap, the main premise of this study is that clusters of phonemes will effect this aspiration and that like clusters will produce like aspiration levels. If the / ř / is clustered with consonants proceeding, the pronunciation is very forceful (/ vskříšeny /) in order to "push through" the whole cluster. Sometimes this phenomenon creates a semi-syllable where no vowel is present in the lexicography, as in / hřmělo /, which is written with two-syllables, yet is pronounced with the length of a three-syllable word. This heavy aspiration is quite evident in the normally quiet speech of the Czech people. A medium aspiration occurs when the / ř / finds itself in word-initial position, or when it is preceded by a long vowel: / á /, / é /, / í /, / ou /, / u' /, or / ý /. /Ř/ can also be pronounced so softly that it almost seems to not be there. This occurs in words where there is an / ř / preceded by a
short vowel: /a/, /e/, /i/, /o/, /u/, or /y/.
These three different forms of aspiration -- heavy, medium, and light -- have a decided effect on the pronunciation of words.
Though Czech speakers and scholars identify them all as the same phoneme, the differences in aspiration are clear. One goal of this study is to question whether these conditions listed above are the only factors in the phonemic environment affecting aspiration of /ř/, and whether these perceived "rules" can hold up under the scrutiny of analogical modeling.

Method
With the help of a native Czech, Zlátsa Durdorová, I compiled a database of Czech words from two different sources, Čertův Kámen, a collection of Czech folk tales, and Země Lidi, a popular novel in translation. As she read two different folk tales and the first chapter of the novel, I used a Sony portable CD player with an Andrea systems microphone headset to make a tape recording, which lasted approximately one and one-half hours. I then transcribed her pronunciation of 290 Czech words containing the /ř/ phoneme. These were then classified as containing a heavy-, medium-, or light-aspirated /ř/. Throughout the database, 16% of /ř/ had light aspiration, 30% had medium, and 54% had heavy aspiration. This group of 290 words will now be referred to as "the data set," and will be the standard against which the analogical modeling program will compare the experimental words, or the "test set."

This test set consisted of 40 words from folk tales and a religious text. This may seem like only a few examples, but many of the words in these texts were strange or uncommon. After the first set of 20 had only three words that were not being predicted over 95% accuracy, I began purposely looking for these words, which would give unusual or interesting results. /Ř/ is often found in words with the common prefix /při/, so I stopped recording these because the analogical modeling program continued to report a 100% prediction every time. So many of these syllables occur in the data set (44 examples) that they formed a gang effect, which means that when a test word with a reoccurring phoneme or cluster of phonemes was run through the program, this data was more heavily weighted than other, less represented factors. The prefix /před/ is also commonly found in the data, so I stopped testing words that began with this conglomeration of phonemes because they all produced very high predictions (99.5%). The next twenty examples contained some very unusual words, showing gang effects and word doubling effects.

Results
The first ten words were from the folk tale book. Most of them behaved as expected, with proper aspiration being ascribed to the afore-mentioned phonetic environments, though two of them did not. /Zřiditel/ would usually be called a heavy-aspiration word because of the consonant cluster. However, the word /řidi/ appears several times in the text and has medium aspiration, causing /zřiditel/ to have only 89% accuracy. Another word that has some ambiguity in its data is /křápla/. It would seem to be heavy-aspirated. But a few elements in the data set had medium aspiration when /ř/ was combined with a t in front of it. This is where the extra
medium-aspirated prediction (14%) came from. When I listened to these words and transcribed them, they seemed a little lighter than the heavy-aspirated ones.

The second set of ten test items I examined came from a church publication and had several unique words that would be seldom found elsewhere. These were words for baptism (křesť), resurrection (vzkrššení), immersion (ponoření), and others. Strangely enough, the program had no problem predicting any of these, including the heavily clustered "vzkrššení," but had a harder time predicting "věřit," or "to believe." This only had 80% light-aspiration predicted, with 2% medium- and 18% heavy-aspiration. This word was more ambiguous because the /ř/ was followed by an ɪ. All of the words that affected this prediction had this environment, but also had clustering or long vowels that gave them a heavy- or medium- aspiration. This shows that the program is able to look to phonemes following the /ř/ to find analogical matches even though I gave more weight to the phoneme immediately preceding it. The word /řádu/ is another example of this phenomenon, for it gathered some unusual attention from two words. Most of the matches were with words starting /ř/, and so they predicted a proper medium aspiration. Two of the matches, however, were /vpředu/ and /předu/, which have heavy aspiration. The syllable /du/ in proper place made them analogical pairs with the focus word, which dropped the accuracy of this prediction from 100% to 88%.

Gang effects especially affected two small words of only four phonemes. When I ran the word /míře/, the program predicted an incorrect 66% light aspiration, while the other 33% was proper medium aspiration.

Many of the gang words all had /m/ in /ř/ pre-initial position. For this reason, that variable became heavily weighted, even more than the long vowels in the other examples. Three of the main players in this gang effect also had an /e/ following the /ř/ in common with the target word. Because of this gang, all of the more appropriate words were "bullied away" from the analogical set and the prediction was an incorrect light-aspiration. The word /řeki/ was properly predicted as medium-aspiration despite some gang-effect problems it encountered in the data set. For light aspiration, it got 18%, and for heavy, it got 22%. The four main problems were the words /přelila/, /odněšen/, /kořen/, and /pohřeši/. These may not seem too similar to /řeki/, but following the /ř/ are an e, then a consonant, than an ɪ sound. This gang took almost nine percent of the prediction apiece. Little words like /řeki/ and /míře/ could not fight the gang-effect.

Three words that were very similar began having a large affect on the prediction of several words. For instance, /zemřes/ got 64% heavy aspiration, which is correct, but also 36% medium aspiration. The reason for this spillage were the three words /oteřela/, /nezávěš/, and /závěš/. These words have many phonemes similar to the target word, and since there are three of them, this gang effect makes them more powerful. The major difference is that, while they have a /v/, which is a fricative consonant, the target word has an /m/. This makes all the difference for pronunciation, but the model did not discern this because it was not coded in the data set.

These three words returned again and again to make large contributions towards the prediction of aspiration. /Vřešč/ is another word effected by this gang. It took
lots of heavy aspiration (31%) because of its consonant before the / ř /. But / závře /, /otevřela/, and / nezavřeli / made this prediction into a correct medium-aspiration. Another word affected by this gang was /zemřeli/. It had a correct prediction, but the data would not have given it normally. The words / nezavřeli /, / otevřela /, and / závře / took over 77% of the prediction all by themselves. This was a heavy gang effect that worked in favor of the correct prediction. Sometimes, though, a negative effect was observed. The word / odepřel / went from perfect prediction to only 80% heavy aspiration. The causes of this were /otevřila/, which took 16% of the prediction, and / nezavřeli /, which took 8%. These two words which seemed similar to the analogical modeling program were only somewhat so.

/ Hříkokos / was one of the words from the data set whose aspiration was difficult for me to define. The program predicted it quite well, with 72% medium aspiration and 28% heavy-. No item appeared in the analogical set for the light-aspiration, to which I thought this word belonged. The word requires a heavy or medium aspiration because of the 'k' immediately following the / ř/. The pronunciation was difficult to ascertain in this circumstance because the length of the vowel immediately preceding the / ř / had little or no influence on it. After the program defined it, I could hear this was correct.

Word repetition in the data set played a vital role in prediction. Though the word / fekl / is common, it did not appear in the data set, and so it was able to be affected by unfamiliar words. Three examples of / příšli/ formed a huge gang effect and swayed the prediction to an incorrect heavy-aspiration. They took almost 50% of the prediction to themselves, then a few other heavy-predicting words made up the rest of the 60% incorrect prediction. Medium aspiration was predicted 22% for the word /hřich/. This was a function of / dfiv / and /třiskne/. The word / drív / is located in the data set twice, with two different aspirations. Despite this contradictory data, the model still worked.

**Conclusion**

Based on these findings, I believe that this model works extremely well. In words that are common, this program predicts with amazing accuracy. In less-common words, it is still very close. With words that have unusual similarities to other words in the data set, the prediction can break down. Perhaps in another trial of this data, the fricative consonants should be coded, since that had a slight affect on the prediction of aspiration. Also, the aspiration of / ř / immediately following a k or a t is similar to the beginning of a new word, not the heavy aspiration one would expect. This model has shown that the letters immediately following the / ř / have as much to do with its pronunciation as the letters immediately preceding it do. Although the model tried to make matches with other elements in the word that did not relate to its aspiration, the program ran quite well. Perhaps using fewer letters in the data set would eliminate the propensity of the program to seek out unrelated phoneme clusters when looking for analogical matches. The model could, for example, be more robust if it only considered the two letters immediately before and after the / ř / to be important.

In future studies of this phenomenon, a digitized language-aspiration device could be used to determine the data set instead of
the human ear, which could be swayed by what the researcher wants to hear in the data. This would give the model a closer connection to the data, but it could also require some arbitrary divisions in the levels of aspiration. On the other hand, if the division of / ř / aspiration into three levels is a correct heuristic supported by actual divisions in the digitized language data, then the aims of this project would be met more productively and the predictions of aspiration for new words could be more thoroughly ascertained. To make a project of this scale would take more time and effort, but the benefits could be a narrowly defined aspiration level of / ř / for each of its many phonetic environments, which would expand the linguistic knowledge of Czech, a most unique Slavic language.

Questions

Dr. Don Chapman: So, when you assigned the aspiration levels, how did you determine them?

Jon Stansell: The different levels correspond to my perception of the relative force of aspiration. Through the course of the experiment, I came to some conclusions about the different phonological environments that seemed to produce a heavy, medium, or light aspiration. In the presentation, I said these were criteria for a word to be placed in its proper levels. This is incorrect. Upon reflection, I have realized that I did actually classify each word according to how I perceived it, which had a lot to do with the phonetic environment. However, in the case of many words, it went against my perceived 'rules' for classification. This is shown by some of the words with fricative-/ř/ clusters and with some of the /ř/-consonant cluster words. The analogical model shows these patterns in the data set, indicating that there were other factors with a major part in determining aspiration that I hadn't considered before. If I had tried a totally rule-based approach, I would have overlooked these unexpected determining factors. The analogical model showed that my initial conclusions were only partially correct.

Dr. John Robertson: Did you have to assign a Heavy, Medium, or Light level to each word in the data set and what is the relevance of that?

Jon Stansell: Yes. The analogical data set requires an assigning of aspiration. As Dr. Skousen has said, there are two parts to the data set: namely, the raw language data which is the input, and the output, which is the aspiration level. If I had not assigned a level to each word, there would have been no output variable for the data set. The model would not have been able to predict an output for the test data without this output variable. The model makes comparisons between data set input and a test word, assigning an outcome probability value for that word based on the relative occurrence of outputs from only those data set items that are analogically significant. The second part of your question refers to a seeming flaw in my research design, which is that I designed the levels of aspiration, I coded the data, and found that there were predictable patterns when the program was run. This would seem to suggest that these aspiration levels and their occurrence in the data set could have been a generation of my own mind. I do not claim to have a completely discerning ear; in fact, some of my classifications have been
Varying Aspiration Levels of the / ř / Phoneme

swayed by knowledge of their phonemic environments. There are, however, enough examples of items which went against my initial reaction to show that I did not skew the data. In any case, the computer program did the work, so, supposing the data set was assigned a somewhat correct aspiration, the outcomes will be reliable. The patterns of correlation would show up in the outcome set and their percentages, despite what the final outcome would show. In fact, these patterns of correlation are an excellent way to see how other factors may influence aspiration levels and to check if the assigning of aspiration to the data set was correct. In future studies, I could use native speakers who were not 'tainted' by living in the U.S., as well as using a language digitizing device to precisely determine the aspiration. It may be that this device would reveal an aspiration continuum without any real breaks, or it could reveal my perception of the sound as being in three categories to be correct. I am not totally sure of this based on only one experiment, but I think the results show that there are some natural divisions, outside of my own theoretical biases.

Dr. Robertson: Well, in a perfect world, we could fly native speakers out here, control for every variable, and have equipment that would accurately measure everything we want. But this isn't a perfect world, and I think you've done well with the limitations of the project, considering that it was for a semester class.
### Proceedings of the 1999 Deseret Language and Linguistics Society

#### Statistical Summary

| medium-asp | 616 | 72.30 |
| heavy-asp | 23 | 27.70 |

#### Given Context: C z S e C m R S e C X ==

| mrizi | 8 | 0.73 |
| problemy resit | 36 | 3.28 |
| strese | 88 | 8.03 |
| krese | 88 | 8.03 |
| prisli | 40 | 3.65 |
| zavre | 128 | 11.68 |
| otevrela | 32 | 2.92 |
| prisli | 72 | 6.57 |
| prisla | 72 | 6.57 |
| prisel | 72 | 6.57 |
| nezavreli | 192 | 17.52 |
| prisel | 72 | 6.57 |
| prisli | 72 | 6.57 |
| poprisene | 52 | 4.74 |

#### Statistical Summary

| light-asp | 600 | 66.37 |
| medium-asp | 04 | 33.63 |

#### Given Context: == C h S o R C k S o C s

| mrizi | 8 | 0.70 |
| krizi | 24 | 2.09 |
| veprova | 112 | 9.76 |
| krizi | 24 | 2.09 |
| priletne | 16 | 1.39 |
| zavre | 128 | 11.15 |
| strevic | 48 | 4.18 |
| otevrela | 308 | 26.83 |
| nezavreli | 468 | 40.77 |
| vytrvaryly | 12 | 1.05 |

#### Statistical Summary

| medium-asp | 916 | 79.79 |
| heavy-asp | 232 | 20.21 |
Varying Aspiration Levels of the /Ř/ Phoneme

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On the So-Called Japanese Complementizer

Kenichi Namai

It has long been assumed in the field of Japanese syntax that to is a complementizer that subcategorizes for a tensed IP (e.g. Nakau, 1973). Hence, a sentence like (1a), which is from Kuno (1973, p.213), is usually analyzed along the lines of (1b) below.

(1) a. John-wa nihongo-ga muzukasii to itta.
    TOP Japanese-NOM difficult-is to said

John said that Japanese is difficult.


However, this assumption becomes problematic when we encounter examples in which the subject of the embedded clause headed by to appears with accusative Case:

    I-TOP NOM genius-is to thought

I thought that Bill was a genius.

    ACC

(Ueda, 1988, p.39)

It has been suggested that this is an instance of ECM across IP and CP (e.g. Ueda, ibid.; Ura, 1993), but this seems to be a rather strange analysis, no matter what kind of mechanism one devises to explain it.

Recently, however, an interesting analysis has been suggested by Takezawa (1998), who informally entertains the idea that the accusative-marked subject in question may stand outside the phrase headed by to and that there holds a predication relation between this subject and the to-phrase.¹ Consider (3a); the structural analysis of the bracketed phrase in this sentence is given in (3b).

(3) a. Taro-wa [Hanako-o seikaku-ga warui to] omotteiru (rasii).
    TOP ACC character-NOM bad-is to think-is (seems)

(I hear) Taro thinks Hanako has a flaw in her character.

(Takezawa, ibid., p.57)

b. [Çp[Np Hanako-o]Ç. [cp seikaku-ga warui to]Ç]]

Since Takezawa, too, assumes that to is a complementizer, he is led to stipulate that the constituent which combines the accusative-marked subject and the to-phrase is headed by some category (his a) that takes CP as its complement, as shown in (3b). Moreover, to explain the ECM facts, he is
also forced to stipulate that this category is somehow "transparent" for Case assignment from outside, just like the infinitival IP in English.

In the present paper, although I follow Takezawa's insight in that the accusative-marked subject phrase is outside the to-phrase and that there is a predication relation holding between the two phrases, I reject to's status as complementizer and specifically argue that it is a postposition, drawing on empirical evidence that clearly suggests its postpositional nature. Hence, the constituent in question turns out to be an ordinary postpositional small clause, and if so, ECM ceases to be a problem; that is, the standard analysis of ECM (whatever it is) will apply to the Japanese PP small clause under consideration as well. (In the present paper, I follow Heycock (1994) in assuming that the internal structure of a small clause is that of an adjunction along the lines of (4) below.)

(4) \[[\text{PP} [\text{NP Hanako-o}] [\text{PP} [\text{CP seikaku-ga warui] to]]]]

Furthermore, I will also show that being a postpositional phrase, a to-phrase can function as an adjunct even in the environment where it appears to be nothing but a sentential complement.

