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and
LINGUISTIC SOCIETY

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TWELFTH ANNUAL SYMPOSIUM

13-14 February 1986
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Provo, Utah
Deseret Language
and
Linguistic Society

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Edited by
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Brigham Young University

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We are particularly grateful to our keynote speakers, Professor Insup Taylor (University of Toronto, Canada) and Professor Joel Scherzer (University of Texas at Austin) for their presentations. Texts of both of these are included in this volume. We are also thankful for their willingness to present informal seminars (Dr. Taylor's is included in this volume).

The names of authors and papers presented in the symposium are listed below, by the section in which they occurred. The Table of Contents contains the names of authors and papers which were submitted for publication in the proceedings. Individual authors are solely responsible for the content and accuracy of their respective papers.

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The Variety of Scripts and Reading

Insup Taylor
Life Sciences, Scarborough Campus
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A variety of writing systems are used today around the world. They differ in appearance, number of symbols, and above all, in the linguistic units coded. In this address, I will describe four writing systems and 10 of their extant varieties or scripts, and then discuss how they are learned. Table 1 presents an overview of the writing systems and scripts to be described.

Table 1. Variety of Writing Systems and Scripts

<table>
<thead>
<tr>
<th>System</th>
<th>Script</th>
<th>Lng. Unit</th>
<th>No. of Symbols</th>
</tr>
</thead>
<tbody>
<tr>
<td>Logography</td>
<td>colored shape</td>
<td>word</td>
<td>130?</td>
</tr>
<tr>
<td></td>
<td>Blissymbol</td>
<td>word</td>
<td>500?</td>
</tr>
<tr>
<td></td>
<td>Chinese character</td>
<td>morpheme</td>
<td>50,000?</td>
</tr>
<tr>
<td>Syllabary</td>
<td>Cree-Eskimo</td>
<td>syllable</td>
<td>44-48 (+ ?)</td>
</tr>
<tr>
<td></td>
<td>Val</td>
<td>syllable</td>
<td>210 (+ ?)</td>
</tr>
<tr>
<td></td>
<td>Japanese Kana</td>
<td>syllable</td>
<td>46 (+ 60)</td>
</tr>
<tr>
<td>Alphabet</td>
<td>English</td>
<td>phoneme</td>
<td>26</td>
</tr>
<tr>
<td></td>
<td>Finnish</td>
<td>phoneme</td>
<td>37 (+ 6)</td>
</tr>
<tr>
<td></td>
<td>Hebrew</td>
<td>consonant</td>
<td>22 (+ 9)</td>
</tr>
<tr>
<td>Alphabetic</td>
<td>Korean Hangul</td>
<td>phoneme</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td>syllabary</td>
<td>syllable</td>
<td>2,000?</td>
</tr>
</tbody>
</table>

In Table 1, under "No. of Symbols," a question mark indicates that the number is unspecifiable, for reasons to be given under each script. A logography codes meaning unit, while a syllabary, alphabet, and alphabetic syllabary codes phonetic units. Historically, writing systems developed in this order.

I will consider three themes:

1. The characteristics of a language dictate, to some degree, the type of script preferred by that language.

2. The way a script represents meaning and/or sound has a great influence on how word recognition in that script is learned.

3. However, a script is not the sole influence on reading achievement and literacy attainment; socio-economic factors also play a role.
Logography

Each logograph represents a small meaningful unit, a word or morpheme. It may not be associated with any sound, or it may be associated with more than one sound. Consider one kind of logograph, the Arabic numeral 4. Its meaning remains constant, even to a deaf-mute who cannot read it aloud, or to speakers of diverse languages who sound it out variously as *four* (English), *quatre* (French), *yotsu* or *shi* (Japanese) and *net* or *sa* (Korean). In this sense, a logograph represents meaning primarily and directly and sound only through the meaning.

For rudimentary "reading and writing," a handful of logographs are adequate. Two such examples are colored shapes for chimpanzees and Blissymbols for cerebral-palsied children. For proper reading and writing, a full logography, a system of logographs, is necessary. The Chinese system is a prime example of a logography.

Colored shapes for chimps

The simplest logographs may be the colored plastic shapes devised by the psychologists Premack and Premack (1972) to teach chimpanzees to communicate with human trainers. The plastic shapes are backed with metal so that they adhere to a magnetic board. Each arbitrary colored shape represents one word, and a few such shape-words are mounted on a magnetic board to make a "sentence," as shown in Fig. 1.

![Figure 1 - Sarah take apricot in chimps' symbols](Image)

The shapes are relatively easy to learn for several reasons. The number of shapes to be learned is small, about 130. These shapes are easily discriminated, not only because their quantity is small but also they vary in three visual dimensions: shape, color, and size. Each shape as a whole pattern, without any kind of analysis of its internal structure, is paired with its meaning. The meanings of words tend to be concrete and simple. The words need not be pronounced. Finally, to "write" a sentence, required shapes are simply arranged in a sequence, as in Fig. 1.

Blissymbols for the cerebral-palsied

A system called Blissymbols was invented by Bliss (1965) as a universal written language. Some symbols are simple outline drawings of objects (Fig. 2a); some are compounds of two or more simple symbols (b); some are arbitrary symbols for unpicturable and/or abstract concepts (c); and some are compounds of two or more of these simple symbols (d).

![Figure 2 - Types of Blissymbols](Image)

The system of Blissymbols, like several other "universal languages" invented over the
past few hundred years, has never caught the public's fancy. However, a limited number of Blissymbols (up to 500), are used by some cerebral-palsied children who cannot articulate speech (Kates, MacNaughton, & Silverman, 1978). A child in a wheelchair is provided with a table of symbols in a tray that sits on his or her lap. To communicate a message (e.g., "I want water"), the child simply points to required symbols in sequence. Underneath each symbol is the English word written small to help English readers communicate with the symbol user. The words could, of course, be written in any language.

Learning 200 or so Blissymbols is not difficult, because each simple shape need not be analyzed or be associated with sounds. Learning complex Blissymbols, especially those of types (c) and (d), might be difficult for some handicapped children of low IQ. Several mirror-image Blissymbols represent two concepts that are similar save one subtle aspect. The case in point is a left slanted line and a right slanted one representing the and a (or is it other way around?) respectively. Some Blissymbols, such as Fig. 2d, are formed by absurdly elaborate embedding, requiring analysis and time to process. Without analysis, such symbols can be confused with other symbols sharing a few of the same embedded elements.

The Blissymbols do not appear to be the optimal means of communication for severely language handicapped children. (For "Optimal script for the language-handicapped," see Taylor, in press.)

**Chinese Characters**

The only full logography used in modern world appears to be the Chinese system. It has been used continuously for over 4,000 years. Today it is the sole writing system in the Republic of China and Taiwan, the major system in Japan, and a supplementary one in South Korea.

**Chinese characters in Chinese, Japanese, and Korean**

By way of preview, Fig. 3 shows the same sentence in Chinese, Japanese, and Korean.

a. 我是中国的人。

b. 私は中国人だ/ で。...

c. 나는中国人이다/ 었습니다。...

d. 나는 중국인이다/ 았습니다。...

Figure 3 — I am a Chinese in Chinese (a), Japanese (b), and Korean (c, d)

Note that the word Chinese is identical in the three languages, though pronounced somewhat differently: /zhong guo ren/ in Mandarin, /chu goku Jin/ in Japanese, and /chung guk In/ in Korean. Only Chinese has tone variations, between four and nine, depending on dialect.

Each Chinese character (henceforth, character) represents one morpheme. But one Chinese word (or Chinese loan word in Japanese and Korean) is not always one character: It often consists of 2-3 morpheme characters. For example, the word 'Chinese' requires three characters (Fig. 3), each of which is one morpheme ('middle, kingdom,
man'). The first two characters alone mean 'China'. These two plus the character for 'language' means 'Chinese (language)'.

One character represent one spoken syllable in Chinese and Korean, but can represent more than one in Japanese. Compare the character for 'kingdom, nation' in Fig. 3: It is /guo/ (CV) in Chinese, /guk/ (CVC) in Korean, but /goku/ (CVCV) in Japanese. (C=consonant, V=vowel)

The Japanese and Korean sentences require postpositions that indicate case roles of nouns, and verb endings that inflect for tense, levels of politeness, and so on. The sentences in Fig. 3 end in present tense verbs in two alternate levels of politeness, a neutral level before the slash (/), and a polite level after it. A writer chooses one level or the other, depending on his or her relation with the addressee. There are a few more levels of politeness, as indicated by a series of dots. The Chinese sentence requires neither postpositions nor verb endings that inflect.

The "grammatical morphemes" (inflectional endings, postpositions, function words, etc.) in Japanese and Korean tend to be written in phonetic scripts. Indeed, it is the necessity of expressing grammatical morphemes that compelled Japanese to invent phonetic scripts. Japanese, but not Koreans, tend to use Chinese characters even for native words, such as 'I' in Fig. 3.

Here we have seen how three languages can use the same script, similarly for some purposes, and dissimilarly for others. The different uses are necessitated by differences in languages: the Chinese language belongs to the Sino-Tibetan Family whereas Japanese and Korean belong to the Ural-Altaic Family. Japanese and Korean are similar only in syntax, but not in speech sounds, and hence not in vocabularies. Speakers of the three languages cannot communicate to each other by speaking; they can communicate to a limited degree through writing in characters. I now consider in more depth the use of Chinese characters in these three languages.

**Chinese characters in China**

A pure logographic writing system is feasible for the Chinese language, which does not require many grammatical morphemes, in particular inflectional endings. It suits the language, whose monosyllabic morphemes can be represented by individual characters. The logographic system is also useful for Chinese people in two ways: Speakers of mutually unintelligible dialects can communicate through writing, and many homophones can be distinguished when written. Because the Chinese language uses only about 400 syllable types, mostly V or CV, it has many homophones. For example, there are as many as 188 morphemes with the sound of /yi/. Even when one considers only common morphemes and differentiates them through tone variation, there are still 30 yi (C-M. Cheng, 1982).

When each character represents a different morpheme, there must be as many characters as there are morphemes in a language. The number of characters is estimated to be about 50,000. For daily use, however, about 3,000, and for scholarly use, about 6,000, may be required.

Note that the number 3,000 refers to characters, not to words. Because a word often consists of 2-3 characters, and each character can appear in a number of different words, to know 3,000 characters implies that one knows many times that number of words, as shown in Fig. 4. In a count in Taiwan, 40,032 words were found in regular
use, but they used only 4,532 characters (Liu, Chuang, & Wang, 1975).

Figure 4 — One character recurs in many words, each of which consists of 2–3 morphemes.

If several thousand characters are to be visually discriminated, many of them have to be complex. But some highly complex ones seem to have been created to represent esoteric meanings, and hence are needed infrequently, if at all.

In the Republic of China (but not in Taiwan), as part of reforming the writing system, over 2,000 common characters have been simplified, from an average 16 strokes to 10 (C.-C. Cheng, 1977). Apparently, some individuals simplify characters at whim, causing much confusion. Some drastically simplified characters, whether standard or non-standard, are no longer recognizable to overseas Chinese, Japanese, and Koreans. Table 2 shows a sample of one judiciously, and five injudiciously, simplified characters. The informative “innards” have been removed from the latter, rendering them not only indiscriminable from each other but also hollow and unbalanced.

Table 2. Original and Simplified Characters

<table>
<thead>
<tr>
<th>English</th>
<th>Original</th>
<th>Simplified</th>
<th>Mean Strokes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lunch</td>
<td>午 (spot)</td>
<td>心 (heart)</td>
<td>14</td>
</tr>
<tr>
<td>Center</td>
<td>中 (middle)</td>
<td>心 (heart)</td>
<td>6</td>
</tr>
<tr>
<td>Anthem</td>
<td>国 (national)</td>
<td>心 (heart)</td>
<td>3</td>
</tr>
<tr>
<td>Laborer</td>
<td>工 (work)</td>
<td>夫 (husband)</td>
<td>2</td>
</tr>
<tr>
<td>Couple</td>
<td>妻 (wife)</td>
<td>妻 (wife)</td>
<td>8</td>
</tr>
<tr>
<td>Woman</td>
<td>女 (female)</td>
<td>女 (female)</td>
<td>5</td>
</tr>
</tbody>
</table>

(Taylor, 1981, p. 11, with permission of Academic Press)

Since a character is recognized as a whole pattern, a simplified character is not necessarily easier to recognize than a complex one; in fact it is harder to recognize because it contains fewer cues for discrimination than does a complex one (Fukuzawa, 1968; Kawai, 1966). Simplification certainly reduces the time for writing characters. But we are entering an electronic age: Even Chinese characters can be typed on a word processor at a rate that does not depend on their complexity, though not as fast as phonetic symbols (Hecker, 1984; see below).

Characters appear hopelessly complex, numerous, and arbitrary to those who do not use them. Actually, characters are formed according to six principles or categories, which
Impart some system. Table 3 lists the six categories along with examples.

### Table 3. Six Categories of Characters

<table>
<thead>
<tr>
<th>Category</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pictograph</td>
<td>☀ ☀ sun</td>
</tr>
<tr>
<td>Simple Ideograph</td>
<td>日 日 moon</td>
</tr>
<tr>
<td>Compound Ideograph</td>
<td>日 月 → 阳 bright (sun, moon)</td>
</tr>
<tr>
<td>Analogous or Derived</td>
<td>网 fish net → network → cobweb</td>
</tr>
<tr>
<td>Phonetic Loan</td>
<td>米 /la/i wheat</td>
</tr>
<tr>
<td>Semantic-Phonetic Compound</td>
<td>女 /ma/ mother /ma/</td>
</tr>
</tbody>
</table>

Here four important categories are described.

1. Pictographs are iconic representations of concrete objects such as the sun and the moon. In some characters, the iconic origins are still discernible, in others less so, and in a great many others, not at all. Fewer than 3% of all characters are pictographs (Tsiie, 1962).

2. Simple ideographs express relational or abstract concepts (e.g., 'above' and 'below') that cannot be easily depicted by pictures.

3. Compound ideographs contain two to four ideographs or pictographs. Thus, two pictographs, one for 'sun' and one for 'moon', join to form the character for 'bright'.

4. Semantic and phonetic compounds form the majority (80-90%). A sound-cuing phonetic (/ma/) and a meaning-conveying radical ('woman') are joined to form the character 'mother' pronounced /ma/.

These principles do not enable a reader to discover the meaning and sound of a new character, but they do serve as mnemonics for remembering already learned characters.

**Learning characters in China**

To make learning manageable, one must first designate a limited number of common characters, about 3,000, as "educational" to be taught in primary schools. The educational characters are those used in popular newspapers and other publications. Taught in secondary schools are 3,000 or so additional characters, which tend to appear in scholarly publications.

Learning a few hundred logographs is easy: even chimps can learn them (Premack & Premack, 1972). But learning 3,000 6,000 characters takes time and effort. According to the director of the Language Research Institute in China, about 30% of school time is spent mastering characters (cited in Ohara, 1980). Each shape must be discriminated
from a few thousand others; each shape is associated not only with meaning but also with sound; it must be analyzed into semantic and phonetic components, as well as into a series of strokes in writing.

Recognition of individual characters can be learned by the Three-Phased Learning method: whole→analysis into components→mature whole (Taylor & Taylor, chap. 10). Initially, a character as a whole visual pattern is associated with its sound (syllable) and meaning (morpheme). In the analysis phase, ideographic compounds and semantic-phonetic compounds are analyzed into their components. Each character can be further analyzed into an ordered set of strokes in writing. In the mature whole phase, the components come together again in wholistic perception, based on secure knowledge of the components and strokes. Whereas the initial global shape perception can differentiate only a small number of classes of characters, the mature global perception based on components can make much finer distinctions, permitting a large vocabulary to be recognized.

Because character writing involves analysis of a pattern into an ordered sequence of strokes, as well as full recall of patterns and fine motor coordination, it requires much practice. Accordingly, character writing is regularly assigned as home work.

In not too distant a future, schoolchildren may learn to write on a word processor, thus lightening their heavy homework load. For some Chinese children in North America, the use of word processors to learn to write is in fact an event that is taking place now. All the same, learning how to write characters should never be abandoned, for it helps in learning to recognize characters. It is part of the analysis phase in the Three-Phased Learning. In Liu's (1978) experiment, fourth graders who learned characters in three aspects (sound, meaning, and writing) scored higher on tests of sound and meaning than those children who learned, in the same interval of time, only sound and meaning.

Because characters do not code sounds directly, some kinds of phonetic scripts are required for teaching the sounds of characters. (The phonetics in semantic-phonetic compounds are unreliable clues to the sounds.) Two kinds of auxiliary phonetic scripts are used today: in the Republic of China, "pinyin" (the letters of the Roman alphabet), and in Taiwan "zhuyin fuhao" (37 symbols that represent the initial C and the final V or VC). These auxiliary phonetic scripts are learned before the characters, and then are used to annotate the characters to be learned.

Pinyin can be used also in word processing. A character or word is typed using pinyin, and a special "lookup" key is pressed to display, on a "virtual keyboard," several common characters or words that have the same sound as the target. The writer chooses the one that fits the context of a text. If those several displayed do not include the target, the writer presses the special key for a new virtual keyboard displaying less common alternatives (Becker, 1984). So character entry is a two- or three-stage operation, to compare with the one-stage operation for pure phonetic scripts. The large number of characters, and the abundance of homophones necessitate this multi-stage operation.

Complex as is the Chinese system, it does not prevent a nation from attaining full literacy. In Taiwan, the illiteracy rate is a low 0.4%; it used to be 20% in 1950 (Ministry of Education, cited in Liu, 1979). In the Republic of China, the illiteracy rate was 23.5% at the last mammoth census of 1982 (reported in The Globe and Mail, 1982, Oct. 28); it is estimated to have been 80% before the birth of the Republic of China. (An illiterate is a person, over 12 years of age, who cannot read or can read
only a few characters.) Obviously, raising a literacy rate depends a great deal on improvement of political, social, economic conditions.

**Kanji in Japan and Korea**

Chinese characters were adopted by Koreans in the 1st century A.D., and were introduced to Japan by Koreans in the 5th century A.D. Today characters form the major writing system in Japan, and a supplementary one in South Korea. Chinese characters are called ‘Kanji’ in Japan, and ‘Hancha’ in Korea; both terms mean ‘letters of Kan/Han dynasty’. I will use Kanji, as it is the better known of the two terms. The term Kanji refers to the script as well as to individual characters, single or plural.

Kanji learning in the three countries is basically similar, in that each Kanji is learned by the Three-Phased Learning, along with the principles or categories of Kanji formation (Table 3). There are some dissimilarities, however. In Japan the number of “official” Kanji is about 2,000, half of which are learned in primary school, and the remaining half in middle school. Educated people end up learning additional “unofficial” 1,000 Kanji.

Japan has bona fide phonetic scripts, called Kana (see below), which are used to annotate the sounds of Kanji to be learned. The sounds of Kanji are harder to learn in Japan than in either China or Korea: The majority of Kanji have at least two different sounds, one Chinese-derived and one Japanese-native. Chinese-derived sounds approximate the Chinese sounds of Kanji, whereas Japanese-native sounds are none other than Japanese words for the concepts expressed in Kanji. And many Kanji have variants of Chinese sounds as well as of Japanese sounds (Taylor & Taylor, 1984; chap. 4).

Take the three Kanji that together make up the word Chinese in Fig. 3. They are pronounced in the Chinese way as /chu goku jin/. In variants of the Chinese sounds, /jin/ is pronounced as /nin/ and /goku/ as /kok/ in words such as /nin pu/ ('man worker' = 'coolie') and /kok ka/ ('national anthem'). Then, each of the three Kanji for 'middle kingdom man' has Japanese sounds: /naka, kun, hito/. /Hito/ itself becomes /bito/ in /bito bito/ ('man man' = people). To complicate the picture further, a reader is not always sure when a Kanji is to be read in a Chinese or a Japanese way. When a word is made up of more than one Kanji, each may sometimes be read by a different method.

Learning 2–3,000 Kanji, each of which has multiple sounds, takes time and effort. And mastery is seldom complete: Even highly educated people may not know unusual sounds of some Kanji, or cannot fully recall infrequent Kanji for writing. Word processing on a computer is similar to that described for Chinese, except that in Japanese, grammatical morphemes narrow down alternatives to a target word (Becker, 1984; “Learning characters in China”).

However, learning by whole pattern a few hundreds of Kanji for simple concepts is easy, especially if the sounds are bypassed. Even language-handicapped toddlers and preschoolers can learn them (see “Optimal script for the language-handicapped,” Taylor, in press) In 10 months, three normal toddlers (aged 1;6, 1;8, 2;5 [2 years 5 months]), tutored by their mothers under Steinberg’s guidance, learned 300 500 Kanji and Kana words (Steinberg, Yoshida, & Yagi, 1985). Some preschoolers “pick up” up to 170 Kanji before entering school (Muralshl & Amano, 1972; see “Kana” below).

In South Korea, Kanji learning is relatively painless, because the official Kanji, 1,800, are sufficient, and because each Kanji has only one Chinese-derived sound. The official Kanji are taught in middle and high schools, not in primary schools. Even official
Kanji do not appear in government publications and books for children; they appear in scholarly publications and the political and economics sections of newspapers.

In Japan and Korea, there have been sporadic movements to reduce drastically, or even abolish, Kanji. Kanji are in fact abolished in North Korea. Actually, abolishing Kanji may not be a good idea. The limited number of Kanji are not too difficult to learn; they also serve useful purposes, such as disambiguating homophonic Chinese loan words or making key content words stand out in texts (see Fig. 3 above). They also provide "the magic key" to the written treasures of the past, and serve as a means of communication among speakers of three different languages.

**Syllabaries**

In a syllabary, one symbol represents one syllable. Languages differ enormously in the number of syllables used, from as few as 100 (e.g., Japanese) to as many as a few thousand (e.g., English, Korean). A pure syllabary is feasible only for a language with a limited number of syllables such as Japanese. Since the number of symbols required is relatively small, the shapes of the symbols need not be complex.

Of the several varieties of syllabaries used today, I will discuss five: Cree, Eskimo, and Val briefly, and two Japanese Kana at some length. A sample of CV symbols in these syllabaries is shown in Table 4 in Vowel (row) x Consonant (column) matrix or chart.

<table>
<thead>
<tr>
<th>Table 4. Symbols for CVs in Five Syllabaries</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
</tr>
<tr>
<td>-----</td>
</tr>
<tr>
<td>Cree</td>
</tr>
<tr>
<td>Eskimo</td>
</tr>
<tr>
<td>Val</td>
</tr>
<tr>
<td>Hiragana</td>
</tr>
<tr>
<td>Katakana</td>
</tr>
</tbody>
</table>

For the Val syllabary, see Scribner & Cole (1981, Fig. 3.2); for Cree and Eskimo, see Jensen (1970, Fig. 203, 206); for Kana, see Taylor & Taylor (1983; chap. 4).

**Cree-Eskimo syllabary**

The Cree-Eskimo syllabary was invented in the 1840s by Rev. J. Evans for the Cree Indians and their neighboring tribes. The syllabary has 44 simple geometric shapes for 44 open syllables, as shown in Table 4. In 1885 the Rev. Peck modified the system (using 48 symbols) for the Eskimos of the eastern Arctic. In both scripts, marks have to be attached to the simple shapes to represent some closed syllables (CVCs).

Each CV symbol can be analyzed into C (coded by the shape) and V (by the orientation of the shape). Learning simple shapes distinguished by left-right or up-down orientation may appear easy, but it actually confuses young children (Gibson, Gibson, Pick, & Osser, 1962; Tanaka & Yasufuku, 1975). In reproducing 12 Cree CV symbols (Taylor & Taylor, 1983, Table 2-2), I myself made an orientation confusion error by listing for /ka, ke, ki, ko/ 'p q p d', which should have been (I believe) 'p q b d'. Oops, wrong again! They should be 'b q p d'; I checked and re-checked Jensen's (1970) Fig. 203. It is even more confusing when the symbols for /na ne ni no/ are the same 'b q p d' but lying on their sides!
Vai syllabary

The Val people in Liberia, Africa, have a syllabary that evolved from a picture-word writing. The invention of the syllabary in the early part of the 19th century is credited to a native Val (Gelb, 1963; Jensen, 1970).

The syllabary consists of approximately 210 symbols for open syllables (Scribner & Cole, 1981, Fig. 3.2). As can be seen in Table 4, each symbol as a whole pattern codes a CV syllable; that is, each symbol is not analyzable into C and V components, as in the Cree–Eskimo syllabary. With a few exceptions, symbols for related sounds are not similarly shaped.

Apparently Val speakers require 2 to 3 months of lessons to achieve some functional literacy in the script (Scribner & Cole, 1981). In spite of the simplicity of the syllabary, literacy in the Val script is low, and is confined largely to two thirds of male adults. The Val script is not the tool of formal education; nor is it the tool of obtaining knowledge from printed texts. In other words, Val-script literacy is not "the magic key that unlocks the door to the wonderland of stories and information" (Taylor & Taylor, 1983: 397). Instead, it is used for such mundane activities as letter writing and record keeping. Val-script literates tend to be farmers who also do crafts or grow cash crops. Literacy is perhaps a unnecessary luxury for most Val people who are subsistence farmers.

Kana

For a few hundred years after the adoption of Kanji, Japanese scholars read and wrote using Kanji exclusively. But the practice was extremely awkward, because Kanji are not suited for representing grammatical morphemes (see Fig. 3). Thus the Japanese created two syllabaries between the 8th and 12th century A.D.

The Japanese syllabary, called Kana (from karinama, 'false name' or 'borrowed name'), comes in two variants, Hiragana and Katakana (Table 4). (The term Kana is used for the scripts as well as for individual symbols, singular or plural.) Each Hiragana symbol is a copy of a cursive Chinese character, whereas each Katakana is a side or fragment of a character. The two variants of Kana differ in the shapes of symbols and also in use, as we shall see. Otherwise, there is a one-to-one correspondence between the symbols of the two Kana sets.

Kana symbols code syllables, all open, except N. There are 46 basic Kana; to 25 of them marks can be added to create secondary Kana; several of the basic Kana can be written small to represent assimilated (double Cs) and contracted sounds, as in ge.ki.yu (Kana for the first 'k' is 'tsu' written small). In all there are 106 symbols in each Kana set.

Kana is extremely easy to learn for five reasons:

- Its number of symbols is small.
- The shapes of symbols are simple yet discriminable.
- Its symbol codes a syllable, a stable phonetic unit that does not change its sound value in different phonetic contexts.
• The syllables coded are all open (except N).
• Symbol-syllable correspondence is nearly perfect: each symbol consistently codes the same syllable, and each syllable is consistently written by the same symbol.

Kana is so easy that many children learn it, or rather "pick it up," before entering school. In a large survey of preschoolers' reading activities, close to 90% of the children, a month before entering school, could read 60 or more Hiragana (as well as 8-168 Kanji) (Muraishi & Amano, 1972). Armed with the knowledge of 60 or more Hiragana, the children should be able to negotiate simple stories written in that script.

In the above survey, the writing system was not the only factor that influenced the preschoolers' reading achievement. A few other factors that mattered were: gender (in favor of the girls over the boys); the fathers' education (in favor of the higher over lower education); the years spent at a nursery school (in favor of 2-3 years over 1 year). About the last factor, the children are not taught reading at the nursery schools; rather, they are exposed to printed words and sentences that identify the owners of objects and give simple instructions. The children's questions about the printed materials are also answered. The moral: When printed materials are used to convey vital information, preschoolers are motivated to learn them.

Hiragana are used mainly to represent grammatical morphemes while Kanji represent key content words (see Fig. 3). Katakana are used to represent European loan words and onomatopoetic words. This kind of mixed text helps a reader allot his or her attention over text differentially, more to key content words (visually complex Kanji) and less to grammatical morphemes (visually simple Hiragana).

Japan boasts one of the highest literacy rates in the world, 99%, with illiteracy confined to largely to the mentally retarded (Sakamoto & Makita, 1973). One factor responsible for this salutary event could be initiation into reading with the simple Kana; another factor must be the high socio-economic status of most Japanese people.

Alphabet

**Alphabet: its nature and variety**

In an alphabet, each letter codes one phoneme, in principle but not necessarily in practice. Since most languages of the world use between 20 and 37 phonemes (Maddieson, 1984), an alphabet needs only a small number of letters. These letters can therefore be shaped simply.

Today the alphabet has all but conquered the world: It is used in almost all Indo-European languages as well as in such non-Indo-European languages as Hebrew, Finnish, Turkish, and Vietnamese. The widespread adoption of an alphabet does not necessarily attest to its superiority over other writing systems. Most languages require grammatical morphemes, and hence a logography is impractical. This inconvenience is not the only reason why a logography is impractical; far from it (see "Logography"). Most languages tend to have over 1,000 syllable types, and hence a syllabary is also impractical. Thus they have no choice but adopt an alphabet.

There are a variety of alphabets: some differ in letter shapes (Roman, Cyrillic, Devanagari, Arabic, Hebrew, etc.); in most alphabets, C and V letters retain their separate shapes in syllables, but in a few (Devanagari, Tamil), C and V letters fuse to form CV composites; most have letters for both consonants and vowels, but a few
(Hebrew, Arabic) have letters primarily for consonants. Vowel-less alphabet and orthography are possible for these Semitic and Hamitic languages, in which Vs indicate inflection while Cs indicate root morphemes.

All these alphabets can be traced back to the Semitic syllabary-alphabet of 1,000 B.C.

**Learning to read in an alphabet**

Learning an alphabet itself is easy, because it has a small number of simply shaped letters. Many preschoolers learn it before entering school. Learning to read in an alphabet is not necessarily easy for several reasons.

In some alphabets such as Hebrew and Arabic, Vs are indicated not by proper letters but by optional marks over, under, or inside Cs. Because of the "invisibility" of the tiny marks "tucked under" C letters, beginning Hebrew readers make many errors in sounding out Vs (Feitelson, 1980). (For adults, however, the presence or absence of the V marks does not affect the latency for pronunciation; Navon & Shlmon, 1981).

The phonetic unit coded in an alphabet, the phoneme, is abstract, small, and unstable. Stop Cs by themselves are unpronounceable, and most phonemes change their sound values in different phonetic contexts. As part of the phonics method of reading instruction, phonemes must be put together into syllables and words by a process called phoneme blending. Preschoolers find it easier to blend syllables into words (e.g., candy; teacher) than phonemes (e.g., p.a.y; u.p) (Brown, 1971; Coleman, 1970). Finally, several meaningless phonemes must be strung together before the meaning of a word emerges.

Understandably, the phoneme is not the unit people most easily become aware of. Historically, the alphabet was the last writing system to emerge, after logography and then syllabary (Gelb, 1963; Jensen, 1970). Children find it more difficult to segment a word into phonemes than into syllables (Liberman, Shankwell, Fischer, & Carter, 1974).

A single word in an alphabet tends to require a long array of letters, longer than a word in a syllabary or logography. For example, gentleman requires 9 letters in English, 6 Kana in Japanese, 3 syllable-blocks in Korean "Hangul" (see below), and 2 Kanji (in translation), as shown in Fig. 5.

<table>
<thead>
<tr>
<th>English</th>
<th>gentleman</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kana</td>
<td>セントルマン</td>
</tr>
<tr>
<td>Hangul</td>
<td>김.toList</td>
</tr>
<tr>
<td>Kanji</td>
<td>神士</td>
</tr>
</tbody>
</table>

**Figure 5** — gentleman in English, Kana, Hangul, and Kanji, in that order

The longer an array, the more material must be processed visually, posing a problem in sequencing and grouping letters and sounds for word identification. People often have trouble seeing and remembering the order of items in a list, especially in the middle. In English, transposition errors involving letters in medial positions, such as "-er-" and "-re-" in there and three, are intractable among Grade 2 poor readers (Park, 1978 1979).

For an alphabet to be a useful representation of speech, its letters have to code sounds consistently and accurately. But preserving close letter sound correspondence is difficult in the face of sound changes that can occur over time, over geographic regions, and in
word derivation. For example, for heal and health, if the latter is spelled "helth" to represent its sound more closely, the relatedness of the two words becomes less transparent. The same observation applies to train, which is pronounced as "trine," which rhymes with vine, in Australia, and as "trane," which rhymes with rain, in most other English-speaking countries.

The ideal is to have perfect letter-sound correspondence in a language whose sounds do not change unless root meaning also changes.

Let us contrast two Roman alphabets, Finnish (an example of a high letter-sound correspondence), and English (an example of a low letter-sound correspondence).

**Finnish vs. English**

The Finnish alphabet has 37 letters (a few of which may be digraphs) for Cs, Vs, and diphthongs, plus 6 letters for foreign sounds. It has a high letter-sound correspondence, perhaps because writing was cultivated relatively late in the 16th century, and spelling was regularized in the 19th century (Kyöstio, 1980). About 15% of children already read at a Grade 2 level when they enter school at age 7. By the end of Grade 1, children can decode nearly any word, whether familiar, unfamiliar, or nonsense. Regular letter-sound correspondence is even more beneficial for spelling.

By contrast, the English alphabet and orthography have a dismally low letter-sound correspondence, for several reasons (Taylor & Taylor, 1983; chap. 6). To cite two reasons, the alphabet has only 23 letters to represent 44 phonemes (Of the 26 letters, 'x, q, c' can represent or include the same phoneme as does 'k'). The sounds, especially vowels, changed substantially about 500 years ago while spelling remained more or less unchanged.

Today, each C letter represents on average 2.4 sounds, and each V letter 8.2 sounds (Dewey, 1971). See how 'a' changes its sound in about, farm, fat, fall, face, fare, hurrah, feat, instead, boat. This kind of letter-to-sound inconsistency causes difficulties in pronouncing. Even college students make more errors and take longer to read aloud irregular words (vise, should) than regular words of the same length and frequency of occurrence (glue, chant) (Baron & Strawson, 1976).

Each C sound has on average 9.1 spellings, and each V sound 10.7 spellings (Dewey, 1971). This kind of sound-to-letter inconsistency causes spelling difficulty. If the sound-letter relation were regular, schoolchildren and adults should be able to spell any word, even pseudowords that are pronounceable though meaningless. When children (Grades 2-5) and college students were asked to spell pseudowords to dictation, no group of subjects scored perfectly on all types of words. Regularly spelled CVC and CVCe words (fat, jate) were easy, but irregularly spelled words (jation, casical, caseize) were difficult even for college students (Marsh, Friedman, Welch, & Desberg, 1980). These kinds of words must be spelled by analogy to known words, such as elation for jation.

Partly because of the difficulty of English orthography, "early readers" (children who read before going to school) are few, on the one hand, and "non-readers" (schoolchildren who cannot decode words) are many, on the other. Only 1 3.5% of children can read at Grade 2 level when they enter school at age 6 (Durkin, 1966). Once in school, up to Grade 3 4 most children are learning to decode words (Calfee, Venezky, & Chapman, 1969).

As for non-readers, one study reports that one-fifth of all Grade 3 children tested in
three schools in a racially mixed, urban inner city were "total nonreaders" (Gottesman, Croen, & Rotkin, 1982). Another study reports high rates of non-readers among black working-class children in Philadelphia (Baron & Treiman, 1980). The non-readers could not decode any of the test words, which were familiar exception words (was, said, come) regular words (has, maid, dome), and pseudowords (mas, haid, gome). (All the studies on English orthography cited above have been carried out in the United States.)

The irregular and complex letter-sound relation of an alphabet does adversely affect learning to read and spell, especially in unfavorable socio-economic conditions.

**Alphabetic Syllabary**

**Hangul syllable-blocks**

In an alphabetic syllabary, each symbol codes a phoneme, as in an alphabet, but between two and four alphabetic symbols are packaged into a syllable-block, which is the unit of printing and reading. The Korean script called Hangul appears to be the only alphabetic syllabary. It was created in the middle of the 15th century A.D. by King Sejong, taking into consideration the articulatory features of the Korean sounds and Oriental philosophy (Taylor & Taylor, chap. 5). And it was created with the noble sentiment of helping ordinary citizens acquire literacy.

Table 5 shows a partial C x V chart or matrix.

Table 5. Part of Hangul CV Syllable-Block Chart  
(with 3 of the 19 Cs and 4 of the 21 Vs)

<table>
<thead>
<tr>
<th>C</th>
<th>V</th>
<th>a</th>
<th>ya</th>
<th>o</th>
<th>yo</th>
</tr>
</thead>
<tbody>
<tr>
<td>g</td>
<td>t</td>
<td>t</td>
<td>t</td>
<td>t</td>
<td>t</td>
</tr>
<tr>
<td>n</td>
<td>l</td>
<td>l</td>
<td>l</td>
<td>l</td>
<td>l</td>
</tr>
<tr>
<td>d</td>
<td>e</td>
<td>e</td>
<td>e</td>
<td>e</td>
<td>e</td>
</tr>
</tbody>
</table>

Unlike the five syllabaries (Cree, Eskimo, Val, Katakana, and Hiragana) shown in Table 4, in the Korean alphabetic syllabary, the two margins of the chart can show Hangul alphabetic symbols, Cs vertically and Vs horizontally. (Some of the V symbols are themselves combinations of two or more simple V symbols.) Each of the 19 C symbols can combine with each of the 21 V symbols to produce 399 (19 x 21) CV syllable-blocks. Then, underneath each of these CV blocks the final C can be placed to produce 7,581 (399 x 19) CVC blocks, only about one third of which are actually used. Underneath a handful of CVs, a second C can be placed to produce CVCC blocks.

Table 6 shows four alphabetic symbols that are packaged into syllable-blocks of three levels of phonetic complexity (CV, CVC, CVCC), with commensurate levels of visual complexity. With increasing levels of complexity, the likelihood of one syllable-block by itself unambiguously representing a morpheme increases.
Table 6. Hangul Syllable-Blocks in Three Complexity Levels

<table>
<thead>
<tr>
<th>Level</th>
<th>Alphabet Symbol</th>
<th>Syllable Block</th>
<th>Syllable Structure</th>
<th>Morpheme</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>h</td>
<td>0f</td>
<td>V /a/</td>
<td>suffix; ah</td>
</tr>
<tr>
<td>I</td>
<td>c h</td>
<td>c1</td>
<td>CV /da/</td>
<td>all</td>
</tr>
<tr>
<td>II</td>
<td>h 2</td>
<td>0£</td>
<td>VC /al/</td>
<td>e19</td>
</tr>
<tr>
<td>II</td>
<td>c 1 2</td>
<td>c£</td>
<td>CV C /dai/</td>
<td>moon</td>
</tr>
<tr>
<td>III</td>
<td>c£ 1 2 0£</td>
<td>£££</td>
<td>CVCC /dai9/</td>
<td>hen</td>
</tr>
</tbody>
</table>

In the original table (Taylor, 1980: 70), there was a typographical error: the Hangul for e19 should be as in this table, not 0£. In this syllable-block, the empty circle is required to show that a vowel is alone in a syllable.

The three levels of complexity help word recognition. In an experiment, a target syllable-block is recognized faster against the background of other blocks in all three complexity levels than in only the complexity level of the target (Taylor, 1980).

Learning and using Hangul

Hangul is easy to learn for reasons such as:

- Symbol–sound correspondence is high.
- The reading unit is a concrete and stable syllable.
- Although the number of syllable-blocks is large, each syllable-block need not be learned by rote; it can be deduced from the chart shown in Table 5.

Because of the systematic placement of 2-4 alphabetic symbols in a syllable-block, word processing on a computer is easy and fast (Chong, Han, & Kang, 1983). A writer types words in alphabetic symbols, and a computer packages them into syllable-blocks.

Some texts in South Korea, and all texts in North Korea, are written in Hangul only, without Kanji (Fig. 3d). All-Hangul texts are not as hard to read as all-Kana texts for three reasons. First, the three varied levels of visual complexity of syllable-blocks make discrimination easy. Second, a word tends to be short in syllable-blocks (see Fig. 5). Third, in Hangul texts, an extra space is left between each phrase (one content word and its accompanying grammatical morphemes).

Korea enjoys a high rate of literacy, with illiteracy confined to the mentally retarded or to the very old who have not benefited from compulsory education. The simplicity of Hangul, as well as favorable socio-economic conditions, must be responsible for this salutary event.

Conclusion and Announcement

I have described 4 writing systems and 10 scripts, and developed the following three themes:
1. The characteristics of language dictate, to some degree, the type of script.

2. The way a script represents meaning and/or sound has a great influence on how word recognition in that script is learned.

3. However, a script is not the sole influence on reading achievement and literacy attainment; socio-economic factors too play a role.

In my seminar, I will discuss research carried out on some of these scripts.
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Research on the Variety of Scripts

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In my keynote address I described four writing systems and ten scripts that are used today in different parts of the world. Assuming that you have read the written version of the address (Taylor, 1986), for this seminar I will discuss examples of experiments carried out on a few of these scripts, notably English (alphabet), Chinese (logography), Japanese (logography and syllabary), and Korean (alphabetic syllabary). These examples are intended to delineate some methods by which problems can be attacked, rather than to review the research in the field.

I limit my coverage to three research problems common to these writing systems and scripts and a few problems specific to particular systems and scripts.

Research Common to Different Scripts

The three common problems discussed are phonetic recoding, eye movements, and cortical processing.