1 To as a Postposition
In this section, I give three arguments that directly suggest the postpositional status of to, drawing on facts about (I) to's c-selectional specification, (ii) its interaction with the wh-expression dou 'how,' and (iii) its coordination possibilities. I then present an argument that suggests the implausibility of treating to as a complementizer.

1.1 C-Selection
Ordinary postpositions like made 'till, up to' and yori 'than' in Japanese characteristically c-select NP and CP, as shown in (5) and (6) below, whereas a typical complementizer such as that in English does only tensed IP, as is clear from (7).

(5) a. Mark-wa susi-kara [\text{NP sukiyaki}] TOP from -made nandemo taberu. till anything eat
Mark eats everything from susi to sukiyaki.

b. Boku-wa [\text{CP Mark-ga natto-o taberu] I-TOP NOM ACC eat ka]-made sitteiru.² COMP till know
I know up to whether or not Mark eats natto.

(6) a. Boku-wa [\text{NP Ken}-yori odoroita. I-TOP than surprised
I was more surprised than Ken.

b. Jordan-no intai-wa [\text{CP GEN retirement-TOP asita ame-ga huru ka}-tomorrow rain-NOM fall COMP yori daizina mondai da. than important problem is
Jordan's retirement is more important a problem than if it will rain tomorrow.

(7) a. I think that [IP it will rain tomorrow].
   b. *I think that [IP it to rain tomorrow].
   c. *I know that [CP if it will rain tomorrow].
   d. *I know that [NP Jordan's retirement].

In this respect, to follows the postpositional pattern of (5) and (6), as is observed in (8).

(8) a. John-wa [NP Mary]-to TOP with
         kaimono-ni itta.
         shopping-to went

John went shopping with Mary. (Fukui, 1986, p.222)

b. Kyou-no siken-ni tuite, Ken-wa today-GEN test-DAT about TOP
   [NP daisippai]-to omotta.
   big-failure thought
   About today's test, Ken thought a disaster.

c. John-wa Ken-ni [CP asita-mo TOP DAT tomorrow-too
   ame-ga huru ka]-to kiita.
   rain-NOM fall COMP asked

John asked Ken if it would rain tomorrow, too.

Fukui (1986), who also argues for to's postpositional status, presents (8a), stating that "[t]he fact that to has an independent use as a postposition lends initial support for [our] hypothesis [that it is a postposition]" (p.222). In fact, to can take an NP complement even in the environment where the phrase that it heads seems to function as the complement of a verb of thinking, such as omou 'think, consider,' as in (8b), and it can further take a CP complement in the same kind of environment, as shown in (8c). These c-selectional facts thus indicate that to must be a postposition rather than a complementizer.

1.2 Dou 'How'

Ordinary PPs in Japanese can be used as answers to specific questions asked with the wh-phrase dou 'how,' as is illustrated in the following dialogues between two speakers A and B:

(9) A: Korerano e-wa these painting-TOP
dou atumemasita ka? how collected COMP
As for these paintings, how did (you) collect them?

B: [pp [Kane]-de]
money-with
atumemasita.
collected
(I) collected (them) with money.

(10) A: Ano sakana-wa dou that fish-TOP how
As for that fish, how did (you) grill it?

B: [pp [makkuro-ni pitch-black-DAT naru]-made] yakimasita. become-till grilled

(I) grilled (it) until it was pitch-black.

Notice that *dou* 'how' calls for as an answer the PP *kane-de* 'with money' in (9) and the PP *makkuro-ni naru-made* 'until it is pitch-black' in (10).

If, on the other hand, *nani* 'what' is used instead, the answer obtained is either NP, as in (11B), or CP, as in (11B'):

(11) A: Kimi-wa nani-o you-TOP what-ACC kangaemasita ka? thought COMP

What did you think?

B: [NP Nihon-no mirai]-o Japan-GEN future-ACC kangaemasita. thought

(I) thought (of) the future of Japan.

(1) thought (of) what (I) would buy.

With this much in mind, consider (12).

(12) A: Jordan-no intai-GEN retirement-ni tuite, kimi-wa DAT about you-TOP dou/*nani-o omoimasu ka? how/what-ACC think COMP

About Jordan's retirement, what do you think?

B: [pp [Mada hayasugiru]-to] omoimasu. still early-too think

(I) think that (it) is still too early.

In order to get a *to*-phrase as an answer, the *wh*-expression in the question must be *dou* 'how,' not *nani* 'what,' which the asterisk in (12A) indicates. This fact again points to the PP status of *to*-phrases.

1.3 Coordination

Since *to* can head a clause that seemingly functions as the complement of a verb, it is widely regarded as a complementizer.\(^4\)

Consider (13), in which the *to*-phrase appears to be the direct object of the matrix verb.
(13)  Ken-wa Taro-ni [hizyouni
     TOP to extremely
     onaka-ga suita] to
     stomach-NOM empty.became
     ii-tuzuketa.
say-kept

Ken kept saying to Taro that (he) was extremely hungry.

However, (13) can additionally have an accusative-marked object:

(14)  Ken-wa Taro-ni
      [hizyouni onaka-ga
      to extremely stomach-NOM empty.became
      monku-o complaint-ACC
     ii-tuzuketa.
say-kept

Ken kept saying a complaint to Taro (with the remark) "I'm extremely hungry."

Notice that the to-phrase in (14) cannot be an argument of the matrix verb, whose three arguments (i.e. Ken-wa, Taro-ni, monku-o) are all present in the sentence. In fact, this to-phrase can be coordinated with another PP that clearly functions as an adjunct:

(15)  a. Ken-wa Taro-ni [[hizyouni
     onaka-ga suita] to sosite
     and [Taro-ga nanika-o
     NOM something-ACC
     kureru]-made] monku-o
give till
     ii-tuzuketa.

Ken kept saying a complaint to Taro (with the remark) "I'm extremely hungry" and until Taro gave (him) something.

b. [[Hizyouni onaka-ga
     suita] to sosite [Taro-ga nanika-o kureru]-made], Ken-wa Taro-ni
     monku-o ii-tuzuketa.

Notice that (15b), where the conjoined phrases in (15a) have been preposed, clearly shows the constituent status of the moved phrase.

Given the fact that only constituents of the same kind can be coordinated, we are led to conclude from (15) that to must be a postposition rather than a complementizer. Moreover, it should be noted that in the presence of (14), (13) too must contain a pro object with accusative Case and therefore, despite its first appearance, the clause headed by to in that example must be an adjunct as well.

In any case, coordination facts thus provide yet another direct evidence that to is a postposition, not a complementizer.

### 1.4 Force/Mood

According to Chomsky (1995, 1998), one of the core functional categories is C(OMP), and it expresses the force/mood of the clause that it heads. Thus, a clause headed by if, for example, is interrogative, since this complementizer has the interrogative feature \( Q \), whereas the clause headed by that is [-interrogative] owing to its lack of \( Q \). Hence, if a clause happens to have both if and that, it gives rise to contradiction in terms of force/mood, in addition to the syntactic problem of having two complementizers in a
single clause, which is not allowed in English.

Now consider (16), which has the same structure as (8c):

(16) Ken-wa Taro-ni [Tokyo-e-wa dou ikimasu ka]-to tazuneta.

Ken asked Taro how he could get to Tokyo.

The question regarding the existence of a double COMP structure in Japanese aside, if to were a Japanese equivalent of that in English, the well-formedness of (16) would be surprising; that is, ka is a [+interrogative] complementizer, but to is [-interrogative], and if so, we would expect the kind of force/mood contradiction just described above, which is contrary to fact. Moreover, when the verb tazuneru 'ask' takes a clause as its complement, it requires a [+interrogative] clause, just as ask in English does:

(17) a. I asked if he will come.
b. *I asked that he will come.

Thus, we are led to assume that in (16) too, there must be a pro object, and then the problem associated with the verb's c-selection disappears also. That is, tazuneru 'ask' takes an accusative-marked NP object (which must be realized as pro in (16)), and this is in accordance with the verb's c-selectional specification of NP. (Notice that ask, too, c-selects NP as well as CP, as in I asked the time.)

The facts here thus point to the implausibility of to's status as a complementizer, and they in turn constitute indirect support to our proposal that to is a postposition.

2 Refutation

Whitman (1998) gives two arguments against to's postpositional status, maintaining that to is better viewed as a complementizer. In this section, I will review his arguments and show that they fail to achieve what they are intended to achieve.
2.1 Case
If to is a postposition, then it must have the ability to assign Case, but Whitman claims that to does not seem to have this ability. Consider (19).

(19) Eri-o tensai *(da) to omou
    ACC genius (is) think
    hito mo i ru.
    person too exist

There are also people who think of Eri as a genius (think Eri is a genius).
(Whitman, ibid., p.135)

The gist of Whitman's argument is as follows. If there is da 'is' in the relative clause of this example, what to takes as its complement is a finite IP [Eri-o tensai da], 'Eri is a genius'; then to, being a complementizer like English that, does not have to assign Case. On the other hand, if to is a postposition, it should be able to take an NP complement such as tensai 'genius' and must assign Case to it. Yet the resulting sentence is ungrammatical, as is indicated in (19), and this ungrammaticality must be due to to's inability to assign Case. Thus, to cannot be a postposition.

However, this is an unfortunate misjudgment of grammaticality on the part of Whitman. (19) without da is indeed grammatical, just like (8b), which also has the sequence of NP-to. In fact, Morita (1989, pp.774-776) gives numerous examples of well-formed sentences with this NP-to sequence:

(20) a. Kyouiku-o [NP issyou-education-ACC one.life
    -GEN work think
    no sigoto]-to kangaeru.
    (I) think of education as (my) lifework.

b. Kare-o [NP titi]-to omou.
    he-ACC father think
    (I) think of him as (my) father.

c. Hanare-o [NP monooki]
    detached-building-ACC shed
    -to suru
    do
    (I) designate the detached building as a shed.

d. etc.

Thus, to must be able to assign Case to its complement NP, and this explains why even (19) without da sounds just fine. Hence, this "Case argument" against to's postpositional status seems groundless.

2.2 Ellipsis
Whitman argues that the IP complement of the complementizer to can be elided in discourse, as is shown in (21).

(21) A: Eri-wa asita kuru yone?
    TOP tomorrow come yone?
    TAG

Eri will come tomorrow, won't she?

B: [IP e]-to omoukedo.
    think
I think that \[ IP \ e = \text{she will come} \].

However, Whitman points out that this kind of ellipsis is impossible with typical postpositions. Notice that the postposition \textit{ni 'to'} in (22B), unlike \textit{to} in (21), cannot be left behind when a similar ellipsis takes place:

\[(22)\]  
A: Eri-wa \text{saikin} \\
TOP \text{lately} \\
dou-sita-ka-ne? \\
how-did-COMP-TAG \\

How has Eri been doing lately?

\[ B: [NP e] (*ni) \text{atteinai}. \]
\[ \text{to meet-not} \]

I have not met (*to) \[ NP e = \text{Eri} \].

Whitman thus concludes that \textit{to} cannot be a postposition.

However, this argument does not seem to go, either. The reason is that what can be elided before a postposition seems to be the whole utterance (or the proposition expressed by it) of the first speaker, but not a part of it. Notice that this is the case with (21), but not so with (22), where only the subject NP of A's utterance is intended for ellipsis. In fact, in the following example, where A's utterance contains only a noun phrase, the ellipsis before \textit{ni} is indeed possible:

\[(23)\]  
A: Amerika-kara \\
kaetta America- \\
from returned \\

Eri...

Eri who returned from America...

B: \[ NP e \] ni atteinai. \\
\text{to meet-not} \\

I have not met to \[ NP e = \text{Eri who returned from America} \].

Notice that what is elided in B's utterance now corresponds to the whole utterance of A in this well-formed piece of discourse.

Now, it should be pointed out that (21) and (23) give us a strong impression that what we are observing here may not be cases of ellipsis at all, but rather instances of sentence composition by two speakers. Thus, in the case of (21), what is composed by the two speakers is a complex sentence, which is made possible by the fact that \textit{to} \textit{c-selects}, among others, \textit{CP} (see section 1.1). On the other hand, \textit{ni 'to'} in (23) requires NP, since what is "met" is typically an object expressed by NP (in fact, \textit{ni} may be just a realization of dative Case), but not a proposition. At any rate, in the presence of well-formed (23), the claimed difference between \textit{to} and \textit{ni} collapses, revealing the inconclusiveness of Whitman's argument.

Hence, it seems safe to conclude that Whitman's refutation does not pose a threat for our analysis of \textit{to} as a postposition.

3 PP Small Clause vs Movement
Having established the postpositional status of \textit{to}, I would now like to propose that the bracketed sequence in (2b), repeated here as (24a), is a PP small clause (see (4) above).
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(24b) is the structural analysis of (24a) based on this proposal.

(24)  
   a. Boku-wa [Bill-o tensai-da
          I-TOP   ACC genius-is
to] omotta.
        thought

   b. Boku-wa [PP Bill-o [PP [CP tensai da]-to]] omotta.

Then, whatever the mechanism that explains the accusative-Case marking of small-clause subjects in languages like English will also explain the accusative-Case marking of Bill-o in (24). Moreover, this small-clause analysis seems compatible with the c-selectional specification of the verb omou 'think, consider,' as well; in fact, this verb independently takes an AP small clause as its complement, as shown in (25).

(25)  
   Boku-wa [AP Hanako-o [AP
          I-TOP   ACC
cute] omotta.
        thought

   I considered Hanako cute.

Therefore, it is only plausible that it takes a PP small clause as its complement also.

   As to the derivation of the PP small clause itself, it does not seem to involve any movement. In the current syntactic terms, we might say that after the PP [PP [CP tensai da]-to] is built, it is then merged with the NP [NP Bill-o], thus constructing the whole of the PP small clause.

   However, there have been movement analyses for this particular clause structure and therefore, before concluding this paper, I would like to review them and point out serious problems that they face.

3.1 Subject Raising

As was pointed out in note 1, Kuno (1976) argues for a subject-raising analysis for the construction in question. (26a) is from Kuno (ibid., p.24), and (26b) illustrates its derivation, translated in the current framework.

(26)  
   a. Yamada-wa Tanaka-o
       TOP   ACC
       [baka da]-to omotte ita.
       fool   is that thinking was

       Yamada thought Tanaka to be a fool.

   b. Yamada-wa Tanaka-o [CP
       [IP t, baka da]-to] omotte ita.

Presenting an analysis along the lines of (26b), Kuno specifically argues that Tanaka-o is a constituent of the matrix clause.

   The problem of crossing a tensed IP and CP aside, the motivation for this movement is never clear. It may appear to be Case assignment by the matrix verb, but this cannot be the motivation, since the moved NP can receive nominative Case in the tensed IP; in fact, along with (26a), there exists fully grammatical (27).

(27)  
   Yamada-wa [Tanaka-ga baka da]-to
       TOP   NOM fool is that
Yamada thought that Tanaka was a fool.

(Kuno, ibid., p.23)

Thus, in light of the "principle of economy of derivation" (Chomsky and Lasnik, 1993, p.514), Kuno's subject-raising analysis seems theoretically unmotivated.

3.2 Movement to [Spec,CP]

Kaneko (1988) also provides a movement analysis, but according to his proposal, the NP in question moves into the Spec of the CP headed by to:

(28) a. Yamada-wa Tanaka-o TOP ACC syoziki da to omotte-iru.

Yamada thinks that Tanaka is honest.

b. Yamada-wa [VP [[CP Tanaka-o [[IP t_i [VP syoziki da] to]]] omotte-iru]]

(Kaneko, ibid., pp.277-278)

Look at (28b), which illustrates Kaneko's movement analysis; Kaneko argues that Tanaka-o in the Spec of C can be exceptionally Case marked, since the embedded CP is q-marked by the matrix verb and therefore it is not a barrier for Case assignment from outside.

However, Kaneko's analysis suffers exactly the same problem that Kuno's analysis does. That is, the motivation for the movement under consideration is never clear. Kaneko's argument goes as follows. "Suppose that an embedded subject NP is not assigned nominative Case. ... The subject NP Yamada, as it stands, cannot pass the Case filter and is forced to move to the specifier position of the CP" (p.279). In other words, Kaneko is claiming that the movement is for Case reasons. Now, look at (29a), which is from Kaneko (ibid., p.281); (29b) shows Kaneko's structural analysis of the embedded clause in (29a).


Yamada thinks that Tanaka is a genius.

b. [CP Tanaka,-o [IP kare,-ga tensai da] to]

Kaneko claims that kare,-ga in the embedded IP is a resumptive pronoun, but notice that this pronoun is indeed nominative-marked. This means that the nominative-Case assignment in the embedded clause does take place in (29) and if so, the movement cannot be for Case reasons. Moreover, Tanaka-o and kare,-ga in this example must form a chain; otherwise, the moved argument NP Tanaka-o would violate the q-Criterion. But then, there arises a new problem; the chain thus formed is not a well-formed chain, since it receives two Cases -- accusative at the head and nominative at the
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tail. For these reasons, we must conclude that Kaneko's proposal is too problematic to be adopted.

Our PP small-clause analysis, on the other hand, does not suffer these problems. Under our analysis, (28) and (29) will be analyzed as in (30a) and (30b), respectively.


In (30a), the subject of the clause headed by to is realized as pro, which is licensed by the nominative Case available within that clause. In (30b), the subject of the to-clause is realized as kare-ga 'he-NOM,' which is not surprising, since (30b) has exactly the same structure as (30a). Moreover, since there is no movement involved in (30a,b), the problem associated with Case pointed out just above does not arise, either. Furthermore, the q-Criterion is also fully satisfied; the subject of the to-clause receives its q-role from the predicate within the clause, and the accusative-marked subject of the small clause receives its q-role from the inner PP headed by to.

4 Conclusion
As we have just seen, there are several pieces of direct evidence for to's postpositional status. Therefore, phrases headed by this item are most likely to be postpositional phrases, which in turn enables us to analyze a sentence like (2b) (= (24a)), repeated here as (31a), as a sentence that contains a PP small clause as the complement of the matrix verb; this structural analysis is given in (31b).

    I thought of Bill as (he) is a genius.


The analysis along the lines of (31b) seems superior to the existing analyses in that it is free from all the problems that the others inevitably face. And in the absence of evidence to the contrary, it is hence concluded here that the so-called Japanese complementizer to is actually a postposition and that sentences like (31a) contain a PP small clause headed by this postposition.

Works Cited


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**End Notes**

1 See Kuno (1976) for the subject-raising analysis in the pre-GB framework.

2 Fukui (1986) argues that *ka,* which is widely believed to be a [+wh] complementizer, is categorically a noun. However, following Whitman (1998), who gives convincing arguments against *ka*'s nominal status, I assume in the present study that it is a complementizer.

3 But see the discussion in section 1.3.

4 In fact, Trask (1993, p.51) defines complementizer as "[a] grammatical formative which serves to mark a complement clause, such as English *that* and *whether* in Lisa said that she would come and I don't know whether she smokes.* However, this definition is not fully accurate, since clauses headed by complementizers can be used adverbially, as in *For Lisa to be successful, she must work hard* and *I gave him some food so that he wouldn't be hungry.*

5 The Case filter that Kaneko (ibid., p.276) assumes is as follows:

(I) Case filter: *NP if NP has phonetic content and has no Case.*
Three Types of Viewpoint - Empathy, Subjective, and Agentive: A Case Study from Japanese Giving and Receiving Verbs*

Soichi Kozai

It is well known by now that Japanese giving and receiving verbs assign speaker empathy to a particular participant. In general, this assignment is determined by the verb and the social relationship existing between the discourse participants and among the characters referred to in the discourse. However, there are certain counterexamples to this generalization. This is the phenomenon called empathy shift: the speaker is taking a non-designated participant's viewpoint on purpose. Kuno (1987) has proposed a syntactic account for these counterexamples, while Inoue (1979) and Wetzel (1985) have specified speaker motivations as explanations for such use. In this study a comprehensive analysis of these empathy assignment phenomena will be presented using the Mental Space (Fauconnier 1994, 1997) notion of Viewpoint.

Three types of viewpoint are posited in the present study - Empathy, Subjective, and Agentive. These viewpoints may be assigned to one NP or two NP's. If the assignment is concentrated in one specific NP, Empathy shift cannot occur because these viewpoints constitute a single stable whole. When more than one NP is assigned a viewpoint, shifting of Empathy is more likely since a single entity has not been identified as having the perspective from which the event is viewed.

1. Giving and receiving verbs

There are two give's and one receive in Japanese, and there are three levels of register with each of these verbs - casual, plain, and honorific (see Table 1).

The honorific form of morau (itadaku) also has a Sino-Japanese alternative, tyoodai suru. For convenience, example sentences cited in this paper use only the casual forms, i.e., yaru for give1, kureru for give2, and morau for receive. The three indispensable participants for these verbs are the giver, the recipient, and the object being transferred. If these referents are recoverable from the context, they may not be phonologically realized. Because the object being transferred is most likely a non-human entity, the speaker's empathy must be located with either the giver or the recipient.

Consider giving and receiving constructions with three participants - watasi (I), anata (you) and a pen. In sentences (a-c), watasi has the giver role and anata, the recipient role. In (a'-c'), the role has been reversed:

(1) a. Watasi ga anata ni pen o yaru.
   I N you D Agive1
   I give you a pen.

   a'. *Anata ga watasi ni pen o yaru.
      you N I D Agive1
      * You give me a pen.
b. *Watasi ga anata ni pen o kureru.
   I N you D A give2
* I give you a pen.

<table>
<thead>
<tr>
<th>give1</th>
<th>give2</th>
<th>receive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Casual</td>
<td>yaru</td>
<td>kureru</td>
</tr>
<tr>
<td>Plain</td>
<td>ageru</td>
<td>kureru</td>
</tr>
<tr>
<td>Honorific</td>
<td>sasiageru</td>
<td>kudasaru</td>
</tr>
<tr>
<td></td>
<td>(Humble)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>morau</td>
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<tr>
<td></td>
<td></td>
<td>morau</td>
</tr>
<tr>
<td></td>
<td></td>
<td>itadaku (tyoodai-suru)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Humble)</td>
</tr>
</tbody>
</table>

Table 1.

b'. Anata ga watasi ni pen o kureru.
   you N I D A give2
You give me a pen.

c. Anata ga watasi ni pen o morau.
   you N I from A receive
   You receive a pen from me.

c'. Watasi ga anata ni pen o morau.
   I N you from A receive
   I receive a pen from you.

With the verb *yaru*, the first-person form *watasi* must be the giver, not the recipient, while the reverse is true for *kureru* and *morau*. While (1b) is unacceptable, (1c) is marginally acceptable. This is because the verb *morau* assigns agentivity not only to the recipient, the grammatical subject, but also to the giver, the *ni*-marked NP. This point will be discussed in more detail later. Since the first person participant is the epistemic entity with whom the speaker inevitably identifies him/herself, the empathy locus with each verb can be schematized as follows:

<table>
<thead>
<tr>
<th>Empathy Locus</th>
</tr>
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<tbody>
<tr>
<td>give1</td>
</tr>
<tr>
<td>give2</td>
</tr>
<tr>
<td>receive</td>
</tr>
</tbody>
</table>

Table 2.

Kuno and Kaburaki (1977) define empathy as identification with an individual, while Wetzel (1985) uses group membership as the criterion for the identification of speaker's empathy. This membership, called *in/out (uti/soto)-group membership*, determines the social deictic reference point. For example, speakers use honorific forms appropriate for the group membership, such that when a company employee is talking to his/her own superior, the employee must use respect forms if the superior is the referent of the grammatical subject, but humble forms if the employee is the referent of the grammatical subject. When the employee is talking to someone outside the company, however, humble forms are used for all company employees because all belong to the same group, i.e., the in-group, while the addressee does not. The addressee belongs...
to the out-group. Of course, in/out-group membership shifts with changes in time or situation. For example, members of the same family or school constitute the in-group opposed to members of other families or schools, respectively. In this study we combine these two conditions - individual and group membership - in referring to the empathy locus. The first-person form is always the empathy locus when the speaker is explicitly involved in the event. When this is not the case, the social relationship between the speaker and a second or a third person determines who will be the locus of empathy.

2. Counterexamples

Inoue (1979) rejects the Kuno and Kaburaki generalization, presenting a number of counterexamples. She argues that empathy constructions depend on social factors regarding the speaker's relation to participants at the time of the utterance. From a pragmatic perspective, her observation is indeed correct; however, it is not really an explanation but rather a description of the speaker's motivation for using the specific person forms with these verbs in the counterexamples. Wetzel (1985, p.151) provides a more elaborated account, calling these exceptional empathy constructions cases of *deictic projection* (Lyons 1977) - the shifting of the speaker's viewpoint to someone else's - but still this fails to go beyond description. On the other hand, Kuno (1987, p.253) proposes a syntactic explanation in terms of logophoricity: predicted-to-be ill-formed indirect speech constructions are acceptable if the corresponding direct speech constructions are well-formed. Logophoric verbs are speech verbs such as *say, tell, ask,* and/or psychological verbs such as *feel, bother, please.* In examples (2a-c), the first person pronouns are used in non-empathy loci, but since their direct speech counterparts (2a'-c') are acceptable, these apparently ill-formed indirect speech constructions turn out also to be acceptable:

\begin{align*}
(2)a. \ & \text{Watasi}_R \ ni \ yatta \ to \ hito \ ni \ iw-anai \ de \ kudasai. \\
& \text{Please don't tell others that (you$_G$ gave it to) me$_R$.}
\end{align*}

\begin{align*}
(2)b. \ & \text{Watasi}_G \ ga \ anata_R \ ni \ yatta. \\
& \text{I } \text{D gave1 Qut person to you$_R$.}
\end{align*}

\begin{align*}
(2)c. \ & \text{Watasi}_G \ ni \ moratta \ to \ hito \ ni \ iw-anai \ de \ kudasai. \\
& \text{Please don't tell others that (you$_G$ received (it) from me$_R$.}
\end{align*}
In (2a), the first-person pronoun is the recipient for *yaru*, violating the empathy assignment constraint. However, in (2a'), the giver, whose counterpart in (2a) was an understood second-person entity, takes on the form of *watasi*, the first-person pronoun, and the recipient, whose counterpart in (2a) was a first-person entity, takes on the form of *anata*. Thus, (2a') is well formed and therefore its indirect counterpart (2a) is also well-formed despite the apparent violation.

The same is true for the apparently ill-formed sentences with *kureru* and *morau* (2b, c), which also have well-formed counterparts (2b', c'). The referent of the first-person giver for *kureru* in (2b) is the same as that for *anata* in (2b'), and the referent of the understood second-person recipient in (2b) is the same as that for *watasi* in (2b'). In (2c) and (2c'), the first-person giver is also the same as the referent of *anata*; and whether *anata* is overt or implicit, the second-person recipient is the same as the referent of *watasi*. Hence, (2b) and (2c) are also well formed, although they might appear to be ill formed.

However, there are yet other counterexamples outside the scope of Kuno's logophoric account:

[Context: A speaker is talking to Taro, whom the speaker saw earlier wearing a poorly cared-for sweater which the speaker had given him as a gift.]

(3) *Watasi ni moratta seetaa o anna ni*  
I from receive sweater A like-that

How dare (you) get the sweater (you) received from me dirty like that.

In (3), *watasi* is the giver for *morau*, which should be a violation of empathy assignment. However, the sentence is acceptable. This is a direct speech construction that Kuno's logophoric rule fails to account for. Note that if *ageru* or *kureru* is used, the acceptability varies considerably:

(4)a. *Watasi ni yatta seetaa o anna ni*  
I D give1 sweater A like-that

How dare (you) get the sweater (you) gave me dirty like that.

b. ??*Watasi ga kureta seetaa o anna ni*  
I N give2 sweater A like-that

How dare (you) get the sweater I gave (you) dirty like that.

While (4a) is clearly unacceptable, the status of (4b) is less certain and varies among native speakers. Why is there this variability?

### 3. Viewpoint

To account for this variability, I will use the Mental Space (Fauconnier 1994, 1997) notion of Viewpoint. Mental Space theory treats language as a system of prompts building and interrelating semantic spaces or...
domains, using minimal lexical and grammatical structures. This theory posits a Viewpoint space from which other spaces are accessed and structured. When describing an event or a state, the speaker must take a particular stance for the description. This speaker's stance is the Viewpoint space.

I am proposing three types of viewpoint for Japanese - Empathy, Agentive, and Subjective. Empathy viewpoint represents the speaker's identification with a particular participant in an event - the speaker describes the event from this identified participant's perspective. As discussed above, if there is a first-person participant, it can only be the giver for yaru and has to be the recipient for kureru and morau.

Agentive viewpoint is located with the agent NP of the event. In nominative-accusative languages, transitive events can be described either in active or passive voice. When such an event is described from viewpoint of the patient, the agent NP is marked with oblique case, as in the passive; otherwise, it takes nominative case. Although the three giving and receiving verbs are all transitive, a patient NP with these verbs is likely to be a non-human entity so that we are primarily concerned here with the active voice of these predicates. Two verbs, yaru and morau, mark a single NP for both the Agentive and Empathy viewpoints. With kureru, the two viewpoints cannot be assigned to the same participant because the recipient has to be the Empathy location whereas, obviously, the agent (the giver) gets the Agentive viewpoint. There is only one Agentive for the two give's while, conceptually, there are two Agentives with morau - the giver and the recipient (Shibatani 1979). Example (1b') can be a paraphrase of (1c'), here repeated as (5a) and (5b), respectively:

(5) a. Agt GI Thm
   Anata ga watasi ni pen o
   you N I D A
   kureru.
   give
   You give me a pen.

b. Agt Agt Thm
   Watasi ga anata ni pen
   I N you from
   o morau.
   A receive
   I receive a pen from you.

In (5b), the ni-marked NP, anata, (unlike its dative NP counterpart in (5a)), though not the subject, is assigned an agentive role in Japanese because speakers construe the recipient as an agent despite the presence of another agentive, the subject watasi. Thus, for example, if the ni-marked NP Tanaka sensei (the teacher Tanaka) in (6a) is replaced by an NP referring to an inanimate entity gakkoo (school) as in (6b), kara (from) must replace ni (by), since the agentive viewpoint cannot be attributed to an inanimate entity:

(6) a. Watasi wa Tanaka sensei ni/kara
   I T Tanaka teacher by/from
   hon o moratta.
   book A received
   I received a book from the teacher Tanaka.
b. Watasi wa gakkoo *ni/kara hon o moratta.
   I T school by/from book A received
   I received a book *by/from school.

Thus *ni in (5b) marks agentivity when the
*ni-marked NP is an animate entity.

Jackendoff (1985, p.451) points out that a subject of receive in English cannot be
an agent (in his term, Actor). He applies
tests using pseudo-cleft and imperative
constructions as in (7) and (8), respectively,
to distinguish action verbs from non-actions verbs -- the subject of the former is an agent,
while that of the latter is not.

(7)  a. What Bill did was give up linguistics.
     b. *receive a letter.

(8)  a. Give up linguistics!
     b. *Receive a letter!

However, in Japanese, both pseudo-cleft and
imperative constructions with morau are
acceptable:

(9)  a. Taro ga sita koto wa watasi ni tegami o morau koto datta.
     Taro N did thing T I from letter A receive thing Cp/Pst
     What Taro did was receive a letter
     from me.

     b. Tegami o morae!
     letter A receive
     Receive a letter!

Moreover, the volitional form of morau is
natural (10a), while that of receive (10b) is
dubious:

(10)  a. ??Tegami o morauo!
      letter A let's-receive
      Let's receive a letter!
     b. Let's receive a letter!

Receiving as well as giving is thus seen as a
kind of act, and hence the subject of morau
is the agent.

In the earlier section, we noted that
(1c), repeated as (11) below, was marginal
rather than unacceptable; but no explanation
of this was given.

(11) ??Anata ga watasi ni pen o morau.
     you N I from A receive
     You receive a pen from me.

We now see that both recipient (anata) and
the giver (watasi) are agentive with morau;
this double agentivity explains the
marginality. Empathy viewpoint is assigned
to anata rather than watasi, the normal locus
of empathy, but the *ni-marked participant is
assigned agentivity. Hence, the non-
empathy-marked NP's volitionality is
concomitant with the receiving event. Thus,
this presupposed *ni-marked participant's
controllability on the event helps make the
ill-formed empathy marking construction
less unacceptable: the NP that is supposed to
have a type of viewpoint - Empathy - is yet
marked for another type of viewpoint - the
Agentive.

Also, the marginality of (11) can be
accounted for if we consider the imperative
construction. Receiving from watasi is
unacceptable as in (12a) because it violates
empathy marking, while it is acceptable if
anata receives something from a third person as in (12b), which conforms to empathy marking - in which the speaker has closer relationship to the second person than to Taro.