Phonetic Recoding

In reading a sentence silently for comprehension, readers may store its individual words in working memory and integrate them to extract the meaning of the sentence as a whole. Such storing and integrating appear to be carried out in working memory in a phonetic code, as revealed in experiments.

The above idea was first suggested by Conrad (1964), who presented a string of letters to subjects for immediate recall. A letter string visually presented might look like:

B I I K T C V R

When recall errors occurred, they were similar to the stimuli in sound, rather than in shape. Thus, the letter T ("tee") was recalled by error as P ("pee"), and not as F.

In later research, sentences have been constructed with words that are phonetically either similar or dissimilar. In one such experiment, subjects were asked to detect order anomaly in visually presented sentences, such as:

"1. Crude rude chewed Jude stewed food"
"2. Dark-skinned ate Ian boiled meat"

The subjects found it easier to detect anomalies in sentence 2 with its varying phonetic forms than in sentence 1 with its similar, and hence confusing, sounds (Baddeley & Lewis, 1981).

A similar study can be done with Chinese sentences. The subjects were asked to judge whether or not sentences such as following were grammatical and meaningful:
The two sentences are similar in meaning: The first means 'The stupid husband and wife chop up tree', and the second means 'The stupid husband and wife pick flowers'. The first sentence has characters with similar sounds, while the second has characters with dissimilar sounds. The subjects found it easier to judge the second sentence than the first (Tzeng, Huang, & Wang, 1977).

So, sentences containing phonetically similar words are more difficult to process than those containing phonetically dissimilar words. This event occurs only because the words of a sentence, whether in a phonetic or logographic script, are processed using a phonetic code.

Why, for linguistic materials, is a phonetic code preferred to a visual code, even when they are presented visually? The phonetic code seems to be primary in the following senses. Historically, humans have had oral speech since time immemorial, whereas they have had writing for only about 4,500 years. Even today, all human races and tribes have oral languages but only some of them have written ones. No one learns to read and write before learning to speak and listen to speech. Even after they learn to read, most people spend more time speaking than reading. (For more about phonetic recording, see Taylor & Taylor, 1983, chap. 10.)

To convince yourself that phonetically similar words are indeed confusing and difficult to remember, read and then recall the following "story," which is the first lesson of the primer prepared by the renowned American linguist Bloomfield (Bloomfield & Barnhart, 1961).

Nan can fan Dan.
Can Dan fan Nan?
Dan can fan Nan.
Nan, fan Dan.
Dan, fan Nan.

Eye Movements in Reading

As one reads, a saccadic jump brings a target word into the fovea, where acuity is sharpest. The eyes then fixate on the word for about a quarter of a second, during which time the image of the object is more or less stationary upon the retina. It is mainly during the fixation that a reader acquires information on the fixated word. At the end of the fixation, the eyes saccades to the next target word. (For more about eye movements, see Taylor & Taylor, 1983, chap. 7).

The readers allot their attention differentially over text, giving more to content words and less to function words. Differential processing is aided if grammatical morphemes are visually distinguishable from content morphemes by being short (e.g., English function words), by being written in simple phonetic scripts (Japanese and South Korean), by being followed by a space (in all-Hangul Korean), and so on. These visual features of grammatical morphemes must be noticeable in peripheral vision so as to guide the
eye's saccades.

Some grammatical morphemes are less important, and hence more likely to be skipped, than are others. For example, in English the articles (a, the) are "good" or prototypical function words (short, frequent, have little semantic and syntactic function, etc.), whereas long infrequent prepositions (between, despite) have substantial content as well as syntactic function (Taylor, in press).

The following sentence is a part of a paragraph; the numbers over some words are gaze durations, which are summed durations of consecutive fixations on the same word by an individual subject. The gaze durations tend to be longer on content words, and are either shorter or non-existent on function words (Just & Carpenter, 1980).

"Flywheels are one of the oldest mechanical devices known to man."

For guiding the reader’s eye, the ideal may be a mixed-script text in which informative words are in a visually prominent script, whereas less informative words are in a less prominent script. Precisely this kind of mixed-script text is used in Japan and South Korea: Visually complex Kanji are used for key content words and simple phonetic signs are used for grammatical morphemes, as shown in Fig. 3 of Taylor, 1986.

Sakamoto reports that mixed text is read twice as fast as all-Hiragana text (In Sakamoto & Makita, 1973). A new study is required to show that (1) Japanese people, even those without an established habit of reading in mixed text, read faster mixed than all-Hiragana text, and (2) the readers indeed fixate longer on content words in Kanji and shorter on grammatical morphemes in Hiragana.

The Chinese language has a handful of particles that indicate plural number of people, completed action, and so on (Chao, 1968; Kratochvil, 1968). Each particle is written in one Chinese character, just as is a content morpheme. Thus, particles are not particularly distinguishable visually from content morphemes. Perhaps partly for this reason, Chinese readers averaged 10 saccades per line (frequent fixations), compared with English readers who averaged 4 saccades (Stern, 1978).

If characters for particles are simplified more drastically than those for content morphemes, a Chinese reader might be able to notice them in peripheral vision, and thus skip them.

Cortical Processing

The human cortex is composed of two hemispheres, left (LH) and right (RH), connected by the corpus callosum. The two have different but complementary processing modes. Fig. 1 caricatures the processing preferences of the two. It also shows how the left visual field (LVF) from each eye projects to the RH and the right visual field (RVF) projects to the LH. The corpus callosum transfers information between the hemispheres so that much, though not all, of what is received by one becomes available to the other.

The preferred modes of the LH and RH are conventionally accepted in the literature on physiological and behavioral measures of people with intact brains, people with damage in either LH or RH, and people with split brain. A portion of the literature on normal people is presented below; the literature on damaged or split brains is presented elsewhere (Taylor, in press). (For damaged brains, see, for example, Ogden, 1984; Paradis, Hagiwara, & Hildebrandt, 1985; for split brains, see Gazzaniga, 1983; Zaidel, 1978, 1983;
Which hemisphere processes Chinese characters? The answer depends on experimental procedures. In Japan, Hatta (1978) prepared three types of materials: (a) single Kanji, (b) 2-3 Hiragana for the sounds of the Kanji, and (c) 2-Kanji words that include the single Kanji as component.

Each stimulus was presented in a tachistoscope either to LVF or RVF of right handed males and females. There was LVF advantage for single Kanji, RVF advantage for multi-Kanji words, and again RVF advantage for Hiragana words. In short, single Kanji were processed better by the RH, Hiragana by the LH, and multi-Kanji by the LH.

Similar results were obtained with Chinese speakers. In one experiment, subjects verbally identified single characters shown in a tachistoscope (Tzeng, Hung, Cotton, & Wang, 1979). A strong LVF advantage (RH processing) was obtained, regardless of whether the characters contained a "phonetic component" (Table 3, Taylor, 1986). When stimuli were multi-character words the opposite result—namely, evidence of LH processing—was obtained. In another experiment, Chinese speakers decided, by pressing a key, yes or no to the question, "Do characters form a meaningful word?" In this task that did not involve verbal identification, evidence of LH processing was again obtained.

A single character or Kanji is processed as a whole visual pattern by the RH whereas a two-character/Kanji word is processed as a sequential object by the LH.

One of the most complex studies on hemispheric processing of a variety of symbols was carried out by Nishikawa and Nilna (1981). Japanese (and French) subjects had to respond yes or no, by pressing a key, to the question, "Are all the symbols the same/different in name/shape?" The symbols were alphabetic letters, upper- or lower-case; Hiragana or Katakana; and Kanji. All the stimuli were either upright or inverted, containing from 2 to 5 items. Table 1 shows the sample stimuli and responses on "same" decision. Fig. 2 shows the results for the "same" decision; the results for the "different" decision are similar but slightly slower.
Table 1. Types of Symbols and Responses

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Type</th>
<th>Shape</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>R R R R</td>
<td>alphabet</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>R r R R</td>
<td>case mix</td>
<td>no</td>
<td>yes</td>
</tr>
<tr>
<td>ひ ひ へ え</td>
<td>Hiragana</td>
<td>no</td>
<td>no</td>
</tr>
<tr>
<td>ひ ひ へ え</td>
<td>Hira-Katakana</td>
<td>no</td>
<td>yes</td>
</tr>
<tr>
<td>か か き き</td>
<td>Kanji</td>
<td>no</td>
<td></td>
</tr>
<tr>
<td>ｙ ｙ ｙ ｙ</td>
<td>(inverted letter)</td>
<td>no</td>
<td></td>
</tr>
</tbody>
</table>

Figure 2 — Time to make "same" decision on the variety of symbols

(Based on Table 1 of Nishikawa & Nlina, 1981)

First, look at the upright phonetic symbols (Kana and alphabet) in the left panel. Whether deciding on name or shape, reaction time is faster with LH presentation, and the time increases for added items, suggesting sequential processing. Decision is faster on shape (visual processing) than name (phonetic processing). Decision is faster on alphabet symbols than Kana, perhaps because the alphabet contains 26 choices whereas Kana includes 46 (or 71 including the secondary Kana; see "Kana," Taylor, 1986.)

Now look at Kanji and inverted symbols in the right panel. Reaction time is faster with RH presentation, and the time does not increase for added items, suggesting simultaneous processing. Simultaneous processing is faster than sequential processing. Reaction time is faster to inverted symbols than to their corresponding upright ones, perhaps
because the former are processed purely as visual objects.

Physiological measurements (EEG, blood flow, etc.) of normal people reading alphabetic text show that both RH and LH are involved (Ornstein, Herron, Johnstone, & Swencions, 1979; Lassen, Ingvar, & Skinhoj, 1978). Readers of other types of scripts may be expected to show a similar pattern of cortical processing. Recall that a single character/Kanji is better processed by the RH, but a word with two character/Kanji is better processed by the LH. And Japanese and Korean grammatical morphemes tend to be written in phonetic scripts, which are processed better by the LH. Text is a sequence of words and grammatical morphemes.

**Research Unique to Specific Scripts**

Some researchers investigate problems that are peculiar to particular writing systems or scripts.

**English orthography**

With English orthography, one can investigate the effects of a low letter-sound correspondence on pronouncing and spelling. One study on pronouncing (Baron & Strawson, 1976) and one study on spelling (Marsh, et al., 1980) have been already presented ("Learning to read in alphabet," Taylor, 1986).

Apparently, how well schoolchildren read aloud irregular words is a good index of their reading abilities. Adams and Huggins (1985) prepared a list of 50 irregular words, blocked in five levels of frequency. Examples of test words from most to least frequent were: ocean, whom, sweat, trough, fiancé. All the words were within the children's listening vocabulary. The children were divided into two groups, above average (good readers) and below average (poor readers), based on WISC IQ tests, Stanford and Gates-McGinitte reading comprehension tests.

The number of correctly read words varied directly and strongly with reading ability, as shown in Fig. 3.

![Figure 3](image-url)

**Figure 3** — Mean percentage correct for good and poor readers from Grades 2 and 5

(Adams & Huggins, 1985, Fig. 2; with the authors' permission)

With sentence context preceding each test word, all the children read the test words better, but the pattern of differences between good and poor readers remained. In Fig. 3, percent correct decreases as frequency of words becomes lower. The apparent effect
of frequency may be partly due to the fatigue and interference from the earlier words that accumulate as more and more words in the list are read. The children read the words always in the same order.

Even so, one can surmise that the presence of many irregular words is an obstacle to full mastery of word decoding by Grade 5.

**Japanese Kanji and Kana**

Are complex Kanji more difficult to process than simple Kanji? This important question needs to be answered before a large number of characters are drastically simplified as in the Republic of China (Table 2, Taylor, 1986). In Japan, Kawai (1966) prepared a set each of simple Kanji and of complex Kanji. Although Kawai used his own index of complexity, his simple Kanji appear to have around 5 strokes while complex Kanji around 15 strokes. The two sets of Kanji varied in seven levels of frequency. Table 2 shows a sample of stimuli, as well as the results to be described shortly.

Table 2. A Sample of Simple and Complex Kanji and Error Rates.

<table>
<thead>
<tr>
<th></th>
<th>Simple</th>
<th>Complex</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hi freq.</td>
<td>1.25</td>
<td>0.94</td>
</tr>
<tr>
<td>Low freq.</td>
<td>29.0</td>
<td>14.7</td>
</tr>
<tr>
<td>Total Error</td>
<td>123</td>
<td>87</td>
</tr>
</tbody>
</table>

(based on Tables 4 and 5 of Kawai, 1966)

Adult Japanese were asked to give meaning and “Chinese and Japanese pronunciations” of the individual Kanji (see “Kanji in Japan and Korea,” Taylor, 1986). Errors were fewer on complex than on simple Kanji, and fewer also on high frequency than low frequency Kanji, as can be seen in Table 2. With nonsense configurations of lines, too, Kawai found that more complex figures were learned better than simpler ones (see also Fukuzawa, 1968, who tested children with similar results).

If a researcher were to carry out a new experiment on the same question, she or he should vary complexity in several levels, and measure not only error rates but also latencies to pronunciation and meaning access. The researcher should also ask how the six principles of Kanji formation (Table 3, Taylor, 1986) affect Kanji processing.

Another Japanese experiment compared recognizability of a word in three scripts—Katakana, Hiragana, and Kanji (Tanaka, 1977). A two-Kana/Kanji target word had to be recognized among a series of two-Kana/Kanji words. Recognition scores were higher for Hiragana for subjects aged less than 11, after which they were higher for Kanji. As children progress in grades, they learn more Kanji and use them more frequently. Kanji words, when they are learned well, are recognized better than Kana words.

**Korean Hangul**

In Hangul, each symbol codes a phoneme, as in an alphabet, but between two and four alphabetic symbols are packaged into a syllable-block, which is the unit of printing and reading.
One research issue is the relative efficiency of linear vs. packaged arrangements of the symbols in syllable-blocks. To study this issue, Taylor (1980) taught four CVCV (Set I) and four CVCCVC (Set II) Hangul words to English-speaking subjects, who learned to read them fluently in 5 min. The subjects initially read the words faster in a linear than packaged arrangement. But over 18 trials, which gave them about 80 min experience, the differences between the two arrangements gradually narrowed and then almost disappeared, as shown in Fig.

Figure 4 — Pronunciation time for Sets I and II in packaged and linear arrangements (Taylor, 1980)

A study with subjects without an established habit of reading in a linear arrangement, run over many trials, might show a clear superiority of the packaged arrangement over the linear one. Also, one might expect packaged arrangements to improve discrimination of longer sequences more than of shorter ones.

Another question is, “For discrimination and recognition of syllable-blocks, are three levels of complexity better than only one level?” To answer this question, Taylor (1980) used the same technique as Tanaka (1977, above), except that stimuli were Hangul syllable-blocks, and that there were two experimental conditions. In a “uni-level” condition, a target and a series of syllable-blocks among which the target had to be recognized were all of the same level of complexity, either CV or CVC. In a “mixed-level” condition, the series contained syllable-blocks in all three levels of complexity.

<p>| Table 3. Recognition of a Target Among Uni-level vs. Mixed-level Syllable-Blocks |
|----------------------------------------|-----------------------------|-------------------------------------------------|</p>
<table>
<thead>
<tr>
<th>Condition</th>
<th>Target</th>
<th>“Circle each occurrence of target”</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uni-level</td>
<td>다</td>
<td>오 드 마 로 다 사 이 모 다 ...</td>
</tr>
<tr>
<td></td>
<td>운</td>
<td>옥 들 망 운 남 섯 문 남 ...</td>
</tr>
<tr>
<td>Mixed</td>
<td>다</td>
<td>음 들 마 록 다 향 문 록 다 ...</td>
</tr>
</tbody>
</table>

More targets were recognized in the mixed-level than uni-level condition.

Conclusion
I have presented examples of research common to several different scripts, as well as of research unique to specific scripts. Linguistic, cognitive, and cortical processing seems to be similar for people reading sentences and text in different scripts. Processing seems to be dissimilar for people recognizing individual symbols in different scripts.
References

Adams and Huggins (1985) see the next page


Gazzaniga, 1983 (see next page)


Ogden, 1984 (see next page)


Paradis, Hagwara, & Hildebrandt, 1985 (see below)


Zaidel, 1983 (see below)


LANGUAGE, CULTURE, AND DISCOURSE

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My intention here is to delve into an ancient topic in the history of linguistics and anthropology, the relationship between language and culture. This topic is both so ancient and so basic to these disciplines and yet so thorny that like other ancient and thorny questions (for example the origin of language), it is a given of the disciplines, not talked about much in general terms, and even considered by many to be either tabu or else too old fashioned to speculate about. But, and in some ways like the questions of the origin of language, certain developments in anthropology and linguistics make it possible to talk about the relationship of language and culture in new and interesting ways. One new development I have particularly in mind is the analysis of discourse, and especially the analysis of discourse that is rooted in social and cultural contexts of language use and considers questions of speech play and verbal art to be central.

Concern with the language-culture relationship finds its best known modern expression in the writings of Franz Boas, Edward Sapir, and Benjamin Whorf, each in their own way. Boas, often considered to be the founder of modern, professional American anthropology, insisted on the study of language and languages as essential to training and research in anthropology. Part of his reasoning, as expressed in the introduction to the Handbook of American Indian languages, is that language patterns are unconscious and provide access to unconscious cultural patterning otherwise inaccessible to researchers. This position leads rather naturally to what has come to be called the Whorf or the Sapir-Whorf hypothesis, namely that language (that is grammar) constitutes the means with which individuals think and therefore, especially as stated in its strongest form, language (that is grammar) conditions or determines cultural thought, perception, and world view. Notice that Boas, Sapir, and Whorf all studied so-called exotic languages, that is languages whose structures are radically different from English and other Indo-European languages, and in particular they studied American Indian languages, and drew their most developed and best-known examples about the language-culture relationship from American Indian languages.
It seems to me that there are two reasons why concern with the relationship between language and culture in the Sapirian and Whorfian sense has dwindled. First, discussions of this issue were too vague and speculative for empirically oriented post-war social science. It was impossible to prove whether language determined culture, culture determined language, or neither. Arguments were dead ended. But second, and perhaps ironically, interest in the language, culture, society relationship quite productively gave rise to a whole gamut of disciplines and perspectives, such as psycholinguistics, sociolinguistics, ethnoscience, and ethnography of speaking. Each in their own way, these perspectives continue the Sapir-Whorf tradition, without explicitly saying so and sometimes actually consciously rejecting its tenets and surely not wanting to view themselves as falling within its domain. Each of these perspectives, in its own way, breaks with the assumption of linguistic, cultural, and societal homogeneity (one language = one culture = one society) inherent in or at least not seriously questioned within the Sapir-Whorf hypothesis.

Since my purpose here is to recast the relationship among language, culture, and society, it is necessary to begin with some definitions. From my point of view, culture is symbolic behavior, patterned organizations of, perceptions of, and beliefs about the world in symbolic terms. The locus of cultural behavior can be a single individual. It is more typically manifested in or shared by groups of individuals. Society is the organization of individuals into groups of various kinds, groups which share rules for the production and interpretation of cultural behavior and typically overlap and intersect in various ways. Language is both cultural and social. It is cultural in that it is one form of symbolic organization of the world. It is social in that it reflects and expresses group memberships and relationships. Language includes grammar, but goes beyond grammar. As a sign system, language has the interesting property of being both unmotivated and arbitrary (purely symbolic in semiotic terms) and motivated (iconic and indexical in semiotic terms). It is unmotivated and arbitrary from the point of view of its properties as a formal, abstract system. It is motivated from the point of view of the meaningfulness and appropriateness that individuals feel about their language as it is used in actual social and cultural contexts. This takes us to discourse.

Like culture, society, and language, different people define discourse in different ways. In my view, discourse is a level or component of language use, related to but distinct from grammar. It can be oral or written and can
be approached in textual or socio-cultural and social-interactional terms. And it can be brief like a greeting and thus smaller than a single sentence or lengthy like a novel or narration of personal experience and thus larger than a sentence and constructed out of sentences or sentence-like utterances.

Taking a discourse-centered approach to the language-culture relationship enables us to reformulate the Sapir-Whorf hypothesis. Instead of asking such questions as does grammar reflect culture or is culture determined by grammar, or are there isomorphisms between grammar and culture, we rather start with discourse, which is the nexus, the actual and concrete expression of the language-culture-society relationship. It is discourse which creates, recreates, modifies, and fine tunes both culture and language and their intersection, and it is especially in verbally artistic discourse that the potentials and resources provided by grammar, as well as cultural meanings and symbols, are exploited to the fullest and the essence of language-culture relationships become salient.

The Boasian tradition within American anthropology and linguistic did not ignore discourse. Quite the contrary. Boas and Sapir and their students insisted on the collection and publication of texts as part of a three-fold investigation of language, which consisted of grammar-texts-dictionary. But while texts were collected and published, they were not analyzed as discourse per se. They rather served the function of providing both linguistic and ethnological data. It is current work in the analysis of discourse, in ethnographic, symbolic, social interactional, and textual terms, that brings out new conceptions of structure and pattern in language use and new insights into the language and culture relationship. I find it interesting that some of the most significant work in the analysis of discourse concerns American Indian languages, thus providing a continuity with the Boasian, Sapirian, and Whorfian tradition.

My discussion so far has been general. Now to some illustrative examples. I begin with a grammatical category found in the language of the Kuna Indians of Panama, among whom I have carried out research since the early 1970's. Grammatical categories, especially optional grammatical categories, were the focus of much of the discussion in the Sapir-Whorf tradition. A grammatical category is a form-meaning relationship, a meaning expressed through a regular patterning of form. Examples are number, aspect, and tense. Sapir, Whorf, and adherents to the hypothesis associated with them often focused on grammatical categories which are not found in Indo-European languages and are in this sense exotic. These grammatical
categories reflect a different way of expressing meaning from 'our' ways, and, perhaps, a different unconscious patterning of thought.

It is because grammatical categories are economical and efficient ways of expressing meaning, especially when compared with the cumbersome translation that rendering in other languages, such as English, requires, that they often have a poetic feel to them and that they seem to touch at the heart of the genius of a particular language and especially the language-culture-thought relationship. This is no doubt part of what Sapir meant when he compared Algonquian words to tiny imagist poems. Optional grammatical categories provide speakers with conscious or unconscious decisions, choices, ways of expressing meaning, which, I would say, are actualized in discourse.

Now to the Kuna case. One of the many, fascinating Kuna grammatical categories is the expression of body position in relation to action. This category, which indicates ongoing action as well as body position, is encoded in a set of four verbal suffixes: -kwici (standing, in a vertical position); -moi (lying, in a horizontal position); -sii (sitting); -noi (perched, in a hanging position). Several aspects of this grammatical category are worth noting, as they contribute to or serve as a backdrop to its use in discourse. First, it is an optional category. That is, any verb can be used without necessarily marking it for position. Second, many verbs are associated with one of the set of positionals as the most normal, ordinary, natural, or unmarked usage. Thus:

- sunmak-kwici (talking-standing)
- kam-moi (sleeping-lying)
- maskun-sii (eating-sitting)
- uo sa-noi (fishing-perched).

Since this category is optional, its use in a particular context is salient, that is noticeable. It becomes all the more salient when it is either used in a marked way (e.g. kap-sii ‘sleeping-sitting,’ for someone who falls asleep on a bench in the public gathering house) or contrasted with other possibilities in a verbally playful or artistic way, as in the two examples I will now provide.

My two examples are drawn from two different realms of Kuna ritual discourse. The first is a magical chant which is addressed to the spirit of a dangerous snake and is used to raise the actual snake in the air (See Sherzer 1981.) The magical power of the chant works in the following way. The spirit, on hearing the chant addressed to it in its special language,
immediately does what the narrative of the chant describes and, isomorphically, the real, actual snake does so as well. As in all magical and curing chants, this one is literally teeming with and organized in terms of mosaics of grammatically and semantically parallel lines. Parallel lines are often identical except for a difference in a single word or morpheme. The lines that concern us here occur at the climax of the chant, the moment at which the chanter tells the snake he is raising it in the air. This occurs as follows. The snake is first described as dragging and turning over, in the -maį (horizontal) position, that is free on the ground, in two grammatically parallel lines.

\[ kąli \, mąkįmąkky̱mąiye \]
\[ kąli \, piknimakkoκkewmąiye \]
The vine (euphemism for snake) is dragging -maį (in horizontal position). The vine is turning over -maį (in horizontal position).

Then there is a magical formula:

'"unu ni na pe onakko" antı sokekwi̱ciye.'
'"Simply indeed I raise you" I am saying.

during which the snake is raised in the air. Then it is again described as dragging and turning over, but this time in a -naį (hanging) position, in two lines which are identical to the two I just quoted except for the change to the suffix -naį. They are thus parallel to one another and constitute a couplet parallel to the other two.

\[ kąli̱tį \, mąkįmąkkenąiye \]
\[ kąli\, piknimakkenaikusayę \]
The vine is dragging -naį (in hanging position). The vine is turning over -naį (in hanging position).

Thus the text never explicitly and specifically states its most important meaning, that the specialist has actually succeeded in grabbing and raising the snake. Rather, this is expressed economically and laconically, by means of the simple shift from one verbal suffix of position to another, within a parallel line framework.

There are several points to be made here. First, the maį/naį opposition is a basic element in the general poetic structuring of this text. By occurring regularly throughout the text, followed by the suffix -ye, the positional
suffixes contribute, in conjunction with pauses and musical melody, to the marking of lines within the text, an important aspect of their poetry. These suffixes also enter into and contribute to the parallelistic structure of the text. And the *mai/na* alternation is, in the terms used by Roman Jakobson, a projection of the paradigmatic axis onto the syntagmatic axis, precisely Jakobson's definition of poetry. Here we have then a good example of what I call the poeticization of grammar -- a grammatical element or category which either loses its grammatical function or combines it with a poetic one. But in addition, the shift from *-mai* to *-na*, at the climactic moment of the text, has a very powerful semantic effect crucial to the magic of the chant. When the snake is in the *-mai* position, in the first two lines quoted, it is still on the ground. But when it is in the *-na* position, in the two later lines, it is 'hanging' or 'perched' in the air, that is, the chanter has performed the magical action of raising it, precisely through the magic involved in shifting from *-mai* to *-na*, from horizontal position to hanging position. Through this mini-max solution, this packing of a maximum of meaning into a minimum of form, grammar becomes poetry and poetry becomes magic.

A completely different usage of the grammatical category of position occurs in the metaphorical language characteristic of Kuna politics, centered in the Kuna gathering house, the meeting place for political leaders together with members of their communities. The particular discourse form I draw on here is the speech performed as an inauguration for a new chief. (See Sherzer 1983: 96-97.) These speeches are typically chock full of intersecting and overlapping metaphors -- for chiefs and other political leaders -- which speakers creatively draw on, manipulate, and create narratives out of. In one speech I have recorded and analyzed, the speaker used the positional suffixes, in conjunction with a complex of other metaphors, in order to represent Kuna political structure. Chiefs are *-na* (hanging) because they are perched in their hammocks in the center of the gathering house when they chant myths in public performances, or they are *-mai* (lying) because they rest or even sleep in these same hammocks while other chiefs are chanting or at various times during the day. Chiefs' spokesmen are *-kwici* (standing) because they stand when making speeches in the gathering house or *-sii* (sitting) because they sit on special benches surrounding the chiefs. And ordinary villagers are *-sii* (sitting) because they sit on ordinary benches behind both chiefs and spokesmen.

In this example, the grammatical category of position is poeticized, not by functioning in the creation of line structure and parallelism as in the
magical snake raising chant, but by entering into the metaphorical complex basic to the poetic rhetoric of Kuna political discourse.

Taken together, these two examples demonstrate the ways in which the grammatical category of position is exploited and actualized in the verbally artistic discourse of the Kuna. My point here is not that the Kuna are more aware of position or more capable of perceiving position than are speakers of European languages, as the best-known interpretation of the Sapir-Whorf hypothesis would have it. Rather the grammatical category of position is a resource, a potential, a way of conceiving and perceiving the world which the Kuna language offers and which is made salient by entering into a web and network of associations actualized in discourse, especially verbally artistic discourse. The resulting depth, thickness, and intricacy is what Clifford Geertz finds characteristic of culture. Edward Sapir compared language to a 'dynamo capable of generating enough power to run and elevator' but operating 'almost exclusively to feed an electric doorbell.' (1921: 14) It is in verbally artistic discourse that we find language turned on to its fullest potential and power, possibilities inherent in grammar made salient, potentials actualized. It is where, I believe, we should look for the language-culture-thought intersection.

The Kuna grammatical category of position, especially as manifested in the snake-raising chant, reveals fascinating aspects of grammatical and semantic relations and relations between language and culture rarely studied by anthropologists and linguists, precisely because they can only be discovered through attention to actual instances of discourse. Traditional and conventional methods would not reveal the full meaning and potential of this grammatical category. Notice in particular that the shift from -maθ to -nai, from the horizontal to the hanging position, in the crucial, climactic lines of the snake raising chant, depends on the possibility, in this particular context, of ranking or ordering the suffixes semantically with regard to one another. That is, -nai is stronger, more powerful than -maθ and it is on this fact that both the poetry and the magical power of the text depend. This kind of economical shift to a stronger or more powerful form within a set of grammatical or semantic relations is often crucial in a form of verbal discourse extremely widespread in the world, verbal dueling. Its minimal form is the witty, clever comeback. Longer and more ritualized forms of verbal dueling are found among urban Blacks in the U.S., Mayan Indians in Mexico, Meztizo populations in South America, Turkish adolescents, and probably many other places. The basic principle of verbal dueling is for each speaker to provide a comeback which 'tops' its
predecessor by being maximally semantically more powerful with a minimal economy of formal effort, as defined within an underlying framework of grammatical and semantic relations. (See Labov 1972.) Verbal dueling is related to verbal bargaining, as my next extended example shows.

I draw this example from a short article by K.M. Tiwary in Anthropological Linguistics dealing with a grammatical category widespread in India and beyond, known as the echo-word construction. (Tiwary 1968) The language Tiwary describes is Bhojpuri, spoken in northern India. The echo-word construction is a form of reduplication in which a word is repeated without its initial consonant, sometimes with a vowel change. Thus the word *dudh* (milk) is reduplicated as *dudh-udh*. It is the meaning of this grammatical category and its use in discourse that interests me here. Tiwary gives the meaning of the echo-word construction as a label for the semantic field in which the base word occurs. Thus *dudh-udh* means 'milk and the like' or 'dairy products.' Notice then that any member of the set of dairy products can be 'echoed' to produce a word which can potentially be used as a label for the whole set. For example, *dehi* (curd) or *maTha* (buttermilk). But in actual discourse the selection is by no means neutral, in several ways and for several reasons. First of all, semantic fields are not necessarily absolute given that are merely reflected in language use. Rather it is language use which creates and develops semantic fields. This is an illustration of what I mean when I say that language does not reflect culture but that language use in discourse creates, recreates, and modifies culture. Tiwary points out that the echo-word construction can be used as a secret-language of concealment. For example, a child, in the presence of his parents, from whom he wants to conceal the fact that he smokes, can ask someone, for example a servant, to buy cigarettes for him in the market by overtly asking him to buy *deslai-oslai* (a box of matches and the like). The parents do not know, but the speaker and addressee do, that the semantic field of matches includes in this case cigarettes and that it is really cigarettes that the speaker wants.

Second, the choice of echo-word label for a semantic field is not neutral because the members of the field are often ranked hierarchically in one or another way. Returning to dairy products, the ranking of them depends on social and economic differences between the speaker and the addressee. If the addressee is of the lower income class, it is appropriate to select *maTha-oTha* (buttermilk and the like), since buttermilk is used by those who cannot afford other dairy products. On the other hand, forms such as *dudh-udh* (milk and the like) or *dehi-ohi* (curd and the like) are
appropriate for individuals of means, who can afford these items.

It is in bargaining, and the verbal dueling which is at the core of the kind of elaborate bargaining that occurs in India, that we see this grammatical category operating to the fullest, generating its fullest power, in Sapir's terms. If I am a buyer in a market and want to purchase goods for the lowest possible price, I will call dairy products maTha-oTha, thereby indicating that I am the kind of person who uses buttermilk and therefore cannot pay high prices. If on the other hand I am a seller and want to maximize both the politeness I demonstrate to a potential buyer and their ability to pay a high price, I will use dudh-udh or dehi-ahi, thereby showing respect for the buyer as a social person and also expressing my expectations that they can pay high prices. Ultimately there is a negotiation of both the linguistic form to be used and the price. With regard to the echo-word construction, Tiwary notes, as I have for the Kuna category of position, that it is impossible to uncover its full meaning without studying naturally occurring discourse in actual social and cultural contexts.

In different parts of Asia such verbal-dueling bargaining occurs in different ways. In Bali, in Indonesia, where I have recently spent some time, market bargainers use the lexical sets which reflect social caste and social rank, for example the five or six different ways of expressing the meaning 'eat.' Sellers will often choose a relatively socially high form, showing polite respect for potential buyers, but also an expectation of receiving a high price. As in India, buyer and seller verbally duel and negotiate both appropriate linguistic form and price of goods.

Tiwary, in his discussion of the echo-word construction, provides an interpretation that assumes that language is a mirror reflection of culture and society. 'this construction reflects certain set expectancies of a society in which the economic distinctions are glaring, quite old, and widely accepted for them to be congealed into linguistic constructions.' (36). I do not deny the economic and social distinctions. In both India and Bali they are old and indeed glaringly omnipresent. But I want to offer an alternative interpretation for both the Indian and the Balinese cases and one which sees discourse as the mediation between language and culture. The verbal dueling that is the centerpiece of economic bargaining negotiates status and role as it does price. It functions as if interlocuters either do not know one another's caste and socio-economic status or else that such status is fluid, to be determined in actual verbal interaction. Both of these propositions
are of course false, but nonetheless constitute the assumptions of verbal dueling and bargaining. This informal, colloquial, popular, and fleeting discourse form then is a kind of verbal counterpoint played against the backdrop of the quite real Indian and Balinese social, economic, and verbal worlds, that of sharply defined and expressed caste and status distinctions. Verbal dueling, in its own playful way, also reinforces these distinctions. This is most serious and deep verbal play.

In this example, as in the Kuna forms of ritual discourse, we see not an isomorphic matching up of grammar and culture, but rather discourse as a rich, intricate, and dynamic expression of, mediator of, and indeed creator and recreator of the language-culture-society-individual nexus.

One final example concerns our own culture and society and the notion of cultural logic. One of Whorf's favorite and best-known examples contrasts Hopi and Indo-European tense-aspect systems. Whorf argued that Hopi grammar is more attentive to verbal aspect than to tense, while Indo-European languages are just the opposite. He suggested that this makes Hopi a more appropriate language, for example, to talk about contemporary physics in. This was more of a rhetorical stance I feel than an actual belief on Whorf's part, but it makes its point. But again, where is discourse in all of this? Nowhere, in Whorf's discussions. One quite likely place to examine tense-aspect systems is in narratives, which are reformulations of previous events. Narratives in English, and indeed in all European languages, whether written or spoken, formal or informal, are essentially a replay of a series of events in temporal sequence. That is, the organizing principle of western narrative is time. Notice that I did not say past tense, since the present tense (sometimes called the historical present in such cases) can be used as well to reflect temporal sequences in the past. And in colloquial, spoken narratives, such words and particles as 'well,' 'then,' 'OK,' and 'and' are used to move descriptions along in temporal sequence. It is not surprising then that narrative theorists define narrative in terms of temporal sequence. But this is not necessarily so in other languages, cultures, and narrative traditions. Instead of Hopi, let me return to the Kuna, whose narratives I am much more familiar with. Like Hopi, Kuna grammar elaborates aspect much more than tense. Kuna narratives, while they do reflect temporal order, focus much more on aspectual matters, the location, direction, and ways actions are performed, so much so that western readers have difficulty following translations. My students and one editor find them temporally illogical. But what we are talking about here is cultural logic, as expressed in discourse. Contemporary, postmodern
novelists, in Europe and North and South America, consciously break with Indo-European temporal logic, in order to achieve avant-garde effects, producing texts interestingly quite similar in some ways to Kuna narratives. But Kuna narratives are not avant-garde for the Kuna. Quite the contrary. They are steeped in Kuna tradition and represent a natural and logical intersection between Kuna language and culture. The degree to which the seeming logic of our own narrative structure is also an expression of the intersection of language and culture is best appreciated through comparison with such radically different possibilities as Kuna.

So far I have viewed discourse as a kind of filter, reflecting, expressing, and even creating and recreating the relationship between language and culture. But discourse also has a structure and a patterning of its own and this structure and patterning too can be seen as both reflective of and creative of cultural pattern. In fact, sometimes discourse can create or introduce several, even competing cultural patterns, including cultural patterns that are found nowhere else but in discourse, playing them off against each other. Such is the nature of the way culture and discourse work together. Discourse is the place where alternative symbol systems are expressed and competing cultural possibilities dialogue with one another. My final set of examples illustrates such cases.

These have to do with numbers and numerical organization in discourse. Dell Hymes has recently shown that many western Native North American narratives are organized either by two's and four's or by three's and five's, for example stanzas in Chinook are constructed with three or five verses. (Hymes 1981: 318-9) In the cultures involved, two and four or three and five are considered to be sacred or magical numbers and discourse organization reflects this. For the Kuna, as for many Native American groups, four is clearly symbolically important. It is the natural, logical, complete number of times to do significant things. Thus curing rituals are performed on four successive evenings. In the spirit world, significant events occur on four successive days. In discourse the major reflection of the significance of the number four is in content. It is often the case that events or actions occur four times. In addition the parallelistic lineal structure of ritual chanting is sometimes organized in terms of fours, as in the example I cited earlier. But the number two is much more pervasive and salient in the structure and organization of Kuna discourse than the number four, in both macro and micro terms. With regard to the most macro, general structure, myths are performed first as a ritual dialogue between two chiefs and then translated into everyday speech by a chief's spokesman.
This structure is doubly dual — the chiefly dialogue is dual and the double performance of the myth (by chief and spokesman) is dual. This second dual structure, which projects syntagmatically several binary oppositions simultaneously — chief/spokesman, chanting/speaking, ritual language/everyday language, ancient/modern, and esoteric/intelligible — is an interactional, textual, and performance model of and embodiment of Kuna cultural continuity and replication, so concerned with maintaining tradition by adapting to new situations. It is interesting that on the other side of the world, Balinese ritual performances are also dually organized — unfolding from old to new, from ancient language to modern language, and from serious to playful and humorous — and also embody the significance of these oppositions in Balinese social and cultural life. The omnipresence and poetic salience of parallel line structure in ritual discourse is a micro or poetic expression of the number two in Kuna discourse. Thus the number two is much more salient in Kuna discourse than the number four, even though it is the latter which is clearly the sacred or magical number for the Kuna. Speculating a bit, perhaps the importance of two is a Kuna reflection of the dual organization characteristic of Native American societies and cultures further south in lowland South America, or, more generally, a reflection of universal binary thought processes. But in any case, it is in discourse structure and pattern that its salience most clearly emerges.

The number three also emerges as significant in Kuna discourse, again at both macro-organizational and micro-poetic levels. While I have just interpreted Kuna participant organization in discourse as dual, it can also be interpreted as threefold — speaker-responder-reformulator, a structure characteristic of Kuna conversations, including the presentation of narratives within conversations. With regard to narrative content and its micro-poetic organization, typical sequences are threefold — the scene is set, then the action occurs, then there is a coda. Thus, in a popular trickster tale, consisting of a series of episodes, each episode has the following structure: First Jaguar arrives and sees Agouti, then Agouti tricks Jaguar, then Agouti runs away while Jaguar faints. While the number three emerges as salient in Kuna discourse, unlike two and four, it is not particularly discernible as significant in other cultural realms. Perhaps, and in this regard somewhat like two, three may simply provide a natural or general pattern for discourse organization and for this reason has been thus used and elaborated.

Both linguists and anthropologists have traditionally treated discourse as an invisible glass through which the researcher perceives the reality of
grammar, social relations, ecological practices, and belief systems. But the glass itself, discourse and its structure, the actual medium through which knowledge (linguistic and cultural) is produced, conceived, transmitted, and acquired, by members of societies and by researchers, is given little attention.

My stance here is quite different from the traditional one, but reflects a growing interest in discourse in many disciplines. I view language, culture, society, and the individual as all providing resources in a creative process which is actualized in discourse. In my discourse-centered approach, discourse is the broadest and most comprehensive level of linguistic form, content, and use. This is what I mean by saying that discourse and especially the process of discourse structuring is the locus of the language-culture relationship.