(12) a. *Watasi kara tegami o morae!
       (corresponding to)
       I from letter A receive
       Anata ga watasi ni morau.
       Receive a letter from me!

       b. Taro kara tegami o morae!
       (corresponding to)
       Taro from letter A receive
       Anata ga Taro ni morau.
       Receive a letter from Taro!

The third viewpoint is the Subjective - the expression of an internal state attributed to the referent of the grammatical subject. Not all subjects are assigned this viewpoint, which is partially determined by the nature of the predicate. Unlike English, Japanese subjective predicates expressing the internal state of an epistemic entity are constrained syntactically:

(13) a. Watasi wa oyogi-tai.
       I T swim-want-to
       I want to swim.

       a'. *Watasi wa oyogi-ta-gatte-iru. {1}
       GAR-STA
       I want to swim.

       b. *Anata wa oyogi-tai.
       you T swim-want-to
       You want to swim.

As exemplified in (13a-b'), the psychological predicate of -tai (want to) needs to be suffixed by a descriptive modal morpheme -gar-, which is followed by the stative marker, -iru, for the representation of non-first-person subjects. This is because a speaker can take a subjective stance in expressing his/her own internal states, whereas he/she cannot do this for others. This is also true when the giving and receiving verbs are suffixed by the morpheme -tai in that the derived adjectival for first person cannot be suffixed by the modal morpheme -gar-, while those of a non-first person need to be suffixed:

(14) a. Watasi wa anata ni pen o
       I T you D A
       age-tai.
       give1-want-to
       I want to give you a pen.

       a'. *Watasi wa anata ni pen o
       I T you D A
       age-ta-gatte-iru.
       give1- want-to-GAR-STA

       b. *Anata wa watasi ni pen o
       you T I D A
       kure-tai.
       give2-want-to
You want to give me a pen.

b'. Anata wa watasi ni pen o
you T I D A
gure-ta-gatte-iru.
give2-want-to-GAR-STA

c. Watasi wa anata ni pen o
I T you from A
morai-tai.
receive-want-to
I want to receive a pen from you.

c'. *Watasi wa anata ni pen o
I T you from A
morai-ta-gatte-iru.
receive- want-to-GAR-STA

It can thus be seen that those subject NP's whose psychological predicates cannot be suffixed by the modal morpheme -gar- are marked for Subjective viewpoint - i.e., those with ageru and morau - otherwise they are non-Subjective - i.e., grammatical subjects for kureru. The distribution can be summarized as in Table 3:

<table>
<thead>
<tr>
<th>'give1'</th>
<th>'give2'</th>
<th>'receive'</th>
</tr>
</thead>
<tbody>
<tr>
<td>ageru</td>
<td>kureru</td>
<td>morau</td>
</tr>
<tr>
<td>[+</td>
<td>[-</td>
<td>[+]</td>
</tr>
</tbody>
</table>

Table 3.

Now the distribution of all three viewpoints can be schematized as in Table 4, on the following page.

For yaru, all three viewpoints are located on a single NP, the giver. For kureru and morau, two NP's in their clauses are assigned viewpoint status. Thus, the overall viewpoint marking is the most concentrated with yaru. With kureru, only Agentive and Empathy viewpoints occur, and these are not located on the same NP - the Agentive is assigned to the giver and the Empathy to the recipient. Like yaru, morau locates all three viewpoints on the recipient and, in addition, a second Agentive viewpoint is located with the giver.

Of the three viewpoints, only Empathy may be shifted to another NP; the viewpoint distribution after Empathy shifting is the exceptional assignment that we are concerned with here. As just noted, yaru has the most concentrated viewpoint distribution, all three types being located in a single NP, while kureru and morau have a less stable distribution, the locations being distributed over two NP's. Hence, because of the most inflexible distribution, the acceptability of empathy shift for yaru is the lowest among the three verbs. For kureru and morau, the latter, locating the three viewpoints with a single NP, seems to have a greater concentration of viewpoint than kureru. So it appears that morau might have less acceptability than kureru for empathy shift. However, this is not correct. Now consider the viewpoint distribution after Empathy shifting (see Table 5, following page):
### Distribution of the three Viewpoints

<table>
<thead>
<tr>
<th>'give1'</th>
<th>'give2'</th>
<th>'receive'</th>
</tr>
</thead>
<tbody>
<tr>
<td>yaru</td>
<td>kureru</td>
<td>morau</td>
</tr>
<tr>
<td>Emp/Sub/Agt</td>
<td>Watasi\textsubscript{G} ga \textbf{Agt} Anata\textsubscript{G} ga</td>
<td>anata\textsubscript{R} ni \textbf{Emp} watasi\textsubscript{R} ni \textbf{Agt} anata\textsubscript{C} ni</td>
</tr>
</tbody>
</table>

(Emp: Empathy, Sub: the Subjective, Agt: the Agentive, G: giver, R: recipient)

**Table 4.**

### Viewpoint distribution after the shifting

<table>
<thead>
<tr>
<th>'give1'</th>
<th>'give2'</th>
<th>'receive'</th>
</tr>
</thead>
<tbody>
<tr>
<td>yaru</td>
<td>kureru</td>
<td>morau</td>
</tr>
<tr>
<td>Sub/Agt</td>
<td>Watasi\textsubscript{G} ga \textbf{Agt} Anata\textsubscript{G} ga</td>
<td>anata\textsubscript{R} ni \textbf{Emp} watasi\textsubscript{R} ni \textbf{Agt} anata\textsubscript{C} ni</td>
</tr>
</tbody>
</table>

(Emp: Empathy, Sub: the Subjective, Agt: the Agentive, G: giver, R: recipient)

**Table 5.**

The verb *kureru*, which formerly had two NP's as viewpoint locations, now has only one, while *morau* still retains two NP's as viewpoint locations. Thus, *morau*, being more flexible in viewpoint distribution, can maintain this balance of distribution after shifting. Therefore, the two verbs *kureru* and *morau* have two NP's for viewpoint loci and, hence, it is easier for Empathy to shift from one to the other NP. On the other hand, since *yaru* has the most concentrated distribution - only one NP for viewpoint location - it is not easy for Empathy to shift to another NP.

### 4. Conclusion

Empathy is a type of viewpoint, and the exceptional constructions of giving/receiving verbs are a phenomenon of empathy shift. With pragmatic considerations, we are able to describe background of the speaker producing such utterances and, with consideration to syntactic elements of those constructions, we can partially solve the problem. However, none of these approaches could
Three Types of Viewpoint

provide a unified account for the phenomenon.

In this study, we have examined viewpoint, defined the three types - Empathy, the Agentive, and the Subjective - and found these viewpoints to be significant to account for the empathy phenomenon in an integrated way. The nature of viewpoint distribution before and after shifting determines the degree of acceptability, as shown in examples (3) and (4). The acceptability of these constructions corresponds to the following ordering: *yaru*, *kureru*, and *morau*. With *yaru*, all three viewpoints are located with the giver. Thus, the overall viewpoint marking is very strong, and hence viewpoint shifting is unlikely. If *kureru* is used, only Agentive and Empathy viewpoints occur, and these are not located with the same NP - the Agentive is assigned to the giver and the Empathy viewpoint to the recipient. In this case, the Empathy may be shifted to the Agentive NP. However, if the Empathy is shifted, the recipient in a *kureru* clause is not assigned a viewpoint. With *morau*, on the other hand, there are two Agentives and, hence, even after shifting Empathy from the recipient to the giver, the first site is still marked for the Agentive. In addition, unlike the subjects of *kureru*, the subject NP of *morau* is marked for a third Viewpoint - Subjective - hence, the distribution of viewpoints is strong enough to support Empathy shift. Therefore, the acceptability of Empathy shift with giving and receiving verbs is determined by the distribution of the three types of viewpoint with these verbs.

**Works Cited**


**End Notes**

(*) I am indebted to three professors of University of Hawaii for this paper to be completed. Those who are Professor Haruko Cook, who has first inspired me to study this research area no one has worked on; Professor John Haig, who has given me invaluable comments and advice for analyses on Japanese; and Professor Roderick Jacobs, who has guided me with his great patience since I started to study discourse grammar at the university.

{1} This utterance, however, will be acceptable when the speaker shifts his/her viewpoint, such that objectifying him/herself as in (I) or taking addressee's stance as in (ii) (John Haig, personal communication):
Although (I) used to be afraid of water, (I think) I want to swim now.

I may appear to want to swim, but (it) is not so in fact.
THE DISTRIBUTION OF ESSE IN JULIUS CAESAR’S BELLUM CIVILE BOOK I

Anton Rytting

1. Introduction: The Merits of Caesar’s Text as a Sample of Clear Latin

Both by his contemporaries and by modern critics, Caesar is praised for his clarity and elegance of style. Cicero writes of Caesar’s Commentaries, “They are simple, straightforward, and charming, stripped of all figures of speech as [a statue is stripped] of clothing . . . for there is nothing sweeter in pure narrative and clear conciseness” (Cic. Brut. 262, this and following translations mine). Aulus Hirtius, who completed Caesar’s Gallic War, notes in his preface to the eighth book how difficult it is to match Caesar’s style: “For among all men it is undisputed that nothing has been completed by any others, however great their effort, which is not surpassed by the elegance of these commentaries” (Hirtius, B. G. VIII preaef. 4).

Modern critics of Caesar have typically concurred with the received opinions of ancient critics. Sir Frank Adcock notes that, although Caesar’s style becomes freer in its grammatical structure and seems to flow faster in his later works, “the precision in the use of words, the pura et illustris brevitas [i.e., pure and clear conciseness] which Cicero praises in Caesar’s writings is a constant phenomenon” (Adcock 1956:64-65). P. T. Eden observes that Caesar’s style is influenced both by contemporary orators and historiographers, on the one hand, and by the annalistic commentaries of previous generals, on the other. Nevertheless, he claims that in creating his own style, “Caesar avoided both extremes: neither meretricious adornment nor rugged illiteracy was to his taste” (1962:74). Eden thus suggests that Caesar played a “middle ground” in his writing, aiming (among other things) at maximum readability.

H. C. Gotoff points out that Caesar’s apparent simplicity may be more feigned than genuine: “behind the specious objectivity and straightforwardness of the Commentaries lies calculated — and extremely successful — propaganda of self-aggrandizement” (1984:2). However, in order for this “calculated propaganda” to be successful, Caesar must be readily accessible to a wide cross-section of Rome, not just the well-educated elite. W. V. Harris credits Caesar with this type of broad-based intelligibility: “Caesar’s Commentaries on his Gallic and civil wars performed the remarkable feat of simultaneously expanding the audience for propagandistic texts . . . and demonstrating great sophistication in the works themselves” (1989:211-12). To be accessible to an expanded audience as Harris suggests would require a certain simplicity of style, at least on the clausal level.

2. Caesar’s Apparent Ellipsis of Esse

It may be inferred, then, from the judgements of ancient and modern critics, that Caesar’s style was (for a Roman) clear, straightforward, and easy to read. Nevertheless, Caesar has a particular grammatical peculiarity that often proves troublesome to the non-native reader, for it
is not the strictly grammatical construction taught in Latin grammars. In statements which seem to require the copulative infinitive esse (to be) to complete their meaning, Caesar very frequently omits it.

In particular, verbs of saying, thinking, knowing, etc., in Latin usually indicate the statement or thought being expressed by putting the subject in accusative case and the verb in an infinitive form. This construction, called “Infinitive with (Subject) Accusative,” is the most common way of indirectly quoting speech or expressing thoughts.

However, with these same verbs of saying, knowing, etc., Caesar will often omit the infinitive of the “Infinitive with Accusative” construction if that infinitive is the copula esse (to be). In the following examples, the esse is placed in parentheses where it would be expected to appear, but does not in Caesar’s text.

Two explanations for this apparent deletion of esse seem possible. First, Caesar could be omitting the verb esse because it is easily understood from the surrounding context. If so, we would expect him to omit esse in those cases where it is most easily supplied by context and to retain it when its absence would cause ambiguity. I will call this viewpoint the “recoverability” theory. Secondly, it could be that when Caesar omits esse, the verbs themselves that govern these clauses do not govern “Infinitive with Accusative” clauses only, but also subcategorize for construction known as a small clause. The esse is not deleted, but was not present in the construction in the first place. If this is the case, we would expect Caesar to use small clauses either with certain verbs only, or to achieve a desired rhetorical effect. I will call this explanation hereafter the “subcategorization” theory. These two explanations will be considered in more detail below and compared with data from the first book of Caesar’s Bellum Civile.

3. Ellipsis and Recoverability
In an attempt to describe the basic principles of human communication, H. P. Grice developed four “maxims” which describe the sort of information which speakers
Generally give and hearers expect to receive. One of these is Grice’s Maxim of Quantity: as helpful and informative speakers, we include just enough information to be understood — not more, not less. It follows from this maxim that whatever information can be fully and unambiguously recovered from the context need not be stated explicitly.¹

In fact, ellipsis is often defined as “information which is deleted for reasons of economy, emphasis, or style, but which is completely recoverable from linguistic context” (Baltes, 1993: 50, quoting Crystal (1991), Quirk et al. (1985)). The term may be extended to include not only deletion, but contraction and abbreviation of the material made clear by context. To illustrate the notion of recoverability as it applies not only to deleted but to abbreviated material, I cite an example from the third book of Caesar’s Bellum Civile:

4a. Caesar superius institutum servans X legionem in dextro cornu, nonam in sinistro collocaverat, . . . et huic sic adiunxit octavam ut paene unam ex duabus efficeret . . . (Bellum Civile, 3.89.1.1)
4b. “Caesar, keeping to his previous design, had assembled his 10th legion on the right flank, his ninth on the left, . . . and joined to it the eighth, as if, almost, to make one legion of the two . . .”

Roman numerals in Latin prose can stand for any form of the number shown. For example, the “x” on line one can be read either as decidem, (ten) or decatam, (tenth). However, the third-declension accusative singular ending on legionem makes the intended meaning of “x” unambiguous: to agree with legionem, it can only be read as decatam (tenth).² Conversely, in the next clause, the feminine accusative singular endings on nonam and octavam indicate the implied legionem with sufficient clarity that the noun can be omitted. However, these two numbers could not have been abbreviated “ix” and “viiii” without the specifier legionem without creating ambiguity between the cardinal and ordinal readings. While it is likely that “legion(s)” could still be understood from the context, there would be no marker of singularity to prevent the reading “nine (legions)” instead of “the ninth (legion).”³

This example shows that the term “information” may refer not only to the actual (extra-linguistic) information we express by language, but also to grammatical “information” such as gender and number. As we saw, the same principle that governs the omission of a word or a phrase also governed the abbreviation of “decatam” to “x,” with subsequent its loss of grammatical information (in this case, [+ordinal], [+feminine], [-plural]). The omission of an “empty” or “connecting” word such as the copula esse, “to be,” which carries primarily grammatical rather than lexical information, may also follow the same principle of recoverability.

The copulative esse links two concepts together in a relationship of equivalence, yet also keeps them distinct by “marking the boundary” between the subject and predicate. In main clauses, it also assigns (nominative) case to the subject and predicate. However, if esse is found in an infinitival clause governed by another verb, the governing verb assigns (accusative) case to both subject and predicate. So if the boundary between the subject and predicate
is clear from the context (i.e., the predicate position is "recoverable" from context), then the esse is superfluous and optional.

4. *Esse* ellipsis in Indirect Statement constructions

As I mentioned previously, the most common method in Latin of reporting sentences that are said, known, believed, or perceived by someone is the "Infinitive with Accusative" construction, consisting of an accusative subject (and sometimes accusative predicate) and an infinitive verb within the predicate of the main verb. English also possesses this construction, but in a more restricted domain. According to the recoverability theory, when this verb is (or includes as part of a compound) the copulative infinitive esse or to be, either in English or in Latin, the copulative can be safely omitted if the context clearly distinguishes between the subject and the predicate.

English typically shows the distinction between attributive and predicative modifiers by the position of the modifier in the sentence. In the following English sentences, the to be copula is optional because the predicate is already marked by its position after the subject (whereas attributive adjectives come before the noun).

5a. I believe the innocent man. ("Innocent" is here an attributive adjective.)
5b. I believe the man (to be) innocent. ("Innocent" here can only be predicative.)

In Latin, unlike English, word order does not clearly mark the boundary between subject and predicate. However, since Caesar does omit esse after verbs of speaking and thinking (verbs which typically take the "Infinitive with Accusative" construction), there must be other ways of implicitly marking modifiers as predicative, besides the explicit copula esse. Since Latin provides most of its syntactic information through inflections on the words themselves, instead of through word order, it seems most reasonable to look next at the grammatical information contained in the words. Just as the "singular" marker on legionem facilitated the reading of "x" as the ordinal "tenth" rather than the cardinal "ten," the inclusion of certain verbal information on predicate modifiers may facilitate their reading as predicative, rather than attributive or appositive, even without esse to mark them explicitly as such.

5. Ellipsis and Recoverability in the *Bellum Civile*

The data collected from Caesar's *Bellum Civile* Book One lend some credence to this possibility. Caesar omits esse quite frequently, but his omissions seem to follow a pattern.

The following examples illustrate Caesar’s use of the “Infinitive with Accusative” construction without the infinitive esse (here supplied in parentheses). The predicate is underlined, and the governing verb is in bold.

6a. Lentulus consul senatui re publicae se (esse) non defuturum pollicitur ... (B. C. 1.1.2.2)
6b. “Lentulus, as consul, promised to the senate himself (to be) not (about to be) remiss in his duty to the state ...”
7a. Iam vero eo magis illi
maturandum (esse) iter
existimabant. (B. C. 1.63.1.1) 7b. "But in fact, they thought the road (to be) (necessary to be) hurried along so much the more."

8a. Itaque se (esse) viciss
confiteri, orare atque obsecrare, siquid locus misericordiae relinquatur, ne ad ultimum supplicium progredi (esse) necesse habeant. (B. C. 1.84.5.1) 8b. "And so they admitted themselves (to be) defeated, and begged and pleaded, that perhaps there might remain room for mercy, so that they not consider it (to be) necessary to mete out the most severe punishment."

As in these examples, most of the omissions of esse in Caesar's text involve participles—what would have been compound (periphrastic) verbs in direct statements. The following statistics illustrate this tendency:

- The future active participle (as in example 6) appears 18 times without the esse, with esse only 3 times (86% ellipsis).
- The future passive participle (as in example 7) appears 10 times without esse, and only once with esse (91% ellipsis).
- The perfect passive/deponent participle (as in example 8) appears without esse 25 times; with esse 4 times (86% ellipsis).

However, other parts of speech, such as adjectives, nouns, and prepositional phrases, seem unable to mark themselves as predicative without an explicit verb esse. The following sentences illustrate Caesar's use of esse with these types of predicates:

9a. conclamant legionis xiii, quae aderat, milites ... esse paratos esse imperatoris sui tribunorumque

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Caesar is more wary of omitting esse with these types of predicates:

- Predicate adjectives (as in example 9) appear 10 times with esse, without esse only 6 times (38% ellipsis).
- Predicate accusative nouns (as in example 10) appear twice with esse, and once without esse (33% ellipsis).
- Prepositional Phrases (as in example 11) appear with esse 3 times; without esse only once (25% ellipsis).

Why would Caesar, who is striving for clarity, feel so free to omit esse? As I mentioned earlier, whatever is deleted by ellipsis must be fully recoverable from context (be it semantic or syntactic). The participle itself carries with it enough of a verbal "sense" to suggest its predicative use,
without the need for an infinitive to make that use explicit with esse. Furthermore, the participle, when taken together with the subject accusative, already carries such grammatical information as the person, number, tense, and voice. The esse carries only the infinitive mood, which is clearly recoverable from context. It therefore seems reasonable that Caesar will, for the sake of a concise and fast-paced narrative, generally delete these instances of esse, seeing them as superfluous to the meaning and tending to slow the reader.

Non-participial phrases, on the other hand, are harder to recognize as predicative without esse. Adjectives and nouns do not carry the same verbal “information” as participles, and consequently can be recovered as predicative only by the semantic context. Prepositional phrases, since they do not agree with their subjects in case and number, carry even less information, and therefore would be even more difficult to recognize as predicative without being clearly marked by esse. Hence Caesar seldom omits an esse with non-participial predicates. This explanation matches with the general trend we have observed in the data shown above. Whereas Caesar omits the esse before participles of all types in 87% of the “Infinitive with Accusative” constructions with participial predicates, in constructions with other types of predicates (nouns, adjectives, etc.), Caesar omits the esse only 31% of the time.

In summary, the recoverability theory depends on two premises: first, that Caesar, when writing the Bellum Civile, is aiming for maximum readability among as broad an audience as possible; and secondly, that the verb-form esse is easier to “recover” from participles than from nouns, adjectives, and other types of predicates because of the extra syntactic “information” (i.e., tense and voice) which it carries. From these two premises it seems reasonable --- even expected --- that Caesar omit the “superfluous” esse with participles (and thus obtain a greater sense of speed and brevity), but retain it for other forms with which the esse would not be easily recoverable if omitted.

6. Small Clauses and Subcategorization

The recoverability theory readily explains the general tendency of esse-distribution throughout Caesar’s text. However, it does not explain the exceptions. If adjectives are difficult to “recover” as predicates without esse, then why do they appear without esse at all? Yet they appear without esse six times. Conversely, if participles provide enough information on their own for esse to be understood, why is it not omitted all the time, rather than 87% of the time? Another theory is required to explain these “holes” in the data. This theory relies on the subcategorization properties of the governing verbs. It assumes that, in those instances where esse appears to be missing, it was never there in the first place. Rather, the governing verb in these sentences does not subcategorize for the “Infinitive with Accusative” construction only, but also for a construction known as a small clause.

In his recent textbook Principles and Parameters, Culicover defines a small clause as “a phrase that has a clausal (or propositional) interpretation, but lacks the full inflectional morphology of a sentence” (1997). In other words, a small clause is a clause or a phrase that contains a subject, a predicate, but no explicit verb (or inflection) to link them.
Within that broad definition fall several types of clauses which are structurally and thematically distinct. For example, the term “small clause” has been applied to clauses where the predicate shows the result (or intended result) of the verb on its object, or the condition of the object at the time of the verb’s action (see Aarts 1989, Rosemblat 1990). The following sentences illustrate these types of clauses:

12a. She hammered the nail, flat; (=until it became flat)
12b. He carried the box, empty; (=while it was empty)

However, since this type of small clause appears only with verbs of action, and never with verbs of saying or thinking, we will not consider it further.

Another type of small clause combines the object of a verb of saying, knowing, thinking, or perceiving with a predicate that shows what is being said, believed, etc., about that object. This type of small clause could be termed a “propositional” small-cause, since the clause as a whole receives from the main verb an internal theta-role of “proposition.” With some verbs, the same sentiment can be expressed with an infinitival clause, by adding the infinitive copulative to be, or by means of a subordinate clause beginning with that:

13a. He believes his friends very loyal.
13b. He believes his friends to be very loyal.
13c. He believes that his friends are very loyal.

14a. He declared his mother a hero.
14b. He declared his mother to be a hero.
14c. He declared that his mother was a hero.

However, not all verbs are so flexible in their ways of expressing indirect statements. Some verbs seem to prefer the small clause, and others to accept it exclusively:

15a. He considers my chili the best in town.
15b. He considers that my chili is the best in town.
16a. She named her newborn (*to be) Kelly.
16b. She named that her newborn was Kelly.

7. Small Clause Subcategorization in Caesar’s Bellum Civile

In Caesar’s text, also, some verbs of saying or thinking subcategorize for small clauses, but not for indirect discourse with the infinitive esse. For example, the verb habeo “hold, consider,” never appears with esse in Caesar:

17. illi omnibus abundant rebus (*esse) superioresque habentur.
(cf. B. C. 1.52.3.3)

This verb alone accounts for half the “exceptions” to the prediction that adjectives should not appear without the infinitive esse. In three of the six cases where an adjective appears in a small clause, the adjective is governed by the verb habeo. However, videor, “be seen, seem,” another verb which governed an adjectival predicate without esse, also appears with esse:
Despite this exception, the subcategorization theory shows promise. The great majority of the verbs with which Caesar uses esse, are not used without esse, and vice versa. Ten verbs appear only with esse, such as renuntio, "report, announce," respondeo, "answer," and intellegere, "perceive." Fourteen verbs appear only without esse, such as polliceor, "promise," puto, "think," and queror, "complain." Only four verbs appear both with and without esse. Furthermore, there is no single verb which always omits esse with participles and retains it with other types of predicates.

However, verbs like polliceor, puto, and queror do not prove the subcategorization theory over the "ellipsis and recovery" theory. Although they only appear without esse, they also only appear with participles. Polliceor invariably has a future active participle in the predicate of the clause it governs, puto a future passive participle, and queror a perfect passive participle. If these are instances of subcategorization, it is narrow subcategorization indeed. The only verb that clearly subcategorizes for a small clause, no matter what is in the predicate, is habeo.

So based on Caesar’s data alone, there is no clear-cut preference between these two theories. We may, however, adopt a tentative preference for the subcategorization theory, since the subcategorization theory explains the behavior of the verb habeo, which the recoverability theory cannot. However, the subcategorization theory cannot explain the behavior of verbs like videor any better than the recoverability theory, nor can it explain the general tendency for participles to appear without esse, and other predicates to require esse.

Nevertheless, to prove the recoverability theory valid, a verb would need to be found which always omits esse with participial predicates but retains it with non-participial predicates. No such verb was found in the Caesar data. Conversely, in order to prove the subcategorization theory superior, one would expect to find verbs which appear without esse with participle and non-participle predicates alike. Of the twenty-eight verbs of saying, thinking, or perceiving examined here, only habeo fulfills this requirement. It is a slight edge, but an edge nonetheless.
**Table A: Number of Infinitival Clauses with *Esse* in *Bellum Civile*, Book I**

<table>
<thead>
<tr>
<th>(+esse)</th>
<th>Indirect discourse</th>
<th>Implied I.D.</th>
<th>Knowledge/Belief</th>
<th>Volition</th>
<th>Perception</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perfect P/Dep</td>
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<td>2</td>
<td>0</td>
<td>0</td>
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<td>0</td>
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<td>Future Active</td>
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<td>0</td>
<td>0</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Futurus-a-um</td>
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<td>0</td>
<td>0</td>
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<td>0</td>
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<tr>
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<td>1</td>
<td>0</td>
<td>0</td>
<td>3</td>
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<td>Noun</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Pronoun/#</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Genitive</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Total non-Part</td>
<td>9</td>
<td>5</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>18</td>
</tr>
<tr>
<td>Total</td>
<td>12</td>
<td>7</td>
<td>4</td>
<td>0</td>
<td>3</td>
<td>26</td>
</tr>
</tbody>
</table>

**Table B: Number of Small Clauses (clauses without *Esse*) in *Bellum Civile*, Book I**

<table>
<thead>
<tr>
<th>(-esse)</th>
<th>Indirect discourse</th>
<th>Implied I.D.</th>
<th>Knowledge/Belief</th>
<th>Volition</th>
<th>Perception</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perfect P/Dep</td>
<td>11</td>
<td>4</td>
<td>5</td>
<td>1</td>
<td>4</td>
<td>25</td>
</tr>
<tr>
<td>Future Pass.</td>
<td>0</td>
<td>0</td>
<td>9</td>
<td>0</td>
<td>2</td>
<td>11</td>
</tr>
<tr>
<td>Future Active</td>
<td>12</td>
<td>3</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>18</td>
</tr>
<tr>
<td>Present Act.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total Particip.</td>
<td>23</td>
<td>7</td>
<td>17</td>
<td>1</td>
<td>6</td>
<td>54</td>
</tr>
<tr>
<td>other Adjectv.</td>
<td>1</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>Prep Phrase</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Noun</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
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<tr>
<td>Pronoun/#</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Genitive</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total non-Part</td>
<td>1</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>Total</td>
<td>24</td>
<td>7</td>
<td>20</td>
<td>1</td>
<td>10</td>
<td>62</td>
</tr>
</tbody>
</table>
Table C: Percentage of Ellipsis of *esse* in *Bellum Civile*, Book I

<table>
<thead>
<tr>
<th>(-esse)/(total #)</th>
<th>Indirect discourse</th>
<th>Implied I.D.</th>
<th>Knowledge/Belief</th>
<th>Volition</th>
<th>Perception</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perf. Pass/Dep De</td>
<td>85%</td>
<td>100%</td>
<td>71%</td>
<td>100%</td>
<td>100%</td>
<td>86%</td>
</tr>
<tr>
<td>Future Passive</td>
<td>—</td>
<td>0%</td>
<td>100%</td>
<td>—</td>
<td>100%</td>
<td>92%</td>
</tr>
<tr>
<td>Future Active</td>
<td>92%</td>
<td>75%</td>
<td>100%</td>
<td>—</td>
<td>0%</td>
<td>86%</td>
</tr>
<tr>
<td>Present Active</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Total Participles</td>
<td>88%</td>
<td>78%</td>
<td>89%</td>
<td>100%</td>
<td>86%</td>
<td>87%</td>
</tr>
<tr>
<td>Other Adjectives</td>
<td>25%</td>
<td>0%</td>
<td>75%</td>
<td>—</td>
<td>50%</td>
<td>38%</td>
</tr>
<tr>
<td>Prep Phrase</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>—</td>
<td>100%</td>
<td>25%</td>
</tr>
<tr>
<td>Noun</td>
<td>0%</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>100%</td>
<td>33%</td>
</tr>
<tr>
<td>Pronoun/Number</td>
<td>0%</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>0%</td>
</tr>
<tr>
<td>Number</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Genitive</td>
<td>0%</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>0%</td>
</tr>
<tr>
<td>Total non-Part</td>
<td>10%</td>
<td>0%</td>
<td>60%</td>
<td>—</td>
<td>67%</td>
<td>31%</td>
</tr>
<tr>
<td>Total</td>
<td>67%</td>
<td>50%</td>
<td>83%</td>
<td>100%</td>
<td>77%</td>
<td>70%</td>
</tr>
</tbody>
</table>
Works Cited


End Notes


2There is one manuscript (codex Nepolitanus) which has *x legiones*, showing that even here the ambiguity is not completely resolvable. But the reading *legionem* is still preferred by the vast majority of manuscripts (see A. Klotz, ed., *Caesar II: Bellum Civile* (Leipzig, B.G. Tevbnner Verlegsgesellschaft 1969)).

3*Unam ex duabus*, perhaps, but that comes sufficiently far afterwards, that it would not resolve the ambiguity on the first reading, but only force a subsequent re-analysis.
An Analysis of Lexical Semantic Shifts in the Book of Mormon

Renee Bangerter

Introduction
In the 169 years since Joseph Smith completed translating the Book of Mormon in July 1829, the English language has changed; some common phraseologies and word meanings are dissimilar to today’s. Often, in reading the Book of Mormon, we impose our current definitions onto a term that in 1830 had a different meaning. Our interpretation of these words, as well as the passages in which they are found, are skewed by our modern definitions.

In my study I investigate words in the Book of Mormon text that present rare forms of words, words that have taken on different meanings, and words that present possible errors in transmission of the text, thus causing modern readers of the Book of Mormon to misread and misinterpret some passages of the text. I discuss words that potentially cause misreading of the Book of Mormon due to historical changes in the meanings of these words.

I located words in the Book of Mormon text that are commonly misread, then located every occurrence of that word in the Book of Mormon as well as other standard works through the WordCruncher database. I analyzed definitions of these words listed in dictionaries that provide earlier definitions of the word, and I researched texts that provide examples from Early Modern English and Modern English to determine if the sense and example of the word paralleled the Book of Mormon examples.

This study is a part of my work on the Book of Mormon Critical Text project under Royal Skousen. I obtained words that cause potential misreadings of Book of Mormon passages from Royal Skousen, editor of the Book of Mormon Critical Text, and from my own reading of the text. We looked for words that seem inappropriate in the given context and lead to potential misreadings. The following is a list of words or phrases I studied in the Book of Mormon:

1. adieu
2. anger (as a verb)
3. awful
4. beloved
5. carry
6. ceremony
7. clap hands upon someone
8. counsel someone
9. cumber
10. cunning
11. curious
12. daunt (as a verb)
13. desirous
14. devoured
15. goodly
16. interposition
17. mar
18. marvelous and wonderful
19. molten (as a verb)
20. only
21. particular
22. pleasing (bar of God)
23. preparator
24. retain (versus keep/recall/regain)
25. scourge
Three words that represent the findings of this study are beloved, carry, and scourge.

Methodology
In order to locate occurrences of these words within the Book of Mormon and in other written sources, I employed three types of analysis: a WordCruncher analysis, a dictionary analysis, and a source analysis.

WordCruncher Analysis
Using WordCruncher software, I was able to specify the word I wished to find within a given database and locate every occurrence in its context. I accessed three databases by means of WordCruncher:

1. *The Standard Works of The Church of Jesus Christ of Latter-day Saints*, for locating the occurrences of these words in the Book of Mormon and other scriptures.