This is a theoretical position. But it has methodological implications as well, for both anthropologists and linguists. Since discourse is a filter of, an embodiment of, and a transmitter of culture, then in order to study culture we must study the actual forms of discourse produced and performed by societies and individuals, the myths, legends, stories, verbal duels, and conversations that constitute a society's verbal life. But discourse is also an embodiment of language. Grammar provides a set of potentials. But these potentials are actualized in discourse and can only be studied in discourse.
FOOTNOTE

1. The perspective I argue for here has illustrious predecessors, Sapir and Whorf themselves primary among them. Sapir in his book *Language* and elsewhere views language as a resource for social and expressive usages and notices the poetic potential inherent in grammar. Whorf's concept of 'fashions of speaking' goes beyond grammar to include style and some of his examples (e.g. 1956: 148-156) include forms of discourse. Roman Jakobson insists in many places (e.g. 1966) on the intimate association of grammar and poetry. Dell Hymes concept of cognitive style moves the Sapir-Whorf hypothesis beyond purely grammatical concerns into the area of verbal style and his recent work in Native American narrative focuses on language-culture intersections as manifested in discourse. Paul Friedrich reformulates the Sapir-Whorf hypothesis, placing what he calls the poetic imagination at its heart. (1979, 1986.) One possible interpretation of Erving Goffman's (1974) *Frame analysis* is that there is no reality, only the frames communicators create in discourse. Dennis Tedlock (1983: 324) chides anthropologists for dealing with culture as if there were no discourse, as if the natives never speak.

I am grateful to Greg Urban and Anthony Woodbury for many discussions about the issues raised here. Our joint efforts appear in Sherzer and Urban (1986) and Sherzer and Woodbury (1987).
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University Round Table on Languages and Linguistics


Sherzer, Joel, and Greg Urban, eds.

Sherzer, Joel, and Anthony Woodbury, eds.

Tedlock, Dennis

Tiwary, K. M.

Whorf, Benjamin Lee
Complementation is the process whereby a sentence is nominalized and placed syntactically where one would normally expect a noun or noun phrase. The subordination of sentences to the role of substantives within matrix sentences appears to be a universal feature of natural languages. It also appears that most if not all languages have more than one way of constructing such subordinate clauses, and that the syntactic constructions or particles which signal complementation do not occur in free variation. (Andersson, 1975) Semantic, as well as syntactic factors, appear to be the organizing principles behind the distribution of complement clauses and constructions. To these, as this study attempts to demonstrate, we may probably add pragmatic and discourse constraints.

Like many facets of language and other human behavior which offer a choice between forms of expression, complement choice is an issue whose underlying motivation is not readily nor easily articulated. Such matters which often express slight nuances in meaning difference are often labeled "style" and shelved. However, as Bolinger notes, "a difference in syntactic form always spells a difference in meaning," or at least a "potential contrast" which may not always be operational but is at the speaker's disposal to exploit. (1968) However complex the grammar of complement choice is, the native speaker rarely, if ever, errs in his choice of complementizer particle or construction.

The Arabic Language is certainly no exception. Modern Standard Arabic (MSA) has four common complementizer particles which do not share the same distribution. Traditional Arab grammarians, Arabists and Orientalists, and descriptive and applied linguists have made some comments on the distribution of these particles. However, there is as yet no clearly articulated explanation, that is indeed possible.

Although MSA is primarily a written language, native speakers (or writers?) still have a feeling for correct usage and for formal and informal style. In any case, native Arabic speakers appear to be consistent in choosing what is considered as the correct complement type in a given situation, whether written or spoken.

Review of the Literature

In early generative syntactic works complementizers were characterized as meaningless, insignificant particles. (For discussion see Bresnan, 1970) The first generative syntacticians to specifically discuss the relationship between syntactic and semantic phenomena were Kiparsky and Kiparsky (1971; for discussion, see Kuno, 1978); they discussed the role of factivity and presupposition in the English complementation system. They found the verb or predicate to be a deciding factor in complementation choice. This discovery necessitated one of the many major revisions in the generative grammar framework in order to allow transformations to apply across clause boundaries, something previously prohibited. This was only the beginning of the constantly expanding generativist scope. Generative syntax led to a realization that semantics played a greater role in syntactic choice than had previously been assumed. It was soon discovered that "supra-segmental regularities could not be reconstructed by traditional morphological and syntactical tools." (Rieser, 1978:7) This in turn led to a much heightened interest in Discourse or Textlinguistics, and Generative Discourse.

The Kiparskys' study (1971) sparked considerable interest in English complementation. Not only did they posit factivity and presupposition as factors influencing complement choice, they also found that a certain semantic class of "emotive" verbs such as "bother," "alarm," "regret," and "intend" affect the choice of complement type. For example, non-factive verbs require extraposition of the subject complement:

It makes sense that John has come. (factive, John has actually come)
That John has come makes sense.
It seems that John has come. (non-factive, John may or may not have come.)
*That John has come seems. (1971:366)

The troublesome English complement "for-to" construction turns out to be at least partially restricted to emotive predicates such as "important," "relevant," and "unlikely" and verbs such as "bother," "regret," and "prefer" which express the "subjective value of a proposition rather than knowledge about it or its truth value." (1971:363)

It's important for him to come. (emotive)
*It's well-known for him to come. (non-emotive)

Kiparsky and Kiparsky concluded that they had barely scratched the surface and had presented "an unfortunately oversimplified picture of a series of extremely complex and difficult problems." (1971:364)

Karttunen (1971) took the Kiparskys' study one step further in showing that it is not only the main verb that affects complement choice, but the mood of the matrix sentence as well as the type of the complement clause. For example, he found that no difference in meaning exists between that-complements and poss-ing complements in the indicative mood. However, the subjunctive mood requires that-complements to be factive while poss-ing complements may be fictitious.

That his bride is not a virgin would bother Harry if he knew about it. (*Luckily she is a virgin.)
His bride's not being a virgin would bother Harry, if he knew about it. (Luckily she is a virgin.) (1971:60-1)

Similar constraints have been found in other languages such as Swedish (Andersson, 1975) and Japanese (Josephs, 1976). For example, in Japanese matrix verb preference for a certain complementizer is not idiosyncratic but due to "semantic compatibility." A number of Japanese predicates occur with either a factive or a non-factive nominalizer "resulting in a subtle, yet significant, difference in meaning." (1976:316) Verb tense, semantic content of the subordinate clause, and the degree of abstractness of the proposition also play an important role in governing complementizer choice.

Givon has attempted to show that complement and infinitive clauses, and causative constructions are all part of a much larger typological continuum found in natural languages. This he demonstrates with data from languages as diverse as English, Spanish, Finnish, Krio (an English creole), Ute, Persian, Bemba (Bantu), Sherpa, Hebrew and Palestinian Arabic. (Givon, 1980)

Arabic Language

Modern Standard Arabic has four complementizers, 'an, 'anna, 'inna, and ma which are found in what appears to be complementary distribution (with a limited set of possible exceptions in one environment). Basically, 'an is followed by a subjunctive verb, though occasionally by a perfect form; 'anna is followed by a noun or pronoun and 'inna is the same as 'anna except that it always comes after the verb qaala when it is functioning as a complementizer. The particle ma is less specific as to the complement tensed clause that follows it. In many instances these particles (with the exception of 'inna) and their complements may be replaced by a verbal noun construction, e.g.:

hal turiidu 'an tusaafira 'ila 'amriika?
Do you want to travel [that you travel] to America?

hal turiidu as-safar 'ila 'amriika?
Do you want to travel [the traveling] to America?

Discussion of these particles' syntactic function and their variability with verbal noun constructions go back as far as the 10th century grammarian Sibawaih (Mosel, 1975) and are basically descriptive and/or prescriptive as to their use (Peterson, 1972). The same arguments were adopted by some of the Western orientalists. Arab grammarians divided sentences into two different types, verbal and nominal. Verbal
sentences begin with a verb; nominal sentences begin with a noun or pronoun. The same sentence can be made verbal or nominal by permuting subject and verb. In an orientalist's grammar (Brockelmann, 1909) we find reference to 'anna, 'an and ma as particles which allow a sentence to serve as a part of another sentence. Particle choice is explained as being a function of the type of sentence to be embedded, i.e. if it is a nominal sentence then 'anna is the correct particle. Verbal sentences are preceded by 'an. This explanation is borrowed from the Arab grammarians and conveniently dispenses with a discussion of why one sentence would be subject first and another verb first. This explanation poses no problem for the native Arabic speaker who already knows intuitively which type of particle and clause follow which verbs and predicates, but it contains little insight in the second language learner or linguist in knowing why which verbs or predicates take which type of complementizer particle and clause type. From a more Western perspective a British introductory Arabic text states it thus: "If a subordinate clause after 'an is a factual statement and not a wish or purpose it is turned into a nominal clause and introduced by the conjunction 'anna 'that'." (Cowan, 1958:94)

Cantarino's *Syntax of Modern Arabic Prose* (1974) lists and discusses in detail all of the complement construction types which he found in selections from various authors in three advanced Arabic readers. However, he has purposely limited his study to the literary language and left out journalistic sources, considering them unworthy of study. As a result, though his examples express the richness and variety of the language, they are not necessarily representative of common usage. I am unaware of any corpus-based study which attempts to account for the frequency and distribution of complement clause constructions in Arabic.

Among the clearest statements concerning the distribution of these particles is the popular Arabic textbook, *Elementary Modern Standard Arabic* which states:

The basic difference in meaning between 'anna-'inna on the one hand and 'an on the other is the difference between fact and possibility. A clause introduced by 'anna or 'inna describes a fact, or something which has actually occurred or is occurring, or something which it is assumed will occur, and may often be translated "the fact that...". A clause introduced by 'an, however, generally refers to a possible event, one which is perhaps desired, or feared, but one which may or may not be realized. Such clauses commonly are found in expressions such as "It is necessary (proper, desirable, etc.) that...", or "I want..." or "He ordered that..."." (Abboud & McCarus, 1983:429-30)

This explanation purports to account for the distribution of the particles in a general manner, but there is no reference as to when or why a verbal noun might be preferable to a temporal clause, or vice versa. There does not appear to be a simple, straight-forward relationship in MSA to the notion of factivity and presupposition proposed by the Kiparskys' (1970) and expanded on by others (Bresnan, 1970; Karttunen, 1971). For example, the Kiparsky's list "believe" as a non-factive; however, in MSA it is treated as a factive in that it takes an 'anna complement. It is interesting to note that Japanese allows either a factive or non-factive complement with verbs such as "believe," "doubt," and "report." MSA treats similar statements as factives. The factor governing the choice of particles in these particular instances in Japanese appears to be presupposition versus assertion. (Josephs, 1976)

The particle 'an is called 'an almaSdariyya (the infinitival 'an) by the Arab grammarians; the same applies to the complementizer ma, ma almaSdariyya. This does not apply to 'anna and 'inna. The Connectors in *Modern Standard Arabic*, a text for advanced second language learners, claims "the 'an clause can always be transformed into a verbal noun, while [the] 'anna clause may sometimes be transformed into a verbal noun but not always." (1984:129) A beginning text states that, "it is often possible and frequently better style to avoid using the subjunctive [which follows the particle 'an] by using the verbal noun." (MECAS, 1965:81).

A contrastive study of the English and Arabic verbal tense systems mentions that although theoretically 'an followed by an imperfect form of the verb can be transformed into a verbal noun, "...in fact, as we have just seen, certain verbs have certain preferences, and sometimes one form is preferable to the other." (Kharma, 1983:48) For examples he gives:
yuHamalu an tumTira Gada.
It is expected to rain [that it rains] tomorrow.

which he claims is "almost never" rendered into a verbal noun phrase. On the other hand,

huwa @aazimun/muSammimun @ala dhdhahaabi
He is determined to go [set on (the) going].

is much more common than a complementizer and tensed clause.

Research Question

This paper is a preliminary report on a larger study constituting my MA Thesis research. The purpose of the study is to investigate Modern Standard Arabic complementation in a selected corpus in order to discover the syntactic, semantic, discourse and pragmatic factors which govern the distribution of complementizer particles and their variability with verbal noun constructions. In particular, the variability between the particles 'an and 'anna will be examined and a list of verbs and predicates compiled according to those which take 'an as a complementizer, those which take 'anna, those which allow both and the factors which govern the choice of one or the other. Verbal nouns will be counted and examined to determine why they were chosen over a temporal clause preceded by a complementizer. In addition, I want to see if there are statistically significant patterns of frequency of distribution of complement types according to genre. In this paper I will concentrate on some factors which govern the choice of complement types and verbal noun constructions in newspaper Arabic.

The corpus for this paper was restricted to texts from the Egyptian newspaper, Al-Ahram, an official government publication which is considered to be among the best newspapers in the Middle East. For a newspaper, it's style of language is generally well-respected, but not literary. The corpus consists of texts totaling approximately 4500 words. Tokens of complementizer particles and of verbal noun constructions were counted. They were analyzed according to construction type, grammatical function in the matrix sentence, verb or predicate they complemented, tense, factivity, type of text they occurred in, and topic continuity in an attempt to account for factors influencing complement type distribution.

Discussion

Syntactic Constraints

Cantarino (1974) mentions that an 'an clause cannot be preposed. Sibawaih also mentioned that an 'anna clause could not be sentence initial, otherwise it could be confused with 'inna (indeed). (Mosel 1975) There were no incidents of sentence initial complementizer particles in the corpus.

Another item mentioned by Cantarino (1974) was that although nominalized clauses act like nouns they may not serve as the head noun in the construct state. There were no incidents of this in the corpus. They may however serve as the second term in the construct state, e.g.

saafarat Gayra annahu baqiya.
She traveled however he remained.

However, this does not appear to be a productive category, it being limited apparently to idiomatic uses which constitute what corresponds to subordinate conjunctions.

Semantic Constraints

As mentioned, Kharma (1983) notes that certain verbs have certain preferences for predicate types. An obvious example of this is the verb qaala (to say). In the corpus, the complement of qaala was always a temporal subordinate clause. There were 35 occurrences of the verb with a complement: 32 times it was followed by 'inna and could be construed as indirect discourse. Twice the subordinate clause was introduced
only with a colon, and once there was only the following clause with nothing to introduce it. These instances appeared to be direct quotes. In other words, ‘inna’ seemed to be the complementizer for indirect discourse only. This appears to be a significant change in use. In Classical Arabic, ‘inna’ was the particle for introducing direct discourse.

In the corpus were verbs such as *tamma* (to become complete) which took only verbal noun clauses as their complement. For example,

```
tamma-littifaaqu bayna miSra wa-l@iraq....
The agreement between Egypt and Iraq took place....
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A native speaker judge, and professor of Arabic and Linguistics, said that *tamma* could not take a complementizer and clause as a complement subject. This is regardless of the fact that there is a definite verbal nature to its verbal noun complement, i.e. often both subject and object are expressed. It seems that verbs like *tamma* and ‘ajra (to cause something to take place or happen) take verbal noun complements, however *HADatha* (to occur) allows (requires?) an ‘an clause:

```
HADatha ‘an rakabtu taksiyan....
It happened that I rode a taxi....
```

It is not clear why verbs of an apparently semantically similar category allow different complement types. (It may be that these are not necessarily of the same semantic category: *tamma* seems to emphasize the result or completed nature of the proposition while *HADatha* seems to emphasize the action of the proposition. Hence, it is logical that the latter would take a tensed clause while the former prefers a more nominal construction.)

### Discourse Constraints

There were definite patterns in the corpus in the distribution of complement types according to discourse or text type. There were no occurrences of complementizer particles in headlines; the only complements consisted of verbal noun constructions. This is logical as headlines have space constraints and so require conciseness and brevity. Verbal noun constructions dispense with complementizers as well as tense and person markers, and often subjects, objects and sometimes even prepositions which usually accompany the verb.

News shorts, short filler articles, also used very few complementizer particles. They too appear to share similar constraints with headlines, i.e. brevity and conciseness. In one news short consisting of 74 words there were 7 verbal noun constructions with only one tensed clause introduced by a complementizer. Of the complement clauses in news shorts 11% were tensed clauses with a complementizer and 89% were verbal noun constructions. In the entire corpus there were 3.27 tokens of complementizer particles/100 words of text. In news shorts the average dropped to .96/100 words.

Lead front page articles consisted of 27% ‘an clauses, 40% ‘anna clauses and 33% ‘inna clauses. There is a definite preponderence of ‘an, ‘anna and ‘inna clauses on the front page, particularly considering that in the total corpus the breakdown was 41% ‘an clauses, 37% ‘anna clauses and 22% ‘inna clauses. 80% of all ‘anna clauses and 94% of all ‘inna clauses in the corpus appeared in front page lead articles as opposed to only 45% of the ‘an clauses. This seems to correspond to the nature of front page articles. The front page generally consists of directly and indirectly reported speech and factive statements. These types of clauses are introduced by ‘inna and ‘an. Speculation, wishing, persuasion and moralizing (non-factives) are kept to a minimum. Such clauses are usually (always?) introduced by ‘an.

The opposite is true for the editorial page. Among the purposes of editorials is persuasion, wishing, speculation and moralizing. Here we would expect to find more ‘an clauses and less factives, and in fact we do. Of complement clauses introduced by complementizers in editorials, 66% were ‘an clauses, 30% were ‘anna clauses and only 3% (one token) were ‘inna clauses. In short, there was a considerable difference between the distribution of the complementizer particles on the front page and those on the editorial page.
Table 1
Tensed Complement Clauses

<table>
<thead>
<tr>
<th>Clause Type</th>
<th>Front Page Lead Articles</th>
<th>Tensed Complement Articles</th>
<th>Editorials</th>
</tr>
</thead>
<tbody>
<tr>
<td>'an</td>
<td>27%</td>
<td></td>
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<tr>
<td>'anna</td>
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<td>30%</td>
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<tr>
<td>'an</td>
<td>33%</td>
<td></td>
<td>3%</td>
</tr>
</tbody>
</table>

A further discourse function of the particle 'anna appears to be the introducing of a new subject or topic. 65% of the 'anna clauses introduced a new subject or topic. At first glance it appears that 45% of the 'an clauses introduce a new subject or topic. However, on closer inspection we find that a third of these are factive 'an clauses (Cantarino equates 'an as the default complementizer, i.e. it can be factive, particularly in adverbial temporal clauses). If we subtract these tokens then only 30% of the 'an clauses introduce a new subject or topic. This patterning in the distribution of complement types corresponds to syntactic constraints on the particles. 'anna clauses require an expressed subject. 'an clauses must be followed by a verb (the subject may or may not be expressed). Clauses introduced by 'an follow verbs such as modals and hence there is equi-NP deletion, e.g.

araada ar-rajul 'an yaadhhab.
'He wanted to go.'

Contributions

This study will hopefully result in a more accurate description of the Modern Standard Arabic complementation system. In particular, we will know the distribution of clause types and verbal noun constructions according to specific verbs and predicates in the genres represented in the corpus. This will be helpful for second language learners, as well as teachers and text-writers, in gaining a better understanding of the nature of the particles and constructions they are attempting to acquire. It is possible that existing guidelines for using these particles may need to be revised or added to.

In addition, we will hopefully come to know more about discourse and pragmatic constraints on style. This will complement research previously done on the relative frequency of Verb-Subject-Object versus Subject-Verb-Object word order in Modern Standard Arabic. In a corpus-based study of MSA prose it was found that word order varied significantly according to genre. (Parkinson, 1981) Empirical studies such as these are significant not only for scholars of Arabic, but for linguists in general interested in empirical descriptive data.

Delimitations

This study has not attempted to draw a definite line between verbal nouns which are functioning with some verbal force and those that are to be perceived as concrete nouns. Rather, they have been treated as a continuum which can be quantified by breaking them down into categories of those with an expressed subject or object and those without (the latter appear to be more nominal than verbal). Educated native speaker judgements have been relied on. I have done this for two reasons: First, educated native speakers are the ones who actually write (or speak) MSA. It would make for a very interesting study to look at uneducated speakers' intuitions about MSA. The question of the colloquial reflexes of the complement structures investigated will be left to future research.

Bibliography


EFFECT OF FEEDBACK ON STATE ANXIETY AND PERFORMANCE: WHILE
LEARNING ARABIC VOCABULARY THROUGH COMPUTER ASSISTED INSTRUCTION
by
Aniseh Hanania

This study determined whether positive or negative feedback on Computer Assisted Instruction (CAI) exercises in Arabic vocabulary affected performance and anxiety.

How learning if affected by anxiety has been hypothesized from drive theory (Spence, 1959, Taylor, 1956) and from trait-state anxiety theory (Spielberger, 1966, Sarason, 1975, Tobias and Hendle, 1972; Newmark, Wheeler, Newmark and Stabler, 1975). Drive theory predicts that the performance of low-anxiety subjects will be superior to that of high-anxiety subjects on complex or difficult learning tasks. In contrast, it is expected that high-anxious subjects will perform better than low-anxious subjects.

In order to see the effect of trait-state anxiety theory on learning, it is important to distinguish between anxiety as a temporary state and as a stable personality trait. State anxiety (A-State) refers to a complex condition that fluctuates over time in response to various stimuli. Trait anxiety (A-Trait) refers to individual differences in anxiety proneness and is a stable personality characteristic.

Harold O'Neil's study in 1972, where he used negative and neutral feedback, did not support the drive theory that the earlier study did. O'Neil believes that the results could have differed because his study used females and the earlier study used males.

In addition to an explication of drive theory, and type of feedback, etc., it would be well also to discuss the need for materials in the teaching of Arabic. While this sort of study could have been conducted with problems of mathematics or history, etc., it was found that there was a major gap in materials as far as teaching Arabic vocabulary is concerned, notably in the area of CAI. There is a need to present vocabulary directly, to do so in Arabic, if possible, to have it available on the micro-computer.

In order to answer the research question about the effects of feedback (1) on anxiety and (2) on performance while learning Arabic vocabulary, through computer assisted instruction, the following research was designed. Three forms of Arabic vocabulary exercises were administered to sixty Arabic language university students (Brigham Young University and University of Utah). There were 36 males and 24 females. Their ages ranged from 17 to 52 with the average age of 25. Utilizing pretest results, a matched pair procedure divided the students into two groups equal in ability and comparable in terms of gender and trait anxiety level. One group receive positive feedback in each of the different exercises while the other group received negative feedback.

The CAI vocabulary exercises have been designed to teach 30 new Arabic vocabulary words. Half of the words were names of fruits and vegetables, the other half were names of animals and birds. In the first exercise the student had to choose which of the three pictures matched the Arabic word that was given. The second exercise presented three words and one picture. The student would choose which of the three Arabic words matched the picture that was given. The third exercise required matching of the English and Arabic words. Here the student had to choose which of the thirty words in one language corresponded to a given word in the other language. The first two exercises were fairly easy, and were intended to introduce the words and drill the student on them. The third exercise matching was the more difficult, because of the larger number of options offered.
The computer program required a correct answer for each element before the student could proceed. Also, the computer program included an algorithm to continually evaluate the student's progress and present this information to the student periodically.

The CAI program included vocabulary exercises written to conform to the two different kinds of learning situations. One group of exercises gave the students positive feedback i.e., the students were complimented whenever they did well or got a correct answer in the first or second responses. Typical feedback messages were "excellent," "wonderful." Responses to incorrect responses on first and second trials were worded to encourage the student while advising him of his error. Typical responses were "Oops, that's not right, try again." or "Almost next time you'll get it!

The other group of vocabulary exercises gave the student negative feedback i.e., the students were criticized whenever they gave an incorrect answer with responses such as "Others have learned it. Why can't you?" If they got the correct answer in the first trial, they were given such responses as "O.K. Go on." or "Right. Anyone could have guessed that."

As a measure of their trait anxiety all students were administered the Alpert-Haber Achievement Anxiety Test which is considered the best test of this type by most experts. This AAT questionnaire contained 19 debilitating and facilitating test anxiety items. Responses were marked on a five-point Likert scale rating from "almost never" to "almost always." To measure their state anxiety students were administered the Jones-Madsen Affect Questionnaire. This is a short three item state anxiety questionnaire related to each section of the vocabulary exercises.

The students were given the AAT and the pretest before doing the CAI exercises. After the CAI exercises they were given the state anxiety questionnaire and the first posttest to determine the effect of the CAI program. A week later they were given a second posttest to determine their retention.

Six analyses of co-variance and two analyses of variance were used to analyze the data collected in this study. The author also assembled some informal observations of the students' reactions and comments that were made concerning their participation in the CAI Arabic vocabulary exercises. Typical comments were "This is the only way to learn." "Is there a second part of this?" "Can we come again?" "Can we purchase this computer software?"

Even some of the students receiving negative feedback expressed appreciation for being given intermediate scores and statements regarding the significance of those scores. A few students appeared amused by the negative feedback messages. There were some students who received positive feedback that tended to ignore the feedback statements and concentrate on the task. Informal observation of the participants suggested that those who received negative feedback paid more attention to the feedback messages than did the other group.

The significant statistical findings of this study are summarized as follows:
- Those receiving positive feedback did better and retained more from the instructional process than those receiving negative feedback.
- The amount of state anxiety experienced during the instructional process depended on the test subject's personality characteristics, i.e., his trait anxiety.
- Students who had a high level of state anxiety while doing the exercises took a little more time than the students with a low level of state anxiety.
The sex of the subject seemed to have no influence on gain, retention or anxiety. Those who did worse took more time than those who did better.

Although these are the major findings, a word of caution is in order concerning the generalization of these findings. The conclusions stated above might not be applicable in situations where students are under greater pressure to achieve a certain standard. Likewise, their applicability might be limited where students are engaged in any other language learning activity.

The data concerning a few of the important questions failed to show statistical significance. For example, the reaction to feedback treatment was expected to show some dependence on trait anxiety, but this was not borne out by the data. Also, the interaction of state anxiety and feedback treatment in relation to gain was not as significant as might have been expected.

Further, researchers may wish to clarify the results of this research by including neutral feedback. If this were to be done, the research would need a larger number of subjects.

Also, researchers may want to further investigate male and female differences with regard to their respective anxiety levels. The present study did not have the necessary balance of male and female subjects to conduct a valid test of these possible differences. Researchers also would want to investigate the differences between state anxiety under conditions of positive and negative feedback where the results were crucial to the students.

While there are many aspects of the relationship among state anxiety, performance, and type of feedback in CAI language programs which still need to be investigated, the current study provides initial evidence that positive feedback contributes significantly more to learning effectiveness and retention than negative feedback and that further research would be worthwhile to improve and enhance the positive feedback methods.
Linguists have noted that there are some languages that can omit subject pronouns entirely. The presence/absence of the pronoun is usually considered to be optional.

Eid (1983) advanced the hypothesis that the use of subject pronouns in Arabic is not a matter of free choice on the part of the speaker, or solely a matter of emphasis. She argues that the presence/absence of the subject pronoun does have a communicative function independent of emphasis.

This paper is an investigation of the constraints on the presence/absence of the subject pronoun in Egyptian Arabic. We examined two plays, 'Amaliyyat Nuush by Ali Salim and Antar 77 by Saad al-Din Wahbah. We investigated sentence construction, verb type and other constraints.

We counted every sentence to see whether a pronoun was present or not. For the purpose of this paper all sentences with expressed noun subjects were excluded from the analysis. Taking all other sentences (sentences without expressed noun subjects) 36% of the sentences had expressed pronouns and 64% had no pronoun present. We then looked to see if any of the possible constraints investigated had a significant effect on this basic statistic.

We found that person seemed to be constraining the presence or absence of a pronoun. This was clearly statistically significant. As can be seen in Table 1, first person favors pronoun presence, i.e. first person sentences have a significantly higher percentage of pronouns than does the corpus as a whole.

Table 1.
First Person and Pronoun Absence/Presence

<table>
<thead>
<tr>
<th>Pronouns Present</th>
<th>No Pronoun Present</th>
</tr>
</thead>
<tbody>
<tr>
<td>81</td>
<td>98</td>
</tr>
<tr>
<td>45%</td>
<td>55%</td>
</tr>
</tbody>
</table>

Second person sentences, on the other hand, have the same proportions as the corpus as a whole, indicating no particular constraint on pronoun presence/absence. See Table 2.

Table 2.
Second Person and Pronoun Absence/Presence

<table>
<thead>
<tr>
<th>Pronoun Present</th>
<th>No Pronoun Present</th>
</tr>
</thead>
<tbody>
<tr>
<td>27</td>
<td>490</td>
</tr>
<tr>
<td>36%</td>
<td>64%</td>
</tr>
</tbody>
</table>

Third person sentences clearly disfavor the presence of pronouns. See Table 3.
Table 3.
Third Person and Pronoun Absence/Presence

<table>
<thead>
<tr>
<th>Pronoun Present</th>
<th>No Pronoun Present</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
<td>70</td>
</tr>
<tr>
<td>17%</td>
<td>83%</td>
</tr>
</tbody>
</table>

The sentence structure in which the presence/absence of a pronoun occurred was also investigated as a possible constraint.

Table 4.
Pronoun Presence/Absence according to Sentence Type

<table>
<thead>
<tr>
<th>Pronoun Present</th>
<th>No Pronoun Present</th>
</tr>
</thead>
<tbody>
<tr>
<td>H: 5</td>
<td>2</td>
</tr>
<tr>
<td>71%</td>
<td>29%</td>
</tr>
<tr>
<td>I: 7</td>
<td>10</td>
</tr>
<tr>
<td>41%</td>
<td>59%</td>
</tr>
<tr>
<td>R: 12</td>
<td>37</td>
</tr>
<tr>
<td>24%</td>
<td>76%</td>
</tr>
<tr>
<td>M: 79</td>
<td>179</td>
</tr>
<tr>
<td>31%</td>
<td>69%</td>
</tr>
<tr>
<td>V: 0</td>
<td>8</td>
</tr>
<tr>
<td>0</td>
<td>100%</td>
</tr>
<tr>
<td>D: 3</td>
<td>2</td>
</tr>
<tr>
<td>80%</td>
<td>20%</td>
</tr>
</tbody>
</table>

All clauses were coded as one of the following possible constructions: main clause (M), relative clause (R), subordinate clause (I), circumstantial clause (H), adverbial clause (V), and a special kind of relative clause which is similar to the right dislocation in English (D). An example of the latter is 'They are the ones who...'.

As can be seen from Table 4, the main clause and the relative clause have little effect and could not be considered constraints. However, adverbial clauses are very highly constrained to have no pronouns present, while the remaining structures (H, D, and I clauses) favor pronouns to one extent or another, meaning that they have a higher percentage of pronouns than the whole corpus.

The nature of the verbal construction itself was investigated as a possible constraint. All clauses were coded for whether or not they contained a regular, conjugated verb or a participle form.
Table 5.
Pronoun Presence/Absence according to Verbal Construction

<table>
<thead>
<tr>
<th></th>
<th>Pronoun Present</th>
<th>No Pronoun Present</th>
</tr>
</thead>
<tbody>
<tr>
<td>Verb:</td>
<td>90</td>
<td>200</td>
</tr>
<tr>
<td></td>
<td>31%</td>
<td>69%</td>
</tr>
<tr>
<td>Participle:</td>
<td>32</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td>66%</td>
<td>33%</td>
</tr>
</tbody>
</table>

Table 5 shows that if the verbal construction is a regular, conjugated verb there is little effect. You get approximately the same percentage of pronouns as you do in the whole corpus. However, when the verbal construction is a participle, the presence of a pronoun is highly favored. Pronouns are used here for clarification. The listener is more likely to be confused without this clarification. Confusion is more likely with a participle than a verb, because participles are not conjugated.

The data was cross tabulated for person, and the choice between conjugated verb and the participle. As we see in Table 6, person appears to have no effect on the presence/absence of the pronoun for participles, since both first and second person have the same ratios as the overall pattern for participles. No third person participle construction appeared in the data, which may indicate that participles are reserved for interactional rather than narrative use. (This needs further study.)

The data for conjugated verbs cross-tabulated for person provides an interesting corrective for the person data alone. Like the person data alone, we find that first person conjugated verbs slightly favor the presence of the pronoun. The second person conjugated verbs, however, strongly disfavor the pronoun. It appears that 1:2 ratio of the second person data alone is the result of the counteracting effect of the participle data. We can thus conclude that first person favors pronouns, but that second and third disfavor them, with participles strongly favoring them regardless of person.

Table 6.
Pronoun Presence/Absence according to Person and Verb Construction

<table>
<thead>
<tr>
<th></th>
<th>1st Person</th>
<th>2nd Person</th>
<th>3rd Person</th>
</tr>
</thead>
<tbody>
<tr>
<td>Verb:</td>
<td>58</td>
<td>86</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>40%</td>
<td>60%</td>
<td>15%</td>
</tr>
<tr>
<td>Participle:</td>
<td>23</td>
<td>12</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>66%</td>
<td>34%</td>
<td>64%</td>
</tr>
</tbody>
</table>

Finally, several other possible constraints were investigated. We investigated whether or not a negative in the construction of a sentence affects the presence/absence of the pronoun. No such effect was found. Similarly, the presence of certain adverbial expressions such as 'umri, shaxsiyiyon, and nifsi were examined. The small amount of data does indeed show that these adverbial constructions favor the presence of pronouns.

The presence/absence of terms of address were also noted. Again, only a small number of tokens were present in the data. It appears that terms of address favor the presence of a pronoun.
In this paper we looked at the person, sentence construction, verb type, and other adverbial and term-of-address constraints. We found that first person in general, (H), (D), and (I) constructions, the participle, terms of address and the adverbial forms of ‘umri, shaxsiyyan, and nifsi favor the presence of the pronoun.

The regular, conjugated verb, the negative construction, and main and relative clauses had no effect on the presence of the pronoun. Third person and second person disfavored the presence of the pronoun. We would suggest that further study be made of the discourse context of these uses to determine the effect of subject switch on the presence absence of the pronoun.

References
Recent work by Ron Kaplan within the framework of Lexical-Functional Grammar recasts long-distance dependencies (such as relativization or topicalization) in terms of permissable paths within functional structures. This paper proposes a slight addition to the new formalism which enables Lexical-Functional Grammar to state analogues to Chomsky's Binding Principles; to describe simply the conditions on the occurrence of parasitic gaps in English; and to state principles of anaphoric reference in nonconfigurational languages, which have been resistant to description within Chomsky's Government and Binding Theory.

The first section of this paper will be a short summary of some of the formalisms of LFG; both the traditional (see Bresnan and Kaplan 1982, section 4.7) and more recent treatments of long-distance dependencies will be considered. A modest extension to the more recent treatment will next be proposed in order to handle multiple wh-gaps. Its application to other cases of anaphoric binding will then be explored, including the phenomena of reflexives, pronouns, parasitic gaps, and the Japanese reflexive 'jibun'.

LEXICAL-FUNCTIONAL GRAMMAR

The first subsection will be a short review of the basic formalism of Lexical-Functional Grammar; the second will outline the traditional treatment of long-distance dependencies, and the third will discuss some recent developments in their treatment within LFG. The discussion and most of the examples of the first two sections will be based on chapter 4 of The Mental Representation of Grammatical Relations (Bresnan and Kaplan, 1982), particularly section 4.7.

Basic LFG Formalism

In LFG, the structure of a sentence is represented by two structures.
This constituent structure (c-structure) is related to the following functional structure (f-structure):

A functional structure (the material inside any pair of brackets in (2)) is a list of labels, each with an associated value. The labels either express names of features, such as NUMBER or TENSE, or functional roles, such as SUBJ (subject) or XCOMP (open complement). The values of feature labels are atomic, such as PLURAL or PAST. The values of role labels are subordinate functional structures. Each node of the c-structure tree is associated with a functional structure. Functional structures are flatter than tree structures, because the head of a phrase is associated with the same functional structure as the phrase itself. For example, the c-structure nodes NP and N (1) share the same functional structure in each of three cases in (2); S, VP, and V in (1) also share the same f-structure in (2).

C-structures are built with the usual context-free rewrite rules. Functional equations attached to elements in these rules specify relationships and constraints on the associated f-structures.
For example, in

(3) \[ \text{VP} \rightarrow \text{V} \quad \text{S'} \]
\[ i = 1 \quad (I \text{COMP}) = 1 \]

the "i's refer to the f-structure associated with the VP-node, and the "i's refer to the f-structures associated with the elements under which they are found. \( i = 1 \) means that the f-structure of the VP is the same as the f-structure of the V. \( (I \text{COMP}) = 1 \) means that in the f-structure of the VP, there is a role label \text{COMP} whose value is the f-structure of the S'.

There is also a special label \text{PRED} which is used in lexical entries, which encodes a word's predicate argument structure. Following is the entry for 'wondered'.

(4) wondered: V, \( (I \text{TENSE}) = \text{PAST} \)
\( (I \text{PRED}) = '\text{WONDER}(\{\text{SUBJ}\} (I\text{COMP})') \)

The PRED label's value includes the semantic relation name of the word, and a list of role labels which must be found in the functional structure which includes PRED as a label, in order for that f-structure to be well-formed. If any of these role labels are missing, the structure is said to be incomplete. If any of a set of other role labels which are not listed in PRED appear in the functional structure, it is said to be incoherent (this set is called the set of governable designators, which is the set of all role labels which appear in a PRED feature for some entry in the lexicon). During a parse, the implicit rule

(5) \[ \text{V} \rightarrow \text{wondered} \]
\[ (I \text{TENSE}) = \text{PAST} \]
\[ (I \text{PRED}) = '\text{WONDER}(\{\text{SUBJ}\} (I\text{COMP})') \]

creates a node labelled \text{V} in the constituent structure (c-structure) tree, and associates it with an f-structure which has the two labels TENSE and PRED and the given values.

The Uniqueness condition requires that every label in an f-structure have exactly one value. After a sentence is parsed, the \( i \)-variables and \( ! \)-variables can be replaced by numbers, which are indexes to f-structures. All functional equations which appear on elements of rules which were actually matched to parse the sentence are collected into a list. The \( i \)-variables and \( ! \)-variables are then replaced by indexes to f-structures; the resulting list of equations is called the functional description (or f-description), because taken together, they constitute a description of the f-structure of the sentence. In order for the structure to be well-formed (and thus for the sentence to be grammatical), the equations must be compatible; that is, the equations taken together must not specify that a single label have more
than one value. There are cases where the equations specify that two f-structures are equal. In these cases, the two f-structures are merged, or unified, into a single structure. Each label in the two f-structures must therefore have a value compatible with the value of the same label in the other f-structure, if it exists. Values can be compatible if they are atomic and exactly the same, or if both are f-structures and can be unified as well. Thus, the unification process is recursive through all sub-f-structures.

In the case of optional modifiers, however, more than one phrase may bear the same relationship to the head, and so these presumably ought to have the same kind of label. Because of such cases, the value of some labels (which are not among the governable ones mentioned above) is allowed to be a set of f-structures, rather than a single f-structure.

One rule for VP's might therefore look like

(6) VP $\rightarrow$ V NP pp*

$T = 1$ (T OBJ) = 1 $\in$ (T ADJUNCTS)

The $F_1 \in F_2$ means that f-structure $F_1$ belongs to the set of f-structures $F_2$.

Since some PP's have governable functions, and their function is basically expressed by the preposition itself, the following notation is also used:

(7a) VP $\rightarrow$ V NP pp*

$T = 1$ (T OBJ) = 1 (T(! PCASE) = 1

(b) PP $\rightarrow$ P NP

$T = 1$ $I = 1$

(c) to: P, (I PCASE) = OBL_TO

When a prepositional phrase with 'to' is encountered, since the f-structure of the P is the same as the f-structure of the PP, the value of PCASE in the PP is OBL_TO. Consequently, in (7a), the schema (! PCASE) has the value OBL_TO, so the schema (T(! PCASE)) = 1 turns out to be the same as (T OBL_TO) = 1.

The Uniqueness condition and the conditions of completeness and coherence serve to constrain the types of f-structure that are allowed. Certain other constraints are also necessary, such co-occurrence constraints as agreement, for example. For this purpose, LFG has constraint equations. The following is an example:

(8) NP $\rightarrow$ NP N

(1 POSS) = 1 $I = 1$

(1 CASE) $\in$ GEN
The symbol \( \equiv \) will be used for constraint equations in this paper. The last equation is equivalent to saying that the NP must have a feature label CASE with the value GEN in order for the rule to match. Therefore, only genitive noun phrases can satisfy the rule. The following also express constraints on the f-structure.

\[
(9a) \quad S \rightarrow \begin{array}{lll}
  \text{NP} & \text{VP} \\
  (\uparrow \text{SUBJ}) = 1 & 1 = 1 \\
  \wedge (\uparrow \text{CASE}) = \text{NOM} & (\uparrow \text{TENSE})
\end{array}
\]

\[
(9b) \quad \text{VP}' \rightarrow \begin{array}{lll}
  (\text{to}) & \text{VP} \\
  \neg (\uparrow \text{TENSE}) & 1 = 1
\end{array}
\]

The \( (\uparrow \text{TENSE}) \) schema of (9a) means that the f-structure associated with the S must have the feature TENSE with some value, though that value can be any legal value of TENSE. The \( \neg (\uparrow \text{TENSE}) \) schema of (9b) means that the f-structure of the VP' is not allowed to have a value for the feature TENSE.

**Traditional Long-distance Dependencies in LFG**

Long-distance dependencies are relationships across an uncertain number of levels in the parse tree. This kind of relation goes beyond the elements that are found in a single rule, and consequently such dependencies are unexpressible in the formalism discussed in the last subsection.

LFG therefore uses what are called bounded domination metavariables. These are symbolized by double arrows, which will be represented in this paper by \( \downarrow \) for the double up-arrow, and \( \downarrow \) for the double down-arrow.

These are used to connect fillers and gaps, and also to relate a feature of a phrase with an element deeply embedded in it. One such case is the following

\[
(10) \quad S' \rightarrow \begin{array}{lll}
  \text{NP} & \text{S}^* \\
  (\downarrow \text{Q}) = \downarrow \{^{\downarrow \text{wh}}\}^{\text{NP}} & 1 = 1 \\
  (\downarrow \text{FOCUS}) = 1 \\
  1 = \downarrow \text{NP}^* 
\end{array}
\]

The subscript \( ^{\downarrow \text{wh}} \) of \( \downarrow \) in the first equation line tells the type of element required somewhere within the scope of the (superscript) NP. In effect, it requires a wh-word somewhere in the NP. The subscript NP of the \( \downarrow \) in the last line requires an NP gap somewhere within the (superscript) S, the second element of the rule. The \( \downarrow \) is called the controller metavariable of this dependency; the S is called the domain root, and all of the nodes under the S which could contain a matching \( \downarrow \) are said to belong to the control domain of the controller. The \( ^* \) notation on the S is discussed below.
The lexical entry for a wh-word will include a specification that it satisfies a \( \downarrow_{(+wh)} \) condition.

(11) who: N, (\( \uparrow \) PRED) = 'WHO'
\( \downarrow = \downarrow_{(+wh)} \)

The \( \uparrow \) is called the controllee metavariable of the dependency. The functional structure of the N(oun) c-structure node created when this word is parsed will be associated via the \( \downarrow \) and \( \downarrow \) metavariables, and could be assigned as the value of the role label Q because of rule (11).

Gaps are introduced by rules like

(12) NP \( \rightarrow \) e
\( \downarrow = \downarrow_{NP} \)

which says that an NP may be expanded as a gap which will be associated with an NP filler.

Because of the necessity to handle island conditions, the notation \( \equiv \) in (10) above specifies a node as a bounding node. A pair \( \downarrow \) and \( \downarrow \) may not be associated with each other if the path between the c-structure nodes on which the two are introduced (not including those two nodes) contains a bounding node. In (10) above, the \( \equiv \) on the S keeps any gaps within the wh-clause from being associated with anything above the S in the tree. Bounding nodes may be relevant to some kinds of dependencies, but not others. The \( \equiv \) notation implies bounding of all kinds of long-distance dependencies, but can be overridden with notations like

(13) NP \( \rightarrow \) NP\( \equiv \) N
\( \uparrow (\uparrow POSS) = \downarrow \)
\( \downarrow (\uparrow CASE) \equiv GEN \)
\( \downarrow_{(+wh)} = \downarrow_{(+wh)}^{NP} \)

where the last line specifically allows a \( \downarrow \) above the NP and a \( \equiv \) below the NP to be associated with each other if both are of the \([+wh]\) type. The part of the tree above such a notation is considered to be one control domain, and the part below, another control domain. This rule (revised from (10)), allows wh-words in possessive phrases, like the sentence

(14) The girl wondered whose playmate's nurse the baby saw.

The phrase "whose playmate's nurse" is associated via the \( \equiv \) in (10) with the \( \downarrow \) in the lexical entry for 'whose'; the functional structure assigned to 'whose' becomes the Q element in (11).
The "proper instantiation" of the • and ♦ metavariables includes the following conditions (as in Bresnan and Kaplan 1982, p. 246):

(15a) No node is a domain root for more than one controller,
(b) Every controller metavariable has at least one control domain,
(c) Every controller metavariable corresponds to one and only one controllee in each of its control domains
(d) Every controllee metavariable corresponds to one and only one controller,
(e) All metavariable correspondences are nearly nested,
(f) Every domain root has a lexical signature.

Condition (15f) simply means that a domain root corresponds to a phrase in the string which is at least one word long. Nesting corresponds to the diagram in (16a) rather than that in (16b).

(16a) A B C D E F G H

(b) A B C D E F G H

The crossing degree of a correspondence is the number of lines it crosses. The crossing degrees of the correspondences AD, BE, and CH are each two in (16b). A • and ♦ correspondence is nearly nested if the crossing degree is not above a crossing limit, which is a parameter of a particular grammar (and of a particular language). The crossing limit given (in Bresnan and Kaplan 1982, p. 262) for English is 0, and for Icelandic is 1.

Notice that the machinery developed here does not handle parasitic gaps like the following:

(17a) Which articles did John file ___ without reading ___?
(b) This is the kind of food you must cook ___ before you eat ___.

(Engdahl 1983, p. 5)

Even though the conditions of proper instantiation allow a controller metavariable to be associated with more than one controllee metavariable (in different control domains), that is, a filler with more than one gap, there is no way to show that one gap is dependent on another. With the conditions as
given, if the second gap in each sentence of (17) can be associated with the respective fillers in those sentences, they should be equally grammatical in sentences in which the first gap of each sentence is filled by a full NP; but such sentences are ungrammatical.

This completes the summary of the treatment of long-distance dependencies in LFG. The examples and definitions given, perhaps with slight modification, have been mostly from Bresnan and Kaplan (1982, chap. 4).

New Directions in the Treatment of Long-distance Dependencies

Recently, Kaplan and associates have discussed replacing the bounded domination metavariables with functional equations of the sort below:

(18) \[ S' \rightarrow NP \quad S \]
- \[ (\downarrow Q) = (\downarrow \ldots) \]
- \[ (\downarrow Q \ WH) \equiv + \]
- \[ (\downarrow FOCUS) = ! \]
- \[ ! = (\downarrow XCOMP* OBJ) \]

Paths in f-structures between the controller and controllee are taken to contain all of the relevant bounding information, rather than paths in the c-structures.

The "\ldots" notation is one possible notation for the inclusion relationship, defined as follows:

(19) \[ (f \ldots) = g \text{ iff there exists an a such that } (f a) = g \text{ or } ((f a) \ldots) = g. \]

(Saiki 1985, p. 3)

The "\ldots" can therefore be replaced by any sequence of labels. The schema therefore represents possibly more than one relationship. In (18) above, \[ (\downarrow Q) = (\downarrow \ldots) \] means that the f-structure labelled Q in the f-structure associated with the S' must be the same as (one of) the (sub-)f-structure(s) associated with the NP. The constraint equation below it ensures that whichever (sub-)f-structure that is, it must have a feature WH with the value +. Such a feature and value can come only from the lexical entry of a wh-word.

(20) \[ \text{who: } N, \quad (\downarrow \text{PRED}) = '\text{WHO}' \]
- \[ (\downarrow \text{WH}) = + \]

Consequently, the two schema together ensure that the NP contains a wh-word.

The \[ ! = (\downarrow XCOMP* OBJ) \] schema is similar, except that the path is more constrained. XCOMP* means any number of labels XCOMP, so the schema means that the ! f-structure will be
unified with some f-structure which appears in an f-structure like

\[(21a) \quad [\text{XCOMP} \quad [\text{XCOMP} \quad \ldots \quad \text{XCOMP} \quad \text{OBJ}] \]

or

\[(b) \quad [\text{OBJ}]\]

Once again, the schema is indeterminate. It may be that several of the XCOMP's can have an OBJ. The ! f-structure could be unified with any of them. Each such possibility leads to a different parse. Only those parses which have a PRED in the same f-structure as the OBJ can be coherent, and of those, only those which have a PRED expecting an OBJ. It is likely that the ! f-structure already has a PRED feature, and so it will not be able to unify with the OBJ f-structure of any object which has already been added to the tree and has a conflicting PRED feature. The schema shown here is just an example, and is not likely to be part of an actual rule of English. Where several possibilities exist, notations like \([A,B,C]^*\) may be used, denoting any sequence of labels on the alphabet \([A,B,C]\).

Rules like the following may use the \(\epsilon\) notation:

\[(22) \quad S' \rightarrow \epsilon \quad [\text{PP} \quad S \quad (! \text{TOPIC}) = ! \quad ! = ! \quad \epsilon (\epsilon \quad \text{XCOMP}^* \quad \text{ADJUNCTS})] \]

This indicates that the topicalized PP is to be added to the ADJUNCTS of one of the XCOMP's in an XCOMP* path starting at the f-structure of the S'.

Notice that even though there is some indeterminacy as to where the = unification or the \(\epsilon\) addition is to take place, in any one parse, the unification or addition takes place at only one f-structure. The "proper instantiation" conditions above which reference the domain root or control domain are no longer applicable, but controllers and controlees are still in a one to one correspondence. This means that parasitic gaps are still outside the realm of the theory. Furthermore, the nearly nested conditions are uninterpretable, since no ordering is defined on f-structures. Perhaps these issues will be clarified in the forthcoming paper which will outline the new theory (Kaplan and Zaenan, in preparation).
UTILIZING AND EXTENDING THE NEW FORMALISM

Consider the following sentences:

(23a) I wonder who George believes Mary persuaded Bill to claim that Jehoshaphat loved ___.

(b) Who did you try to get Matilda to persuade Sue to tell ___ that you love him?

(c) * Who should I ask whether I offended ___?

(d) * Who does the fact that ___ cheated bother Bill?

It appears that grammatical sentences connect the f-structure of the root of the control domain to the f-structure of the gap with a sequence of labels that can begin with any number of labels XCOMP or COMP, followed by one label from the set \{SUBJ,OBJ,OBJ2\}. The label WHCOMP, used as the label for wh-clauses, may not be found in the path at all.

Consider next the following sentences:

(24a) Who did you go to the store with ___?

(b) Which month do we always fly kites in ___?

(c) What did you write the song on the bottom of ___?

(d) Beethoven is the composer John sent Mildred a bust of ___.

(e) Who is this a picture of a caricature of ___?

(f) I wonder who he said the song was easy to sing ___ with ___.

(g) * Phineas wondered which football player critics of ___ have never played football.

We see from these sentences that the labels OBJ and OBJ2 may also be followed by any number of labels representing the oblique functions of prepositional phrases, which can be symbolized collectively by OBL*. These conditions together can be summarized by associating an equation of the following form with the filler:

\[
1 = (T \{\text{COMP,XCOMP}\}^* \{\text{SUBJ,OBJ,OBJ2}\} \langle\{\text{OBJ,OBJ2}\}\rangle \text{OBL}^*+) \}
\]

\(\langle A B \rangle\) means B must follow A in the path designation. OBL* is shorthand for the set of oblique functions, and OBL*+ means at least one occurrence of one of the oblique functions. This single schema expresses many of the island constraints.
The wh-island constraint is taken care of by the fact that no WHCOMP can appear in the path. The sentential subject constraint is taken care of by the fact that if SUBJ appears in the path, it must be the last label. The coordinate structure constraint is taken care of by the fact that no COORD is allowed in the path (see a discussion of coordination in LFG by Andrews, 1983).

Now notice that for each of the following sentences, the equation in (25) would allow either of the two gaps to be associated with the filler.

(26a) Which administrator did you relay the employee's complaints about ___ to ___?

(26b) Which daytime TV actress did you convince the admirer's of ___ to carve soap statuettes of ___?

In each of these sentences, either of the two gaps could be filled with a full noun phrase, and the sentence would remain grammatical; neither gap is dependent on the existence of the other. In each sentence, both gaps satisfy the necessary constraints for long-distance binding by the wh-phrase. These two sentences show that more than one gap can be associated with the same filler.

The equation in (25) is therefore inadequate to express the situation in the sentences of (26). The equation as given implies that the f-structure referred to by \( \!, \) namely the f-structure of the filler, is the same as the f-structure at the end of exactly one path which satisfies the given path schema. If long-distance equations were to allow any number of paths compatible with the schema, the \( (\! Q) = (\! \ldots) \) and \( (\! Q \! WH) \equiv + \) equations in (18) above would allow more than one wh-element in a filler, which is clearly incorrect (except possibly in the case of a coordination). Rather than change the interpretation of equations to allow more than one path compatible with the schema, a simple solution would be to associate the equation with the gaps rather than the filler; then the filler would be fulfilling two equations, one for each gap, and it would no longer necessary to allow a single equation associated with a filler to be fulfilled by two different gaps.

Implementing this solution would require the ability of paths to look not only downward and inward toward more embedded f-structures, but also upward and outward toward less embedded structures. For this purpose, we use a / in a schema to represent an upward search, and \( \sim \) to represent a return to the normal downward search.
For example, in

\[(27a) \ NP \rightarrow \ e \quad (i / OBJ \ ^\bowtie \ TENSE) = PRES \quad (i \ GAP) = +\]

\[(b) \ VP \rightarrow \ V \quad NP \quad VP' \quad i = i' \quad (i \ OBJ) = i'\quad (i \ XCOMP) = i'\]

\[(c) \begin{array}{c}
\text{TENSE} \\
\text{OBJ} \\
\text{XCOMP} \end{array}
\begin{array}{c}
\text{PRES} \\
\text{[GAP +]} \\
\text{SUBJ} \end{array}\]

the \(i\) in (27a) refers to the f-structure in (27c) which contains the GAP feature. In the schema \((i / OBJ)\) refers to the outermost f-structure shown, and the schema \((i / OBJ \ ^\bowtie \ TENSE)\) refers to the value of the label TENSE in the outermost f-structure; that value in (27c) is PRES. Paths specified by this kind of schema are not allowed to double back on themselves. If \(i\) refers to the f-structure containing the GAP feature in (27c), the schema \((i / OBJ \ ^\bowtie \ OBJ)\) would not successfully refer to any f-structure. Specifically, a schema may not represent any path in which the last label of the path upward is the same as the first label in the path downward. Even though the values of OBJ and XCOMP SUBJ are the same, however, the schema \((i / OBJ \ ^\bowtie \ XCOMP \ SUBJ \ GAP)\) is perfectly legal, and has the value +; \((i / OBJ \ ^\bowtie \ ... \ GAP)\) could only be instantiated by the path \((i / OBJ \ ^\bowtie \ XCOMP \ SUBJ \ GAP)\), and would therefore have the value + as well. If the last label of an upward path is set valued, however, any member of the set other than the one which is the last in the upward path, may be used as the first of the downward path, even though they belong to the same label.

Functional equations involving long-distance schemata are not evaluated until all others except constraint equations. Consequently, each gap will have been assigned a (possibly empty) f-structure within the f-structure of the sentence by whichever rule incorporates the gap. In the example above, the NP in (27a) is used in (27b), and becomes part of the f-structure of the sentence via the equation \((i \ OBJ) = !.\) In this way, every gap will have been assigned an f-structure which is subordinate to the f-structure of the sentence by the time the long-distance equations are evaluated. Therefore, upward searching schema, such as the unlikely \((i / OBJ \ ^\bowtie \ TENSE)\) used in this example, will be well-defined.
The / and ~ notation of the above simplified example can be used to specify exactly the constraint needed for wh-binding:

(28a) \[ \text{S'} \rightarrow \text{NP} \quad \text{S} \]
\[ (\uparrow \text{FOCUS}) = ! \quad \uparrow = ! \]
\[ (\uparrow \text{FOCUS GAPTYYP}) = Q \]
\[ (\uparrow \text{GAP}) \equiv + \]
\[ (\uparrow Q) = (! \ldots) \]
\[ (\uparrow Q \text{WH}) \equiv + \]

(b) \[ \text{NP} \rightarrow e \]
\[ \uparrow = (\downarrow / \{ < \text{OBL}^+ \{\text{OBJ}, \text{OBJ2}\} > \}
\[ \{\text{SUBJ}, \text{OBJ}, \text{OBJ2}\}
\[ \{\text{COMP}, \text{XCOMP}\}^* \uparrow \text{FOCUS}) \]
\[ (\uparrow \text{GAP}) = + \]
\[ (\uparrow \text{GAPYP}) \equiv Q \]

(28b) reverses the schema given before in (25). It looks outward and upward from the f-structure which was assigned to the gap, allowing the same kinds of paths as discussed above (although traversed in reverse order).

In (28a), the constraint (\uparrow \text{GAP}) \equiv + ensures that at least one gap has been associated with the filler. The constraint (\uparrow \text{GAPYP}) \equiv Q in (28b) ensures that the gap has been associated with a filler of the proper type.

Together, the equations of (28) allow just the kinds of gaps that can be associated with wh-fillers, including the multiple gaps in sentences like (26).

OTHER CASES OF ANAPHORIC BINDING

In comparing the theory of control in LFG to that in Government and Binding Theory (GB), Bresnan argues that "government is a functional, not a phrase-structural, relation." (Bresnan 1982, p. 318). In particular, "a word may govern the functions in the f-structure that immediately contains the word's features." (Bresnan 1982, p. 312). She also argues that it is f-command rather than c-command that is relevant to anaphoric control (see Chomsky 1981). F-command is defined as follows:

(29) For any occurrences of the functions \( \alpha, \beta \) in an f-structure \( F \), \( \alpha \) f-commands \( \beta \) if and only if \( \alpha \) does not contain \( \beta \) and every f-structure of \( F \) that contains \( \alpha \) contains \( \beta \).

In English, the pair of functional equations (\uparrow \text{FIN}) \equiv + and (\uparrow \text{SUBJ} \text{PRED}) = 'PRO' may be assigned to lexical entries. PRO is like a personal pronoun but has no phonetic realization. One of the conditions on PRO is that if it is anaphorically bound by an element in the same sentence, it
must be f-commanded by that element. Its controller cannot be an element of its minimal clause. Functional control, as opposed to anaphoric control, entails that all functional features of the controller and controllee be identical, so the controller and controllee share the same f-structure. In cases of anaphoric control, the controller and controllee simply have identical reference (Bresnan 1982, pp. 321, 326, 333, 340). If we symbolize anaphoric control by labelling the controller with the label ANA within the f-structure of the controllee, the following optional equation may therefore be added to the lexical item which bears the equation that introduces PRO:

\[(30) \ (1 \ \text{SUBJ ANA}) = (1 / X ^ {\{\text{SUBJ,OBJ,OBJ2,OBL_e}\}})\]

where \(X\) is a label variable and \(\text{OBL}_e\) is shorthand for a list of oblique functions. In cases where this equation is not assigned, PRO receives the arbitrary interpretation as in (31a), or can be assigned a discourse anaphor as in (31b):

\[(31a) \quad \text{Baking a unicorn could be difficult.}\]
\[(31b) \quad \text{Richard was in a panic. Baking a unicorn could be difficult. He should never have volunteered to do it.}\]

PRO is anaphorically controlled within the sentence in

\[(32a) \quad \text{Baking a unicorn could be difficult for Richard.}\]
\[(32b) \quad \text{Baking a unicorn could be difficult for Richard.}\]
In this case, the 1 of \((1 / X \setminus \{\text{SUBJ,OBJ,OBJ2,OBL}\})\) refers to the f-structure labelled 1. Since f-structure 1 is the subject of f-structures 2, 3 and 4, \((1 / X)\) can refer to any of these three f-structures. Although f-structures 2, 3 and 4, all have a subject, the restriction on doubling back on itself prevents the schema from referring to them. Only OBL\textsubscript{FOR} in f-structure 4 satisfies the schema. Consequently, the anaphoric controller of 'baking a unicorn' must be 'Richard'.

**Reflexives**

In GB, PRO is both an anaphor and a pronominal. The binding theory states that an anaphor is bound in its governing category, and a pronominal is free in its governing category. (Chomsky 1982, p. 20). Just as there are functional analogues of the conditions on PRO in LFG, there are also analogues of the binding principles for anaphors and pronominals. Since government in LFG amounts to a word's governing the functions in the f-structure that immediately contains the word's features, as stated above, the governing category of an anaphor or pronominal corresponds to the f-structure one functional level above the one immediately containing its features. Therefore, in the lexical entry of a reflexive pronoun (an anaphor in GB) or a persona pronoun (a pronominal in GB), 1 corresponds to the f-structure immediately containing its features, and \((1 / X)\), where X is a label variable, to its governing f-structure.

The equation attached to a reflexive pronoun will therefore be something like

\[(33) \quad (1 \text{ ANA}) = (1 / X \setminus \{\text{SUBJ,OBJ}\})\]

This requires the reflexive to be bound to the subject or object in its governing f-structure. Some simple examples are

\[(34a) \quad \text{Mr. C. constantly praises himself.}\]
\[(34b) \quad \text{We questioned Bill about himself.}\]
\[(34c) \quad \text{Bill asked Sue to stifle herself.}\]

In the first two, the reflexives are bound to the SUBJ and OBJ, respectively, of their governing f-structures. In the third, the SUBJ of the infinitive is functionally controlled by 'Sue', so the reflexive is bound to the SUBJ of the infinitive, which is its governing f-structure.

**Pronouns**

Since personal pronouns may or may not be coreferential to other elements in the sentence, a group of equations like the following may optionally be attached:
(35a) \( \neg ((i \text{ANA}) \equiv (i / X \ldots \text{[SUBJ,OBJ,OBJ2]}) \)
(b) \( (i \text{ANA}) = (i / \ldots \ldots \text{[SUBJ,OBJ,OBJ2, OBL, POSS]} \)
(c) \( (i \text{GENDER}) = (i \text{ANA GENDER}) \)

(35a) prohibits the anaphoric controller from being SUBJ, OBJ, or OBJ2 in the governing f-structure or any of its sub-f-structures. (35b) assigns any nominal f-structure in the rest of the sentence as a possible anaphoric controller, subject, of course, to the constraint in (35a). (35c) makes sure that their is no gender clash between the pronoun and its controller.

(36a) * He\(_1\), was well aware that Walter\(_1\) had maligned Ron\(_2\).
(b) Geri\(_1\) was well aware that her\(_1\) husband supported Ron.
(c) At home with Jimmy\(_1\) one evening, Amy finally decided to set him\(_1\) straight.

(36a) shows that neither a subject nor object in an f-structure subordinate to the governing f-structure of the pronoun is allowed to be coreferential with it. (36b) shows that other functions in such embedded f-structures are allowed to be coreferential. (36c) shows that there are no constraints that either the controller or pronoun command the other.

Parasitic Gaps

Using the / and \(^\sim\) notations in long-distance schemata also allows the beginning of a treatment of parasitic gaps in LFG. Unlike the sentences of (26) above in which a full noun phrase could appear in the position of either gap, and the functional paths from the filler to each gap could be described by the long-distance schema for wh-binding (25), a full NP cannot grammatically appear in the position of a parasitic gap, and the path from the filler to the parasitic gap cannot be described by (25). This suggests that parasitic gaps are a different kind of gap than usual gaps associated with wh-phrases. Chomsky suggests that like PRO, a parasitic gap is a base-generated pronominal (Chomsky 1992, p. 41,51). In LFG terms, this means that the equation introducing the PRED 'PRO' is attached to a lexical item rather than to a c-structure rule that introduces a gap. These gaps are bound by phrases occurring in non-argument positions, namely the complementizer position, or the position of extrapoosed constituents (Chomsky 1982, p. 41). In LFG terms, these are f-structures labelled by TOPIC or FOCUS. Another condition is that the real gap not command the parasitic gap (Chomsky 1982, p. 40).

Following are some examples of parasitic gaps, with the parasitic gap symbolized by ___

\[ \text{___} \]
Who did Jackie marry ___ in order to eventually rob ___ blind?

These are the articles John filed ___ without showing Bill ___.

This is a book you ought to read ___ before going to see the movie of ___.

This is the theoretician whose murder the article about ___ failed to mention ___ was probably caused by his students' feelings about his theory.

From these examples, we see that a parasitic gap can be an OBJ, and OBJ2, or an OBLe. Chomsky also comments that SUBJ parasitic gaps are only allowed in "an Exceptional case marking construction" such as

someone who John expected ___ to be successful though believing ___ to be incompetent

(Chomsky 1982, p. 54)

where LFG would attribute both the SUBJ and OBJ functions to the gap.

Therefore, a parasitic gap is (1) a lexically introduced PRO (2) in an OBJ, OBJ2, or OBLe position (3) whose controller is a FOCUS or TOPIC (4) and which is not commanded by the real gap. These constraints can be summarized in the following group of equations, which can be freely added to an item in the lexicon:

\[
(39a) \quad (\downarrow \alpha \text{ PRED}) = 'PRO' \\
(39b) \quad (\downarrow \alpha \text{ ANA}) = (\downarrow / \ldots \tilde{\{\text{TOPIC,FOCUS}\}}) \\
(39c) \quad \neg((\downarrow \alpha \text{ ANA}) \equiv (\downarrow / \ldots \tilde{\{\text{SUBJ,OBJ,OBJ2,OBL_e}\}}))
\]

where \(\alpha\) is the same in all three equations, and \(\alpha \in \{\text{OBJ,OBJ2,OBL_e}\}\). (39a) introduces the PRO in an OBJ, OBJ2, or OBLe position. (39b) binds it to an f-commanding TOPIC or FOCUS. (39c) says that the controller cannot f-command the parasitic gap; since the equations in (26) unify the f-structures of the controller and the independent gap, the f-structure of the independent gap is the f-structure of the controller, so saying that the f-structure of the controller cannot f-command the parasitic gap (as (39c) does) via functions other than TOPIC and FOCUS, is the same as saying the independent gap cannot f-command the parasitic gap. The proper interpretations of all of the sentences in (37) and (38) are determined by the equations in (39).

Notice that these equations are merely descriptions of the phenomena, rather than explanations of them. They are specific to one language (in the case of the introduction of PRO forms in the lexicon) in some cases, specific to a small set of lexical items in others (in the cases of reflexives and personal pronouns), and specific to particular c-structure rules in others (in the case of the introduction of
wh-gaps). This is both problematic and fortunate. It is problematic in that the formalism itself gives no explanation of the phenomena. It is fortunate in that it makes no claims for universality of phenomena found only in English or related languages.

The Japanese Reflexive 'Jibun'

Consider the Japanese reflexive 'jibun', for example. In the sentence

(40) Sato wa Tanaka ga Nakamura ni Hara ga jibun no