2. *The Riverside Shakespeare*, for studying late sixteenth- and early seventeenth-century usage and comparing the Book of Mormon’s King James English with the Early Modern English of Shakespeare’s texts.

3. *The Helsinki Corpus of English Texts*: a collection of about 1.5 million words from Old English, Middle English, and Early Modern (Southern) English Language texts, for locating earlier examples of word uses; here I concentrated on the Early Modern English corpora, which contains a total of 551,000 words (Rissanen et al., 1993).

Dictionary Analysis
In order to look for definitions of earlier words that are commonly misread in the Book of Mormon, I used the following dictionaries:

- Samuel Johnson’s 1755 *A Dictionary of the English Language*
- Noah Webster’s 1828 *An American Dictionary of the English Language*
- *The English Dialect Dictionary* (1898)

Source Analysis
In analyzing the context of definitions, I noticed that sometimes the OED’s contextual example was insufficient in determining if the OED definition actually applied to the Book of Mormon example. Therefore, it was important to review the longer text from which the OED citation was taken.

Beloved
Any speaker of modern English understands the adjective *beloved* with little or no difficulty, realizing the term means ‘loved.’ The term *beloved* is not an example of a significant semantic change. Yet there are verbal constructions of *beloved* in the Book of Mormon which seem odd or unusual to modern English speakers. Two examples are as follows:
An Analysis of Lexical Semantic Shifts

Alma 26:9  For if we had not come up out of the land of Zarahemla, these our dearly beloved brethren, who have so dearly beloved us, would still have been racked with hatred against us . . . .

Alma 27:4  Now when Ammon and his brethren saw this work of destruction among those whom they so dearly beloved, and among those who had so dearly beloved them . . . .

In Alma 26:9, the first use, “these our dearly beloved brethren” demonstrates beloved as an adjective. The use is familiar to readers of the Bible in constructions such as in the New Testament, Matthew 3:17, “this is my beloved Son, in whom I am well pleased.” The OED defines the adjective sense of beloved as ‘loved,’ and gives the example from the Book of Common Prayer, “Dearly beloved brethren,” which is used in the Anglican Church’s wedding ceremony. The OED defines the elliptical use as ‘one who is loved.’ Common examples of the elliptical sense are repeated throughout the Old Testament, particularly in the Song of Solomon, such as 5:6, “I opened to my beloved; but my beloved had withdrawn himself, and was gone . . . .” The Book of Mormon contains 100 total uses of beloved (see below); 86 are elliptical, 6 of which are attributive adjectives, and 5 are past participle (either as predicate-adjective or passive-verb forms, depending on how the sentence fits within the passive gradient (cf. Quirk et al. 1985, 167).

The past-participle and adjectival uses do not present problems to present-day English speakers, and thus Book of Mormon readers. But the 3 uncommon uses of beloved as an active verb do seem odd.

These three uses of beloved in the Alma passages function differently; that is, “who have so dearly beloved us,” “whom they so dearly beloved,” and “who had so dearly beloved them” demonstrate beloved functioning as an active verb, which is rare. The OED defines this use as ‘to love.’ According to the OED, the verbal use of beloved exists today only in the passive, yet the above examples from Alma show the active verbal sense. The OED shows, by example, that beloved in the verbal sense (although passive) was in use at the time of the Book of Mormon translation.

One example dates 1818, just twelve years prior to the Book of Mormon translation, from Lord Byron’s Mazeppa, which states, “I loved, and was beloved again” (vii). The example is passive, unlike the three active Book of Mormon constructions, yet these samples account for the verbal use during the time period of the Book of Mormon translation.

The OED does give examples of the active use for the early seventeenth century; for example, in 1604, Thomas Wright’s The Passions of the Minde states, “Those persons cannot but bee accounted hard hearted . . . who believe them of whom they are loved,” (1621, V.4.212); and in 1623, John Wodroephe’s The Spared Houres of a Souldier in his Travels; or the True Marrowe of the French Tongue states, “I would wear it about my neck for a certain testimony that I believe it much” (1625, 322). These earlier examples correspond with the three active uses of believe in the Alma passages and account for its use.
The use of *carry* in the Book of Mormon demonstrates a word that denotes various meanings which, in the Book of Mormon context, leads to lexical ambiguities. One such ambiguity occurs near the beginning of Mormon.

<table>
<thead>
<tr>
<th>Form of Beloved</th>
<th>Number of Occurrences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elliptical</td>
<td>86</td>
</tr>
<tr>
<td>Attributive Adj.</td>
<td>6</td>
</tr>
<tr>
<td>Pred. Adj./Passive Verb</td>
<td>5</td>
</tr>
<tr>
<td>Active Verb</td>
<td>3</td>
</tr>
</tbody>
</table>

_Mormon 1:6_ And it came to pass that I being eleven years old, was *carried* by my father into the land southward even to the land Zarahemla.

As speakers of present-day English, we interpret *carry* to mean that Mormon’s father physically bore up his son in transporting him to Zarahemla. However, Mormon was, at the time, an eleven-year-old boy, and the distance to Zarahemla was lengthy; it is unlikely that Mormon’s father could have accomplished such a physical feat. The misreading of *carry* as ‘to physically bear up’ is due to an incorrect interpretation of *carry*.

The OED lists two possible definitions of *carry* for this context: “To bear from one place to another by bodily effort”—the meaning modern readers would assume signifies *carry* in Mormon 1:6—and “To conduct, escort, lead, ‘take’ (a person) with one, without reference to the mode of transit; to ‘take’ (a horse, a ship) to a place, a given distance, etc”—more feasibly the definition intended for Mormon 1:6. The meaning ‘to take a person’ is more appropriate in Mormon 1:6; that is, Mormon’s father took young Mormon to the land of Zarahemla.

The OED also provides dated and printed examples of these different definitions of *carry* in context. Examples dated within a century of the Book of Mormon translation demonstrate use of the meaning ‘take a person with one.’ For example, the OED gives an example of *carry* dated 1771, from Benjamin Franklin’s autobiography: “My father _carried_ his wife and three children to New England.” The OED, however, fails to provide the complete context for this use of *carry*. The autobiography itself clearly demonstrates the physical impossibility of Benjamin Franklin’s father carrying his wife and three children to New England, since the context indicates that they were sailing from England to America (1884, ?). It is impossible for *carry* to imply that this man could physically bear up three children and a wife while crossing the Atlantic Ocean.
Carry must instead mean 'to take a person with one,' and because it parallels the situation in Mormon 1:6, I conclude that carry also means 'to take a person with one' in the Book of Mormon passage.

In checking dialectal uses of carry in reference to moving or transporting, the English Dialect Dictionary (EDD) offers such examples. The definition of carry is "to take, convey, conduct." Examples of this use are as follows:

1. (said by school boys to the master) "If you are going out will you carry us with you?"
2. "Will you carry the mare and car to so and so?"
3. "How many sheep will you carry to the fair?"

From example (2), the use of car requires that the mare moves along pulling the cart, not the bearing up of the horse. In addition, this example assumes the physical impossibility of carrying both a horse and cart any distance. Thus, this definition and these examples justify the meaning of 'to take' in the Mormon 1:6 verse.

The Mormon 1:6 example is not the only Book of Mormon example of carry in the sense of 'to take':

Ether 2:3 And they did also carry with them deseret, which, by interpretation is honey bee; and thus they did carry with them swarms of bees, and all manner of that which was upon the face of the land, seeds of every kind.

It is less likely for Book of Mormon readers to misinterpret the carry in this verse because the with that follows carry requires the meaning 'to take.' That is, in this passage the use of with prevents the interpretation of 'to physically bear up.' In addition to with aiding the interpretation here, it is obvious that carry here means 'to take with one'; semantically, it is actually impossible to bear up a swarm a bees, and physically dangerous to try to carry bees.

As in the Book of Mormon, a similar potential misreading of carry occurs in Genesis 31:18: "And he carried away all his cattle and all his goods which he had gotten . . ." Clearly, in this context, Jacob is not manually carrying all his cattle as he moves his family to Canaan. Thus, even the KJV faces the same ambiguity from the use of carry in reference to transporting. The use is unfamiliar to current readers of both the Book of Mormon and Bible, so the text seems to present the images of bearing up cattle or an eleven-year-old boy in transporting them far distances. The problem is inevitable due to this archaic and dialectal sense of carry.

Evidence from the 1996 Summer Olympic games in Atlanta suggests that carry meaning 'to take' is difficult for present-day speakers of English to interpret. An article in the Deseret News, dated Saturday, July 20, 1996, is entitled, "Will Translators Run into a Mess of Trouble with Southern-speak?" and discusses the difficult task translators have in translating "Dixieisms." Lisa Howoworth, the author of Yellow Dogs, Hushpuppies and Bluetick Hounds: The Official Encyclopedia of Southern Culture Quiz Book gives an example of the "Dixieism" as "'carry' meaning 'transport' ('I've got to carry Mama over to Tupelo')" (A3). This
evidence shows not only carry’s meaning of ‘transport,’ but confirms the difficulty present-day English speakers have in determining carry’s meaning in such contexts as Mormon 1:6.

**Scourged**
The Book of Mormon presents a unique use of *scourged* in Mosiah 17:13:

> And it came to pass that they took him and bound him, and scourged his skin with faggots, yea, even unto death.

The use of *scourged* in this verse should mean ‘to whip,’ which is the appropriate definition of the word *scourge*, but this word then forces a possible misreading of *faggots* as a tool used for whipping. *Faggots*, however, are bundles of sticks used for the fire, not for whipping.

*Scorched* is the more appropriate word for *scourged* in Mosiah 17:13 and clarifies the meaning of *faggots*, as well. The OED defines *scorch* as “to heat to such a degree as to shrivel, parch, or dry up, or char or discolor the surface; to burn superficially.” In the Book of Mormon all other occurrences of *scorch* mean exclusively ‘a burning of the skin,’ an example of which is found in the following verse (in Mosiah 17:14): “And now when the flames began to scorch him, he cried unto them . . .” Likewise, the Book of Mormon uses *burn* to mean solely ‘consumption by fire.’ An example of this is in 3 Nephi 9:9:

> And behold, that great city Jacobugath, which was inhabited by the people of king Jacob, have I caused to be burned with fire because of their sins and their wickedness . . . for it was they that did destroy the peace of my people and the government of the land; therefore, I did cause them to be burned, to destroy them from before my face . . . .

Thus, the Book of Mormon reserves the term *burn* to mean ‘consumption by fire’ and *scorch* to mean ‘to burn superficially,’ as is the context in Mosiah 17:13. These examples serve as internal evidence, suggesting that the proper word for Mosiah 17:13 is *scorched*.

The OED provides an example of *scorch* used similarly to the Mosiah passage. Percy Shelley’s *Queen Mab* (1813) uses *scorch* with the meaning ‘to burn superficially,’ stating, “His resolute eyes were scorched to blindness soon” (VII.9). This example is similar to the Mosiah context in which Abinidi’s skin is scorched until his death.

*Scourged* is phonetically and orthographically similar to *scorch*, and internal Book of Mormon evidence demonstrates that all uses of *scorch* in the Book of Mormon mean ‘to burn the skin,’ suggesting that *scourged* is not meant to be interpreted as ‘to whip’ and is possibly an error in transmission. I suggest that the more appropriate word is *scorched* in this passage.

**Conclusion**
These unique word forms, semantic shifts, and potential transmission errors lead to possible misreadings within the text, and this lexical analysis of the Book of Mormon could eventually affect various areas of Book of Mormon scholarship, such as translation, scriptural footnotes, and the Book of Mormon critical text. Translators must know the exact, or closest, meaning of a word in choosing a foreign-language
An Analysis of Lexical Semantic Shifts

equivalent. Because this study clarifies word meanings within the text, it could help determine how words should be translated in foreign-language editions of the Book of Mormon. Because this study refers to words that create possible misinterpretations in reading the Book of Mormon, its results could be given in footnotes in future editions of the standard works. Strangely used words that fail to show an older, dialectal, or less-common definition as possible errors in the text may need to be emended (such as scourged to scorched in Mosiah 17:13).

This lexical analysis facilitates our interpretation of the Book of Mormon by discussing words in the text that have changed in meaning and usage. Already, many of the words common to Joseph Smith’s time have changed in meaning and, in fact, in centuries to come; and as English changes, further changes will undoubtedly occur. We cannot avoid these changes; therefore, this problem of semantic change must be recognized and taken into account when producing future editions of the Book of Mormon.

Works Cited

Covert Speech Acts and their Meaning

Salvatore Attardo

This paper defines a class of speech acts which have as one of their felicity conditions that the hearer not be aware of the speaker's intention to achieve the speech act in question. Examples of these speech acts are "insinuate," "flatter," "brainwash," etc. These speech acts differ both from explicit assertives, such as "say" or "affirm," and from implicit assertives, such as "hint," "allude," "imply," "suggest," etc. Covert speech acts share with implicit assertives the fact that they cannot explicitly state the propositional content of the assertion, but they differ in that implicit assertives can be overt. The analysis of covert speech acts will allow us to determine the general conditions for this class of speech acts. Finally, we will turn to considering the implications of our definition for the intentionality-based theories of meaning and in particular for Grice's Meaning and Relevance Theory (RT), and especially the problem that covert speech acts present for the so-called "communicative intention" (Sperber and Wilson 1986), which stipulates that communication (and cooperation) presuppose overtness in communication. In fact, our conclusion will be that the category of covert communication proves to be highly problematic for theories based on communicative intention and that in any case, the very category of covert communication needs to be radically reconsidered.

We will approach the issue from two different ends: deductively and inductively, i.e., starting from the theory and starting from the data.

1 Covert Communication

It will be useful to begin our discussion by quoting Grice's definition of Meaning in a slightly streamlined version.

(1) S intends the utterance of \( u \) to produce in H an effect by means of H's recognition of S's intention (Grice 1957, 442).

The recognition of S's intention by H is called the "reflexive intention" (Searle 1969: 47).

The significance of Grice's definition will become apparent further on, but for the time being, we can turn our attention to the definition of covert communication. Covert communication has received comparatively less attention than overt communication, of which Grice's definition is a prime example. One definition comes from Tanaka (1994):

(2) A case of communication where the intention of the speaker is to alter the cognitive environment of the hearer, i.e., to make a set of assumptions more manifest to her, without making this intention mutually manifest (41).

Making a set of assumptions manifest is RT terminology for having an effect on H, and making an intention mutually manifest is RT for reflexive intention.

For our purposes, we can essentially accept the above definition by noting that covert communication is simply communication in which S does not want H to become aware of S's intention to
Covert Speech Acts

communicate the meaning attached to $u$, which we will indicate by $p$.¹

1.1 A formal definition
We may, however, provide a more formal definition by making use of the concept of goals (Attardo 1997). Castelfranchi and Parisi (1980:328; see below, note 5) define a class of linguistic acts in which the “supergoal” is different than the immediate goal. In the terminology introduced in Attardo (1997), this is equivalent to claiming that S has a goal ($G$) that is different than the subgoal ($g_s$) for which the utterance is produced. In overt communication, one of the subgoals of $G$ is the reflexive intention, which we may label $g$, whereas in covert communication such as a subgoal is explicitly excluded. If we consider $G$ as a set of its subgoals², we have

$$g_s \notin G$$

and

$$g, g_1, g_2, \ldots, g_n \in G$$

1.2 Beyond the reflexive intention
The reflexive intention as postulated by Grice is in need of some elaboration. Specifically, we identify two possibilities: one which, as per Grice, S intends or does not intend for H to be aware of $p$, and the other in which S intends or does not intend for H to be aware of $p$, and the other in which S intends or does not intend for H to be aware of $p$. In other words, we are claiming that the two aspects of reflexive intention (the overtness of S’s intention and the content of the intention, namely that H be aware) are independent and can be arranged in a two by two, as follows (the numbers refer to the examples in Table 1).

<table>
<thead>
<tr>
<th></th>
<th>H is aware</th>
<th>H is not aware</th>
</tr>
</thead>
<tbody>
<tr>
<td>overt</td>
<td>3, 4</td>
<td>7</td>
</tr>
<tr>
<td>covert</td>
<td>5, 6</td>
<td>8</td>
</tr>
</tbody>
</table>

Table 1

In other words, it is possible for S to intend that H be aware of $p$ and that H be aware of S’s intention. But it is also possible for S to intend that H not be aware of $p$, and the other in which S intends or does not intend for H not to be aware of $p$ and that H be aware of S’s intention. Conversely, it is possible for S not to intend that H be aware of $p$ and that H not be aware of S’s intention, as well as for S not to intend that H be aware of $p$ and to intend that H be aware of S’s intention.

Another way to conceptualize this maze of positive and negative intention is Communication © is overt iff S intends for H to be aware that S intends H to ± be aware of S’s intention.

1.3 Examples
Communication is overt if S’s intention that H be aware of $p$.

(3) If S wants to be aware that S has read Das Kapital, any utterance that can be paraphrased can be paraphrased as “I have read Das Kapital” is acceptable.

(4) In the same situation, any indirect reference to the above paraphrase that would presuppose that the speaker has read Das Kapital, such as “The theory of plus-value is fascinating reading,” is acceptable.
Communication is covert if S does not intend for H to be aware of S's intention for H to be aware of \( p \).

(5) Your wife has been out with Bob quite often recently (Bertuccelli Papi 1996:198).

Example (5) insinuates that "the wife in question has betrayed the husband/listener with a certain Bob" (Ibid.).

(6) Dear Dr. Attardo, I have the honor to write to an eminent scholar such as you ( . . . ) I am very much impressed by your ideas and genius ( . . . ) (personal communication by an Iraqi colleague asking for reprints)

In example (6), S's intent is to please H by attributing him positive qualifications. This is a prime example of failed flattery (because H became aware of S's intent).

Communication is overt if the speaker intends for H to be aware of S's intention for H not to be aware of \( p \).

(7) I know what you're getting for your birthday, but I'm not telling.

In example (7), S is privy to \( p \) and knows that H is not aware of \( p \), mentions this to H, and yet refuses to share \( p \).

Communication is covert if S does not intend for H to be aware of S's intention for H not to understand \( p \).

(8) Rimbaud's *Je est un autre* brilliantly summarizes a poetics of self-alienation.

In (8), a hypothetical French literature professor deliberately speaks condescendingly above the head of any member of the audience who does not speak French and / or has not read Rimbaud's letters.

2 Inductive Approach

We can approach the issues of covert communication inductively, so to speak, by looking at different speech acts and trying to differentiate among them. Let us assume, as we have done above, that \( p \) stands for some knowledge (propositional or not) that S and H may or may not have, independently of one another. Thus, if utterance \( u \) conventionally means \( p \), saying \( p \) (i.e., uttering \( u \)) means to state explicitly this bit of knowledge. Therefore, in what follows we will simplify the discussion by using "saying \( p \)" to mean "uttering \( u \), which conventionally means \( p \)."

2.01. Hinting

Let us now compare saying and hinting: the difference between the two is that, whereas in saying S explicitly says \( p \), in hinting S cannot state \( p \), but must provide H with "clues" that will lead H to knowing that S meant to communicate \( p \) (and hence also knowing that \( p \) is the case in S's mind)

Parret (1993:232) defines hinting as to overtly display one's intention to let [H] know that the proposition expressed contains information that will allow [H] to find an answer to the problem he/she is facing, assuming that [H] has access to additional information. ( . . . ) the act of hinting, moreover, uses conventional means, which are accepted by all language users and make sure that the act is easily detectable and clearly recognizable.
It should be noted that hinting is an overt speech act. Hinting differs from suggesting since, according to Parret (Ibid.), S is committed to the truth of what one hints at, whereas one is only committed to the "likely truth" of one's suggestion. There seems to be no reason to question this perceptive analysis. There seems to be no reason to question this perceptive analysis. We could, however, add this add that suggestions can also take the form of explicitly saying that \( p \), i.e., one can say "I suggest that \( p \)," whereas one cannot say "I hint that \( p \)."

Hinting does not differ from implying, insofar as they both presuppose that S not say \( p \). However, hinting differs from implying: basically, a hint requires explicit clues to H that the meaning hinted as is. Implying may be done without any explicit, let alone thematized, clues.

2.02 Suggesting

Suggesting is similar to hinting, insofar as both verbs require that one not explicitly say \( p \). An interesting difference between suggesting and hinting is revealed by Vanderveken (1990:172), who notes that to suggest something is to bring it to of the mind of the hearer without necessarily explicitly affirming it and without a strong commitment to its truth.

Vanderveken’s position is incorrect insofar as he seems to be arguing that one can explicitly affirm something and be suggesting, but he is undeniably right in claiming that S is not committed as strongly to the truth of a suggestion as one is to the truth of a hint (cf. also Searle and Vanderveken 1985:187). Suppose that a teacher put in one of the questions of the final exam of one of his/her classes a hint that would turn out to be wrong; the students would rightly be upset. However, they would have much less reason to do so if he/she had suggested the same.

Let us return for an instant to the claim that one can say \( p \) and still be suggesting. Vanderveken notes that this is a lent credence by the fact that "suggest" can be used performatively (i.e., its utterance causes the situation described in the verb to be the case, e.g., baptize, check-mate, etc.), as in the following example:

\[ (9) \text{I suggest you are in error (Vanderveken 1990:172).} \]

Consider that in (9) S has said \( p \) and therefore can hardly be suggesting it. Therefore, such uses are likely to be metaphorical and meant more as face-saving techniques: to say that one suggests \( p \) would be equivalent of saying “I weakly say that \( p \).” The face-saving aspect of such a use relies on the difference in strength of the assertion, already noted in Searle and Vanderveken (1985:187).

2.03 Insinuating

Hinting differs from insinuating in that, whereas H is aware of S’s intention to hint, H must not be aware of S’s intention when S insinuates. On the difference between hinting and insinuating, see Holdcroft (1978:61-63), who distinguishes between them on the grounds that one must not “intend to conceal the fact that this is what one is trying to do” (62), as is the case in insinuating, “an essentially covert act” (Ibid.). Parret (1933:233) concurs:
INSINUATION, just like manipulation, cannot come about openly and explicitly: [S] cannot reveal his[her] intentions by adding, for instance, the performative prefix “I am insinuating”. ( . . . ) insinuation is an attempt by [S] to make something understood to [H], even if covertly so. The act of insinuation seems to take place when [S] wants [H] to know that p, without [S] wanting [H] to judge that [S] wanted him[her] to know that p.

Parret argues that one need not necessarily insinuate something “reprehensible,” and therefore that it is not the reason for not wanting to explicitly say p. His example is that of a doctor trying to insinuate to a patient that he/she should go on a diet. Bertuccelli-Papi (1996:197) claims that, on the contrary, insinuating necessarily implies a negative emotive or evaluative “attitude” of H towards p. She argues that in Parret’s example what is being insinuated is not the advice itself, but on the contrary the indirect charge of being too fat, which is generally accompanied by a negative ATTitude (Ibid.).

What is, then, the correct position? It seems that the reason S insinuates p is the fact that he/she believes that something bad⁴ may happen as a result of his/her saying p, while S still wants to make p known. If this general premisse to S’s goals in insinuating is correct, then it follows that the negative evaluation or reprehensibility of p is not a necessary and sufficient condition for compelling S’s choice of speech act.

Basically, any time that S fears consequences of his/her saying p, regardless of the nature of p, he/she may opt for insinuating p.

Consider Grice’s well-known example of a professor writing a letter of recommendation of a less-than-brilliant student. In today’s litigation-happy environment, one may be understandably wary of saying out-and-out that one thinks that a given student is not worthy of a job (=p). Therefore, one may choose to insinuate this idea. Note that neither S nor H have any great emotional/evaluative investment in this fact. If anything, S would be ashamed of having had such a student, but H would be completely unconcerned about S saying p, and in fact would welcome S explicitly saying so because it would not require any processing and would lead to the consideration of other candidates, or whatever other perlocutionary effects S saying p would have.

2.0.4 Flattering

Insinuating and flattering pattern together, in requiring that the intention of S to accomplish the speech act has to be kept covert for this goal to succeed. Conversely, hinting and alluding have no such requirement. Flattering is, of course, a fairly complex speech act, but it has been analyzed brilliantly by Castelfranchi and Parisi (1980).⁵ It breaks down into two goals -- an immediate subgoal, which is to provide H with a positive evaluation of his/her person, behavior, etc., and an ultimate goal, which is to achieve some benefit (most likely from H)

Commonly, it is taken for granted that when S flatters H, S does not believe p. However, this is partially in error. One can flatter by saying p, while believing p to be
true (c.f. Verschueren 1985:124). Suppose that S introduces Noam Chomsky, who is about to address an audience by saying “Professor Chomsky is the most influential living linguist,” and assume that Noam Chomsky believes that the above utterance is, if not true, reasonably close to the truth; assume further that S wants to reap some benefit by so introducing Chomsky (i.e., that Chomsky like him/her). Then whether S believes \( p \) to be true or false is immaterial, since the perlocutionary effect of flattering will be achieved. Obviously, one could argue that in the case that S believes \( p \) to be true, he/she incidentally flatters H, whereas S deliberately flatters H iff S believes \( p \) to be false; but at this point the issue seems definitional.

Finally, let me point out that, in order to be successful, flattery must be reasonably close to what H believes to be the truth, as example (6) shows: by addressing this writer as a genius, S fails to successfully flatter, since H does not believe \( p \) to be reasonably true, and hence cannot believe S does. 6

2.0.5 Allusion

Allusion shares with flattering, insinuating, and hinting the requirement that it not say explicitly \( p \) (see Perri 1978:92). Consider the ill-formedness of the following examples:

(10) *Mary alluded to John by pointing at him and saying “John, over there.”

As pointed out above, allusions and hints are overt (i.e., S wants H to recognize his/her intention to refer (indirectly) to \( p \)). It is not clear that at the level that concerns us there is a difference between hinting and alluding. Perri (1978) treats allusion as a case of intertextuality, which could constitute grounds for distinguishing between allusion and hinting, since the latter is not intertextual. However, it seems to me that one can very well allude at something besides another text.

2.0.6 Manipulation and seduction

Parret (1993) analyzes manipulation and seduction, and as can be gathered from the quote mentioned above, sees manipulation as a covert act, whereas he sees seduction as an act that flaunts itself (“seduction presupposes the stageing and dramatization of the secret” 231). It is hard to follow Parret’s point, especially when he denies the intentionality of the seducer (Ibid.). Seduction is a subclass of manipulation, at least when it is not confused with winning someone over. The latter may be admitted to, the former cannot. 7 We will, however, pursue this issue not further.

2.07 Lies

This is not the place to sum up the literature on lies, which is, moreover, mostly concerned with the ethical aspects of the issue, which need not detain us in this context (see a review in Robinson 1996).

The most famous treatment of lies is Coleman and Kay’s (1981:28), which can be summed up in the following three aspects:

1. S believes \( p \) to be false
2. In saying \( p \), S intends to deceive \( H \)
3. \( p \) is false

which basically encode a “folk” view of lies (see Sweetser 1987). However, it can be
shown that points 1 and 3 do not hold. Consider the following definition of lies, from Rasking (1987:459):

\[
\text{LIE} (S, H, p) = (\exists q)(\text{BELIEVE} (S, \text{FALSE} (q) \& p \Rightarrow q)),
\]

which may be paraphrased as

A lie has three arguments -- S, H, and p - and consists of the following specifications: there is a proposition q such that S believes q to be false and S believes that p implies q

or, in other words, S can lie by saying p if he/she believes that by saying p he/she will make H infer that q, assuming that S believes q to be false. The somewhat startling consequence of this point is that one may lie by telling the literal truth while one believes it to be true (contra point 1 above). Note that this is different from the (relatively uninteresting) fact that one may lie by uttering p while p is true, but S mistakenly believes that p is false. This invalidates point 3 above: lies are exclusively a matter of S's beliefs; the objective truth of p is irrelevant.

Consider Raskin's example, here augmented by answer (iii):

(11) Q: Are Jack and Jill having an affair?
   Ai: No (direct lie).
   Aii: They are both too busy for that.
       (indirect lie)
   Aiii: Yes, they are having sex every hour on the hour.

Assume that the respondent knows that Jack and Jill are having an affair. Answer (I) is the paradigmatic case of a lie and answer (ii) is an indirect lie because the utterance of the sentence "They are both too busy for that" implies, "therefore they are too busy for having an affair." Answer (iii) is the statement of truth, enriched by the (relatively obvious) exaggeration concerning the frequency of their extramarital encounters. S can utter (iii) with the reasonable expectations that H will detect the violation of the CP in the second part of the sentence and will extend it to the first part. The absurdity of the second part of the utterance can obviously be reinforced by intonation and appropriate proxemic behavior (e.g., rolling the eyes, smiling, winking, etc.).

Examples of this kind of lie are more frequent than one would believe: in the movie Don't Tell Mom the Babysitter's Dead, a teenager tells his mother on the phone that he and his sister are having a wild party and the sister is about to leave with her boyfriend. The mother assumes, naturally, that her son is joking (since it would be very stupid to tell one's mother that one is disobeying her orders about not having parties or going out with boyfriends). In one episode of the sitcom Cybill, the main character is reconciling with her former husband; as they are about to have sex, the main character's daughters, a friend (Marianne), and the other husband arrive and knock at the door. The former husband hides in the closet. After a brief dialogue, Cybill ushers everybody out. While leaving, Marianne asks "Really, what were you doing?" and the following dialogue ensues.

(12) Cybill: "Oh, OK, my former husband is hiding naked in the closet."
    Marianne: "Fine, don't tell me."

Other examples can be found in Ekman (1985[1992]: 37-38).
2.1 Summing up the discussion
The results of this discussion can be summarized in a chart. The nested intentions are represented by a predicate calculus-like notation. We posit an intention predicate (I) which takes two arguments, the agent (who intends) and the object of the intention, which has to be a predicate (and can obviously be another intention predicate). So Is(Ksh) would read as "the speaker intends to kiss the hearer." "R" stands for recognize, be aware of. Note that because of predicate calculus' convention to represent predicates in uppercases and arguments in lowercase, we have to change the notation used so far in the text, whereby S and H were in uppercase.

We can define the top three speech acts in Table 2 (below) as overt, while the bottom three are covert. Thus the criterion for overtness is S's intention for H to recognize his/her intention for H to be aware of p. Let us recall that this is what has been called "reflexive intention." Therefore, the above analysis is perfectly in line with Tanaka's definition of covert communication above.

We can therefore define a bit more formally a class of "covert speech acts" such that one of the subgoals of S in performing that speech act is that H be unaware that S is performing that speech act. Perhaps more effectively, we can also define this class of verbs as speech acts in which the reflexive intention is absent.

2.11 Other Covert Speech Acts
Needless to say, the examples in Table 2 are not the only examples of this class of covert speech acts. We can list a few other covert speech acts which seem to be variants of others already discussed. The following verbs, gathered through a cursory search in a thesaurus, will give an idea of the number of these verbs.

<table>
<thead>
<tr>
<th></th>
<th>say p</th>
<th>Is(Rhp)</th>
<th>Is(Rh(Is(Rhp)))</th>
</tr>
</thead>
<tbody>
<tr>
<td>say</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>allude</td>
<td>-</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>hint</td>
<td>-</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>insinuate</td>
<td>-</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>lie</td>
<td>±</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>flatter</td>
<td>-</td>
<td>+</td>
<td>-</td>
</tr>
</tbody>
</table>

*Table 2*

It should be noted that we are not claiming that in all instances these verbs presuppose their covertness, but rather the much weaker claim that in some situations they do. Of course, for some of these the claim that they always do is probably true, thus limiting ourselves to examples not previously discussed; this seems true of brainwash, put
a bug in someone's ear, and manipulate someone's opinion.

Entice: “to allure, lead on” (Webster), inveigle: “to lead on with deception” (Ibid.), wheedle: “to entice by soft words” (Ibid.), angle for something, gaslight (after the movie starring Ingrid Bergman), impress smn, move, sway, bend, influence, win over, bring round, bedazzle, convince, make smn see the light, bring to reason, talk smn into, bring smn around, win over, sell smn on, jawbone, reassure, persuade, talk smn into, manipulate smn’s opinion, impress smn, move, sway, bend, influence, win over, bring round, bedazzle, convince, make smn see the light, bring to reason, talk smn into, bring smn around, win over, sell smn on, jawbone, reassure, persuade, talk smn into, manipulate smn’s opinion, propagandize, brainwash, indoctrinate, instill, imply, intimate, suggest, infer, hint, give to understand, insinuate, allude to, put a bug in smn’s ear, bamboozle, hoodwink, seduce, tempt, lure, enrapture, enthral, ensnare, entrap, sweet-talk, discourage, dishearten, dispirit, dampen smn’s spirits, intimidate, throw suspicion on smn (e.g., covertly incriminate)

3 Meaning and anti-reflexive intentional verbs

It will be interesting at this point to return to the definition of covertness presented in Attardo (1997a:27), which is here reproduced for the readers’ convenience:

The overt or covert nature of the symmetrical/asymmetrical status of the exchange, concerns either the mutual knowledge of the goals of the speakers or their mutual knowledge of their access to information. A situation will be termed “covert” if either of the participants has access to knowledge (concerning the goals of the interaction or the information which is relevant to it) to which the other participant does not have access and he/she keeps this concealed from the other participant.