TOPIC SUBJ OBJ2 SUBJ self 's
ie de korosareta koto o hanashite
house in kill-passive-past thing OBJ tell

shimatta koto o satotta.
perfective thing OBJ realize-past

Sato realized that Tanaka had already told Nakamura that Hara was killed in self's house.
(McCawley 1976, p. 53)

In this sentence, the reflexive 'jibun' is three ways ambiguous; it can refer to Sato, Tanaka, or Hara. In GB terms, the governing category of 'jibun' in (70) dominates the phrase

(41) Hara ga jibun no ie de korosareta
SUBJ self 's house in kill-passive-past

Hara was killed in self's house.

Since 'jibun' is a reflexive, it ought to be an anaphor in GB. According to Principle A of the GB binding theory, an anaphor is bound in its governing category; but 'jibun' can be coreferential with Sato or Tanaka, which are not in its governing category. Therefore, 'jibun' cannot be an anaphor. According to Principle B of the GB binding theory, a pronominal is free in its governing category; but 'jibun' can be coreferential with Hara, which is in its governing category. Therefore, 'jibun' cannot be a pronominal. The only other possibility is that 'jibun' is an R-expression. According to Principle C of GB binding theory, an R-expression is free, that is, it is not bound by SUBJ, OBJ, or OBJ2; but 'jibun' can be bound by 'Hara', 'Tanaka' and 'Sato', which are all subjects ('Sato' is marked with the TOPIC marker 'wa', but it also functions as subject of 'satotta', meaning 'realized'). Therefore, Government and Binding Theory has nothing to say about the Japanese reflexive, at least nothing correct.
The conditions governing 'jibun' are as follows:

(42a) Only higher animate nouns can be reflexivized.
(b) 'Jibun' is used invariably, regardless of person, gender, and number.
(c) The antecedent must be the subject of a sentence (the subject-antecedent condition).
(d) The antecedent must command the reflexive (the antecedent-command condition).

(Inoue 1976, p. 118)

These can be captured in LFG simply by adding the following equations to the lexical entry of 'jibun':

(43a) (i ANA) = (i / ... ^ SUBJ)
(b) (i ANA ANIM) = +

The first equation says that 'jibun' is anaphorically bound by a SUBJ which f-commands it. The second says that its controller must be animate. Since no equations mention person, gender, or number, no agreement is necessary between 'jibun' and its controller.

CONCLUSION

This paper proposes a slight addition to the new formalism proposed in recent work on long-distance dependencies by Ron Kaplan and others. An extension to this new formalism, using the upward-looking mechanisms symbolized by / and ^, enables Lexical-Functional Grammar to state analogues to Chomsky's Binding Principles. The conditions on the occurrence of parasitic gaps in English can be stated simply. Principles of anaphoric reference in even nonconfigurational languages, which have been resistant to description within Chomsky's Government and Binding Theory, are also easy to state within the new formalism.
REFERENCES


SEX DIFFERENCES IN MEXICAN ADOLESCENTS' SPEECH:
AN ANALYSIS OF
SPEECH RATE AND HESITATION PHENOMENA

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ABSTRACT

Twenty monolingual Spanish speaking adolescents, 10 males and 10 females, were asked to produce a narrative based on their own arrangement of a set of nine pictures. Stories based on these pictures yielded statistically significant differences between males and females in problem solving time, in speech rate, in total length of story measured in syllables, in the length of disruptive vocal hesitation, and in the length of total vocal hesitations. Results are discussed with reference to other research on speech rate and hesitation phenomena and to other studies of male/female linguistic differences. Sociocultural and psycholinguistic explanations are offered to account for the statistically significant differences found in this sample of Mexican adolescents.
INTRODUCTION

Differences in speech patterns and language behavior can be studied from many points of view, such as phonologic, syntactic, psycholinguistic, and sociolinguistic. While it is a truism to say that social factors in a person's environment influence the learning and usage of a language, it is also true that within each society language conventions such as accent and style are many and varied. Sociocultural expectations result in different registers used by specific groups within that society (Labov, 1971). Studies of differences in male and female language behavior have emphasized sociocultural variables such as social class (Edwards, 1979), interactive communication (Berko-Gleason, 1975), and cultural constraints in sex roles (Edelsky, 1976). These and many other studies establish the existence of certain differences in the way men and women speak and in the way they are perceived by others. Another area of sociolinguistic research has established the existence of stereotypes in male and female speech. Stereotypes that are transmitted across generations as a component of accumulated knowledge thus are true in some sense (Kramer, 1975; Erlich, 1973).

Our research studied the narratives produced by 20 Mexican adolescents in terms of speech rate and hesitation phenomena. This research is based on the conviction that the temporal and hesitation properties of speech yield lawful results that are essential to a viable explanation of speech behavior. The importance of the study of speech rate, pauses and hesitation phenomena is pointed out by Kowal, O'Connell, O'Brien, and Bryant (1975): "The cumulative evidence indicates that an adequate theory of speech behavior must take into account temporal aspects of speech, must cope with the multiple determination of dependent variables, and must at once be both cognitive and linguistic" (p. 20).

The study of temporal parameters and vocal hesitations in spontaneous speech offers a more complete understanding of the speaker's behavior: one which reflects both the cognitive and the linguistic processes occurring at the moment of speech production. This approach provides additional insight needed for a complete understanding of the semantic and syntactic structures found in the produced discourse. The basic premise of this approach is that pauses (silent and filled) and vocal hesitations (parenthetical remarks, repeats and false starts) are lawful phenomena and reflect communicative functions.

Developmental studies by O'Connell and associates have reported developmental data from age six to sixty (Sabin, Clemmer, O'Connell, and Kowal, 1979). Sex differences were not found in most of these developmental studies. Kowal, O'Connell, and Sabin (1975) state: "The expected differences between age and sex for temporal patterning was not found. Instead, sex has a main effect on only one response, length of silent pauses: boys produced longer silent pauses than girls at all age levels, except eighth graders" (p. 202).

Much of the work in linguistics in the Spanish language has been done in applied linguistics, as witnessed by the numerous books and articles on pedagogical matters. Paralinguistic research on speech rate and hesitation
phenomena is extremely limited. Levine (1971) stated that improved pronunciation is indicated by a decrease or lack of hesitations. Leeson (1970) explored the nature and types of pausing and their possible application in second language teaching and performance evaluation. Johnson, O'Connell, and Sabin (1979) found certain commonalities and language specific differences in the use of hesitations in a study of narratives produced by Spanish and English speaking adolescents.

The following hypothesis was studied in the present research: The speech rate and hesitation phenomena of male and female adolescents will reflect the culturally defined sex roles of their society.

METHOD

Subjects
Speech samples were collected in San Luis Potosi, Mexico from 10 male and 10 female adolescents. The males' average age was 15 years and 8 months; the average age for the females was 16 years and 1 month. The subjects attended sex-segregated private, college preparatory schools. All the subjects were native Spanish speakers, from monolingual homes of similar, upper middle class, socioeconomic backgrounds. The adolescents' academic achievements were comparable. None of the subjects had diagnosed speech or learning disabilities.

Stimulus Materials
The subjects were requested to tell a story based on nine pictures which formed a cartoon. Printed dialogue between the characters did not appear in the set of pictures. The cartoon sequence consisted of a girl, a dog, and a balloon drawn in black and white on 2½ x 3 inch cards enclosed in clear plastic. This set of stimulus cards (used in other research, e.g., Sabin et al) permitted several probable sequences of action and the speaker was able to choose the level of interpretation which he/she felt was adequate.

Procedure
Subjects performed the task individually in the presence of the experimenter in a quiet room. Each subject was presented with a standard scrambled display of the nine pictures. The subject was instructed to arrange the nine pictures into a single row that made a sensible story and then to tell the story out loud to the experimenter.

A Wollensak reel to reel tape recorder Model 3500 was used to record and analyze the subjects' speech. A microphone was placed on the table directly in front of the subject to ensure high quality recordings. Recordings were made at 3 3/4 inches per second on professional quality recording tape.

Verbatim transcripts of the narratives were prepared from the cassette tapes and verified by an independent transcriber; any differences were reconciled by recourse to the judgement of a third person.
Response Measures
Picture arrangement time and total story telling time were measured from the audio recordings to the nearest second. Story length was measured as the total syllables used to relate the story. Speech rate (syllables per second) was defined as story length divided by total speaking time.

Four types of vocal hesitations were studied: filled pauses, repeats, false starts and parenthetical remarks. These were defined consistently with prior research conducted by the authors, with appropriate modifications for Spanish. Filled pauses were identified as uh, mm. Repeats were defined as repetitions of any length that were semantically non-significant. False starts included the correction of a noun phrase, or the correction of a word, or an incomplete utterance. Parenthetical remarks were generically defined as words which functioned primarily as verbal fillers rather than content carriers; for instance, in English: Well, you know. The most common Spanish parenthetical remarks were este, pues, 'tonces, entonces, and bueno (this, well, then and good).

The frequency of occurrence and length of disruptive vocal hesitations, including filled pauses, repeats, and false starts adjusted per 100 syllables was determined. The frequency of occurrence and length in syllable of total vocal hesitations, which included parenthetical remarks, filled pauses, repeats, and false starts was also analyzed.

RESULTS

Eight response measures were individually subjected to one-way analysis of variance to determine statistically significant differences due to sex of the speaker. Table 1 presents the means, standard deviations, and results of the one-way analysis of variance for the five significant speech measures. Specifically, females took a significantly longer time than the males to arrange the pictures into a story sequence. The females told longer stories than the males in total syllables. The females spoke faster than males when telling the story. The females produced a greater length of disruptive vocal hesitations including such devices as filled pauses, repeats, and false starts. In addition, the females produced a significantly greater length of parenthetical remarks and disruptive vocal hesitation syllables combined.

DISCUSSION

The limited sociolinguistic data available in Spanish makes a comparison of these results difficult, but given the original hypothesis that more marked sex differences would be found in a culture with more clearly defined sex roles, reference is made here to studies that show the influence of cultural factors in linguistic and non-linguistic behavior, and how linguistic differences are less pronounced in English-speaking persons. Mary Ritchie Key (1975) states that no linguistic study has ever indicated basic differences in male/female intonation patterns in English, which are exclusively one or the other, as for example, one might find in vocabulary differences. Menyuk (1977) usually
Table 1

Sex Differences in Mexican Adolescents' Speech

Means (\(\bar{X}\)), Standard Deviations (SD) and Results of One-Way Analysis of Variance for Significant Speech Measures

<table>
<thead>
<tr>
<th>Speech Measure</th>
<th>Male (N=10)</th>
<th>Female (N=10)</th>
<th>F Ratio (df=1, 18)</th>
<th>Probability Level (p)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Picture Arrangement Time</td>
<td>(\bar{X}) 68.50</td>
<td>132.90</td>
<td>11.04</td>
<td>.004</td>
</tr>
<tr>
<td>(Seconds)</td>
<td>SD 35.61</td>
<td>49.90</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Story Length</td>
<td>(\bar{X}) 91.20</td>
<td>151.60</td>
<td>16.95</td>
<td>.001</td>
</tr>
<tr>
<td>(Syllables)</td>
<td>SD 34.71</td>
<td>30.79</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Speech Rate</td>
<td>(\bar{X}) 3.71</td>
<td>4.96</td>
<td>9.74</td>
<td>.006</td>
</tr>
<tr>
<td>(Syllables/Second)</td>
<td>SD 0.87</td>
<td>0.92</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Disruptive Vocal Hesitations</td>
<td>(\bar{X}) 0.33</td>
<td>0.57</td>
<td>5.49</td>
<td>.029</td>
</tr>
<tr>
<td>(Syllables/100 SYL)</td>
<td>SD 0.16</td>
<td>0.29</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Total Vocal Hesitations</td>
<td>(\bar{X}) 0.35</td>
<td>0.85</td>
<td>12.26</td>
<td>.003</td>
</tr>
<tr>
<td>(Syllables/100 SYL)</td>
<td>SD 0.19</td>
<td>0.41</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
refers to infants, children, or adults, without reference to sex (gender) in discussing developmental patterns. She does remark, however, that "many factors may play a role in the development of communicative competence. For example, the primary source of interaction at differing periods of development and expectations within the community for the speech behavior of children."

Speaking of the father's influence on children's language, Berko-Gleason states (1975) that fathers are frequently cast into the role of disciplinarian, their language contains more direct imperatives, and that they use more imperatives when speaking with their sons than with their daughters. This heavy use of imperatives to the boys gives the impression that in our society males become accustomed early on to take orders, and, that if it is true that their fathers provide role models, for giving them.

In her study of a Spanish village, Harding (1975) found that in child rearing, the words of women serve cultural ends. It is women who are responsible for their children acquiring language and for their primary cultural formation—their preliminary role instruction—through language; in particular, for their cultural differentiation as girls and boys who will grow into women and men: A mother may speak equally to her children, but she says different things to them according to sex. Harding also found that verbal skills and speech genres are framed for women by cultural and social structures that exist. A woman develops the skills in acting out the structures and the role dictated by them; the skills are first of all essential to, integrated with, or an extension of the tasks and obligations as a wife and mother.

Stereotypes provide further evidence of observed differences, indicating that a culture with more defined sex roles gives rise to more differentiated linguistic behaviors. Williams, Giles, and Edwards (1977) found that, in the learning of sex-trait stereotypes, children as young as five years of age may be quite aware of socially determined stereotypes concerning characteristics of men and women. Kramarae (1980) concludes that "information from the sociolinguistic studies, combined with research findings on stereotypes, indicate that in some cases women and men speak somewhat differently (but not in such extreme variation and not always in the same patterns as the stereotypes would have it), that there are appropriate things to say and ways to say them in interactions (and that these differ somewhat for women and men)."

Thus available research indicates a strong influence of what is learned as proper behavior, both the way the individual sees this and what is perceived as expected correct behavior. Edelsky (1976) states in her discussion of the acquisition of communicative competence and recognition of linguistic correlates of sex roles: "One aspect of communicative competence, that of the recognition of linguistic correlates of sex roles, appears then to be acquired according to two patterns; one of gradual and steadily increasing approximation to adult norms and one of rule learning, then rule overgeneralization, and later, one of differentiation rules. Unlike the acquisition of syntax and phonology, this kind of language acquisition has barely started at the entrance of school and shows its most substantial development during the later childhood years" (p. 58). Eakins and Eakins (1978) comment on the influence of religious, educational, and political institutions that promulgate attitudes relating to sex stereotypes. The subjects
in the study reported here attended sex-segregated schools throughout their education. Further research comparing Mexican adolescents in sex-segregated and in non-segregated schools is necessary to ascertain the extent of this influence.

The indications of culturally determined differences in speech behavior must be carefully interpreted. As warned by Sabin, Clemmer, O'Connell, and Kowal (1979), a meaningful psycholinguistic theory of speech development must be simultaneously linguistic and cognitive in recognition of multiple response measures (p. 53). To this we must add the cultural constraints of language use evident to a greater extent with speakers from societies with clearly defined sex roles.

Our research into sex related language differences in Spanish has just begun. We find our results encouraging, and further studies are already underway.

REFERENCES


Formal instruction in traditional grammar has not helped students write better in any observable ways. Over twenty years ago, for example, Research in Written Composition studies noted that "In view of the widespread agreement of research studies based on many types of students and teachers, the conclusion can be stated in strong and unqualified terms: the teaching of formal grammar has a negligible or, because it usually displaces some instruction and practice in actual composition, even a harmful effect on the improvement of writing." (Braddock and others, 1963, pp. 37-38)

How ironic are such findings to the public school teachers who dutifully drill students in grammatical terminology, the eight parts of speech, sentence analysis, and sentence diagramming. How ironic are such reports to English teachers who have faithfully taught the recognition and avoidance of major grammar errors such as errors in modification, reference, and agreement. How ironic are these reports to those of us who have spent untold hours correcting grammatical errors in student writing. How ironic is the failure of traditional grammar instruction to the profession of English teaching whose teachers have for more than a hundred years exercised a mystical faith in the power of grammar to evoke more effective written expression.

Formal instruction in traditional grammar, obviously, has been an important part of traditional as well as English as a Second Language classrooms. Researchers in New York State in 1916, for example, reported that 42 percent of the total time students spent in English classes was devoted to traditional grammar instruction (Hook, 1979), grammar instruction aimed primarily at improving student writing and speaking; grammar instruction based squarely on the assumption that knowledge of grammar improves writing. And the call of educators in the 1970's and 1980's has been, "Let's get back to the basics," meaning that students must be exposed to intensive drill in grammar if they are ever going to write well (Tabbert, 1984).

But all research investigations conducted during the first six decades of the 1900's have failed to justify teacher faith in formal grammar instruction. Thus, in the late 1960's the study of formal grammar was abandoned in many classrooms across the United States. Nevertheless, in the mid 1960's research into the effects of students engaging in applied transformational grammar—generative grammar not traditional—exercises began turning the world of grammar instruction and writing improvement upside down. Bateman and Zidonis (1966) reported at Ohio State University that a knowledge of generative grammar enabled students to increase the number of grammatically correct sentences they wrote and to increase the complexity and effectiveness of their
sentences. For the first time in more than three score years of research, faith in grammar instruction paid off—careful research had actually shown that knowledge of a grammar was accomplished by writing improvement.

Since the pioneering work of Bateman and Zidonis two decades ago important research has led to informative and momentous discoveries, all of them related to using transformational grammar to improve the writing skills of native and non-native student writers. Seven major developments stemming from research of the past twenty years deserve particular attention: (1) A way to scientifically define and measure sentence length has been developed and field tested; (2) Syntactic fluency levels for native American speakers and writers have been established for all public school grades and for skilled, professional adults; (3) Efficient diagnostic tools for measuring norms of and growth in syntactic fluency have been developed and tested; (4) Sentence-combining exercises have been developed that boost student syntactic fluency levels from one to four years of normal maturational growth after only 10 to 20 weeks of practice; (5) Practicing sentence-combining significantly improves the overall quality of student discourse; (6) Practicing sentence-combining improves specific perceived attributes of student discourse, attributes such as use of organization, use of logic, use of concrete details, and presence of meaningful and creative ideas; and (7) sentence-combining practice has been shown to be the most successful teaching strategy currently available to help students improve their writing.

Each of these points merits elaboration. First, not until 1965 was there general agreement among writing and language development scholars on how to define what a sentence is and how to measure sentence length. Although Labrant (1933) developed a subordination index based on dependent clauses and independent clauses, this measure confused researchers because they could not agree on how to count coordinated verb structures such as "Yesterday he walked to the chemistry building and counted the cracks in the sidewalk." In addition, researchers disagreed among themselves on the use of this index in regards to variables such as composition length, subject matter focus and sampling procedures (O'Donnell, 1976). Moreover, Fries (1952) summarized the confusions by devoting twenty pages of his The Structure of English to discussing more than 200 different definitions of the sentence contained in English grammar textbooks, concretely discussing disagreements characterizing the profession.

Finally in 1965 Kellogg Hunt got teachers and researchers to agree on using the t-unit—the minimal terminal unit, the thought unit—as the scientific measure of sentence length in the English profession. He defined the t-unit as a single independent clause together with any dependent clauses and modifiers accompanying it. "I knew that he was happy" to a single t-unit. "Carlos waited at home and hurried to the door when the door bell rang" is also a single t-unit. You're happy, but you're not as happy as I am" is a two t-units because of the two complete independent clauses (Pedersen, 1977).
For English as a Second Language teachers, the t-unit is a tool that measures the syntactic fluency levels of the students they work with. So-called "broken English" and "fluent English" can now be defined and measured in terms of native English speaker proficiencies. Moreover, native speaker proficiencies have been normed for students in grades of the public schools and for skilled professional adults, the norms showing a gradual increase in the numbers of words students use in sentences as the students mature in language development.

Norms for average number of words per t-unit as established by Hunt (1965), O'Donnell and others (1967), and Hunt (1970) for native American students and adults are as follows:

<table>
<thead>
<tr>
<th>Grade Level</th>
<th>Words Per T-Unit</th>
<th>Grade Level</th>
<th>Words Per T-Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>7.67</td>
<td>8</td>
<td>11.34</td>
</tr>
<tr>
<td>4</td>
<td>8.51</td>
<td>9</td>
<td>12.22</td>
</tr>
<tr>
<td>5</td>
<td>9.34</td>
<td>10</td>
<td>12.99</td>
</tr>
<tr>
<td>6</td>
<td>9.64</td>
<td>11</td>
<td>13.76</td>
</tr>
<tr>
<td>7</td>
<td>9.99</td>
<td>12</td>
<td>14.40</td>
</tr>
</tbody>
</table>

Skilled Adults and Professional Writers 20.30

These norms serve as excellent reference points for determining syntactic fluency levels of native or non-native writers of English. Objective measures that can be used to place students in specific curricular programs, these norms can also be used as a basis for prescribing specific curricular materials for students.

In addition, over a period of years several simplifications have taken place in the computation of t-units. When Mellon (1969) began computing t-unit length statistics for the students he worked with at Harvard, for example, he used 90 different t-units to determine the average numbers of words a student wrote per written sentence. O'Hare (1973) used just 50 t-units to compute the syntactic fluency norms of the students in his study, the 50 t-units approximating 500 words of student discourse. Combs (1975) and Pedersen (1979), however, showed that only 30 t-units are necessary to compute words per sentence totals for students.

A further refinement and simplification of the process of determining words per t-unit is the development and testing of diagnostic tools such as Hunt's (1970) Aluminum Passage. Through administering a simple rewrite exercise of 32 short sentences, a teacher can determine the general syntactic fluency and grade level of any native or non-native writer. The Aluminum Passage is fast, descriptive, and efficient. For diagnostic testing of students and counter-balance of assignments, the Bee Passage and the Chicken Passage are also available (Pedersen, 1977). All of these diagnostic tools save much time over previous procedures of counting from 30 to 90 t-units in a student's free writing.
Once sentence-combining researchers established a way of measuring syntactic development and syntactic maturity, they set forth to hasten its growth. They constructed sentence-combining exercises and materials aimed at boosting the normal syntactic growth levels of students. They reasoned that if it is possible to get a tenth grade writer to write with the syntactic fluency of a college student, then researchers should try to bring about such a world. A fourth innovation, therefore, is the sentence-combining curricular materials that have been developed by sentence-combining researchers. Working with seventh graders exclusively, Mellon (1969), O'Hare (1973), Combs (1975) and Pedersen (1979) have experimented with sentence-combining exercises that have boosted syntactic fluency levels of students from one to four years in ten to twenty weeks of practice, the practice varying from one hour to one and one half hours a week. Having English as a Second Language students use lessons practiced in the O'Hare (1973) and Combs (1975) studies, Pedersen's English as a Second Language students at Weber State College achieved gains up to four years above normal maturational growth levels.

Today many texts on grammar and writing include tested materials on sentence-combining. The texts involve four basic types of language processing: Addition (She is happy. She is not happy); Deletion (She is as tall as I am tall. She is as tall as I); Rearrangement (You are going. Are you going?); and Substitution (The man fell down. The man broke his leg. The man who fell down broke his leg). Exercises usually proceed from simple processing to complex processes. Some exercises as in O'Hare (1973) and O'Hare (1974) are signalled, forcing students to combine sentences that result in predictable answers. Other exercises are open, as in Strong (1983), allowing students to write sentences with much variety in them.

Firm evidence from more than a score of research studies documents the fact that students who combine sentences make growth at significant levels in the overall quality of their discourse. In addition to the studies of seventh grade writers cited above is the major study conducted at Miami University at Oxford, Ohio in conjunction with the freshman English program. Students in this as well as all other major studies of the effects of sentence-combining achieved gains significant at the .001 level of significance (Morenberg and others, 1978).

The Morenberg (1978) and Pedersen (1979) studies also document the finding that specific qualities of student discourse are improved as significant levels, qualities such as maturity and originality of content and perceived attributes such as the presence of sharp details and logic. Indeed, sentence-combining practice seems to stimulate in writers a better general overall cognitive performance, a performance that is viewed as being superior to that of comparable writers who have not engaged in sentence-combining practice.

Finally, in 1979 in the Research Roundup section of the English Journal, Charles Cooper proclaimed that sentence-combining practice has resulted in more positive gains for student writers than has any other single pedagogical practice in the English classroom.
The wheels of progress turn slowly. The computer age and all of the innovations of the 1980's have yet to experience what can be accomplished in the classrooms of the 80's with sentence-combining, especially in the classrooms of the English as a Second Language student. Sentence-combing research firmly establishes continuous sentence-combining practice as one of the hopes for better communication in our international world. An eight decades long search for a grammar and a strategy that really work in the classroom and the writing of our students should not be, must not be, overlooked. It is time for us to discover which kinds of sentence-combining exercises are needed most by specific non-native speakers of English such as the Japanese, the Chinese and the Spanish. It is time to determine which perceived attributes of writing can be enhanced most by specific sentence-combining exercises. It is time to put sentence-combining practice to the test. It is time to demonstrate the degrees to which sentence-combining practice can enhance the writing performances of students who are learning English as a Second Language.
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The Basic Unit of Human Communication

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This paper attempts to give a definitive answer to the question: What is the basic unit of human communication? The inquiry will proceed by establishing communication as a systems concept and will then propose that assertion-in-use-context is the basic unit of human communication, showing the superiority of that unit over others which might be reasonably considered as the basic unit.

In systems theory we may distinguish three kinds of systems, each of which has an appropriate companion definition of communication. We shall assume that in reality there is only one system in existence, which is the totality of the universe. The term system used below should be read as sub-system of the universe. Static systems are geometric arrangements of non-changing parts of some arbitrarily defined whole. Each static system has internal parts (each of which has some internal relationship with every other part), a system boundary, and an environment. Communication in a static system is unobstructed contiguity of parts of a static system. This is a non-transitive relationship. For example, we say that the kitchen of this house communicates with the living room because there is a doorway which leads directly from one to the other. We say that tunnel A does not communicate with tunnel B in the mine because one must go outside the mine into another static system to gain access from tunnel A to tunnel B.

Dynamic systems are first static systems to which change or functioning of internal parts and the external environment have been added. The dynamic aspect of dynamic systems is construed in terms of input from the environment, internal processing of that input, and output from the system to the environment. Communication in a dynamic system is the effect which one or more parts of a dynamic system has upon any other part. This communication is to be taken as transitive, effect transferring from part to part, contrary to the non-transitive nature of static communication. The unit of dynamic communication may be taken to be effective force applied through time, as in foot-pounds of work per minute. For example, the engine of an automobile delivers an output of foot-pounds of power which is transmitted through the transmission, drive shaft, differential, axles, wheels and tires of the automobile; that power translated into friction between the tires and the pavement propels the vehicle along the surface of the pavement. Thus the engine communicates with the tires to accomplish the work of the automobile. If any linkage part is missing or defective (e.g., if the differential is stripped), then the engine no longer communicates with the tires and the functioning of the system is defective.

An agent system is a dynamic system of which at least one part is an agent. An agent is a being whose acts are discretionary: given any act performed in its specific context, if the actor could have acted otherwise then the actor is an agent. This is an ideal definition, for it presupposes an omniscient observer. For mere humans, agency is attributed when the actor acts first one way and then quite another in apparently identical but time differentiated situations. Communication for an agent system is (1) action
of the agent upon the environment to attempt to effect a desired change in
the environment; or (2) action by the agent to interpret present input from
the environment in order to project a hypothesis as to what will happen next
as a basis for communication (1). In other words, agents both send and
receive communication as agents. In the agent communication situation the
universe is divided into two systems: the agent and all he controls, and the
remainder of the universe. Thus agent communication is simply any output
from the agent system to the remainder of the universe or any input from the
remainder of the universe to the agent system. For example, an agent who
reads a newspaper is being affected by an input from the environment in the
receiving of communication; he may then write a letter to the editor in the
attempt to create a change in the environment by sending communication.
Negative examples would be failure of the delivery of the newspaper (so that
no effect of the newspaper is possible on the agent) and failure of the
letter to reach the editor (thus making impossible any change such as that
which the agent desires).

It is now necessary to posit two hypothetical creatures to answer the needs
of the two kinds of agent communication posited above. The receiving of
communication from the universe by an agent we shall denominate assessment;
the sending of communication to the universe by an agent shall be denominate
as assertion. Thus an agent receives input from the universe and processes
it. This processing is never a simple result of the universe acting upon the
agent in a mechanical fashion: the agent is always a creative participant,
injecting his desires and beliefs into the construction which he creates to
represent in his own mind what is happening "out there" in the universe.
Likewise, his attempt to project a cause into the universe which will create
a desired change in the universe is clearly a function of the agent's desires
and beliefs. Thus, agent communication is significantly different from
either static or dynamic communication. Whereas static communication is
wholly a matter of internal relations constrained by spatial contiguity, and
whereas dynamic communication is a mechanical type of input and output
constrained in a mechanical fashion by the physical properties of the
environment and the receiving and producing system, so the input and output
of an agent system is internally shaped by the desires and beliefs of the
agent (beliefs being a function of the desires of the agent). Incoming and
outgoing action is not mechanically determined but is always factored by the
unique nature of the desires of the individual agent.

When we compare assessment with assertion we see that both are necessary to
communication. But assertion is action, whereas assessment is reaction.
Assertion is public and objective, whereas assessment is private and
subjective. Assertion is fixed and final for a given time and place, whereas
assessment may be ongoing, perhaps never concluding definitively among
several possibilities. Assertion is intrusive, offensive; assessment is
protective, defensive. Assertion is a reflection of the assessments of the
asserter, though assessment may remain mute, silent. Assertion tends to
increase in importance with increase of the agency of the asserter, whereas
assessment does not necessarily do so. An asserter is found out for what he
is, whereas an assessor may simply be a bloter. These contrasts suggest
that assertion is the primary factor in agent communication, a better target
for fixing a single unit of communication than assessment would be.

Assertion is the intentional act of an agent who attempts to effect a change
in the universe (the universe outside of himself) in order to change how the universe affects him. He makes this attempt by a more or less calculated launching of a perturbation (an effective force) into the universe. This assertion can take a verbal or nonverbal form, the universe seeming to be indifferent to which form it is. Thus an assertion can be a sentence, an exclamation, any noise, any gesture, any movement of body, perhaps even a thought process, should thought processes be detectable by and therefore influential on some aspect of the universe.

We must also distinguish between assertion in the abstract and assertion in the context of a specific usage by a given agent in a specific environment. Abstract assertions are in reality not assertions but only hypotheses. They are potential assertions, having the form of assertions but lacking the pertinent autobiographical and contextual realities to make them real assertions. All real assertions are thus assertions by an agent in a specific, unique, historic situation. One final preliminary stipulation is necessary. We shall make a basic inclusion of human communication within agent communication. This inclusion cannot be made categorically, for not all humans are agents. But it is typical of adult human beings to be agents. Therefore this stipulation will suffice for the present concern.

It is now possible to state the thesis of this paper precisely. This is the thesis: The basic unit of human communication is an assertion in its historic context of actually being propounded by a real agent. We shall use this concept of assertion-in-use-context as the focus of attention for the remainder of this paper, and shall refer to it by the acronym AIUC.

We shall now state basic laws which apply to the AIUC.
1. Every AIUC is unique, individuated by space, time, quality and author.
2. The summed series of a given author's assertions are his history. (assessments are presumed to be reflected in subsequent assertions.)
3. Every agent is propounding an assertion at every moment.
4. The AIUC of a given moment is the being of the agent.
5. The measure of the agency of an agent is the sum of the agency of the agent assessors which respond positively to his assertion, plus the sum of his effect on non-agent reactors.
6. The limiting factor on the expansion of the agency of an agent is his ability correctly to assess the desires of other agents as an instrument in the fulfilling of those desires of other agents.
7. AIUC is the unique vehicle of message.

Messages are assessments of AIUCs. Messages exist only in the minds of assessors. They are different from intentions, for authors may intend one thing then see that their own assertion must be assessed to have a different message than that which they themselves intended. Messages are the reaction of each sentient, intelligent observer to a given AIUC, including the reaction of the asserter.

Messages have the following components:
1. The asserter's intent is hypothesized.
2. There is a propositional decoding of the assertion.
3. There is an attribution of strength (urgency, importance, authoritativeness, truthfulness, rightness, all these positive or
negative) for that assertion.

4. There is an estimate of the impact or result on the universe of that AIUC being assessed (present result and probable future results.)

Propositional decoding is the observer's mental action of translating the signals of the AIUC into a concatenation of concepts which the observer deems to be a full and adequate representation of what the asserter is saying. This translation may have two or more versions. One version may be the "literal" meaning of the asserter's words which is then contrasted with the deeper or "real" meaning. When someone says "How are you?" upon meeting you for the first time in the morning, it is usually best to ignore the literal interpretation of the words spoken and answer only the "real intent," which is often simply an acknowledgement that they recognize your presence. This propositional decoding is not necessarily a translation into a standard spoken language. It may be this in some cases. But it is always a translation into the personal concept language of the individual.

The personal concept language of the individual is those concepts which have been formed out of experience and need by each person. If people have many experiences in common, the concepts with which they think about those common experiences will tend to have greater similarity than if they do not have such experiences in common.

The hallmark of understanding of one another's concepts is the ability to cooperate. When people work together over a period of time, language becomes adequate to facilitate extensive cooperation. This, for instance, is what makes government of the people and by the people possible. When a group of people are familiar only with oppression and tyranny, when they have learned to survive that tyranny only by being selfish and devious, they do not have the mind set nor the cooperative habits and attitudes which enable them to govern themselves peaceably. Another way of saying this is that there must be a language of freedom and responsibility in successful use before a people can enjoy freedom and responsibility.

The construction of a message by an observer is very much like the process that takes place as one watches a person draw, and shoot an arrow. If one wishes to understand the archer, one must figure out the archer's target, assess the nature of the arrow (poison tipped, well-fashioned, etc.), have some sense of the power behind the arrow (full or partial draw, 20 lb. bow or crossbow, etc.), and estimate the damage the arrow will inflict on what it strikes as well as the future consequences of that striking. If the arrow is aimed at us, the urgency of determining the message is great, and those slow to translate sometimes do not survive. It is noteworthy that the shooting of an arrow is always an assertion, an AIUC, since all actions by a person are such, as noted above.

It would be extremely helpful if one were able to construct the true and correct message related to each AIUC which one observes. Most persons are aware through the passage of time and the confirmation or disconfirmation of subsequent events that their message constructions vary widely in their degree of accuracy. Intelligence would have us study this matter to learn to be as accurate as we can be at all times, hoping and striving for complete accuracy, but still being cautious enough to recognize that we probably will not attain such extraordinary perceptiveness as mortals. The substitute for
this unerring perceptiveness which most people desire to have is power. The more power one has, the less one needs to be accurate in judging the assertions of others (up to a point). A potentate commands, not needing to cooperate; whatever interpretation he places on his own AIUC will often stand for the truth even if not true. Of course, the downfall of potentates often comes when they blindly paint themselves into a corner in not correctly assessing the intent of someone close to them who intends to usurp their power.

True message portrayal is the province of the gods. Belief that one's message portrayals are true is the province of fools and those who think they are gods. Mere mortals must simply do the best they can, shoring up their guesses by redundancy, tentativeness and humility as needed.

True or false, partially true or insufficiently so, whenever we utter our interpretation of another person's AIUC we are asserting ourselves, and it is then up to our observers to guess what we really mean and how correct we are in interpreting the AIUC which we report. The fabric of society is thus one great AIUC fair wherein everyone is taking in everyone else's AIUCs, making judgments and hanging out their own AIUCs for everyone else to judge and comment on. No wonder the course of wisdom is sometimes to remain silent.

The message one creates for the AIUC of another is the meaning one attaches to the AIUC. No AIUC is self-relevatory. All meaning is attributed by an observer. With a multiplicity of observers there will undoubtedly always be a multiplicity of meanings for any AIUC. Meaning, like message, which meaning is, is always specifically related to the context of assertion.

Thus words and sentences in mention-context have no meaning. Hypothetical or mock-up meanings can be made up for them. But ordinarily they are not intended to be used, which is to say, to have meaning. There are meanings-in-general of words and phrases, which are the modal uses of the linguistic item in question in historic contexts of use. But there are no proper meanings, no necessary or correct meanings of any linguistic structure.

It is important now to compare AIUC with other candidates for the position of most fundamental unit of language. Comparison will be made with phoneme/character, morpheme/word, phrase, sentence, proposition and message.

Phoneme/character: An isolated phoneme/character may mean anything because it means nothing. These are units of syntactic structure, and they play a necessary and decisive role in the use of language. They are the critical factors in creating and determining morphemes and words. But they are not the basic units of language because apart from their use in or as morphemes or words they have a mention-value only.

Morpheme/word: A morpheme or a word apart from an actual use in a living context has no meaning but may have several potential standard meanings and always has an infinite number of potential use meanings. These cannot serve as the basic unit of language because each, until used, can have no meanings.

Phrase: A phrase is yet incomplete, having the same position and shortcomings of morphemes and words.
Sentences in use are assertions in use, even as words and phrases in use may be assertions in use. But to isolate a sentence from a specific use context is to leave it as potential language, not real language. Assertion-in-use-context is an actual linguistic unit, have a manifold richness of meaning indicators both in the body language of the speaker and in the spatial and temporal context of utterance. So we must reject sentence as our candidate for most basic unit of language.

Proposition: Propositions are whatever they are construed to be by their authors, ranging from true descriptive assertions to the essential informational content of any assertion. Propositions are thus specialized sentential usages and suffer the same problems relative to AIUCs as do sentences.

Messages: Message is always the subjective reaction of a participant in the assertion context. Linguistic structures in mention context do not have messages, and messages related to use context are always answers to the question as to what is being asserted. These messages grow and improve with time and the interpretive ability of the observer, even relative to a given AIUC, and they may also deteriorate with time. To make the subjective reaction of the observer the unit of language would be to beg the question, for to ask what is the basic unit of language is to ask what is the basic unit of meaning.

We are thus left with assertion-in-use-context as the basic unit of human communication. Only that unit is an objective starting point for human inquiry, for the interpretation process. Only the AIUC has the reality and richness to provide determinative clues as to what a given person really means by making an assertion is some manner in some particular context.

There are other points which favor AIUC as the basic unit of language.

This use of AIUC is continuous with common sense. Common sense is not always a touchstone, but to defy it is to assume the burden of proof in any matter. But it does seem that we all know that our language teachers are saying something important when they tell us, time after time, that the specific meaning of some syntactical usage must be determined by context.

The AIUC gives us the most behavioral target possible for our interpretive quest, even allowing the electronic capturing of the nuances of speech utterance, body language, physical context, etc. Such capturing is never complete, for the full context of any utterance is all that has gone before and much of what comes after. But we can generally agree on the assertion as an assertion in a specific context, even if we cannot agree on the interpretation.

The use of AIUC is metaphysically parsimonious. It does not necessitate the invention of such creatures as "deep structure," "objective referents" or "platonic categories." It simply points to language use as the self expression of particular human beings in particular contexts.

This use of AIUC recognizes agency in both the speaker and the hearer of language. Thus communication is not forced into the narrow reductionistic or mechanistic frame which robs it of its agentive spontaneity and creativity.
This freedom allows language to rise above human resources and to partake of whatever supernatural potential for language the speakers and hearers may have at their disposal. While this point is a debit rather than a credit for a person of naturalistic philosophic bent, it enhances the linguistic understanding of that majority of mankind who savor contact with the supernatural.

AIUC as the unit of language facilitates consideration of non-verbal languages and non-language actions as part of the actual communication phenomenon. Considered attention to these often-neglected aspects of communication has given dramatists power through the ages and advertizers commercial application in modern advertising techniques, which, even with all the advertizer's pecuniary diverting of basic principles, still function as prime examples of expert communication.

This use of AIUC is also helpful in that it helps to prevent hubris in the human species by reminding us that there is no human voice that is final and authoritative -- about anything -- and that every assertion in its actual context of use is always the personal bearing of personal testimony. Much as we would desire to be the last word, to state eternal truth the way it really is, we must simply settle for saying the best we know and for hoping that someone can successfully construe what we mean to their own edification.

The conclusion of this matter is the hope that focus on AIUC will provide an enhancement to the use and understanding of language by seeing it ecologically, as it really grows in a real world.
LEARNER EXPECTATIONS AND THE PROMOTION OF LANGUAGE ACQUISITION IN THE FL CLASSROOM

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In the last chapter of Principles and Practice in Second Language Acquisition (1982) Krashen analyzes seven different instructional methods in terms of their ability to fulfill the requirements for what he has called Optimal Input. The methods are: grammar-translation, audio-lingual, cognitive code, the direct method, the natural approach, TPR and Suggestopedia. He then goes on to examine alternatives to classroom methods, namely conversation, pleasure reading, and subject matter teaching. He concludes that all three alternatives are potentially superior to the seven FL instructional methods reviewed, in that they can provide more Optimal Input and thus better facilitate language acquisition.

In the last section of this chapter, appropriately entitled "Some Problems," Krashen briefly touches on possible obstacles to the acceptance of an approach to language instruction that focuses primarily or exclusively on acquisition. Since grammar-based instruction of one form or another has been the norm in recent years, we should not be surprised to find students in our acquisition-based classroom who, as Krashen notes, "will only accept conscious grammar and drill as the core of a language class, and who expect all of their errors to be corrected" (1982: 187).

Thus the set of expectancies which accompany learners into the classroom may cause them to reject acquisition as inappropriate to the task at hand, at least as they themselves define it. To resolve this discrepancy, Krashen suggests both long term and short term solutions. The long term solution is simply to wait until the next generation of students has been re-educated as to the actual nature of second language acquisition. Krashen admits that this long term solution offers little hope to those who are currently attempting to implement acquisition-based language programs. As for short term solutions, two very different suggestions are put forth. One is to present a short course on language acquisition, either prior to or as part of the language teaching program. Krashen makes the point, which I believe is well taken, that this type of intervention would be justified

if we conceive of the language requirement in high schools and colleges as including skills and information about how to acquire any language, not just the one

The other short-term strategy for gaining acceptance of acquisition-based instruction is much less straightforward:

Another approach, and one that I am personally not above using in my classes, is deception. We can teach vocabulary or grammar, and as long as it is done in the target language, a great deal of acquisition will take place, the medium being the message. We can teach situational-ly, giving students useful, short dialogues that satisfy the craving for learning and memorized language, but at the same time, present comprehensible input (Krashen 1982:187-88).

I do have a strong personal bias against the use of deception in education, and especially in higher education. In fact, I draw a distinction between foreign language training, which I define as instruction directed towards developing proficiency alone, and foreign language education, which, in addition to promoting proficiency, aims at developing learner control of the language learning process by giving learners a basic understanding of the principles of second language acquisition (Sternfeld 1985). Deception obviously does not contribute to fulfilling these broader goals.

Given my bias toward foreign language education, the idea of a short course on second language acquisition is quite appealing. I do, however, have serious misgivings about trying to educate or, better yet, re-educate the language learner through instruction about language acquisition. The reason is simple - the effectiveness of such intervention is highly questionable. In fact, research in social psychology warns us that such intervention could even be counterproductive.

To understand the potential dangers of such an approach, we need to look briefly at reactance theory and its relationship to attitude change. Reactance theory focuses on the individual who perceives that his free behaviors are being infringed upon. A free behavior is defined as an act that the individual feels he can engage in at either the particular moment or at some time in the future, and that he knows he has the necessary physical or psychological ability to perform (Worchel and Cooper 1983:157).

According to Brehm (1966), when a free behavior has been eliminated or is threatened with elimination, an individual is psychologically aroused. This arousal, aimed at restoring or safeguarding this freedom, is what is known as psychological reactance. When, for example, an individual perceives that there is an attempt to influence his thinking, he will
see this as a threat to a free behavior. Notes Brehm:

Whatever factors promote the perception that the communicator is attempting to influence may also arouse reactance and a consequent tendency to disagree with the advocated position (1966:104).

Thus, a course which has the stated purpose of re-educating learners about language acquisition is likely to be perceived by learners as an attempt to influence them and limit their free behavior. This can lead to reactance, whereby learners reject out of hand the new information in an effort to protect their behavioral freedom. I would like to illustrate this phenomenon with a few examples, two taken from the literature on reactance and one from my personal experience.

In two studies carried out by Walster and Festinger (1962), students were set up so that either they perceived themselves as "overhearing" a discussion concerning smoking or they heard it with the understanding that the discussants knew they were listening in. Not surprisingly, significantly more students who overheard the discussion changed their opinions regarding smoking than students who believed that the discussants were aware of their presence. It seems that those who overheard the discussion could not interpret the discussants' intent as persuasive in nature, while those who thought the discussants knew they were listening in were more inclined to believe that there was an attempt to sway their opinions. Hence, the latter group experienced a higher level of reactance.

In a similar study carried out by Salomon (1981), pupils were shown a videotape of a woman advocating vegetarianism.

One group heard the tape under the pretext that "one can learn how people convince themselves about something they are unsure of"; a second group heard the tape under the pretext that "there's something to be learned about vegetarianism"; the third group listened to the tape under the pretext that "we want you to consider the merits of becoming vegetarians" (1981:45).

It was the third group, the group that saw itself as being subjected to a sort of vegetarian propaganda, which showed the greatest negative change in attitude toward vegetarianism. Concludes Salomon:

The results suggest that when an event is perceived as communication, particularly when perceived as intended to change...it is [often] countereffective (1981:45-46).

The final example of reactance comes from a course I am currently teaching at the University of Utah for ESL (Eng-
lish as a Second Language) as well as Foreign Language Teaching Assistants. The course looks at the implications of current second language acquisition research for language instruction and points out the disparity between popularly held beliefs about how people learn languages and what the research shows. Since the beliefs that I am criticizing are often among the most cherished by the TAs, many students clearly see me as trying to influence their thinking. Thus, it is not surprising to find otherwise intelligent adults feeling perfectly justified in rejecting empirical evidence strictly on the grounds that it does not fit in with what they believe is true. This anti-intellectualism is a typical form of reactance of adults, including those at the university who like to believe their behavior to be rationally based.

These three examples suggest that a course on second language acquisition designed to re-educate learners might run into several problems along the way. And while language learners might be less attached to their beliefs than language teachers, there is still the risk that in trying to prepare students in advance for acquisition-based instruction a significant number of them may come to resist it even more!

I have therefore set about developing an alternative to instruction about second language acquisition. This alternative uses the learners' own experience in acquiring the target language in the classroom as a catalyst for altering their schemas concerning the nature of language learning. In other words, I have designed acquisition-based instruction in such a way that learners must confront the lack of congruence between their current set of expectations as to how language is learned and how they must define the task at hand if they are to survive in this particular class. Before I describe what this course looks like, I need to go into some detail concerning the two conflicting schemas or sets of expectations we are dealing with, namely that of the student who looks upon conscious learning as the means which by language skills are developed and that of the student who sees acquisition as the underlying process.

First of all, most learners do not consciously make a distinction between learning and acquisition. Of course, many do realize that they have "picked up" certain skills in their lifetime. This type of learning has been the object of study of many learning theorists under a variety of names, including observational learning (Bandura 1977), incidental learning (Postman et al 1956), discovery learning (Bruner 1959), informal learning (Brown 1977), and, in the case of language learning, acquisition (Krashen 1982). Irrespective of its label, learners do not usually see this type of learning as a viable alternative to the intentional learning traditionally associated with the classroom.
At the same time, many learners will contend that for developing communicative competence, there is probably nothing better than "picking up" the language by living in the country where the language is spoken. While they will acknowledge the superiority of this type of informal learning — which Krashen calls acquisition — in at least this one context, many of these same learners will deny that the communicative competence acquired in this fashion actually constitutes "knowing" a language. This double standard may account for the following statement which I overheard made by a bilingual Spanish/English speaker:

My mother is Mexican, so I grew up hearing Spanish. So I know it, but I don't really know it. I guess I have to learn it the right way.

Indeed, a large segment of the student population assumes that FL instruction, by definition, focuses on the phonological, morphological, and syntactic rules of the target language. Learners may even feel that they are not actually learning the language unless, in addition to having functional use, they can articulate something about linguistic structure. Furthermore, if they can succeed in a class without developing such conscious linguistic representations, they may feel that they are somehow cheating themselves by skipping crucial steps in the learning process. This can lead to fears that at some future date they will pay dearly for their failure to have learned a foreign language "properly."

To understand the instructional problems that develop out of this learning/acquisition schema mismatch, we need to look more closely at the specific assumptions that underlie the two schemas. A learning schema views the language learning process as relatively fast, discrete and quantifiable. In the course of an exercise, a lesson, or a chapter, etc. learners expect to focus their attention on and master a well-defined and circumscribed unit of instruction (e.g. a list of vocabulary words, morphological or syntactic rules). An acquisition schema sees language skills as emerging in quite a different fashion. Neither fast, nor discrete, nor readily quantifiable, the acquisition process is seen as slow, continuous, and almost imperceptible. As Krashen notes:

...when we have acquired something, we are hardly aware of it. In a sense, it seems as if it was always there, and something anyone can do (1982:187).

Thus, rather than inviting quantification of results, as is the case with learning, an acquisition schema sees outcomes as requiring a more qualitative approach to evaluation, along the lines of the following statements:
Now I can read the articles in the newspaper fairly easily as long as I am up on current events.

I'm comfortable in conversations where I can control the topic.

There is also a significant difference in the way learning and acquisition schemas characterize the relationship between naturalistic speech and input, i.e., between language that would be addressed to a native speaker with status equivalent to that of the learner and the input the learner actually receives in the classroom. A learning schema sets up the expectation that input in the initial stages of instruction will represent only a small subset of naturalistic speech with respect to phonology, syntax, lexicon, discourse and topic (Figure 1a). This can be summarized as follows:

a) Initial input will be characterized by massive simplification, and

b) only gradually will it take on the features of naturalistic speech.

An acquisition schema (Figure 1b), in contrast, assumes that input, even at the initial stages, will not deviate radically from naturalistic speech. While some purely linguistic modifications, such as word choice, are expected, and there are admittedly greater constraints on viable topics, most modifications are assumed to be of an interactional nature. Thus, we can summarize the expectations based on an acquisition schema as follows:

Figure 1. Naturalistic Speech vs. Input

a. Learning schema  b. Acquisition schema
a) Input will deviate only slightly from naturalistic language, and

b) comprehension of this input will require extensive negotiation of meaning.

These initial differences with regard to classroom input vs. naturalistic speech are further magnified by the relationship that develops over time between input, intake and output. Intake is that subset of the input which the learner can successfully process. Output is that portion of the intake which the learner can produce. In Figure 2 we see a set of idealized learning curves in which the lines representing input, intake and output are parallel and minimally separated. This relationship can be roughly paraphrased as "today's input becomes tomorrow's intake and the following day's output."

Figure 2. Idealized Learning Curves

With acquisition a very different relationship obtains (Fig. 3). The acquisition curves presented here assume that the input is only roughly-tuned to the learner's current level of comprehension and that production is not forced and emerges only gradually. Since increased comprehension allows for input that more closely approximates native-like speech, intake does not usually equal input. Of course, the percentage of input that becomes intake will gradually increase since input and intake tend to develop in parallel fashion.
The predicted relationship between intake and output is also quite different under the two schemas. Initially there may be no production at all so that the gap between what the learner understands and what he can produce actually widens as comprehension goes up. Furthermore, when production does emerge, the gap between comprehension and production may continue to widen before it narrows.

A final distinction between learning and acquisition schemas concerns the role of production, i.e. output. In a learning schema, production is crucial because it is seen as providing rehearsal opportunities essential to retention and because it is considered the best means of monitoring progress. In contrast, an acquisition schema does not see production as playing a central role. Since production is viewed as a by-product of comprehension, it is assumed that production will always lag behind. Of equal importance is the fact that when production does emerge, it is characterized by the transitional forms of the learner's evolving interlanguage. The use of such transitional forms means that the learner's output will deviate significantly from the input, making production an even less appropriate measure of receptive skills.

Summing up, we can say that the learner who approaches instruction with a learning schema will have the following expectations:
1. Learning is fast, discrete and quantifiable.

2. Initial input will be a small subset of naturalistic speech and will be characterized by extensive linguistic simplification.

3. If instruction is well designed and carefully implemented and if the learner has sufficient aptitude and motivation, then

\[
\text{input} = \text{intake} = \text{output}.
\]

4. Production is crucial because a) it provides rehearsal opportunities essential for retention and b) it is a reliable means of evaluating progress.

On the other hand, an acquisition schema sets up the following expectations:

1. Acquisition is slow, continuous and often imperceptible.

2. Initial input will reflect naturalistic speech and comprehension of this input will require extensive negotiation of meaning.

3. Comprehension is central to acquisition and is the best indicator of progress.

4. Even under optimal conditions, production will lag behind comprehension, and the gap between the two may widen before it begins to narrow.

The problem here is not simply the fact that learning and acquisition schemas are different, but that they are also quite often in conflict with one another. Thus, an important question is what effect the invocation of a learning schema has on both the learners' motivation and their ability to process input in an acquisition-based classroom.

First, any attempt on the learners' part to consciously assimilate the target language via naturalistic speech, i.e., to use naturalistic speech for learning, will be frustrated by the very nature of the input. The grading and sequential presentation of input in a language learning context is intended to facilitate conscious problem solving. Naturalistic input, on the other hand, is only roughly-tuned to the learners' current level of comprehension; furthermore, the aim of such tuning is to facilitate not learning, but communication. Although such input may in fact be close to optimal for acquisition, the lack of grading and sequencing, along with the increased communicative demands made upon the learner, may thwart their efforts to consciously
induce the rules of the target language. Learning becomes arduous, results are meager compared to those obtainable with simplified input, and motivation declines.

Furthermore, the receptive proficiency which is acquired in spite of this task-inappropriate processing (a testimonial to the robustness of acquisition) is often ignored or undervalued by learners. They are frustrated by their inability to specify, and therefore quantify, their linguistic knowledge, and only reluctantly will they resort to statements that merely qualify their current competence. As far as their production skills are concerned, they are often more embarrassed than gratified by the ill-formed utterances of their interlanguage. Thus, the demotivating effects of inefficient learning are compounded by both the lack of quantifiable results and the emergence of ill-formed utterances that typify the learners' interlanguage.

However, the major source of learner demotivation lies in the fact that perfectly normal and expected acquisition curves look very much like unsuccessful learning curves. Whereas Fig. 2 depicts idealized learning curves, average learners soon discover that their progress more closely resembles the dispiriting learning curves shown below in Fig. 4. Here input continues to move closer to naturalistic speech, as dictated by curriculum and syllabus, while intake, i.e., what the learner understands, starts to drop.

**Figure 4. Typical Learning Curves**

![Graph](image-url)
off. Furthermore, the learners’ own production, or output, soon lags even further behind their already faltering comprehension.

Learners in an acquisition-based classroom who are unaware that their language learning experience reflects the slowly converging lines of language acquisition (cf. Fig. 3) will, using a learning schema, characterize their progress as mirroring the slowly diverging lines of unsuccessful learning (cf. Fig. 4). Thus, they will erroneously interpret their perfectly normal and steady linguistic development as a sign of progressive failure. Now, if the learners have indeed been applying themselves assiduously to the task at hand, they may conclude, again erroneously, that instruction is poorly designed, that their teacher is ineffective and/or that they themselves are poor language learners. Needless to say, such beliefs can have a devastating effect on the learners’ motivation.

The consequences of applying a learning schema to the cognitive processing of naturalistic input are equally serious. Learners rely primarily on their restricted grammatical competence which is woefully inadequate for processing ungraded and unsequenced input. Moreover, by appealing first to grammatical schemas, learners often ignore or even block out processing schemas based on their understanding of context and their knowledge of the world. As a result, not only do they unnecessarily overload their processing capacity, but they actually deny themselves access to the rich contextual support that would reduce cognitive demands and thereby allow them to understand the input in spite of their restricted linguistic system.

Thus, learners who enter the language classroom with a learning schema will find acquisition-based instruction not only disorienting and frustrating, but of dubious efficacy. Their schema will have a detrimental effect on motivation and on their ability to comprehend naturalistic input. This can lead to further delays in the already slow process of acquisition, locking learners into a vicious circle in which they themselves become proof of the failure of instruction. Avoiding learner entrapment in this downward spiral is indeed crucial if we are to ensure the success of acquisition in the classroom.

Having reviewed the differences between learning and acquisition schemas, I would now like to turn to a description of my approach to re-educating unprepared learners, that is, those who come into the acquisition-based classroom with a marked learning bias. This re-education is carried out in two steps. First, the learners are literally forced to employ behaviors appropriate to acquisition. This creates a conflict between their previous learning schemas and the acquisition schema which actually underlies their current
behavior. This schematic mismatch, which creates what social psychologists refer to as cognitive dissonance, results in a state of tension and a concomitant drive to reduce that tension. Ideally, when equilibrium is re-established, it will be the acquisition schema which is dominant.

How are learners induced into experiencing cognitive dissonance? Essentially, conditions are created in the classroom which make it extremely difficult, if not outright impossible, for learners to engage in conscious learning, that is, to focus on linguistic form. The learners' attention is constantly being directed towards the informational content of all communication in the target language. To this end I employ three basic techniques which reflect Krashen's three alternatives to FL instructional methods: extensive reading, conversation, and subject matter teaching.

Students in my first year Spanish class are now in the sixth week of their second quarter. Since the second week of the first quarter they have been regularly receiving La Opinion, a Spanish-language daily newspaper from Los Angeles. The first quarter they received four issues each week; this quarter, at their own request, they receive five issues weekly. Each day they are assigned a minimum of four articles to read at home. Daily quizzes on the newspaper require that students be able to assign a plausible meaning in English to one or two paragraphs chosen at random from the four articles. The sheer amount of reading as well as the emphasis on plausibility rather than accuracy avoids reliance on what Newmark (1971) calls "cryptoanalytic decoding," and encourages instead extensive and, in the early stages, primarily superficial reading.

As for conversation, I speak with one student at a time at the front of the class for 3-5 minutes. The student and I both use extensive non-verbal signals and, in the early stages, rely heavily on the blackboard to generate visual cues. The rest of the class is usually involved in taking notes on the content of the conversation, at the early stages in English, at later stages in Spanish. There is little emphasis on learner production. I tell students to focus on helping me to make myself understood and on using me to help them make themselves understood. Finally, I remind them that the main purpose of these conversations is to elicit optimal input from the instructor for the benefit of all the other students who are listening.

With regard to subject matter teaching, the "backwash" effect (Jones 1979) suggests that students who are tested on content rather than language will inevitably focus primary attention on assimilating the information they are receiving rather than on the linguistic structures by means of which that information is encoded. Since La Opinion provides extensive coverage of Latin America, I have chosen to concen-
trate on the history and geography of that region. For example, for the past two weeks students have had daily lectures on the history of Nicaragua, with particular emphasis on the how previous US intervention in the internal affairs of Nicaragua has shaped current relations between the two countries.

These three activities comprise the behavioral component of learner re-education, and, as previously noted, are intended to force learners into a state of cognitive dissonance. The next step is to promote a dissolution of this tension which favors the acquisition schema. This may involve all three types of behavior associated with reducing cognitive dissonance: 1) changing the previously held schema to bring it in line with an acquisition schema, 2) using current experiences to support development of the acquisition schema, and 3) reassessing the importance of the two schemas, so that the learning schema, while remaining intact, is seen as considerably less important than the acquisition schema. This tension-reducing component is centered around the students’ weekly English-language journal which serves as a catalyst for student reflection on the vicissitudes of their language learning experience. Once each week a portion of one class period is given over to a discussion in English of several of the recurring issues found in the students’ diaries.

Fifteen weeks into this year-long course is still too soon to make any definitive statements as to the success rate of this attempt at retraining students to acquire rather than learn in the language classroom. To be sure, there have already been some obvious successes, often students who were predisposed to acquisition because of previous failure in language study through learning-based methods. A few, two so far out of some forty students, chose to go back to a traditional, learning-based course. Evidence from student diaries indicates that the others are somewhere on the road to becoming what I call enfranchised learners (Sternfeld 1985): those who are ready, willing, and able to assume control of the language acquisition process.

The entire series of diary entries for one such student is included in the appendix. This student had never studied any foreign language before enrolling in first quarter Spanish. Although each student’s experience has been unique, the reflections of this student do touch on many of the problems shared by other class members. Moreover, this longitudinal view of a single student’s attempt to revise her schemas illustrates better than any cross-sectional sample the developmental nature of the process involved.
APPENDIX

FIRST QUARTER

DAY 1: Foreign language - the thought causes me to freeze. Any language which is not spoken in English frightens me because it is exactly as the name states - "foreign." I have never taken a linguistics class because I am afraid of the challenge. When I registered for Spanish 101 I had some reservations, yet I knew that this would eventually become a useful tool in my life. Upon walking in the classroom I expected the security of English and textbooks - I was wrong on both accounts. It was intriguing to be in a class where the only words spoken were in Spanish. I soon became frightened, however, thinking I was in the wrong class. Fright soon turned to frustration as I began to feel like a foreigner because I was unable to understand the discussion taking place within the classroom. When informed that no text would be used, I felt totally defenseless and confused. After thinking about the classroom policy for this Spanish class, I am very excited to learn the language. At first, I was unable to understand how I could learn the language by simply listening. I see now that this is the method used, when we are usually children, to learn English.

DAY 2: The second day of Spanish was slightly different than the first. I still felt overwhelmed and frustrated, yet I began to listen very carefully to the classroom conversation. It was exhausting trying to follow the discussion, but I learned something in the process. I was also comforted to know that there are students in the class with no previous foreign language experience. I suppose I am not the only person totally confused.

DAY 3: I am beginning to feel slightly more secure in the class. The realization that other students feel just as lost as myself gave me new confidence. The one to one discussions between students and the teacher were very interesting and fun. As a basic survival measure, I have started to listen more attentively to the discussions in class, and I am enthusiastic about learning Spanish. During the learning process, however, I must teach myself to be very patient.

DAY 4: I am finding it much easier to comprehend the articles in La Opinión. This understanding, however, is probably a result of knowing what is occurring in the world by reading an English newspaper, and watching the news. I have a roommate who is very fluent in Spanish, and she chuckles when I say "no entiendo" to everything she says. I still feel competitive towards the other students in the class, and I'm fearful that they are catching on much faster than I. It is difficult for me to put my fears and apprehensions behind, but perhaps in a couple of week this will become easier to do.

WEEK 2: FRUSTRATION - that sums the week up in one word. Last week I felt confident that I would learn the language in time, but now I'm very unsure of myself and my ability to learn Spanish. I feel that everyone is catching on so quickly, and I'm depressing myself in an attempt to catch up. I rarely understand what is being said in class, and the daily newspaper quizzes frighten me. I can usually understand what the article is about, but when it comes to interpreting a single paragraph, I have a difficult time. I enjoyed the presentation given by Professor Malloy, and was particularly impressed with his story about the boy and his tomatoes. I totally agree with his statement about being right - when you have to be right you stop figuring things out. Maybe this is my problem. Am I behind or do I just have a defeatist attitude? I feel like an asinine fool when everyone laughs at something being said - I never know what they're laughing at. The students seem to understand everything that is being said. The students who do the conversations in front of the class are very intimidating. They are always so relaxed, and seem to be comprehending what the professor is saying to them. Many of them seem to have picked up a great deal of Spanish already. I hope this is a result of previous experience in Spanish classes. If not, I am lagging far behind and the situation is hopeless.

WEEK 3: Although I still feel very alienated, so to speak, I think I am beginning to feel slightly more comfortable around the students in the class. At times, however, I become discouraged and give up. When the instructor begins speaking fluently to another student, I become frustrated and often cease to
listen to the conversation. I have noticed that most of the students already fluent in Spanish have previously taken classes in Espanol or they have learned the language through relatives or knowledge of other languages. This realization is comforting. When I did my three minute conversation with the professor, I was very apprehensive at first. When I stopped worrying about what others were thinking and began concentrating on what the professor was saying, however, I found the activity rather enjoyable and almost bearable. I have found that I comprehend more of the Spanish than I realized, yet I am afraid to use the Spanish I know for fear that I will use the wrong pronunciation. I have friends who speak Spanish fluently, and they cringe whenever people pronounce words incorrectly. I feel that the attitude of the students in the classroom has really helped me. As I have talked with some of the students I have made new acquaintances which is often difficult to do at a large university.

WEEK 4: This class is becoming increasingly difficult, as I suppose any class should. As I look back at my first expectations of the Spanish class, I am reminded that this class is not at all like I anticipated in the beginning. I expected Spanish to follow the traditional classroom guidelines, but from day one I knew my expectations were way off. I enrolled in Spanish because, quite frankly, I need it to receive a Bachelor of Arts degree. When I discovered that 25 hours of foreign language was a requirement, I moaned at first. Because foreign language has always frightened me, I have never taken a class in this discipline. I finally decided that I would have to live with the requirement, and I even convinced myself that the experience could be fun. Of all the languages I could have taken I decided to enroll in Spanish because I felt that it would be the most useful language. Upon conclusion of my 4th week of Spanish, I feel that I have gained an interest in and appreciation for the language. I don't have an understanding for Espanol, [not] yet anyway, but hopefully that will come in time. I have found myself becoming very distracted in class this week. It is often difficult for me to concentrate on the classroom discussion and as a result I often find myself talking or doing other things. I believe this distraction stems from feelings of defeat and frustration. Although I am still frustr'ed, however, I am beginning to enjoy the classroom atmosphere much more than I did at first. These feelings of comfort are helping me to deal with the competitive aspects of the class, and as a result I am beginning to concentrate more on the language rather than the competition in the class.

WEEK 5: This week ended in frustration for me as the previous weeks have, I feel that I am not learning as much as I should. It seems that almost everybody else in the class is learning at a fast rate while I am not. My progress and mastery over the Spanish language seems to be progressing very slowly. I have had an easier time in reading the newspapers though. At the first of the quarter I had to spend two to three times longer than I do now in order to grasp an adequate comprehension of the article. This progression pleases me because I am feeling more encouraged as I get better at least at this aspect of my introduction to Spanish. With each class I am also able to better understand what is being said. However, I still feel as though I am learning too slowly. Though I know much more now than at the beginning of the quarter, I am nowhere near the level of comprehension of Spanish that I had hoped to be at by this time. For this reason, I am becoming discouraged with myself. I hope that I gain back some of my initial interest so that I will be successful in learning Spanish. I think that part of the reason that I am so displeased is that I am expecting too much of myself and of the class. I realize that I have to be patient and to remain confident in order to be successful, but it is hard to do when I seem to be failing to reach my goals and aspirations. I guess I will just have to keep trying.

WEEK 6: I am feeling much better about this class now. After reading your letter I realized I was expecting too much out of myself and of the class. I now understand that patience is the key to being successful in this endeavor. I am beginning to see that I am understanding more than I thought I would be from a week ago. Again, this week I am able to comprehend the Spanish newspaper much better and faster than I was able to previously. It seems that as time goes by I need less and less time to adequately read the paper. Class discussions are becoming slightly more difficult to understand. I believe this is true because we are being introduced to a wider variety of material as we progress in our learning of Spanish. I am also realizing that I should not be ashamed of my lack of knowledge of Spanish when I compare myself to others in the class. It took me a long time to become aware of the
fact that people are mainly concerned with their own progress and not mine. I am also feeling more comfortable in the classroom situation because I am beginning to make new friends in class. I feel this will help me to be more vocal and consequently progress faster. My only complaint is that the lectures seem to be very repetitive, which leads me to becoming bored.

WEEK 7: I feel very good about my progress in Spanish this week. Again I am feeling more confident than I was the previous week. I feel that if I continue to progress down this positive path then I will be successful in my learning of the Spanish language. Once again, reading the newspaper is becoming easier as I am able to recognize more and more words each time. The first thing I do in reading an article is to read it over and pick out the words which I am familiar with. I then try to infer the general meaning of the article from these known words. Then, to gain a more complete understanding, I will sometimes skim over the article two to three more times. I am afraid and rather reluctant to do the conversation in front of the class. I feel this way because I don't know enough Spanish to converse fully, and, as a result, will have to rely on English to express myself. I am also unsure that I will even be able to understand what the instructor says. I feel I am becoming more a part of the class and as a result I'm concentrating more on the lectures as I feel more comfortable. I also believe that I am asking more questions because I am beginning to feel this way. Through my questions I am of course gaining a deeper understanding of Spanish.

WEEK 8: For the first time this year I can honestly say that I am looking forward to the next quarter of Spanish. My interest in this language is large enough now to make me excited to learn more. Spanish is my favorite course this quarter. I believe this is true because I feel most relaxed and interested in Spanish. I feel I will continue to enjoy Spanish because I constantly am more relaxed with the passing of each class period. One thing that makes me very happy is the fact that there will be no final exam in this class. I do not feel confident enough of my Spanish skills to do well on a final exam. I hope that they will increase enough so that I will be able to pass the final at the end of the third quarter. I am feeling less apprehensive about the conversations as well. In fact, I am even beginning to look forward to them. Reading the newspaper is becoming easier and easier as usual. However, there still are many words which I still do not understand at all. I am usually able to derive the general meaning of the article from the known words despite this fact.

WEEK 10: It's hard to believe this 1st quarter is at an end. It seems only days ago when I first entered this class, believing I was in the wrong section. I am encouraged as this quarter comes to a close. Encouraged because I can honestly say I've made progress. Who would have believed that I would have ever learned to say "no entiendo," let alone all the other Spanish words I can now say? I never thought I would be capable of enjoying this class, but I do. There are so many friendly people in the class. I don't know everyone, but the people I do know are great. It makes me happy when I see one of them on campus and we say "hi" to one another. I really feel that I have made some good friends at the University of Utah. I am so excited to see how I will progress after two more quarters in Spanish. I think I have finally become more realistic about progress, and less concerned about defeat. I know each day in Spanish will present new progress and new problems at the same time, yet I now realize this is what progress is about.

First Quarter Final Diary (written over Christmas vacation): As I attended class during the final week of fall quarter, I was astonished at the progress we, as a class, had made. I could remember when several members of the class, including myself, had no idea what "Como estas" meant, and during the last week we were discussing people's vacation plans -- now that's progress! During the last week of class I could see that I had made progress in many areas of the curriculum. I felt more at ease during the teacher/student conversations and actually found myself enjoying the conversation. I could also see the progress which most of my peers had made, and I was impressed. After witnessing the progress of both myself and my classmates, I knew that we had progressed as a class, while progressing individually at the same time. I found the translation of the "Bebe Noises" article and the translation of "Los Puertorriqueños" to be fairly difficult, but I was encouraged with my translations of these literary pieces. The vocabulary test, conversation with Professor Gonzales and the questions on Honduras and El
Salvador were easier than I had expected. I was especially surprised while doing the vocabulary test that I knew as many words as I did, yet that still wasn't a lot nor did I expect it to be. Nonetheless, I was encouraged and excited to go on. The translation of "Bebé Noises" and "Los Puertorriqueños", as well the conversation with Professor Gonzales were language activities which required skills I gained through direct practice. Taking notes in Spanish, the vocabulary test, and the questions on Honduras and El Salvador required skills which emerged indirectly from the practice of other skills. It's amazing how it all ties together, giving accent to each skill. Right now, I see my language skills increasing even more during the second quarter. I know that I mustn't place unobtainable expectations upon myself, yet I do know new skills will emerge from the ones I already have, and the old skills will improve in the meantime. During the Christmas-time, I was able to use my conversation skills with a priest visiting from Colombia. The priest was unable to speak any English whatsoever, and I was able to carry on a conversation with him in Spanish. This was an exciting, hands-on experience.

SECOND QUARTER

WEEK 1: Coming back to class after vacation and hearing Spanish once again was quite shocking. I didn't realize that lack of exposure could hinder my progress so drastically. After being away for a while, I feel that I have become a better listener. Before, I would become frustrated and stop listening. Now, however, frustration has become commonplace and I am beginning to listen to the Spanish more intensely. The assigned exercises which I did over vacation allowed me to keep most of the Spanish fresh in my mind. At first I felt burdened having to do the exercises during vacation. After I completed the exercises, however, I was glad they were assigned so that I didn't forget all of the Spanish I had learned. As I go back to the first week of last quarter, I can see drastic differences compared to the first week of this quarter. Last quarter was totally shocking and frustrating compared to this quarter. I admit that I am already frustrated as this quarter has opened, yet I basically know what to expect, and I feel that I have developed skills which will speed up my learning this quarter. I admit that I have many apprehensions concerning this quarter. I am especially concerned about the quizzes and conversation. I know that I am an average student in the class, and some people have previous Spanish experience which, if things are graded on a curve, will give them a definite advantage. This is the main discouragement which I am facing right now in regard to this class.

WEEK 2: This week was generally positive for me. I can feel progress beginning to take shape, and I feel my understanding and comprehension beginning to grow. I think that using the dictionary has helped my comprehension a great deal, and I feel myself recognizing many more words than before. Although I feel that the newspaper articles are getting easier to understand, the geography and history lessons, as well as the conversations, are becoming increasingly difficult to follow. It seems that everyone who has participated in the conversations is from a native speaking country. I just sit in awe as I listen to them flawlessly converse in Espanol. I often feel envious because I feel as if they are so far ahead of me. I feel that having several conversations one day a week would be preferable to conducting conversations throughout the entire week. I think that taking notes on one conversation would be ample. The geography and history lessons are very helpful, though often difficult. I'm not exactly sure as to why we are learning history and geography, but I feel it is a nice change of pace. As to my room preference, I prefer holding class in Life Science III. I like the tiered rows and the central location of the classroom. In general, I feel that my Spanish skills are gradually increasing, and this week has made me excited to continue on with the rest of the quarter.

WEEK 3: I think this week went pretty well. I feel that my comprehension is beginning to grow, and I actually look forward to going to class. I admit that I have been putting forth more effort as far as my reading and personal study goes, and I am already beginning to see results. At times I get really frustrated while reading the newspaper, however. Sometimes I think I know what the article is about and I recognize a lot of the words, but some of the small words and verbs mess me up, and I really have a hard time explaining the article. I often look up these small words, usually verbs, and there are so many multiple meanings that I don't know which one to use. I have become really excited as I progress in my Spanish skills. I know this is too good to be true, however, and I can see another mountain
approaching me, about ready to engulf my confidence. At the end of this quarter I will be taking a trip to Southern and Northern California and Tijuana. I am excited to go and listen to some of the people speak (in Español) to see if I can recognize what they are saying. Maybe I'll feel like I'm in class at the university!

WEEK 4: I am beginning to feel like I am accomplishing something, but at the same time I feel as if I'm far behind. Often, when we are reading the newspaper, I find that I don't know some of the basic words, and it seems as if everyone else does. Like I said, I can feel some progress, but I am becoming discouraged because I feel so far behind. I really want to do the conversations, but I fear everyone will think of me as an idiot, because I am just barely understanding the basics of the language. If I would have known this much last quarter, it would have been great, but unfortunately I am just beginning to comprehend what many people learned during the last quarter. I have begun talking to myself in Spanish at home. Sometimes I speak all night in Spanish, and half of the time I don't even know if I'm making sense or not. It is great, however, to be able to speak what words I do know without fearing the rejection of others. I don't know why I am beginning to feel intimidated by people in the class again - I thought I had recovered from that last quarter. It seems that all the people that were at the same level as I am as far as comprehension have dropped out of the class, and the only ones remaining are people which previously possessed some skills before attending class. I really enjoyed the day when the man from Guatemala filled in for you. I feel that he handled the class very well and, like you, he went over questions and made sure that everyone could understand.

WEEK 5: I am really beginning to enjoy the lessons on Nicaragua. Before, I took little interest in this country, but now I am beginning to pay more attention to what is happening to Nicaragua, and when I hear the name Daniel Ortega or Managua, I can associate those names and a brief history with Nicaragua. I was somewhat relieved when you commented last week that I was not the only person in class with a constant look of puzzlement upon my face. I guess what you say is true--silence in no way indicates knowledge. I know that I am quiet in class because I am afraid that I will mispronounce a word or use the wrong phrase to ask a question. I am at the point, however, that I really am trying not to care about the quality, just the quantity of questions I ask to clarify the newspaper articles or classroom discussions. I have finally realized that I pay as much to take this class as everyone else does, and if I don't ask questions and do what I must to learn Español, then it is no one's loss but my own.
"Estás en Maracaibo":  
The Form and Function of the Voseo in Venezuela  
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The differentiation between the formal and the informal in European languages is, to some extent, a cultural stumbling block for English speakers, who some time ago abandoned such distinctions. The societal and cultural nuances expressed by the choice of one form or another are often significant in the process of communication; even when this distinction is not of great importance, its very presence is an indication of the richness of these languages.

It seems to be the general tendency of some modern European languages to abandon or lessen the use of the informal forms of the second person, eventually sending them, presumably, to the dark realms of archaism, where "thee" and "thou" are among the principal prisoners. One linguist notes that, "for example, in English you and in French vous do not seem such distancers' because of their having assumed . . . certain shades of the thou (today practically disappeared) and the tu" (del Castillo, 639).

Although this process of simplification and language "leveling" has occurred in Latin American Spanish (note especially the disappearance of the plural vosotros forms), there is nonetheless an interesting counter trend in the use of a "hyper-familiar" form of the second person singular, the voseo, in many parts of Latin America.

Many who have studied the historical aspects of the voseo--its linguistic development, its cultural and social implications, and so forth (see especially the works of del Castillo, Fontanella de Weinberg, and Pierris)--have recognized its "inevitable descent" from a "pronoun of respect" to "the lowest sign of a loss of prestige" (del Castillo, 603-05). Indeed, according to Rona (the author of perhaps the most complete work on the subject), until recently "the voseo was totally exiled from written language. Castillo further calls for the preservation (in terms of "linguistic ecology") of the voseo as a "living fossil" (630).

In the Americas the voseo has assumed different forms and functions. Despite the warnings of Rona to the contrary (76), we are going to call the three basic forms according to the areas of their most frequent usage, that is, Argentine, Chilean, and Venezuelan. These are shown below in table form, along with the "academy" and "archaic" forms of the second person singular for comparison (Rona, 71-72).
The "archaic" form has verb conjugations and object pronouns identical to those of the modern plural form vosotros. It was this ambiguity, according to Fontanella de Weinberg, which suppressed the development of vos in Spain, and the disappearance of the vosotros in America which allowed that development (233).

«¿Queréisme vos declarar
Quién sois? — No os ha de importar;
Una dueña de esta casa.—
Dueña, porque la señora
Sois de la casa. — Eso no.»
(Spain, c. 17th century)

The "Argentine", or ás, form is, according to Rona, the dominant form in Latin America (78). As we see in Quino’s "Mafalda" comic from Argentina, this type of voseo consists mainly of an accent shift in the regular tú conjugation in both the imperative and the indicative moods, the te object pronouns, and the vos subject pronoun:

The "Chilean" (ís) form (of which I have no example) is identified by Rona as much more widespread in South America than the ás ("Venezuelan") form (82), which we see in this excerpt from a personal letter:

As we can see even from the small number of occurrences, this form is similar to the "archaic" form except in its use of
the te subject pronoun (Fontanella de Weinberg says that this phenomenon occurs with "almost total uniformity in all of the zones where the voseo is used in America" [228]) and the irregular (i.e., unexpected) conjugation of the verb ir (vas instead of vais).

Information and research about the voseo in Venezuela is scanty and contradictory at best (Rona, 45), although I have recently learned of a new study conducted by Joseph Mancini, a graduate student at Brigham Young University. Even in Rona's complete and meticulous study, which he did by means of a massive mailing of questionnaires, there is such a small amount of data that it would seem statistically insignificant: only three of the 98 inquiries sent to Venezuela were returned with information (22). My data is, perhaps, no less scanty and scattered, but it is direct and personal, and, more importantly, does not always coincide with what has been published.

The most notable characteristic of the Venezuelan voseo is its regionality. Rona claims to have abandoned the "ancient custom of considering each country [or region] as a linguistic unit" (78). In this he is, perhaps, justified, for, as he says, "linguistic units . . . [are] determined exclusively by linguistic facts (isoglosses)" (78). Nevertheless, we ought not to ignore the impact of borders and geographic boundaries on culture and, subsequently, language; in many cases, political "facts" become linguistic "facts". This is certainly the case in Venezuela, where the voseo form has become strongly identified with a particular state (Zulia), and, even more so, with its principal city, Maracaibo.

We are justified in drawing such a conclusion, contrary to the most respected research, partly because of two observations about the language in Western Venezuela: first,

![Map of Venezuela with regions labeled Zulia, Trujillo, Táchira, and other areas]

in spite of the great geographic separation occasioned by the immense Lake Maracaibo and the Gulf of Venezuela, the voseo is common on both sides. This seems strange; the
bridge crossing the outlet of the lake into the gulf is the only physical connection between the two sides (at least in the north), and it is only a recent development. We may account for the linguistic "fact" (the common usage of the voseo on both sides of the lake) most readily by recognizing that the boundary of Zulia encompasses both sides, and extends to the southern tip of the lake. Secondly, in spite of the geographic proximity of Zulia to its nearest neighboring state to the south (Táchira), the linguistic tendencies do not seem to mix: in many areas of Táchira, the formal usted form is used almost exclusively, the familiar tú is almost universally avoided (even among children and family members), and the voseo is considered crude.

Nor is this "boundary" phenomenon of diversity restricted to language. I have heard many comments (especially from the inhabitants of these two states) about the cultural characteristics of those from another state: those from Táchira (and from many of the other Venezuelan states) identify the "Zulianos" as a loud, festive, even coarse (grossero) people. The Zulianos themselves recognize this difference, though they perhaps see it in a more complimentary light ("Somos gente alegre," they would say). The music by which many people know the city of Maracaibo ("gaita") is happy, busy, and raucous. On the other hand, people from Zulia warn those traveling to Táchira (and the other Andean states) that they will never again hear the familiar tú. From both states there is the recognition that it is more difficult to gain friends among the Andeans, but that loyalty is strong there. This conservatism is even more apparent in the religious tendencies of Táchira and the other Andean states: traditional Catholicism (both individually and collectively) seems more active and strong, and folk religion--the long-held practices of witchcraft, worship of saints, etc.--is much more widely practiced in the southwest than in Zulia to the north.

The voseo seems to be a matter of regional pride and identity for the Zulians. There is a sign along the highway leading from the Maracaibo International Airport into the city which proudly reads, "Estáis en Maracaibo. Bievenido!" Certainly there is some "interstate" mixing of these linguistic and cultural tendencies (note especially the odd, occasional use in the state of Trujillo of the formal with a voseo-like accent shift in the imperative: "hagáme el favor" or "digáme"). But, contrary to the vast majority of linguistic studies to date, the Venezuelan voseo seems to be strictly confined to the boundaries of Zulia.

These, of course, are merely personal and incomplete and overly generalized observations. Nevertheless, they point to an area that deserves more careful study and attention. The language of Venezuela is truly rich in cultural and historical information; we ought to learn from it.
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First of all, this title, though accurate, may be misleading. The subject of discussion is what is contained in the so-called "disputed" texts, not the reasons they are disputed. The two are, however, inextricably related. A limited amount of information to set the stage seems necessary to lead us to the major topic, which is the social theory of language and discourse provided by the writers of the so-called "Baxtin school."

Mikhail Mikhailovich Baxtin was a literary scholar who seems to have become more important after his death than he was while an active writer. His first published work on Dostoevskij appeared in 1929, its worth recognized by only a very few contemporaries. It was only when the work was reissued in 1963 that it became the cause of the general excitement we can still see today. It was, ironically, Baxtin's second major work, on Rabelais, published in 1965 in the Soviet Union, that first came to be generally known in the West. The appearances of the English translation (Rabelais and His World) in 1968 and of the French translation in 1970 were, however, secondary to the 1967 article by Julia Kristeva which examined aspects of both the Dostoevskij and the Rabelais books. Kristeva's article is considered by many to be the introduction of Baxtin to the Western audience; had Kristeva not commanded the respect and attention that she did, it might well have been several more years before Baxtin's theories came to Western notice.

The problem of disputed texts arose in 1973 when Vjacheslav Ivanov declared that two books and three articles published by V. N. Voloshinov, and one book published by P. N. Medvedev were actually written by Baxtin. The three books which are the greatest area of concern are Voloshinov's Freudianism (Freidizm in Russian) and Marxism and the Philosophy of Language, and Medvedev's The Formal Method in Literary Scholarship.

I.R. Titunik, in his translator's introduction to Voloshinov's Marxism and the Philosophy of Language, notes several important factors which make it difficult to attribute Freudianism to Baxtin. Titunik notes an inconsistency on the part of Vjacheslav Ivanov in his claims that the six works were written by Baxtin rather than by Voloshinov or Medvedev: Ivanov declared that Freudianism was the work of Baxtin, but did not make the same claim for Voloshinov's article "Po tu storonu social'nogo" (Beyond the social) which was inserted almost entirely into the text of Freudianism. Titunik also comments in this introduction on certain peculiarities of style of Voloshinov: "his peculiar paragraphing, his repetitions of terms with different 'tonality,' his frequent recourse to conative and phatic signals (of course, you see, to be sure, and the like)." (4) These features tend to point to an authorship that is not Baxtin's. Given these features of style, it
is difficult to attribute the actual physical writing of the final draft of this book to Baxtin. Though the book appears to have been written by Voloshinov, there is undoubtedly a great deal of Baxtin's influence on Voloshinov's ideas and expression, even though not on his style. It remains to be determined what is the extent of Baxtin's influence on the ideas of his "disciple" and what part he may have played in the composition of the work, if any. There also remains to be examined the problem of the reader and the intended audience. The supposed nature of this work as a "popular" essay is belied by the sometimes sophisticated discussions. On the one hand, as noted by Titunik in his introduction, a familiarity on the part of the reader is expected with the philosophies of Kant, Nietzsche, Spengler and J.-C. Tetens, but all sexual terms such as "amnesia, uterus, penis, bisexual" are provided with glosses. (4) This schismatic presentation produces a mixed perception of the intended reader. The "duality" of the authorship and readership gives the book a particular configuration, one that does not seem to match that of the "undisputed" texts.

Al Wehrle, in his introduction to his translation of Medvedev's The Formal Method in Literary Scholarship, seems to support the claim made by Kozhinov that the "disputed" books and articles were written by the authors named in publication but "on the basis of conversations with" Baxtin. Wehrle then goes on to observe that since the major theme of the book is reported speech, the composition of the text mirrors the phenomena it analyzes. The works of the Baxtin school must be seen as the result of dialogic interaction.

From their first chapters, all three of the books demonstrate a concern with the same area: the social. It also seems worth noting that this concern is a bit different from that exhibited in the books "signed" by Baxtin. There, the social concern is strictly that of dialogism and human communication. In the works signed by Voloshinov and Medvedev, the concern is rather how to relate the quality of dialogism to society, and, as a task specific to Marxism, how society and the attempt at dialectic improvement of society can be aided by a study of the dialogistic quality of language and human communication. In Freudianism there is a strong element of socialism and socialistic thought. This will be an even stronger factor in the book Marxism and the Philosophy of Language, and the two works together create a strong authorial personality for Voloshinov.

Of all the "disputed texts," that is, those that were originally published under other names but are attributed by some scholars to Baxtin, the one that seems least to resemble the work of Baxtin is Freudianism, translated and introduced by I.R. Titunik. Titunik is one of the now rare few who has withstood the movement (fad?) towards attributing these "other" works to Baxtin.

Socioeconomic concern is clearly seen throughout the work on Freud. The qualities which are perceived as fundamental to the background of Freudism are shown to cause problems in terms of socialism. One basic motif of "present day philosophy," according to the book, is that an "attempt is made to replace all objective socioeconomic categories with subjective psychological or biological ones" (12), whereas the
author contends that not a single action of any person can be explained without reference to socioeconomic factors. The first chapter ends with a quote from Marx's Sixth Thesis on Feuerbach: "the essence of man is not an abstraction inherent in each separate individual. In its reality it is the aggregate of social relationships." (Freudianism 15) Of course, this social concern can be seen as overlapping somewhat with Baxtinian issues as well. Any social situation is described as the product of human discourse, and here, the subject matter as well as the style of expression are such as could have been written by Baxtin himself:

Not a single instance of verbal utterance can be reckoned exclusively to its utterer's account. Every utterance is the product of the interaction between speakers and the product of the broader context of the whole complex social situation in which the utterance emerges. . . . Any product of the activity of human discourse . . . derives shape and meaning . . . from the social situation in which the utterance appears. . . .