As we can see, the class of covert speech acts that has been defined above is indeed a special case of covert communication, in which S happens to have a perlocutionary goals, Gs (Attardo 1997b), which has as one of its subgoals that Gs be kept hidden from H. Since Grice’s stipulation within the definition of meaning that S’s intention of making H aware of the intention to communicate p be overt has been called the “reflexive intention,” we can label this class of speech acts as having an anti-reflexive intention.

We now turn to the philosophical problem which anti-reflexive intentional verbs (ARI-verbs, for short) bring up. In short, ARI-verbs present a problem for the meaning theory, since as per Grice’s definition of meaning (which has not been substantially altered by the further specifications, c.f. Strawson 1964, Schiffer 1972, Grice 1989), it presupposes a reflexive intention. Therefore, it would counterintuitively follow that ARI-verbs are meaningless!

Clearly, so we will examine some strategies that a meaning semanticist might want to use to overcome this problem. It seems that the following strategies are available:

1. deny the ARI analysis of the verbs;

2. concede that ARI-verbs do not mean, but argue that they mean naturally;
3. concede that ARI-verbs do not mean, but argue that they mean via conventional implicatures;

4. concede that ARI-verbs do not mean, but argue that they mean via conversational implicatures;

5. abandon or revise the theory (or at least expunge the reflexive intention from within it)

We will not consider strategy (1) until the end of the discussion, since it seems quite counterintuitive, although the counterintuitiveness has different sources. Strategies (3) and (4) are probably strengthened by being considered together (and possibly as hybrid strategies blending aspects of each), and I will turn to those next. We will not address point (5) directly in this paper, as it would entail a discussion too complex and far afield from the present issues (but see Ziff 1967 and Searle 1969).

3.1 ARI-verbs as implicature-only speech acts

Essentially, this approach to ARI-verbs consists in saying that an S engages in one of the speech acts that we have classified as ARI-verb, he/she is not saying (meaning) $p$, but rather he/she is implying (conventionally or conversationally) $p$.

As it stands, this strategy could work, since it gets rid of the problem of meaning in ARI-verbs.

Let us consider an example of insinuation:

(13) “I wonder how John has been able to solve those algebra problems.”

“He’s been hanging out with Mary a lot lately.”

In (13), S is not saying that Mary has helped John (or even that John has plagiarized Mary’s work), but he/she is insinuating it. The insinuated meaning is arrived at inferentially, i.e., it is an implicature.

While this is undeniably true, it has the unwanted effect of establishing a chasm between ARI-verbs and other speech acts, such as alluding or hinting, which do not have an ARI condition. It would follow that in the following example,

(14) I know you’ve been wondering how John has been able to solve those algebra problems. Here’s a hint: he’s been hanging out with Mary a lot lately.

which differs (in its relevant speech) from (13) exclusively in the performative prefix which qualifies it as a hint, a radically different mode of meaning would be in effect. This is clearly counterintuitive, since (13) and (14) differ only in the presence of the performative prefix, which does not alter the semantics of the sentence.

This difficulty can be avoided at the price of denying the availability of meaning to all non-explicit speech-act verbs. In other words, when hinting, alluding, insinuating, etc., S does not mean $p$, but implies it. S would mean some accessory meaning that is used to guide the implicature.

However, one could argue against this solution on the basis of the fact that if an ARI-verb does not have a literal meaning, it cannot generate implicatures. This seems to confuse the issue somewhat. When S insinuates in (13), he/she does so by saying the literal meaning of (13) (i.e., stating (13))
and assuming that H will be able to infer the insinuated meaning. So there is a literal meaning in an allusion/insinuation, etc., except it is not the content of the allusion/insinuation, etc.

There is a residual problem, however, in those theories which make the RI the foundation of meaning. In order to address it we will need to review some of the tenets of Relevance Theory (RT).

4 RT

It will be necessary to introduce a little of RT’s extensive terminology, in order for the reader to be able to interpret literal quotations from Sperber and Wilson (1986).

RT takes that people have thoughts, i.e., conceptual representations (1986:3). Among thoughts, a subclass are assumptions, which are those thoughts “treated by the individual as representations of the actual world” (1986:2).

A context is thus defined as “a subset of the hearer’s assumptions about the world” (1986:15). RT is interested in the notion of context because it is the “set of premises used in interpreting an utterance” (1986:15).

A fact is manifest if an individual may be “capable (. . .) of representing it mentally and accepting its representation as true or probably true” (1986:39). To be noted is the claim that manifestness is not equal to knowledge or assumption, which are both stronger notions (i.e., something may be manifest to me without it being known or assumed to/by me, e.g., Julius Caesar never had lunch with Napoleon). The cognitive environment of an individual is “the set of facts that are manifest to him/her” (1986:39). Mutual manifestness is defined simply as a (set of) facts that are in the mutual cognitive environment (1986:41).

Coming now to communication, Sperber and Wilson distinguish two intentions within the communicative act:

- Informative intention, i.e., the intention to make manifest or more manifest to the audience a set of assumptions I (1986:58)

- Communicative intention, i.e., the intention to make it mutually manifest to [H and S] that the communicator has this informative intention (1986:61)

and on this basis define ostensive-inferential communication as

the production by [S] of a stimulus which makes it mutually manifest to [S and H] that [S] intends, by means of this stimulus, to make manifest or more manifest to [H] a set of assumptions [I] (1986:63)

Ostensive communication is thus to be taken as synonymous with communication, such that it reveals its reflexive intention (cf. 1986:49).

5 RT and ARI-verbs

This creates a major problem in an RT account of communication: since the presumption of relevance is guaranteed only to those utterances which include reflexive intention (RI), it follows that if covert communication does not include RI, it cannot be governed by the principle of relevance. This, of course, has the counterintuitive consequence that if S were to covertly communicate p, H could not
draw any implications from the fact. In other words, what would be covertly communicated could only mean what it literally means. Thus, for example, suppose that S covertly conveys to H the assumption that S is trustworthy, in the hope that H will be swayed by this knowledge into assigning S a given task requiring trust. S reasons that if H assumes that S is trustworthy, H will have a good reason to assign to S the task. However, within an RT framework, since H is, by definition, not aware of S’s RI, it follows that H has no reason to assume that this bit of information is in any way relevant and, therefore, a fortiori that H should base any decision on this information.

Let us recall Tanaka’s definition, here repeated for the convenience of the reader,

(15) A case of communication where the intention of the speaker is to alter the cognitive environment of the hearer, i.e., to make a set of assumptions more manifest to her, without making this intention mutually manifest (1994:41).

Tanaka’s way out of the problem is to claim that “other stimuli can be used to overcome” the absence of the “guarantee of optimal relevance” (1994:41). Given that Tanaka’s work deals with advertising, she can claim with a degree of plausibility that at least two of these stimuli are sex and food (41). Basically, her claim, which repeats Sperber and Wilson’s (1986:151-155), is that “the cognitive system of human beings is organized in such a way that it is more susceptible to this kind of information [i.e., sex and food S.A.] that it is more susceptible to this kind of information [i.e., sex and food S.A.] than to other kinds” (54).

While this author has been known to enjoy both, he regretfully has to note that, while there are certainly plenty of situations in which H could use sex and food as guidelines to establish the relevance of p, there are bound to be many situations in which S is not talking about sex and/or food, nor are sex and/or food anywhere in the relevant context. For example, one may wish to covertly convey to a colleague that his/her hour-long digression on his/her dissertation topic is boring one to tears, without necessarily offering him/her a sandwich and/or sexual favors (although presumably both would cause him/her to stop speaking, at least briefly).

Leaving irony aside, no explanation of the inferential process which has to rely on the inherent “relevance” of stimuli can hope to go beyond a naive mechanical stimulus-response model. The power of Grice’s CP (and RT’s relevance principle) lies precisely in that it is a functional law that does not have any substantive “baggage.”

To be fair to Tanaka, she does broaden her scope with the claim that “generally, covert communication manipulates triggers to which the human mind is highly susceptible” (1994:54). However, the argument developed above stands. It is doubtful that the fact that a colleague’s misguided ramblings about his/her dissertation are boring is a “trigger to which the human mind is highly susceptible.”

RT’s account of covert communication (or rather, “information transmission,” as communication presupposes the RI) is based on the assumption that covert communication is a radically different mode of operation, in which the CP/Relevance is not available for
inferencing. This is not an uncommon
stance; for example, Searle (1969) speaks of
“parasitic” modes (e.g., play acting) in
which the speech acts’ felicity conditions are
not applicable.

6 There are no covert speech acts

We will argue in what follows that the idea
of covert speech acts or covert communication as envisioned above is, in
fact, in error. Or, to put it differently, there
are no covert speech acts, but only regular
to refer to the main

overt speech acts which are performed
unfelicitously or otherwise inappropriately.

Consider that when S flatters H, S
wants H to think that S is sincerely
complimenting H for his/her achievements,
looks, etc. Should H get wind of S’s
ultimate intention, S’s goal would fail. Note
that from H’s point of view, if S is
successful, a perfectly ordinary speech act
took place, and hence there is no need to
postulate anything beyond the regular CP/relevance principle to guide H’s
inferences. In other words, S’s reflexive intention applies to G, but to g₁, i.e., to a pretend, fallacious illocutionary goal, such that (g₁ ⊃ G), or, informally, S intends H to recognize the pretend intention to communicate merely p, whereas S has other goals.

In other words, if a covert speech act succeeds, H has no knowledge of its covertness, and hence from H’s point of view, an ordinary overt act took place. From S’s point of view, only the regular CP may be postulated to be in effect, as H will only have access to it. Let us consider what happens if the covert speech act fails, i.e., H realizes that S has an ulterior motive. From S’s point of view, no planning for that possibility is possible, since it would entail planning for one’s intentions to fail (since S does not want H to be aware of the covert nature of the act)¹³. From H’s point of view, the situation is more complex, as he/she must now take into account two goals that S had in uttering the covert speech act, and the fact that G included S’s deceptive intention. However, again, nothing in H’s reasoning requires anything but the assumption that S would have expected H to use the CP to draw inferences.

From what we have just said, it follows that we need not postulate different modes of communication, nor anything but the regular CP to guide the inferential processes of the speakers, provided we admit that they do so to achieve goals which may be conflicting and/or hidden to each other.

6.1 Advantages

6.1.1 Simplicity

Basically, this explanation exempts us from postulating a variety of modes of communication and instead relies only on the regular bona-fide mode with the proviso that the reflexive intention (and indeed any other goal) of S may be different and, in fact, opposed, in the case of lies, to the communication of p.

6.1.2 Expandability

As the previous section implies, the following reasoning may be extended to any mode of communication (e.g., lies, play acting, humor, etc.), since in covert communication S has a goal G such that there is a gᵣ which is the utterance of u (where p is the proposition expressed in u);
and there is a $g_n$ which is the reflexive intention that H believe that S wants H to know of $g_n$. Obviously, nothing in the above formulation guarantee to H that $(g_n \land g_r) \Rightarrow G^{14}$; in fact, $g_n$ may merely be a decoy for S’s covert goals (flattering, deceiving, persuading, amusing, entertaining, etc.) As the list shows, this reasoning may be easily extended to covert speech acts, advertising, joke telling, play acting, etc.

7 Conclusion

We started out by defining a class of speech acts which have as one of their felicity conditions that the hearer not be aware of the speaker’s intention to achieve the speech act in question. The implications of our definition for the intentionality-based theories of meaning and, in particular, for Grice’s MeaningTheory and Relevance Theory (RT), turned out to be momentous. While the MeaningTheory and Relevance Theory (RT), turned out to be momentous. While the MeaningTheory may be salvaged by the consideration that covert speech acts implicate their meaning, such an escape is impossible in the case of relevance-theoretic accounts, which build in the reflexive intention in their definition of implicature.

This conclusion led us to consider the possibility that the whole concept of covert communication, or of covert speech acts as a distinct category, is to be rejected, where we define “distinct” as operating in a different mode of communication, either governed by a different CP or not so governed. In its place, it is argued that a simpler approach needs only to postulate the CP and admit that the speakers’ goals in the interaction, broadly construed, may differ and be hidden from one another. The advantages of such an approach are found to lie in its simplicity and in its expandability to other phenomena.

Works Cited


In D. C. Holland and N. Quinn (Eds.), Cultural models in language and thought. Cambridge: Cambridge University Press.

End Notes

1p can be taken to be a proposition, as is standard usage (although we may not wish to claim that all knowledge is propositional). Alternatively, one could take p as a bit of knowledge that S or H have.

2This is probably an oversimplification, but likely a benign one. Note that the claim is that G is a set of the union of its subgoal sets, i.e., $g_i \cup g_k \cup g_k \in G$.

3This is not to say that H will believe p. It is perfectly possible that S hints at something, and H understands the hint but does not believe what has been hinted. For example, S may hint at having been abducted by aliens, and S’s H would (rightfully) discount this belief.

4“Something bad” is shorthand for “an event E may take place, such that Swould evaluate/judge E as falling on the negative side of a euphoric/dysphoric scale.” The abbreviation in the text justifies itself.

5The text is worth quoting in the original:

quando si dice una frase per aduleare lo scopo direttamente espresso è dare una qualche valutazione positiva dell’ascoltatore, mentre il sovrascopo è ottenere dei vantaggi dall’ascoltatore. Tuttavia l’ascoltatore non deve scoprire tale sovrascopo. Difatti, se lo scopre, tale sovrascopo non sarà più raggiunto, cioè I vantaggi non saranno più ottenuti (Catelfranchi and Parisi 1980:328)

(When one says a sentence to adulate, the goal directly expressed is to give a positive

...
evaluation of the hearer, while the supergoal is to gain benefits from the hearer. However, the hearer must not discover this supergoal. Indeed, if he/she discovers it, this supergoal will no longer be achieved, i.e., the benefits will no longer be gained.) Needless to say, the above is probably a failure to communicate, due to different rhetorical styles. The interpretation in the text is, however, vastly more entertaining.

Note that in the case in which \( p = q \), then trivially \( p \supset q \), which corresponds to the Coleman and Kay definition, in which S states \( p \). Some have distinguished between lying and misleading, cf. Davis (1988:6).

In some cases only, mostly when Gs go against some of the goals of H.

Sperber and Wilson make much of their rejection of the concept of mutual knowledge, first introduced (Strawson 1964) to handle the problem presented by the fact that the reflexive intention of S must be known to H, this latter fact must be known to S, etc., ad infinitum. Their main objection to mutual knowledge is precisely that it is psychologically implausible, since it requires the postulation of an infinity of known facts. Sperber and Wilson replace the notion of mutual knowledge with that of mutual manifestness.

However, some recent lines of argument have made the substitution more or less moot. Clark (1996:92-100) has argued convincingly that the infinite regression of mutual knowledge is not pernicious, as Sperber and Wilson (and everybody else) thought. Searle, who in 1969 had coined the term "reflexive intention," has more recently (1998) argued for the dismissal of the issue of mutual knowledge on the basis of the claim that mutual knowledge consists of a proposition having the form "I know that p," which of course removes the problem created by the cascade of "I know that p"s. Furthermore, several critics of RT have voiced the objection that manifestness and knowledge are mere notational variants (cf. Talbot 1994 for a discussion)

Consider the following remark --

[ostensive] communication should be distinguished from covert forms of information transmission (Sperber and Wilson 1986:30)

-- which makes it clear that RT assumes that S may convey information covertly.

Actually, not even that. Increasingly, pragmatic accounts are reclaiming some of the space of semantics. The interface between the two fields is increasingly hard to map (not that it has been easy historically, let me add. The seminal paper is Carston (1988), and see also Recanati (1993). However, for the present discussion this issue is not germane.

Note that this is not to say that S may not have contingency plans in case of the failure of his/her intention, but only that these plans cannot involve the intention for his/her intention to fail, lest his/her planning be contradictory.

Or, in other words, there is no guarantee that H will be able to infer from \( g_n \) and \( g \), S's ultimate goal.