Nothing changes at all if, instead of outward speech, we are dealing with inner speech. Inner speech, too, assumes a listener and is oriented in its construction toward that listener. . . .

. . . What is reflected in these utterances is not the dynamics of the individual psyche but the social dynamics of the interrelations between doctor and patient. (Freudianism 79, referring to therapy)

It becomes clear that any discussion of verbal discourse is to be seen in the context of both the social milieu and socioeconomic surroundings. The basic error of Freudism, therefore, is to have seen the evidence of verbal discourse against the background of the individual psyche only. As it is expressed in the eighth chapter: "Verbal discourse, not in its narrow linguistic sense, but in its broad and concrete sociological sense—that is the objective milieu in which the content of the psyche is presented." (83)

This same preoccupation is reiterated and developed in the following chapter: "Therefore, nothing verbal in human behavior (inner and outward speech equally) can under any circumstances be reckoned to the account of the individual subject in isolation; the verbal is not his property but the property of his social group (his social milieu)." (86) All consciousness and activity of the psyche are always determined by the social context and socioeconomic factors and "self-consciousness, in the final analysis, always leads us to class consciousness. . . ." (87) One of the causes of the importance of the social factor is that "the human consciousness operates through words—that medium which is the most sensitive and at the same time the most complicated refraction of the socioeconomic governance." (87) The conclusion is then drawn that any conflicts existing between the inner and outer speech are ideological rather than psychical and cannot be understood "within the narrow confines of the individual organism and the individual psyche." (88) I should note that much of this remains
fairly unconvincing. What is at issue here, however, is not the persuasiveness of the arguments but the insistently ideological nature of them.

Much of this same concern is found again in *Marxism and the Philosophy of Language*. In his introduction, Voloshinov explains that this work is one of a popular nature (as was the work on Freudism), though he notes the necessity for the reader of an acquaintance with the basics of linguistics. It has a slightly more complex presentation than the work on Freudism; it is a step removed from the completely general reader implied in the previous work.

Here, it is again the social context that is most emphasized. Voloshinov, according to the translators' introduction by Matejka and Titunik, held that utterance is "constructed between two socially organized persons and, in the absence of a real addressee, an addressee is presupposed in the representative of the social group to which the speaker belongs." Voloshinov, in his introduction (which was not included in the English edition) noted that nothing had yet been done on this area in Marxist literature. In his description of the task at hand, he claimed that the "basic idea of our entire work is the productive role and the social nature of the utterance . . . " (*Marksizm* 11, my translation) Though this is of course what would be expected as the subject of a work on the Marxist philosophy of language, it is indeed almost relentlessly so. For those who seek Baxtin hidden between the lines of authorship, this constant focus on the social aspects of language must be seen as essentially the work of another voice. Though there is, indeed, again, much that relates to Baxtin's thought, the bulk of this work seems to move in a direction that is not in keeping with Baxtin's body of work.

The basis of Voloshinov's introductory material, however, is a reasoned development of certain assumed givens: that if ideology requires signs, and consciousness requires signs for embodiment, and if signs can exist only inter-individually, then "the individual consciousness is a social-ideological fact." His bias can be observed in one of his conclusions: "the study of ideologies does not depend on psychology to any extent and need not be grounded in it . . . it is rather the reverse: objective psychology must be grounded in the study of ideologies." (13) Some of the points presented in *Freudianism* are repeated here, including that the role of the word is as the "semiotic material of inner life—of consciousness (inner speech)." (14) Voloshinov's arguments for the importance of the study of the philosophy of language are that everything revolves around signs, every "ideological refraction of existence . . . is accompanied by ideological refraction in word . . . " (15) and must therefore be defined and structured according to Marxist principles.

In the second chapter we are told that a typology of the forms of semiotic communication is one of the "urgent tasks" of Marxism. Signs are conditioned by the social relationships of a language group and must be connected with the socioeconomic concerns of that group in order to have entered into its sphere of interest. He asserts (Voloshinov seems to have been inordinately fond of italic emphasis):
"only that which has acquired social value can enter the world of ideology, take shape, and establish itself there." (22) Even accents must be interindividual, so the only type of communication without accent or social conditioning is the animal response, a cry of pure pain. Different social classes use a single system of signs, with the result that the sign then becomes the "arena" of class struggle.

In Medvedev's *The Formal Method* (first published in 1928) a similar notion serves as basis and starting point: "Each individual act in the creation of ideology is an inseparable part of social intercourse, one of its dependent components, and therefore cannot be studied apart from the whole social process that gives it its meaning." (Formal Method 7) Thus, like communication, ideological creation "is not within us, but between us." (8) But in this book by Medvedev the social arena of general philosophy and psychology is changed, as suggested by the title, to the specific area of literary criticism. If with Voloshinov the socialist-Marxist approach seemed truly genuine and integral, with Medvedev it is slightly less so. At times it seems the author is trying very carefully to be sure to include phrases which keep the philosophy expressed on the proper side of the ideological line. The general tenor of the writing of the work is different from that in Voloshinov as well. This work is heavily pedantic and dogmatic, monolithic: "Particularly pernicious reasons for [the lack of study of the forms of ideological intercourse] are incorrect habits of thinking fostered by idealism, with its stubborn tendency to conceive of ideological life as a single consciousness juxtaposed to meaning." (The Formal Method 13) The careful alignment with Marxist authorities and philosophy in the matters of the sociology of discourse (by use of statements such as: "The ideological environment is the realized, materialized, externally expressed social consciousness of a given collective" 14) is important because of the budding sympathy the author seems to express towards formalism, especially of the Western variety. Though the work is ostensibly an examination of the shortcomings of Formalism (for instance: "Formalist poetics is consistently nonsociological" 37) it actually ends up defining a formalist poetics, something that had not previously existed in such a complete and thorough form. And, though the book was favorably received in 1929, by 1934 the tides had changed and Medvedev was criticized for his "unstable position." (1934 *Literary Encyclopedia*, cited in Wehrle's introduction xvi) Medvedev then published a revised edition in 1934 entitled *Formalism and Formalists* which attempted to correct some of the previous "errors." It apparently did not help, for Medvedev was "illegally repressed" and died in 1938.

What I personally find amazing and interesting is the degree to which these are all Marxist documents, pertinent only to the era in which they were published, the late 1920's. This is true particularly in the Voloshinov books, and still present, though to a lesser degree in the Medvedev book. The quasi-scientific socialistic and sociological phrasing, most of which seems naive and puerile today, shows a strong relationship to the function, at least, of Socialist-realist literature: they are both very much tied to a specific function and hold little interest outside that context. For instance, *Red Love* and *Cement* are read only in a class on, or as an example of, socialist
realism. The professor only talks about How the Steel was Tempered, telling students how lucky they are not to have to read it. One reads these works of Voloshinov and Medvedev only because they are somehow related to Baxtin, who is "important." This socialist-Marxist function, in my eyes, is thoroughly integral to the texts; it is not tacked on to please censors or other "powers-that-be." I do not believe it is possible to extract such a clear network of Marxism in the main works signed by Baxtin. If, therefore, one chooses to talk of a "Baxtin school" it must be with the understanding that it is a very broad category, if it is indeed one at all.

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My purpose is to examine the function of rhetoric in an ethical context. I am defining rhetoric as communication that addresses how the people who constitute a community might best protect their common interests and meet their common needs. I am treating ethics as community-based, as determined by the shared values of those people who are connected by common needs and common interests. My examination is governed by an assumption that the communities of which we are members hold as a primary value the right of their members to contribute to the process of defining collective beliefs and actions. Rhetoric can function within a community in such a way that it provides people with the opportunity to do so by enabling them to participate in a deliberative process, but it can also function in such a way that it denies them that opportunity by preventing their participation. In other words, rhetoric can function within our communities both, given our set of values, ethically and unethically. Whether a rhetorical discourse functions ethically or unethically within a community depends, I believe, less upon what the person presenting the discourse intends than it does upon how those who hear or read the discourse respond to the rhetoric.

Rhetoric describes communication which is brought into existence in order to influence the beliefs and actions of a community. We have inherited a tradition of theory and practice through which we understand rhetoric to be assertions articulated for the purpose of directing a community toward some kind of collective belief and, ultimately, collective action.[1] That tradition explores how rhetoric functions as a means of mediating the various and often conflicting perceptions and priorities of people who must cooperate socially, economically, and legally—as a means of solving problems which we might describe as public.[2] In doing so the tradition makes it clear that the essential function of rhetorical communication is, in the general sense of the word, political.

Because rhetoric is used by people to influence others in matters of common concern, the ethicality of its use would seem to be determined principally by the intent, or purpose, of its user, the rhetor. In communities which value the full and free political participation of their members, we assume that the fundamental purpose of an ethical rhetor would be to allow the hearers or readers of a discourse, the audience, to determine freely the extent to which that discourse will influence their attitudes and actions.[3] The fundamental purpose of an unethical rhetor within those communities, we assume, would be to constrain that freedom. Indeed, the ends
of rhetoric as Cicero identified them—to instruct, to move, to please—can be achieved by a rhetor with either purpose.

I am arguing, however, that the purpose for which rhetoric is used does not necessarily determine its function. Certainly the purpose of any discourse is controlled by the rhetor, but whether that purpose becomes functional—whether it is actually enacted by the community—remains within the control of the audience.[4]

Consequently, the purposes for which rhetoric is used within a community are not as significant as the functions rhetoric is allowed to have because the effects of rhetoric, what it actually causes to occur, are determined not by what a rhetor intends but by how an audience chooses to respond.

I will explain my basis for this assertion by describing two opposing functions of rhetoric—one that is essentially authoritarian and the other essentially communitarian in order to demonstrate that the status of each is determined primarily by the response of the audience. This will support my thesis that whether discourse functions in a community to support the free participation of its members in the construction of collective knowledge and the deliberation of collective action or to limit that participation depends less upon the intent of rhetors within that community than it does upon response of audiences to rhetoric. This, I believe, places the primary responsibility for the ethical function of rhetoric with the audience, and thus with the community itself.

The function of rhetoric is authoritarian when members of a community enact, unexamined, the assertion of a rhetor. The process often begins with a rhetor who asserts a single interpretation of proper collective belief and action in the expectation that the audience will accept that interpretation without fully judging it. This expectation is founded upon an assumption that the community is structured hierarchically and within that hierarchy this rhetor is authorized to decide this matter for others. Rhetors with this assumption expect their audiences to acknowledge that authority with immediate assent. When an audience does so, that audience accepts and thus shares the rhetor's authoritarian assumption about the structure of the community. Consequently, while such rhetoric is clearly authoritarian in its intent, or purpose, it becomes authoritarian in actual function only when an audience responds with passive assent.

If the authoritarian function of rhetoric depends not upon what a rhetor intends but upon whether the audience enacts that intention without independent judgment, then even rhetoric that is not authoritarian in purpose can be made to be authoritarian in function. If an audience shares the assumption of the authoritarian rhetor—that the rhetor is authorized to judge for them—that audience perceives
rhetoric as monologue, and will assent to the rhetor’s position without examining it regardless of its intent. What an audience does when it accepts this assumption is enact its own political subordination to the rhetor within the community they share.

In direct opposition to the authoritarian function of rhetoric is the communitarian function, a function brought into existence when the members of a community who are the audience actively examine, evaluate, and even revise the interpretation of proper collective belief and action which a rhetor has asserted. Rhetoric is communitarian in purpose when it is based upon the rhetor’s expectation that the audience, composed of people who share with the rhetor responsibility for the well-being of the community, will respond to what is asserted by examining, by evaluating, by even asserting a revision in response. That expectation is based upon an assumption that the community is structured without inherent hierarchy, that each member is authorized to judge the interpretations of others in the process of negotiating an agreement about what they will collectively believe and what action they will collectively take. If, however, the rhetoric is to become communitarian in its function, it must have an audience whose response will be founded upon this equalitarian assumption about the structure of the community.

Members of an audience who respond on this basis perceive rhetoric functioning primarily as dialogue within the community rather than monologue, perceiving themselves as active participants in the rhetorical--and political--process.[5] Indeed, if the structure of a community is equalitarian, the roles of rhetor and audience are alternated: after asserting a position a rhetor must become audience to enable some of those who had been audience to become rhetors in response. Consequently, when people act upon this assumption about their place in the community and their role in the rhetorical process within that community they respond to rhetoric critically, with deliberated judgment. They respond in this way regardless of the intent or purpose of the rhetoric they confront, thus preventing its authoritarian function. When they refuse to accept the authoritarian assumption that subordinates audience to rhetor in a rhetorical interaction, they enact their essential political equality within the community by demanding by their critical response that the process of defining collective beliefs and actions be collaborative.

One of the earliest voices in the rhetorical tradition, Plato, addressed these two opposing functions of rhetoric in an ethical context. In an early dialogue, the Gorgias, Plato condemned rhetoric as it was taught by the rhetoricians of Athens. For most of them rhetoric was, as George A. Kennedy writes, a kind of magic a rhetor would work upon an audience
to "stir the passions or obsess the mind and draw on the listener to unconscious agreement with the speaker" (Classical Rhetoric in Its Christian and Secular Tradition {Chapel Hill: UNC Press, 1980}, p. 30). For them, rhetoric was a method for manipulating an audience to accept and to enact the will of a rhetor, thus empowering those who use rhetoric well to impose their will upon others.

In his attack on this function of rhetoric, Plato compared the methods available for maintaining the political body, a community, to those available for maintaining a physical body, identifying as "true arts" those which strengthen and as "false arts" those which provide only an illusion of strength. First, Plato described gymnastics as a true art for maintaining the physical body which, in return for active exertion, provides strength, contrasting it with cosmetics, a false art, which provides only an illusion of strength. He then identified the corresponding true and false political arts: what he called judgment, through which members of a community participate in the construction of solutions to common problems; and rhetoric, through which they are led to accept solutions dictated to them while enjoying the illusion of self-government.

At the heart of the distinction Plato made between the true and false arts for maintaining a community is the level of participation allowed its members in the process: inherent in the true art of politics is the active identification by those who constitute the community of acceptable collective beliefs and actions; and inherent in the false is the absence of such activity. In the Gorgias Plato condemned rhetoric as he had seen it function because it generally denied the audience--the majority of the citizens of Athens--an opportunity to judge matters that concerned them. In a later dialogue, however, Plato described rhetoric as he believed it should function, enabling members of a community to judge and respond to the assertions of rhetors and so contribute to the construction of collective belief and action.

In the Phaedrus, Plato portrayed rhetoric functioning dialectically as a process of collaborative inquiry progressing toward a product of shared understanding. It is, essentially, rhetoric functioning as dialogue rather than monologue. Such rhetoric, as Stanley Fish describes it, "does not preach the truth but asks that its [audience] discover the truth for themselves," and Plato both described and exemplified this function through the interaction of his two characters, Socrates and Phaedrus (Self-consuming Artifacts: The Experience of Seventeenth-Century Literature {Berkeley: UC Press, 1972}, pp. 1-2).

Phaedrus recites to Socrates a speech he has learned from the rhetorician Lysias, a speech that gives Phaedrus pleasure, but which he has not judged. In response Socrates begins the
process of teaching Phaedrus what Plato would teach us, that accepting speeches unexamined allows us to risk accepting and enacting ideas which are false, which violate what we value. Socrates guides Phaedrus through the process of judging the speech and examining the issues it raises and, in that process, they begin to describe together a more ethical function of rhetoric. Although Socrates has a strong sense what that ethical function might be, he does not impose it upon Phaedrus. Rather, he invites Phaedrus' judgment at each stage of his presentation, allowing the understanding of rhetoric which they come to share to emerge less from the instruction given Phaedrus by Socrates than from their collaborative examination of the answers each offers to the questions posed by the other.[6]

A shared understanding of an ethical function of rhetoric, although guided and even dominated by Socrates' assertions, emerges through the process of their dialogue. Socrates asserts a position, inviting Phaedrus' judgment; Phaedrus considers it and responds with statements and questions that suggest a revision; Socrates then refines his position in response to the understanding of Phaedrus and the progressing content of their exchange. When Socrates and Phaedrus finally articulate their shared understanding of rhetoric, it is a construction in which the prior judgment of Socrates, although still prominent, has been improved upon through its confrontation with and resolution of the questions and concerns of Phaedrus. And because it was constructed in the context of values they share as members of the same community, their notion of rhetoric is, for them, ethical.

When Plato argued for a rhetoric based upon the principles of dialectic, he was insisting upon the active participation of audience in any rhetorical exchange. Only such participation can ensure that rhetoric will have an ethical function, that it will support the shared values of the people whose concerns it addresses. In Plato's rhetoric, one person might lead the exchange, as Socrates did in the Phaedrus, and one position may even dominate the process, but those assertions will not be accepted and enacted unexamined. The audience will judge them carefully, will question, will criticize, and will assert revisions in response, thus making the rhetor an audience. Had Phaedrus not done so, had he responded to Socrates' assertions without independent judgment, with passive assent, rhetoric would have functioned in the Phaedrus as the false art of delusion which Plato condemned. If the audience is passive, accepting and enacting unexamined what a rhetor asserts, the function of the rhetoric, regardless of what the rhetor intends it to be, will be authoritarian.

Plato's notion of an ethical rhetoric emphasizes response, not assertion. Assertions are the expressed perceptions of one or of a few and thus they are inherently narrow,
inherently incomplete. They can be presented as if they are whole, as if complete, for the purpose of imposing the understanding of one or a few upon many, or they can be offered to a community as heuristics that propel collaborative deliberation and inquiry. In either case, assertions alone do not necessarily support community values. They require the completion and validation that comes through the critical response of an audience. Only the judgment of the collectivity can develop useful knowledge that supports collective values and meets collective needs.

The practical implication of my argument is this: rhetoric will function ethically in communities where audiences are critical, where they participate in the dialogical process of constructing collective belief and deciding collective action. Rhetors should inform their audiences that they expect judgment, criticism, revisions of their assertions, and encourage such responses by returning readily to the role of audience. But, more important, audiences must be careful to neither fulfill the authoritarian purpose of a rhetor who would dictate nor subvert the communitarian purpose of one who would only suggest by accepting unexamined the assertions of either. The audience must examine all assertions, judge them, and then respond. The alternative is to abdicate the right to self-government by empowering only those who can use rhetoric well. The ethical function of rhetoric in any community is, indeed, in the hands of the audience.
NOTES

[1] Aristotle's three "genres" of rhetoric are defined on the basis of the kind of public action each invites: legal, legislative, or ceremonial. Cicero's extended discussion in *de Oratore* develops at length the public nature of rhetoric.


[3] The best modern interpreter of Aristotle's *Rhetoric*, which is the fundamental theoretical statement of the function of rhetoric, argues that the purpose of public discourse is not to change the mind of the audience, but to present a reasonable position to which the audience might choose to assent. William M. A. Grimaldi writes: "The art, or technique, of rhetoric is the ability to perceive and to present evidence which makes decision...possible; but to stop with presentation" (Studies in the Philosophy of Aristotle's *Rhetoric* (Wiesbaden: Franz Steiner Verlag GMBH, 1972), p. 27).

[4] I am indebted to William A. Wilson, whose comments in response to an earlier paper focusing on the role and responsibility of the rhetor led me to look again at the role and the responsibility of audience.

[5] A series of studies published in the *Quarterly Journal of Speech* during the last fifteen years has examined the dialogical nature of rhetorical communication. The seminal article is Richard L. Johannesen's "The Emerging Concept of Communication as Dialogue," (Dec 1971), 373-382.

I was shocked when I recently read W. R. Parker's, "Where do English Departments Come From?" and found this statement: "Philology, or what we now call linguistics . . ." (College English, 28:340).

My grammar school taught me already from the age of eleven onwards to read Shakespeare with great attention to detail—in those famous Verity editions which are, alas, no longer used, even in Britain. Then in Cambridge, under Leavis and Richards, there was concentration on detail. Richards's idea for a term's course was six lyric poems of medium length. I spent a semester doing syntax in Marburg and another semester doing history of literature in Bonn. Then I went to one of the high seats of philology in Sweden, in Lund, worked under Ekwall for my Licentiate and Doctoral degrees, and learned what philology was. So I have spent my life since the age of eleven believing that what counted in a text was detail, and the more detail the better, and the closer the detail the better. But I gradually realized that in studying the detail of a text, what one was doing was interpreting tokens in terms of what was going on inside oneself. So, concentrating on detail means, from my point of view, two things. One, it means intensively looking at your responses of whatever kind; the other, intensively looking at the means by which those responses may be disciplined. And those disciplines—and I use the word advisedly, not subjects but disciplines—have been developed for the last three thousand years, at least.

Having been through the mill in Sweden, I met J. R. Firth, professor of general linguistics in the University of London, and knew him for a number of years: we had many discussions. It is largely because of him that I say firmly that linguistics and philology are not the same thing and will never become the same thing. Firth was, you might say, a philological linguist, in the sense that for him the text was everything. You began from the text, you went back to the text, you put the text into such context as was needed to explain the text; but you always began with the context of the text itself.

There is an urge in the human mind to theorize. And I. A. Richards, my teacher at Cambridge, had a number of different phrases for the preconditioning of the mind by theorization; the principal two were 'technical presuppositions' and 'doctrinal adhesions'. The willing suspension of disbelief that Coleridge spoke of can be interpreted as 'the willing suspension of any other belief than what may occur to you when you read the text.' How much suspension is undertaken I'm not prepared to tell you. But it does seem to me that something happens in the artistic process which enables this kind of suspension to occur. And that means, although Coleridge didn't express it in that way, that you do not suspend belief in what you are experiencing immediately, you suspend belief in everything else. And that is why art works, because it has that kind of hypnotic effect. It is not my business to talk about that today.

You can see from what I've been saying that I think it is important for a philologist to be extremely suspicious of any generalization or formulation. I see the prime aim of the philologist as explaining details in a text. Now you may say,
"He goes to that text preconditioned." Of course he does. But he can go to the text either preconditioned from a specific point of view, or he may go to the text with a willing suspension of expectation. He goes with a multitude of things; he accepts multiple definitions; he does not expect a text to have one final sense. A text exists in terms of tokens which are reinterpretable from age to age--to eternity, for all intents and purposes. And consequently that text is never completed. I strongly object to those persons who speak of a work of art as in some sense being complete. It is never complete. Because to that token, whether it is painting or music or literature, there will always be further responses and there will be no end to those responses as long as that work exists; and those responses will not be the same. They may be remarkably similar, but they may well be remarkably dissimilar. So what we do in the humanities is study a text in its tradition. In fact, I would go further and say, a text is its tradition and its potential for further tradition; for I know no other way of defining it. And that tradition is open-ended; as long as the text exists, the meaning of that text is still open.

Now, if we are primarily interested in the text, we are not interested in using the text to demonstrate something else. And that's the fundamental difference that I see between philology and linguistics, especially as linguistics is still in the nursery. And I suppose philology is--well, philologists have traditionally lived to great age--quite old by now.

How can some kind of reconciliation be effected? By making the traditional approach to tradition. Philology is a branch of the traditional thing; so is linguistics. The traditional thing is rhetoric, the age-old word. It was the prime subject of discussion and study in the middle ages to which grammar and logic were subordinate: grammar, as a handmaid to rhetoric, and logic, as being one of the ways in which rhetoric operates. For logics themselves vary from age to age. And there is a tradition of logics just as there is a tradition of anything else. What did Collingwood say? A subject is in the end the history of that subject. And when we come down to the history of the subject, we have to bear in mind that there is no objective history. There can be honest history, but not objective history. There can be honest study of all kinds of things in the humanities, but not objective study. The two preclude one another. In the humanities, to make up our mind to be objective is a kind of self-emasculation. It means that we are leaving something out which is extremely important. First comes the response; second comes the discipline of the response. But it is no use for the discipline of the response to bombinate in the inane. The response does not exist in order that it may be studied. The response exists as part of our life; we may choose to study it. We see, therefore, that if we look at these three disciplines--Rhetoric, Philology, Linguistics--we see a situation governed by the enthusiasm of youth: Linguistics is the youngest, and linguists are not in the first place students of and for the text, but persons who wish to make use of the text to demonstrate something or to bring texts together to demonstrate something. And what is wrong with that is precisely the demonstration. An illustration of this: we see a performance of King Lear. We go out of the theatre and we may start to discuss that performance with a friend. We may each have a theory to ventilate but the discussion that we have with a friend about King Lear is not the experience we have just had, but yet another experience of a different kind. I am anxious to make clear that this does not lead to solipsism; because, in terms of the tradition, we have (a) our colleagues, others who have similar experiences, and (b) the past. And it seems to me that those are two aspects of the same thing. We have, that
is to say, at our disposal what the past has said about its own reaction, and we have what our colleagues can say about their reactions.

Now all I've said about this is extremely crude. It is intended perhaps to be stimulative. But I've not stood up here to announce a thesis—merely to say some things which may have the result of your wanting to say or think some other things. And more than that there is nothing to it. As T. E. Hulme once observed, before being blown up on the western front in the First World War, "the ultimate reality is a circle communicating." And when he used the term 'ultimate reality', he really meant, of course, in terms of ourselves the ultimate reality is a circle communicating, because we can't think of anything else except in terms of ourselves. I suggest to you, therefore, to consider together the following three things: Rhetoric, Philology, Linguistics (particularly sociolinguistics), and ask you to bear in mind their relationships in terms of a fourth thing that has once again come to be an important study and will become an increasingly important study because it does not want to define, it wishes to collect and organize definitions. It does not want to make final pronouncements, because it knows that final pronouncements are impossible, I mean the hermeneutic approach. That is why I called this thing "Has Philology Become Linguistics?: A Post-deconstructionist View of Language and Literature." The only way out of deconstructionism is the hermeneutic way.

Question: Could you draw some kind of a relationship between logic and how rational or objective we can be in studying literature?

AHK: Rationality comes into the situation that I spoke of just now about objectivity and honesty. Reason can be used as the servant of honesty or dishonesty. But, we cannot speak of something other than honesty which can dishonestly serve honesty. The point about honesty is that we know that we are not objective, because nobody is. But we know also that we are making the utmost effort to be what the objectivist would call objective. That is to say, we are doing our best to ériger en loi ses impressions personelles (Remy de Gourmont's formulation): "to erect into law one's personal impressions." He meant that we went through life from moment to moment, and every moment was an effort to erect into law, and every moment was a recognition that we had not succeeded in erecting into law and we had to make another effort the next moment, and so on. It is like the relationship (for Mormons) between the Mosaic law and the gospel, because once we stop to consider the gospel it becomes Mosaic law. It is only when we don't consider it but are completely spontaneous with it that it remains itself. So you see that to go back to rationality, the answer is all the time that reason is to be practised to the maximum to which it is reasonable to practice it. And that, in terms of faith, is as the servant of faith. Because where reason is not, there is faith. And there is nothing else except faith and what faith can do with reason. Everything else comes under those two things.

Question: Has the sociolinguistic always been so wedded to the rhetorical and the philological or is that found more in the kind of work you do than in other kinds of philology?

AHK: Well, when I was a young man I wrote on Ben Jonson (I did a treatise, which I think was the first treatise ever on historical sociostylistics; had I lived ten years longer I would have called it historical sociolinguistics I think, because I have become more and more dubious about the word 'style' and its usefulness). But the point is this: I naturally think of literature as a part of language. And
therefore, it is subject to society in the same way language is and reflects society. What goes wrong all the time is that people read books of the past as if they were written in the common language of the past, which they are not. The literary language has some relationship with the common language of the past, but that relationship is difficult to establish. You take the Oxford English Dictionary, for example, which they began in 1857 and finished in 1920, 1923, something like that. It’s almost entirely founded on texts and most of those texts are literary texts. The reason was that in 1857 they didn’t realize what was available to them in terms of recorded speech. There was quite a lot, particularly in records of evidence in court. Now, during the last 50 years there has been effort to make use of these legal and other resources for the actual language of the past. My work on Ben Jonson was intended as a prelude to writing on Shakespeare: we have sound evidence that Ben Jonson, unlike Shakespeare, went around taking notes about what people said, and made use of them in his work. Ben Jonson had a subtle and delicate relation to language, which is undoubtedly due to a great deal of close observation of a totally different kind from Shakespeare’s.

To add all of this up, we need to put literature into its social context and we need to do it from a number of points of view, of which the Marxist point of view is a stimulating and helpful one. What is wrong about the Marxist point of view is not their idea that literature reflects society, but their whole account of society. In Sweden they quickly recognized that Marxism was not necessarily left-wing philosophy at all, and conservatives in Sweden have made regular use of it during the last forty years. In working with Shakespeare, I have to remember that his plays are language artifacts, just like Oscar Wilde’s *The Importance of Being Earnest*. There is some relationship between those artifacts and the normal dialogue of the time. But it is an extremely difficult one to state. It is about as different as the difference between recitative (even melody) and intonation in speech. There was some effort in Vienna between the wars to approximate song and speech intonation.

Question: You mentioned that we all begin at what we call the linguistic stage, and then you mentioned that there’s a relationship between linguistics, philology, and rhetoric. Do you mean to suggest that there is a hierarchical relationship among those three?

AHK: Yes I do.

Question: And if so, can you spell out a little more clearly the realm of each?

AHK: It is awkward that we use nomenclature at all, and that we’re talking about philology, linguistics, and rhetoric, because obviously these terms overlap, and Hugh Nibley’s use of ‘rhetoric’, as we’re going to hear later this afternoon, is rather different from mine. When I talk about rhetoric, I mean the study of the language as a whole, the total language, from all points of view. It is no doubt true that in the past the study of rhetoric was used pragmatically, but that did not prevent those studying rhetoric to do more than merely utilize it as a tool or recommend how it should be used as a tool. They got into linguistic problems. There is a professor of rhetoric still in Edinburgh University, and he’s the senior professor of English literature. That’s the kind of point of view that I would like to see. I see rhetoric as something which tells us that the spoken word and the written word of all kinds and so-called literature are all part and parcel of the same thing. That is the first point. The second point is that I see linguistics as a young science endeavoring to make itself as much as possible like natural
science, like economics and like psychology and like sociology and so on, and I think that this is a misdirected effort, because I do not see any reason at a time when physics has abandoned its principles of the last 300 years, and then promptly proceeded to abandon that set of principles after a further 26 or 30 years. It seems to me that in that kind of situation, for any humanistic study to want to approximate to the physicist's processes of mind is a mistake.

What in the end we have to base ourselves upon in humanistic study is tradition. And tradition has to be regarded in some sense as authoritative. The argument from authority is like G. K. Chesterton's "Don't take down a fence until you find out why it was put up." We put that fence there. Well, we don't know why it's there, but if we took it down, what might happen? This is a relevant way of looking at history and looking at conduct. In fact, from the point of view of faith it seems to be the only way. To try to make your faith into something reasonable from which you will deduce how to live is to do it the wrong way around, and you will never get anywhere with it, because reason is the tool. Reason being the tool, it is a mistake to use reason to try to generalize in such a way that what you are doing is serving the generalization that you want to make, rather than the particulars from which you are making your generalization. The discipline of philology succeeded to the tradition of rhetoric shall we say from about what, 1780, 1790, onwards. We don't really get philology until we get the establishment of what is nowadays called comparative linguistics. I suppose we can say that philology dates from the discovery of Sanskrit's relationship to Greek and Latin. The distinction remains, what are you using the text for? And the answer is, I'm trying to use the text for the text. And this is my objection to the kind of philology which led to linguistics when linguistics hived off from what I call true philology, because philology was failing itself. I think of Luick trying to finish a history of the sounds of the English language. And those other people of the late-nineteenth century who failed to finish because they had undertaken such gigantic works of rational approach to something which could not be dealt with in that kind of way, and works on principles and assumptions which were based on Darwin. All this business of a proliferation of language from one ultimate, one source, etc.; one language becoming another; a dialect coming from a language and splitting up, and so on--there's lots of evidence of similarity of this kind. There's equally evidence of similarities that go across, languages which coexist. You can't say that New English grew out of French, and you can't say that New English grew out of Anglo-Saxon. New English grew out of the coexistence of French and Middle English over about 300 years.

Philology is safe in trying to stick to detail; linguistics may pursue what generalizations occur to it; rhetoric could once again become the overriding discipline, with the techniques of hermeneutics.
Edward Said ends his book of literary criticism and theory, *Beginnings*, with a lengthy chapter devoted to the eighteenth-century Italian philosopher Giambattista Vico. The choice is especially telling since it follows the widely anthologized and very influential chapter, "Abecedarium Culturarum: Absence, Writing, Statement, Discourse, Archeology, Structuralism," devoted to an assessment of contemporary literary theory, including French structuralism and post-structuralism, and the works of Barthes, Lévi-Strauss, Foucault and Derrida. Why choose to end such a current study of beginnings, which wants itself to be a beginning of a new approach to literary inquiry, with a backward leap to the eighteenth century? Said explains:

All of Vico's great book [*The New Science*] is an effort to give substance to the otherwise banished beginnings of human reality. Yet every time he describes man's beginning, Vico drastically qualifies his characterization with something like "we cannot at all imagine and can comprehend only with great effort...." Thus not only is it hard for modern man to locate his beginning, but even when he becomes aware of his historical aboriginality he cannot even truly imagine what it is.

Vico's place at the conclusion of a book on beginnings is earned by precisely this truth, as well as by the attitude toward scholarship it entails. So far as I have been able to discover, Vico is the prototypical modern thinker who, as we shall presently see, perceives beginning as an activity requiring the writer to maintain an unstraying obligation to practical reality and sympathetic imagination in equally strong parts.... (348-349)

A few pages later he enumerates those notions he has found useful in Vico's work. Allow me to quote the passage in its entirety:

Vico's thought, as I have so far described it, is extraordinarily useful at this stage in that it parallels my key arguments throughout the preceding five chapters. Here is a schematic list of seven Vichian signposts that have helped me, from the beginning, to discuss beginnings and to sketch a method:

a. The initial distinction between the gentile or historical and the sacred or original--paralleling my distinction between beginning and an origin.

b. The combination in intellectual work of a special, idiosyncratic problem and a very strong interest in human collectivity--a combination that occurs in this text from the beginning.
c. An acute awareness not only of genealogical succession (except as its biological foundations obviously persist), but also of parallelism, adjacency, and complementarity—that is, all those relationships that emphasize the lateral and the dispersed rather than the linear and the sequential.

d. A central interplay between beginning and repetition, or between beginning and beginning-again.

e. Language as rewriting, as history conditioned by repetition, as encipherment and dissemination—the instability, and the richness, of a text as practice and as idea.

f. Topics for critical analysis that do not fall neatly into the categories of commentary, chronicle, or thematic tracings.

g. The beginning of writing as inaugurating and subsequently maintaining another order of meaning from previous or already existing writing. Here, once again, the distinction (made in a, above) between gentile and sacred becomes relevant. (357)

These statements are probably sybilline for anyone who is not familiar with either Said's or Vico's books. By attempting to elucidate them I can perhaps best give an account of Vico's thought, or at least those of his ideas which seem to anticipate the notions proposed by today's deconstructionists, and more specifically some of the formulations of the contemporary French philosopher Jacques Derrida, the father and chief spokesman of Deconstruction.

Here again is Said's first point: "The initial distinction between the gentile or historical and the sacred or original—paralleling my [Said's] distinction between beginning and origin." The full title of the first edition of Vico's New Science was The principles of a new science of the nature of nations leading to the discovery of the principles of a new system of the natural law of the gentes. In the second and third editions he gave up the search for natural laws, considering them too abstract and ahistorical. His title was abbreviated to Principles of a new science concerning the common nature of nations. His aim is to give an account of the history of all nations at all times, an "ideal eternal history," but with an important qualification: this "ideal eternal history" applies only to gentile nations or gentes (peoples). The history of the chosen people, the Hebrews and then the Christians, was different, he says, because it was dictated or written directly by God. In the history of all other peoples divine providence worked and works much more obliquely, allowing, or perhaps forcing, men to create their own history, their own culture. Thus gentile history is man-made while that of the chosen people has a direct divine origin.

Said says that the notion of gentile history posited by Vico is similar to his notion of beginning; while the notion of sacred history is similar to the notion of origin which he wants to discard and replace with the more dynamic concept of beginning. The origin would be the ultimate cause or authority of a discourse or text, the generating matrix, the foundation or grounding at the very root, beyond which there would be nothing. Along with many other modern literary theorists, Said rejects
the possibility or the desirability of ever reaching such an origin. What we have instead in literature, and in culture in general, are ever-new beginnings, which are reiterations, reformulations of previous discourses, with no retrievable point of origin. Any discourse (or text, or language, or history) can only be a reelaboration of previous discourses, texts, etc., a repetition with a difference, in the words of Paul DeMan. Hence the formula "always already" which is on the lips and on the tips of the pens of all the deconstructionists these days—or the "deconites" as Wayne Booth has dubbed them. Language and history can exist only insofar as they have "always already" existed, only as imitation and differentiation in an already existing system.

In Said's reading of Vico, the notion of sacred history is introduced only to explain and validate the contrary notion of gentle history, which, he says, is the only history treated in The New Science and the only history that pertains to us. Thus we are not to see divine history as a real possibility so much as a desire, a nostalgia for origin, which activates and fuels the mechanism of gentle history which is reiteration.

It's very possible that this dismissal of divine history is to be attributed to Said rather than to Vico himself, whose religiosity remains a very thorny issue. Throughout his book Vico insists on the central role of providence and divine will in all history. However, humanist or materialist readers see such protestations as mere expedients to placate the still-active inquisition of his time: Vico was merely paying lip service to conventional religious ideas which actually played no role in his "new science." Animistic readers, on the other hand, say that it's arbitrary to dismiss something on which Vico seems to insist so much; and that providence does indeed play a central role in his scheme. How could Vico claim, for example, that history for all nations is a recurring series of cycles or stages, always the same and in the same sequence, if there were no providential master plan; if it were simply up to men to create their own history?

This is one of many paradoxes one finds in Vico, paradoxes which are not easily resolved, which perhaps cannot be resolved at all; and possibly paradoxes which make Vico such a vital figure today, the object of so many readings, approaches, juxtapositions, and interpretations. The bibliography on Vico in the last decade has been phenomenal. He has been posited as the precursor of every conceivable movement and of a wide array of thinkers and writers, from Marx to Nietzsche to Joyce.

But that's a wider problem, beyond the scope of this investigation. Let's go back to Said's list. The second Vichian signpost was "the combination in intellectual work of a special idiosyncratic problem and a very strong interest in human collectivity." The idiosyncratic nature of Vico's project was in the consciousness he had of establishing a new science which relied neither on material determinism nor on Platonic universals as points of departure and in his unorthodox procedure which relied on the study of myths and language, on far-fetched etymologies and puns, on a view of language as the repository of the definitions of meanings from past states of cultural consciousness. Vico's concern with "human collectivity" is manifested in his insistence on studying the
nature and behavior of nations or peoples, not individuals. When he speaks of the poetic faculty, he does not refer to individual poets, but to the cultural consciousness of an entire people during the second cycle of the "ideal eternal history," which consists of the divine or primitive stage when consciousness is controlled by the senses, the poetic or heroic stage when consciousness is defined by imagination, and finally the human or philosophic stage when consciousness is shaped by reason and abstract thoughts, after all of which there is a "ricorso," a period of decadence and return to the first stage. In any case, poetic wisdom and reflective wisdom are collective properties characterizing an entire society. In his search for the "True Homer" in the New Science, Vico concludes that Homer was the whole of the Greek people during their heroic age.

This emphasis on the "human collective" is probably more important to Said than it would be to either the Structuralists or Deconstructionists because his theoretical project is far more engaged, socially and politically, than theirs. Still, it's not just political commitment which is at stake in this dichotomy between the personal or idiosyncratic and the collective. There is also an adumbration of the Saussurean dichotomy langue/parole, language as a system and as individual speech acts. By his insistence on the collective nature of language and consciousness, Vico seems to anticipate the structural paradigm elaborated by Ferdinand de Saussure in linguistics and Claude Lévi-Strauss in anthropology and mythology: where signification does not inhere in the relationship between subject and object, but in the interplay of elements and functions within a system, or structure--the langue, which is there before and above and oblivious to the individual, even if it can be realized or manifested only through the utterances of individuals.

Though Derrida and Deconstructionists undermine or explode the notion of structures which they find too static, their deconstructive play in a field of floating signifiers still relies on a systemic notion of language based on differences and similarities. The subject is still emarginated. And yet, just as in Vico, despite this denial of the centrality of the subject, the discourse of French post-structuralists and deconstructionists, of Foucault and Derrida, and their American disciples, such as Hartman and Hillis-Miller and the other so-called Yale critics, tends to be very personal, idiosyncratic, and subjective. In both Vico and Derrida we seem to have a parole which both acknowledges and at the same time refuses its subjugation to langue; that is, to a system beyond its control, but not beyond its kamikaze attempts at sabotage--what Said calls idiosyncratic discourse and what Derrida calls deconstruction.

The third point Said draws from Vico is a corollary to the second. "An acute awareness not only of genealogical succession . . . but also of parallelism, adjacency, and complementarity--that is, all those relationships that emphasize the lateral and the dispersed rather than the linear and the sequential." Vico, of course, is concerned with genealogical succession. His account of recurring cycles and of the evolution of man from a primitive to a reflective state is both linear and sequential. And yet, he can accede to this diachronic perception of history only from a synchronic home base, that is from the cultural materials and their
contextualisation in his own time. One of his basic axioms is that men can only get to know the unknown by projecting onto it what they already know. This is an aid to knowledge, but also a limitation, a lens, but also a blinder or a filter. To minimize the filtering effect Vico resorted to the lateral approach admired by Said, looking not only at the common meaning of word, but looking behind it, or around it, or inside it, to see what residual meanings there might be which accompany the word and which might provide a glimpse at a former metaphorical or imagistic meaning in a different context.

This emphasis on the lateral and the dispersed also belongs to deconstruction. Derrida's notions of the trace, the supplement, the grapheme, etc., define language as a network of constantly displaced signifiers that never manage to link up to specific signifieds but bear traces of other signifiers. Language is never referential but "always already" metaphor, a continuous substitution.

Space prevents a detailed analysis of the other points that Said derives from Vico: 4) "A central interplay between beginning and repetition, or between beginning and beginning again"; 5) "Language as rewriting, as history conditioned by repetition, as encipherment and dissemination"; 6) "Topics . . . that do not fall neatly into the categories of commentary, chronicle, or thematic tracings"; 7) "The beginning in writing as inaugurating and subsequently maintaining another order of meaning from previous or already existing writing."

What all these remaining points seem to have in common—and what Vico, Derrida, and Said all seem to have in common—is that language starts as writing, not as some kind of natural speech. The identification of language with writing, rather than with oral speech, is of course the whole point of Derrida's Grammatology, which he posits in lieu of phonology. Derrida's work is a sustained and rigorous critique of western metaphysics, which he accuses of being "logocentric," based on the affirmation of the Logos, a complex word which suggests truth, logic, presence, origin—but also "word." Western discourse, Derrida claims, from Plato to Lévi-Strauss, through Rousseau and DeSaussure, has mistakenly privileged oral speech over written language, treating writing as a "scandal," an artificial and conventional, and hence deficient instrument with which to convey oral speech, which is in turn perceived as more natural, more pure, more innocent, more referential, more apt to express the subject or indicate the object in a direct manner. Writing, on the other hand, clearly relies on arbitrary symbols that stand for something else.

Derrida points out, however, that all language is writing, a system of arbitrary signifiers standing for something else. All language is metaphor, including oral speech whose signifiers are no more grounded than grams or ciphers or letters. If Plato and Rousseau and DeSaussure have chosen to express misgivings about writing but not about speech it is because of their need to affirm a Logos, a center or presence, a master sign, with which to endow their discourses and their lives with meaning. Deconstruction dismantles this "logocentric" discourse from the inside, showing what an elaborate, but false, construct it is.
Surprisingly, Vico, who was a contemporary of Jean-Jacques Rousseau, one of Derrida's main targets, also claimed that language is writing and that it originated as writing:

"The scholars... all took the origin of letters to be a thing apart from that of languages, though the two were by nature connected, as indeed, the scholars ought have been warned by the words 'grammar' and 'characters.' By the first, because grammar is defined as 'the art of speaking' and letters are [grammatic], so that grammar should have been defined as the art of writing, as it was by Aristotle, and as, in truth, it was at birth, since... being mute at first, the nations all spoke originally in writing... Furthermore, had these letters been the shapes of articulate sounds and not... arbitrary signs, they would, like the articulate sounds themselves, have been uniform in all nations. But, having abandoned all hope of learning the [proper] mode, the scholars have not discovered that the first nations thought in poetic characters, spoke in fables and wrote in hieroglyphics, which should have constituted the principles, which by their nature must be most certain, both of philosophy, whose concern is with human ideas, and of philology, whose concern is with human words. (233)

In commencing our argument, therefore, we lay down as our first principle the following philological axiom: that the Egyptians asserted that in the whole previous duration of their world three languages had been spoken, correspondent in number and order to three ages which had elapsed in that world, the ages of the gods, of the heroes and of men; and of these languages they said that the first had been hieroglyphic or sacred or divine, the second had been symbolic or in signs or heroic coats-of arms, and the third had been alphabetic, in order that the needs of daily life might be communicated among men distant from one another. (234-235)

To say that language began as hieroglyphics is to say that it began as metaphor, as a "standing for" that revealed its nature as arbitrary signifier, as trace, or supplement, as a scandalous substitution that suggested the presence of what it "stood for" only by revealing its absence. It's this complex interplay between absence and presence, Vico seems to say, which generates human language, human consciousness, and human culture.

Now, in pointing out this parallel between Vico and deconstruction concerning the primacy of writing, I don't wish merely to praise Vico as a precursor, or to accuse Derrida of an oversight with regard to Vico; although, these observations do support the claims made by the American philosopher Richard Rorty, among others, that Derrida and the Deconstructionists set up a straw man by insisting so stridently on the logocentric nature of Western discourse. According to Rorty it has been several centuries since Western thinkers seriously posited notions of truth or of a "master sign." Indeed, Western culture had already deconstructed
itself before Derrida offered to do it with such an unwarranted sense of urgency. If this is so, Vico surely had a hand in this deconstruction.

But, to repeat, there's more at stake than putting Vico in the corner with the deconstructionists. By juxtaposing Vico with Derrida and Said new vistas are created in each of their texts. The paradoxes and contradictions which are perhaps more discernible in Vico's text might lead us to perceive similar configurations in Derrida's text which otherwise would remain hidden. Furthermore, we might be led to perceive that the expression of contradictions is the whole point, that what they're all doing is continuing the game of bouncing absence and presence off each other.

The lesson that Vico can teach us about deconstruction and language is that ultimately the most important thing is not to determine what is at the end (or the beginning) of a semiotic chain--absence or presence, nothingness or divinity, matter or spirit. The most important thing may well be to remain suspended between the two--to play off absence against presence. Whether we perceive God as a human projection dictated by human fears and needs, or man as a creature formed in God's image--man's consciousness is still suspended between the two extremes, floating on a sea between the shores of affirmation and annihilation--and as the great Italian poet, Giacomo Leopardi, said in the last verse of his wonderful poem "L'infinito" (The Infinite): "E 'l naufragar m'è dolce in questo mare" (And I find it sweet to drown in this sea).

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This paper analyzes the use of mimesis in King Lear at 2.01.64-77 and at 4.03.24-32. These two uses appear to differ from other memorable passages of mimesis in Shakespeare in that they are not used for humorous effect. In 2.01, the illegitimate son of Gloucester is trying to make it look as though his legitimate brother had plotted to kill their father in order to take his land. So Edmund, as part of his plot, claims to be mimicking something his brother Edgar has said. This is what he says:

When I dissuaded him from his intent,
And found him pight to do it, with curst speech
I threat'ned to discover him; he replied,
"Thou unpossessing bastard, dost thou think,
If I would stand against thee, would the reposal
Of any trust, virtue, or worth in thee
Make thy words faith'd? No. What I should deny
(As this I would, ay, though thou didst produce
My very character), I'd turn it all
To thy suggestion, plot, and damned practice;
And thou must make a dullard of the world
If they not thought the profits of my death
Were very pregnant and potential spirits
To make thee seek it."

We set this passage as the final exam passage for class last semester and asked a number of questions; we then began to ask ourselves some questions we hadn't asked before. (One of the nice things about teaching is that you always learn as you teach.) We take a stylistic approach in which we try to make explicit for ourselves the implicit norms against which we judge the various speeches Shakespeare has given his characters. We naturally do that in real life situations or in reading literature, we try to decide what the norm is. This passage demanded that we notice norms for the use of mimesis.

Some critics use mimesis in general to refer to drama--drama as a representation of what happens in real life. That is not the sense of the word I'm using; I am concentrating on quoted material. There are a number of ways in which quoted material appears in Shakespeare. There are proverbs and bits and pieces of Latin thrown in; I'm not analyzing those, nor am I focusing on a single word or phrase used here and there. The mimesis that I'm interested in is a relatively extended segment that is attributed to a specific person. Note that Edmund's claiming here to be repeating Edgar's words. We're familiar with that in real life in what we might call mimicking or mocking another person: "And then, she said to me, 'Well . . .'" We use it standardly to make fun of someone. Why in this very serious passage in LR--in a passage integral to the plot and subplot--should mimesis be used? Is this a conventional way for Shakespeare to use mimesis? In our work with style we had been assuming that rhetorical figures can have a variety of effects; we would not suppose that a figure would consistently have one specific effect.
Some figures are linked with specific effect, for example, extreme uses of alliteration. In the mechanicals' play in *Midsummer Night's Dream*, Pyramus is going to kill himself. He says,

> With blade, with bloody blameful blade,  
> He bravely broach'd his boiling bloody breast.

That use of the b b bl bl br br b is comic; it's too much. So, we do tag some uses of specific figures as, say, comic. That means we recognize a norm. Think of the use of rhythm in a limberick. Would it be possible to write a serious verse with that rhythm? I've never seen one, though it might be a good exercise for a poet. Is mimesis used conventionally for comic effect? If so, is it hard to get any other effect using that figure? If it is generally used for comic effect, then what does it mean to use it in this passage, and also in 4.03?

Some of the most memorable passages of mimesis in Shakespeare do use mimesis for comic effect, as illustrated in ERR 2.01.59-72. In *The Comedy of Errors*, there are two masters who are twins separated at birth; two servants who are twins separated at birth; so each master twin has a servant twin. They happen to come together, and because they look so much alike they get mixed up with each other. Here's the account one of the servants gives. He was sent by his mistress to find his master and to bring him home for lunch, but he ran into the master's twin.

*E.Dro.* But sure he is stark mad:
  > When I desir'd him to come home to dinner,  
  > He ask'd me for a thousand marks in gold:  
  > "'Tis dinner-time," quoth I: "My gold!" quoth he.  
  > "Your meat doth burn," quoth I: "My gold!" quoth he.  
  > "Will you come?" quoth I: "My gold!" quoth he;  
  > "Where is the thousand marks I gave thee, villain?"  
  > "The pig," quoth I, "is burned": "My gold!" quoth he.  
  > "My mistress, sir," quoth I: "Hang up thy mistress!  
  > I know not thy mistress, out on thy mistress!"

*Luc.* Quoth who?

*E.Dro.* Quoth my master.

> "I know," quoth he, "no house, no wife, no mistress."

This makes a nice piece of stage business for the actor to draw himself up and be himself and then be his master, acting out the interchange. It seems unlikely that Edmund would want to play Edgar's role broadly.

The second place mimesis is used for serious effect in LR is in 4.03.24-32. Any sensible person probably would say, "Well, this scene is found in the Quarto but not in the Folio version. So, we won't pay any attention to it. We will ignore it." However, the scene gives us information which is necessary for the plot. It lets us know how Cordelia found out what was going on and what her plans are in coming back into the kingdom. Kent, the loyal servant gone undercover meets a gentleman--presumably English--who has been to the French court, reported to Cordelia, and is bringing a report back. Kent asks how she received the news; the gentleman gives a flowery description of how she looked; Kent asks, "Made she no verbal question?"

> Faith, once or twice she heav'd the name of "father"  
> Pantingly forth, as if it press'd her heart;
Cried, "Sisters, sisters! Shame of ladies, sisters!
Kent! father! sisters! What, i' th' storm? i' th' night?
Let pity not be believ'd!" There she shook
The holy water from her heavenly eyes,
And, clamor-moistened, then away she started
To deal with grief alone.

Now, we could imagine that if the gentleman gave any kind of falsetto tones to that "sisters, sisters, father, Kent," that it would reduce the passage to absurdity--I can't imagine that that would be done on the stage. The context is too serious for that.

But it is obviously a difficult piece to have to handle. What tone do you give the repetition of syntactically unconnected nouns? How do you repeat the questions without getting a comic effect? Does the mimesis approach comedy in this scene and in 2.01? Does the use of a comic form give a comic effect that undercuts the seriousness of these scenes? What, if anything, would save these two uses of mimesis from being unintentionally comic?

Let's look a little bit closer at the mimesis. In the ERR passage there are many repetitive elements. In addition to the *quoth I, quoth he*, which provide identification tags for relatively short utterances as well as a punch line, there is the repetition of *mistress, my gold, The pig is burned* and variations of *the pig is burned* or *the meat is cold*. Perhaps the use of mimesis isn't necessarily comic, but the use of repetition within the mimesis can make it comic.

How much repetition is there in the mimesis in LR? In 2.01 there is relatively little word repetition; in fact, some of the words are relatively rare in Shakespeare. *Unpossessing, reposal*, and *faith'd* are all used once in Shakespeare. There is a pleonastic triad, . . . of any trust, virtue, or worth in thee . . . (69) and in l. 73, *suggestion, plot and damned practice*. The two triads are a repetition of syntactic pattern, and the pleonasm gives repetition of sense without word repetition. These create a balanced effect. He's giving Edgar a speech characterized by the use of rare words, balance, and pleonasm. The first sentence ends in the question, *Make thy words faith'd?* At that point he's probably reading Gloucester's reaction in the way that the servant could read his mistress's reaction at the end of each of those *quoth* tags. Notice how he used it there at the end, saying, *Out on thy mistress*. He stopped there waiting for her to say, *Quoth who?* Then he made his final point again with word and syntactic repetition. This is also Edmund's tactic. He stops, then answers the question, *No*. Of course, this is supposed to be his brother saying *No, you wouldn't be trusted*: *What I should deny/*(As this I would, ay, though thou diest produce/My very character) . . . .

He already has shown his father a letter that his brother is supposed to have written, and is making reference back to that letter which Edgar knows nothing about, because Edmund wrote it. He's piling one bit of bad evidence upon another, while accusing his brother. *I'd turn it all to thy suggestion, plot, and damned practice. And thou must make a dullard of the world/If they not thought the profits of my death/Were very pregnant and potential spirits/To make thee seek it.*

Notice the alliterative triad in *profits, pregnant, potential* that gives a nice end. Why end this way? He has his brother saying to him, "Now only a stupid person would not believe that you have cause to do this." So what position does that put the father in? He'd listen to him. Certainly his father isn't stupid. His father's very quick to grasp the point of this and believes him. This is the second time Edmund has 'exposed' Edgar's plotting to his believing father.
One of the questions that some of our students were trying to explore was, Who does this really sound like? Is this the kind of language that Edmund himself would use? Is this the kind of language that his father, Gloucester, would use? Or is this the kind of language that Edgar would use? Because Edgar himself spends so much of the time in the play disguising himself linguistically, it is difficult to know where we have the 'real' Edgar. Edgar appears just for a short time with his brother Edmund; then he pretends to be a madman running about in rags; he pretends to be his father's servant, or a low class peasant; he then pretends, in the tournament scene, to be nobly born, speaking a full-blown language that has archaic, highly formal elements that would probably fit in rather nicely with the speech Edmund gave him here. So one of the difficulties in knowing how to get a norm for him would be finding out where his language really exists in the play.

This passage doesn't have enough repetition to appear patently absurd; but it would take a good deal more analysis to try to figure out whose style it is. In 4.03 there is a fair amount of repetition. Once or twice she heav'd the name of 'father' Pantingly forth. Heaved and pantingly are problematical, as is the /f/ alliteration, and /r/ consonance in father and forth. 'Sisters, sisters! Shame of ladies, sisters!' gives immediate repetition (epizeuxis) repetition at the beginning and the end of the line (epanadiplosis). 'Kent! father! sisters!' More repetition (epanalepsis) of fathers, sisters. 'What, i' th' storm? i' th' night?' contains phrasal anaphora. 'Let pity not be believd!', note the /b/ alliteration. He finishes his description of what she looked like in receiving the news.

Mimesis especially with strong repetitive elements is associated with the comic. These uses of mimesis in LR are potential problems that anyone producing or reading the play with students feels the need to work through, especially in the gentleman's speech where an absurd effect must be avoided. Or face up to it. If the mimesis is absurd, who's made to look absurd? Is it the gentleman, or does Cordelia appear absurd? Cordelia is frequently seen as a Christ figure or as a figure of purity or hope or Christian symbolism. Does this description of her, and the report of what she says do damage to the audience's view of what she's like? Does it make her look silly? Perhaps it is this problematical use of mimesis in 4.03 that inspires directors to cut this scene substantially or entirely. [I believe that this exaggerated amount does border on the silly; the comic form undercuts the view of Cordelia and of the gentleman.]

This is an outline of the problem; the point of interest is the ongoing adjustment of expectations of the norms within Shakespeare's plays. I have suggested that mimesis is a comic form, and that the comic effect is not desirable in LR 2.01 or 4.03. Further analysis will be required to address the question of the incongruous effect of using this comic form in two serious passages.
NOTES


2 I've been working with Arthur H. King to develop a method of teaching students to better understand Shakespeare's language. The students were in his Shakespeare classes at BYU.

3 Other comic uses of mimesis include 1H4 2.04.99-112; 391-481 (this is not claimed to be a portrayal of a genuine conversation); MV 2.02.1-32 (Launcelot Gobbo with his conscience and the fiend); 2.08.15-22 (obvious ridicule of Shylock; followed by 38-45 which is serious).
In the classical treatise On Style attributed to Demetrius we read that for the sake of clarity it is often necessary to repeat a word in the course of a lengthy sentence because the repetition "reminds us of the prelude and sets us again at the beginning of the sentence." Demetrius calls this resumptive repetition "epanalepsis" and gives the following example of it:

all Philip's acts indeed--how he subjugated Thrace, and seized the Chersonese, and besieged Byzantium, and neglected to restore Amphipolis,-- these things, indeed, I shall pass over.2

In modern times, epanalepsis has come to take on other meanings as well, such as "ending a sentence with its own opening word or words," but the classical definition fits perfectly to describe what is not an uncommon occurrence in the Book of Mormon. A typical example is found in the opening verse of the third chapter of \\
(All Book of Mormon verses are quoted from the 1981 edition. All underlines are added.)

And it came to pass that the Nephites who were not slain by the weapons of war, after having buried those who had been slain--now the number of the slain were not numbered, because of the greatness of their number--after they had finished burying their dead they all returned to their lands, and to their houses, and their wives, and their children.

This paper presents the results of an investigation of epanalepsis in the Book of Mormon to find out just how common an occurrence it is and to discover the source of the device. Three possible sources were considered: first, that it is part of the writing style of certain authors, and perhaps more characteristic of some than of others; second that it is primarily a product of literary form; and third, that it was introduced to the text by Joseph Smith when he translated the Book of Mormon.

First, the frequency of epanalepsis was studied by carefully reading the Book of Mormon and identifying each occurrence of the device. In order to count as epanalepsis the following criteria had to be met.

1) The repetition had to occur within a single sentence. To be precise, the repetition had to be the resumption of the original sentence. Epanalepsis was often anacoluthic in that the writer would digress in the
intervening material and include complete sentences before resuming the original sentence.

2) The repeated word or words didn't have to be a verbatim repetition, but they clearly had to be a repetition of the idea expressed by the original word or words.

3) The repeated word or words could not be grammatical, i.e. they could not serve as their own sentence unit, such as subject or subordinating conjunction, rather they had to be a simple restatement of some other sentence unit.

Another example of epanalepsis which typifies the above criteria is found in Alma 1:1-2:

Now it came to pass that in the first year of the reign of the judges over the people of Nephi, from this time forward, king Mosiah having gone the way of all the earth, having warred a good warfare, walking uprightly before God, leaving none to reign in his stead; nevertheless he had established laws, and they were acknowledged by the people; therefore they were obliged to abide by the laws which he had made. And it came to pass that in the first year of the reign of Alma in the judgment-seat, there was a man brought before him to be judged, a man who was large, and was noted for his much strength.

As it turned out, all of the examples of epanalepsis had a common characteristic which could well serve as a sort of fourth criterium for defining it, although it wasn't used as such when identifying the examples in this study. This is that the intervening material was parenthetical in nature and was inserted as background or supplementary information to the main thought expressed in the sentence.

This fourth criterium is important because it most clearly separates epanalepsis from chiasmus, which is another and better-known stylistic device used in the Book of Mormon, and which involves the repetition of words and ideas. Besides the fact that chiasmus is not necessarily intrasentential and that it most often involves the imbedded repetition of several ideas, one of its most characteristic features is that the central statement, the one enclosed by the repetitive pairs, is the most important idea of the whole structure. In other words, while the form may be superficially the same, the function of epanalepsis is the exact opposite of that of chiasmus.

In addition to cataloging the straightforward examples of epanalepsis as described above, a certain type of possible epanalepsis dealing with participial phrases was also cataloged. 1 Nephi 4:26 gives us an example:
And he, supposing that I spake of the brethren of the church, and that I was truly that Laban whom I had slain, wherefore he did follow me.

However this type of device is very possibly not epanaleptic at all. Consider this verse in Mosiah 20:17: Now when Gideon had heard these things, he being the king's captain, he went forth and said to the king....

In the latter case, the punctuation makes it clear that the first "he" is actually the subject of the participial phrase and that the second "he" is not redundant at all, but is the subject of the main clause.

Whether these subjects are actual participial subjects or merely redundant sentence subjects is not entirely clear. The punctuation is probably a very unreliable guide since neither the original engravings nor Joseph Smith's original manuscript of the translation apparently contained any punctuation marks at all. In fact, punctuation was first introduced to the text by an employee of E. B. Grandin, the publisher of the first edition.

Looking at textual clues is also inconclusive. Some participial phrases clearly have a subject, such as 1 Nephi 4:22:

And he spake unto me concerning the elders of the Jews, he knowing that his master, Laban, had been out by night among them.

Many others clearly have no subject, however.

It is this author's impression that many, if not all of the so-called epanaleptic instances of these participial phrases are not really epanaleptic at all, but instead represent a participial subject plus a sentence subject. However, since there seem to be no clear criteria for deciding one way or the other, such instances were cataloged regardless of punctuation, but were kept separate from the firm instances of epanalepsis when compiling statistics.

For each instance of epanalepsis cataloged, the writer and the literary form of the occurrence were also noted. This was done according to "A Full Listing of Book of Mormon References by Author and Literary Form" by John Hilton and Ken Jenkins. This document also furnished the various word counts of Book of Mormon authors that appear later in this study.

Although many of the writers' words come to us only as they are quoted by the engravers of the Book of Mormon (primarily Mormon and Nephi), this fact was not taken into consideration when assigning authorship. If a writer was quoted directly, the words are assumed to be his own. This
may not be an entirely safe assumption, however. Quoted speeches were obviously transcribed by unnamed scribes, who may have phrased things in their own words, or it may be that Mormon and/or Nephi paraphrased the quotations when they engraved them. The effect of this is that the occurrences of epanalepsis by some of the writers may really be the product of unnamed scribes or of Mormon and/or Nephi. If the latter is true, Mormon and Nephi may be responsible for more occurrences of epanalepsis than they are given credit for.

Hilton and Jenkins identify basically four types of literary form in the Book of Mormon, namely first person narrative, third person narrative, sermons, and dialogue. For this study it seemed useful to generalize these into two categories: "narrative" (for both first and third person narrative), and "discourse" (for sermons and dialogue).

The results of this study are shown in figure 1. The angel listed is the one who spoke to Nephi in chapter 13 of 1 Nephi. "Jesus" refers to Christ during his personal visit to the Nephites; "Lord" is used to denote all the other times that he is quoted. The one reference to "miscellaneous" is an unnamed subject of King Noah in chapter 12 of Mosiah.
FIG. 1  OCCURRENCES OF EPANALEPSIS IN THE BOOK OF MORMON

The writer appears in the column on the far left. When more than one person of that name is mentioned in the Book of Mormon, an identifying superscript is used which corresponds to the superscripts used in the index of the 1981 edition of the Book of Mormon.

Each occurrence of epanalepsis by a given writer is marked either with an "N" for occurrences in narrative, or a "D" for occurrences in discourse. Firm occurrences are underlined and in boldface type. Occurrences of the questionable "participial epanalepsis" are not.

MORMON²  NNNNNNNNNNNNNNNNNNNNNNNNNNNNNDDNNNNNNNNND
NEPHI¹  NNDD
ENOS  NNNN
ANGEL  DDD
JESUS  DDD
BENJAMIN  DDD
MORONI²  NNN
AMULEK  DD
L.ELAMAN²  NN
JACOB²  ND
ABINADI  D
LEHI¹  D
MORONI¹  D
ZENIFF  N
LORD  D
MISC  D

Approximately twenty-five different writers contributed to the Book of Mormon, and, as can be seen from the above chart, the eighty-three total occurrences of epanalepsis were divided among fifteen of them, fourteen of whom are almost insignificant when compared to Mormon and his use of the device.
The dramatic appearance of the chart is perhaps somewhat deceptive, however. At first glance it may seem that epanalepsis in the Book of Mormon is almost exclusively a characteristic of Mormon's writing style, a part of his "linguistic fingerprint" so to speak. However, certain other factors must be taken into consideration before any conclusions can be drawn.

First of all, Mormon wrote more of the Book of Mormon than any other writer. If epanalepsis is not characteristic of any one author in particular, then we would expect the writers who wrote the largest portions to use proportionately greater amounts of epanalepsis. This is not the case, however. Mormon wrote 36% of the Book of Mormon, but he is responsible for at least 60% of the occurrences of epanalepsis (63% if only the firm cases of epanalepsis are taken into consideration, and 59% if participial epanalepsis is included). All the other major Book of Mormon writers used less epanalepsis than might be expected for the amount they wrote.

Figure 2 demonstrates this by showing the amount of epanalepsis per amount of text written for the six most prolific writers in the Book of Mormon. The remaining writers were not included because the amount of text was so small as to make any statistical comparisons suspect. For example, Enos, who used 4 examples in a total of only 997 words, would average 4 occurrences per 1000 words, which is by far the highest ratio, but 1000 words is a very small sample compared to those of the writers listed in the chart.

FIG. 2  EPANALEPSIS PER AMOUNT OF TEXT WRITTEN

The pairs of figures in the last two columns represent "firm cases of epanalepsis" / "all cases"

<table>
<thead>
<tr>
<th>Words written</th>
<th>% of BM</th>
<th>% of epan.</th>
<th># of occurrences of epan. per 1000 words</th>
</tr>
</thead>
<tbody>
<tr>
<td>MORMON</td>
<td>97515</td>
<td>36</td>
<td>63/59</td>
</tr>
<tr>
<td>NEPHI</td>
<td>28639</td>
<td>11</td>
<td>3/ 7</td>
</tr>
<tr>
<td>ALMA</td>
<td>20227</td>
<td>8</td>
<td>0/ 0</td>
</tr>
<tr>
<td>MORONI</td>
<td>19205</td>
<td>7</td>
<td>3/ 4</td>
</tr>
<tr>
<td>LORD</td>
<td>11507</td>
<td>4</td>
<td>0/ 1</td>
</tr>
<tr>
<td>JESUS</td>
<td>10213</td>
<td>4</td>
<td>5/ 4</td>
</tr>
</tbody>
</table>

One conclusion, therefore, that can be drawn from this study is that, although many writers used the device occasionally, Mormon was by far the most frequent user of epanalepsis in the Book of Mormon, even when adjusted for amount of text written and excluding the minor authors who
didn't write enough to get a representative sample. However, there may be another reason besides his own characteristic style to explain Mormon's high use of this device.

Literary form seems to play a significant role in the use of epanalepsis. Fully 72% of the epanalepsis in the Book of Mormon occurs in narrative. And when compared to the fact that only 48% of the Book of Mormon is narrative text, it appears reasonable to conclude that narrative style lends itself quite naturally to epanalepsis. Indeed, perhaps epanalepsis is not due so much to any particular author's style as to literary form.

The preponderance of narrative epanalepsis in Mormon's writing really doesn't tell us, however, whether his epanalepsis is due to his own peculiar writing style, or whether it is simply due to literary form. Most of Mormon's epanalepsis (92%) is found in narrative, but it is also true that about the same proportion of all of his writing (94%) is narrative.

In other words, if it is more a product of literary form, then it would stand to reason that any writer who wrote predominantly narrative would use a considerable amount of epanalepsis in his writing. On the other hand, if epanalepsis is a stylistic device particularly characteristic of Mormon's writing, it would only make sense that almost all of Mormon's epanalepsis is found in narrative because almost all of Mormon's writing is narrative. It would also explain the relatively high amount of narrative epanalepsis compared with the amount of narration in the Book of Mormon. Mormon is responsible for most of the epanalepsis, and most of that just happened to occur in narration.

Perhaps the best way to test the effect of narrative form in the use of epanalepsis, at least in Mormon's writing, is to see if the other writers of narrative in the Book of Mormon used the same ratio of narrative epanalepsis per words of narrative that Mormon did. Again, comparison is made difficult by the widely disparate sample sizes of the other writers of narration. Nevertheless, figure 3 shows the amount of epanalepsis per 1000 words of narrative for the four most prolific writers of narrative. Helaman wrote so much less than the other three that his data is probably suspect, but he was included to show the dramatic decline of sample size.
FIG. 3  NARRATIVE EPANALEPSIS PER 1000 WORDS OF NARRATION

The pairs of figures in the last column represent "firm cases of epanalepsis" / "all cases"

<table>
<thead>
<tr>
<th>Narr. words written</th>
<th># of occurrences of narrative epan. per 1000 words of narr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>MORMON</td>
<td>.38/.49</td>
</tr>
<tr>
<td>MORONI²</td>
<td>.16/.24</td>
</tr>
<tr>
<td>NEPHI⁻</td>
<td>.10/.48</td>
</tr>
<tr>
<td>HELAMAN²</td>
<td>.19/.38</td>
</tr>
</tbody>
</table>

Here, Mormon's lead is not always quite so commanding; Nephi very nearly catches up to him if participial epanalepsis is included. Nevertheless, Mormon's lead is consistent and shows that even accounting for the effects of literary form, Mormon is still the most characteristic user of epanalepsis in the Book of Mormon.

In summary then, it is safe to say that while many Book of Mormon authors used epanalepsis, and while its use may have been influenced by narrative literary style, epanalepsis seems to be more characteristic of Mormon's style than anyone else's.

There is one remaining question to be answered, however. Did Mormon and the other writers really write in such a repetitive style? Or is this epanaleptic repetition something that Joseph Smith introduced to the text during translation? It could be that epanalepsis was the method which Joseph Smith chose to render complicated passages more readable in English. Or perhaps he used it to affect a sort of biblical religious style in his translation. Several tests were made to check the hypothesis that it was introduced by Joseph Smith, but all of the evidence points to epanalepsis as being a feature of the original text.

First of all, samples of Joseph Smith's writing were examined to see if he characteristically used the device. The first twenty sections of the Doctrine and Covenants were used because they were written contemporary to the translation of the Book of Mormon, and the Pearl of Great Price was also included because it contains numerous narrative passages. With the exception of one example in verse 16 of the "Joseph Smith--History" in the Pearl of Great Price, these writings were virtually devoid of epanalepsis.

Also, on the theory that Joseph Smith might have tried to emulate a biblical style when translating the Book of Mormon, the first twenty chapters of Genesis were examined to see if epanalepsis is a typical biblical idiom. While
there is an occasional use of epanalepsis in the Bible, the first twenty chapters were also devoid of examples.

Next, the structure of the epanaleptic passages in the Book of Mormon was examined carefully, giving rather clear-cut evidence that the epanalepsis is a product of the original authors and not of Joseph Smith. For example, the new material (especially the insertion of the first person pronoun) in the resumptive portion of the epanalepsis in 2 Nephi 25:20 hardly seems like the work of a translator who is merely trying to clarify the passage:

   And now, my brethren, I have spoken plainly that ye cannot err. And as the Lord God liveth that brought Israel up out of the land of Egypt, and gave unto Moses power that he should heal the nations after they had been bitten by the poisonous serpents, if they would cast their eyes unto the serpent which he did raise up before them, and also gave him power that he should smite the rock and the water should come forth; yea, behold I say unto you, that as these things are true, and as the Lord God liveth, there is none other name given under heaven....

Also, in the previously mentioned cases of participial epanalepsis, the redundant subject after such short intervening phrases hardly seems like normal English.

The study of epanalepsis, therefore, not only gives us some insight into the writing style of the Book of Mormon authors, but it also gives us some appreciation of the style of Joseph Smith's translation. Whatever the exact process of inspired translation was, we can deduce that it produced an extremely literal translation of the sentences in the text.

Let us conclude with a few general remarks about the motivation behind the use of epanalepsis in the Book of Mormon. Unlike many stylistic devices and certainly unlike its cousin, chiasmus, epanalepsis seems to be an unconscious, or at least unplanned device. It is not an uncommon occurrence in spoken language when a speaker's thoughts begin to wander to use epanalepsis to put the story back on track. The same sort of process seems to have gone on in writing down the Book of Mormon, perhaps especially when narrating a story. And because the Book of Mormon was engraved in metal plates, the engravers didn't really have the option of erasing what they had written in order to better organize their thoughts. Epanalepsis is really the best means they had to return to their original train of thought. And given their obvious penchant for repetition anyway, as is evidenced by their love of chiasmus, it is quite likely that epanalepsis suited their tastes, and especially Mormon's taste, quite nicely.
Notes


2. Ibid.


7. This and all further references to the word counts of the various Book of Mormon authors come from the preface to Hilton and Jenkins and will not be further footnoted.
Scripture Study--Heart, Might, Mind and Strength

Introduction

In ancient literature man has a spiritual as well as a physical being. In Twentieth century naturalism we ignore, if not deny, a spiritual dimension to human existence. Whether or not man has a spirit is a religious question. It also has implications for the teaching-learning process. Educators cannot escape the implications of this issue in developing instructional theory. Any careful explanation of human education must affirm, deny, or intentionally ignore the spiritual dimension of man. We here use a data base that affirms a spiritual as well as a physical dimension to man's nature.

Canonized (formally accepted) Judeo-Christian literature is referred to as scripture—records of God's word to, and dealings with, man. All Judeo-Christian sects, to one degree or another, acknowledge the ancient revelations. A general collection of these records is now widely distributed in book form as the Holy Bible. Traditionally, these writings have been divided into pre- and post-Christian writings and are presented under the titles of the Old Testament (Covenant) and New Testament (Covenant).

The Church of Jesus Christ of Latter-day Saints proclaims that God continues to communicate with man. This church embraces the ancient revelations, as do other Judeo-Christian denominations, but it also claims additional recorded information of God's dealings with his children on earth. Along with the Holy Bible, Latter-day Saints accept The Book of Mormon: A Second Witness for Christ, which chronicles God's dealings with man in the western hemisphere between 2200 B.C. and A.D. 421; The Doctrine and Covenants, a collection of revelations directing the restoration of the Kingdom of God to the earth in these latter days; The Pearl of Great Price, which contains an expanded record of the writings of Moses and Abraham beyond those contained in the Bible; and some of the writings of the Latter-day Prophet, Joseph Smith. These four collections of revelation are referred to as "the standard works" and are used in conjunction with contemporary revelation to govern and guide the affairs of the Church. (In this study the abbreviations BM, D&C, and PGP will be used to denote The Book of Mormon, Doctrine & Covenants and Pearl of Great Price. The term Triple will be used to denote their combined usage.)

We express this note of caution concerning the scriptures. Terms such as heart, mind, might and strength were used as symbols in a particular manner by holy men as they were directed by the Holy Spirit. Those symbols may take on various meaning because the senses of a symbol are supplied by the reader. We do not all understand or interpret symbols in the same manner. That is why the general purpose of the scriptures is not to make clear to man all the ways of the Lord. They were not written to provide textbook...
definitions and concise explanations and answers for all doctrinal questions. The scriptures are neither topically organized nor complete in their treatment of any one subject matter. Man, unaided by the Spirit of God, is very limited in his power to interpret correctly the meaning of the scriptures. They need to be read with the same spirit in which they were written in order to be correctly understood. The results of man's efforts to translate the Bible are proof of his fallibility. This is one reason that we do not expect to find clear-cut answers fully outlined and described in the scriptures. But rather, by searching the scriptures we may prepare ourselves for a better understanding of what the Lord has revealed concerning important truths, such as the nature of man.

**Purpose of this Study**

The purpose of this study was to examine all the references in these "standard works" that refer to the **Heart, Mind, Might,** and **Strength** of man. As researchers, we assumed that insights into the nature of man may result from a systematic and rigorous examination of these terms in their revelatory context. Accepting the data at their face value, as a revelation of God's knowledge, we anticipated the possibility of obtaining a more correct perception of man's nature and thereby shedding light on factors related to the teaching-learning process. Our immediate objective was to establish, if possible, tentative descriptive definitions for these four terms, which could then be used as guides in further research, exploration, and explanation of teaching and learning.

**Research Procedures**

A computer search generated 3,306 occurrences of the four terms in the standard works. Each of these was printed on 4x6 card stock, along with the complete verse in which it appeared. An initial reading reduced the references to 2,359 relevant citations. (Instances in which the term might was used in ways not related to our study, such as in Genesis 36:7, "that they might dwell together," which uses the term as an adverb rather than a noun, were discarded.) The remaining cards were then cataloged under the appropriate term, resulting in the following distribution: Heart--1,598, Mind--240, Might--115, Strength--406. (See Appendix A, Table 1.)

Each tetradic (all four terms appearing in the same verse), triadic (three of the terms appearing in the same verse), and dyadic (two of the terms appearing in the same verse) use of the terms was identified and classified accordingly. There were 3 tetrads (7 tetrads if one allows the term soul or understanding to be used in place of one of the four terms), 6 triads (9 if one allows soul to be used in place of one of the four terms), and 55 dyads (67 total dyads, but only 55 have a direct and meaningful relationship). (See Appendix A, Table 2.)

The citations under each of the terms **heart, mind, might,** and **strength** were then carefully considered and classified under relevant headings and subheadings of variant meanings. References to heart were classified under 5 general categories and 53 subheadings within these categories. References to mind were classified under 3 general categories and 20 subheadings. References to might were classified under 3 categories and no subheadings. References to strength were classified under 8 general categories and no subheadings. The general classifications were arbitrary selections that grew out of reading and discussing the scriptures. The subheadings were the outcome of a more critical analysis. (See Appendix C.)

To organize the data in a manner that conveyed an accurate definition of each term, it was necessary to be sensitive to several considerations in determining what each term
represented. These considerations were formulated into five steps that functioned as rules or guidelines to assist us in making interpretations. These guidelines are as follows:

1. The meaning of a word can be validated only by accurately understanding the context within which that word is used. Our work with the scriptural use of the terms heart, mind, might, and strength clearly demonstrated the fragile connection between a word and its meaning. This problem is further complicated by the translation process. Context can be easily changed or lost in this process. (See Appendix B for a more detailed discussion of this problem.)

2. Generic classes can be used to facilitate the organizing of the data according to similarity of use. The volume of the data with which we were working and the variety of meanings associated with the four terms demanded some form for clustering the material into meaningful and useful categories. For example, the term heart appeared 1,598 times. The examination of these citations revealed 312 distinct contexts. These distinct contexts were reduced to 5 general classes.

3. Classes of data can be physically arranged in file boxes for further study and examination. Each file box included an index which was color coded, making the location of scriptural references easy and convenient. For biblical references their Hebrew or Greek lexical root was written on the card, as well as other useful information, such as cross references or a reference to the Joseph Smith Translation of the Bible.

4. Subheadings that reveal differences and similarities in the use of the various terms can help determine distinct and unique meanings. Generic headings represent the various meanings or senses in which the term may be used, while the subheadings represent the characteristics of the various senses in which the word is used. A careful examination of the similarities and differences revealed by the various subheadings provides a basis for deriving a semantical definition for a particular term. This data base also reveals differences in patterns of word usage between the Bible and Restored Scriptural sources. (See Appendix C.)

5. Following guidelines one through four will reduce the window of definition available for each term and thereby restrict the range of meaning that can be appropriately applied to a given term. (See Appendix D.) If the scope of meaning that can be appropriately applied to a given term is not limited, its original meaning becomes easily obscured and readers are left at the mercy of misuse and possible confusion.

Analysis of the Data

Two general approaches were used in analyzing the data. The initial approach was to examine the various ways each term was used and to identify as clearly as possible the context for those uses. The recognized variations are reflected in the categories and subcategories that developed as the different scriptures were classified according to use. (See Appendix E.) This procedure revealed a range of possible uses, a comparative popularity for each use, and a contextual probability for mutually distinct meanings for the four terms. In addition to the general classification process, the biblical occurrence of each term was checked against its Hebrew or Greek genitive (the word used in the original language). For example, using this procedure we determined there were eight different Hebrew genitives and three different Greek genitives that are all translated to the English word "heart." (See Table A, Appendix B for the specific tabulation.) The result of this analysis was provocative, but not conclusive, in answering our basic question.
The second approach used in analyzing the data examined the way in which the words were used with each other and in the structure of the phrases or sentences in which they appear. A careful consideration of 15 syntactical or rhetorical devices associated with the uses of these terms provided support as well as raising questions regarding the possibility of mutually distinct meanings for each of the four terms, the evidence not being conclusive. A semantical approach strives to establish meaning for a term by checking it against the context which envelops the term. For the purpose of this study the scriptural citation in which the terms heart, mind, might, and strength appear was considered as the context. Initially, these respective contexts were used to create the various categories and classifications of the terms described above. These contexts were then challenged by a reexamination of each term to see if it could legitimately remain in the category to which it had been assigned. Adjustments were made where necessary. The categories were then used to double check the meanings that should be assigned to the respective terms. The results again allowed the possibility of mutually distinct meanings for each of the terms, but did not close the door on alternative explanations. The final check was an examination of the data to determine if a comparison of the terms with each other as they appeared in tetradic (all four together), triadic (three together), and dyadic (in pairs) forms would enhance or discourage mutually exclusive definitions. New insights appeared. We learned that all the tetradic occurrences were found in the Doctrine and Covenants and that in every instance the message was that everything these terms represented (whatever that might be) was to be focused on serving Jesus Christ. We also learned that in every triadic usage, the term heart was the missing term—suggesting the terms mind, might and strength were lesser extensions of the more central focus, the person. The paired usage of these terms gave us our most compelling evidence. Whether the pairs were used in a composite, equally weighted form such as I Chronicles 28:9, "and serve him with a perfect heart and a willing mind," or in a contrasting fashion as in Alma 13:4 "hardness of their hearts and blindness of their minds," overall pattern augers well for mutually distinctive components of meanings. The denial of this evidence is more difficult to defend than its acceptance.

We acknowledge at the conclusion of this analysis that on the basis of the data alone, we are not in a position to say there is incontestable linguistic proof that heart, mind, might and strength are mutually distinct and definable components of human nature. What we are confident in saying is that the preponderance of linguistic data do support a window of possibility within which one can comfortably and rather clearly define important differences between heart, mind, might, and strength as related but mutually distinct domains within human nature. We are also inclined to argue that the significance of this possibility appears to be so critical to the correct understanding of human nature that it may invalidate or require the reexamination of nearly all contemporary explanations of human nature.

Possible Descriptive Definitions

After carefully analyzing the data according to these procedures, we established the following tentative descriptive definitions. Each of these definitions fits within the window of possibility that remained after we complied with the research provisions. Additional work may make these definitions more operational for evaluation and measurement purposes. In their present form, they are operationally adequate for some theory development.

Heart. The term heart denotes one's character or disposition; it is the governing attitude and feeling of a person. This character or disposition is formed as the individual expresses life in the form of choices. Making choices, in the sense of making commitments, is a function of the heart. The heart constitutes the decision-making center
of human personality and manifests itself as disposition--prevailing tendency, mood or inclination. A person's heart--character or disposition--is subject to change. It not only makes choices, but is influenced by those choices. The heart can also be influenced by forces external to itself. One's heart is distinct from, but necessarily linked to one's mind.

**Mind.** The mind is a system of attracting, organizing, and implementing knowledge or information for use by the heart. It is man's capacity to become aware of things as they are, as they have been or as they will be. The mind, as a capacity, is a tool subject to the management and leadership of the heart. Apparently, it is possible for an individual to choose to relinquish the management and leadership of their mind to another personality but it is not possible to transfer the responsibility for the consequences of that choice.

**Might.** Might refers to the resources--both temporal and spiritual, internal and external--that are legitimately accessible to a person. Might describes all the resources that an individual commands or controls that are at his or her disposal. It includes the moral influences and other forces or materials that are under his or her dominion.

**Strength.** Strength refers to the physical properties associated with an individual's body that are sources of power. These include generative powers in the form of muscle, bone, and tissue; regenerative powers in the form of bodily systems such as the circulatory, respiratory, digestive, neural, and glandular; and procreative powers, i.e., sexual reproductive powers.

**Conclusion and Discussion**

The use of these four terms by God and his representatives to describe the relevant dimensions of human nature can be considered semantic, not stylistic. The four terms do seem to represent mutually distinct components within human nature. It is possible to develop a clear and sensible set of mutually distinct definitions. These definitions provide a technically significant rationale for understanding human nature that has implications for the teaching-learning process. The governing and responsible center of human nature, designated by the heart, has at its disposal a powerful tool, the mind, that is in constant need of management and control. It seems clear that each individual presides over a dominion of resources, called might, that are at his or her disposal. The temporal dimension of man is designated by the term strength, which signifies the physical components and boundaries of the mortal human being. Any attempts to study human nature that deny, ignore or confuse the possibilities implied in this research may entail serious or detrimental limitations.

**Implications**

Some of the general implications of this research for educators could be these:

1. Man is fundamentally a spiritual being functioning in a temporary and restricted mortal environment. Focusing on the temporal dimension of his being while ignoring the spiritual dimension may obscure an understanding of his primary nature and faculties.

2. That dimension of man known scripturally as the heart--character--should be the point of focus and the object of influence for any educational enterprise. Any other approach would, by definition, be misdirected and inappropriate--it would be heartless education.
(3) The mind is a means and not an end in the configuration of human nature. It should be understood and used, but it legitimately belongs to the individual and should not be possessed, circumscribed or coerced by some other personality for training or any other purpose. This does not deny that, by volition, an individual can synchronize his or her mind with some other personality and join that person in mutual endeavors.

(4) The mind is capable of enlargement through proper use, and the heart is capable of perfected development according to prescribed principles.

(5) The might and strength of an individual are the grounds of conventional contact with that person. These are the aspects of human nature most easily understood and most available for use in human interaction. It is through the mind that the person accesses, applies, and adds to or subtracts from these resources. The proper use and expansion of might and strength represents true education. Through the proper discernment of a person's might and strength the educator can discover keys for effectively interacting with an individual's mind and heart.

Appendix A

Table 1

Numerical Distribution of the Occurrences of the Terms Heart, Mind, Might and Strength in the Standard Works

<table>
<thead>
<tr>
<th>Scriptural Source</th>
<th>Referent</th>
<th>Total</th>
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</thead>
<tbody>
<tr>
<td></td>
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<td>45</td>
</tr>
<tr>
<td>NEW TESTAMENT</td>
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<td>70</td>
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<tr>
<td>BOOK OF MORMON</td>
<td>456</td>
<td>63</td>
</tr>
<tr>
<td>D &amp; C</td>
<td>190</td>
<td>44</td>
</tr>
<tr>
<td>PEARL OF G. P.</td>
<td>24</td>
<td>18</td>
</tr>
<tr>
<td>BIBLE</td>
<td>928</td>
<td>115</td>
</tr>
<tr>
<td>TRIPLE</td>
<td>670</td>
<td>125</td>
</tr>
<tr>
<td>GRAND TOTAL</td>
<td>1598</td>
<td>240</td>
</tr>
</tbody>
</table>

* The total number of instances in which the term might is used in the scriptures is followed by the number of instances in which might is used as a noun.
Table 2
Identification And Classification Of Tetrads, Triads, And Dyads
Using The Terms Heart, Mind, Might, And Strength

I. Tetrads: coordinate (not subordinate or appositive) words, phrases, or
clauses in a group of four, as in Revelation 14: 6 "every nation, kindred, tongue, and
people".

A. Scriptural References Using The Terms Heart, Mind, Might, and
Strength:

1. Doctrine & Covenants 4: 2 "... serve him with all your heart, might, mind and strength..."
2. Doctrine & Covenants 59: 5 "... love the Lord thy God with all thy heart, with all thy might, mind, and strength..."
3. Doctrine & Covenants 98:47 "... turn to the Lord their God, with all their hearts and with all their might, mind, and strength..."

B. Tetradic Scriptural References Using Substitute Terms:

1. Mark 12:30* "... love the Lord thy God with all thy heart, and with all thy soul, and with all thy mind, and with all thy strength..."
2. Mark 12:33* "... love him with all the heart, and with all the understanding, and with all the soul, and with all the strength..."
3. Luke 10:27* "... love the Lord thy God with all thy heart, and with all thy soul, and with all thy strength, and with all thy mind..."
4. 2 Nephi 25:29 "... worship him with all your might, mind, and strength, and your whole soul..."

* Using Strong's Exhaustive Concordance Of The Bible, the following underlined terms are the lexical equivalents in Greek used in the Biblical translation:
   Heart: Kardia, the heart
   Soul: Psuche, the breath or spirit
   Mind: Dianoia, deep thought- mind, imagination, or understanding
   Strength: Ischus, forcefulness, ability, might, power

II. Triads: coordinate words, phrases, or clauses in groups of three's, e.g., lock, stock, and barrel, or life, liberty, and the pursuit of happiness.

A. Scriptural References Using Three Of The Terms Heart, Mind, Might, and Strength:

1. Mosiah 2:11 "... serve you with all the might, mind and strengths.
2. Alma 39:13 "... turn to the Lord with all your mind, might, and strength..."
3. Moroni 10:32 "... love God with all your might, mind and strength...
4. Doctrine & Covenants 11:20 "... keep my commandments, yea, with all your might, mind, and strength..."
5. Doctrine & Covenants 20:31 "... love and serve God with all their mights, minds, and strength..."
6. Doctrine & Covenants 33: 7 "... reap with all your might, mind, and strength."

B. TRIADIC SCRIPTURAL REFERENCES USING SUBSTITUTE TERMS:

1. Deuteronomy 6: 5* "... love the Lord thy God with all thine heart, and with all thy soul, and with all thy might."
2. 2 Kings 23:25* "... turned to the Lord with all his heart, and with all his soul, and with all his might ..."
3. Matthew 22:37* "... love the Lord thy God with all thy heart, and with all thy soul, and with all thy mind."

* Using Strong's Exhaustive Concordance Of The Bible, the following underlined terms are the lexical equivalents in Hebrew for Old Testament citations and in Greek for New Testament citations:

Heart: Hebrew: Lebab, the heart (as the most interior organ).
Greek: Kardia, the heart
Soul: Hebrew: Nephesh, a breathing creature, vitality
Greek: Psuche, the breath or spirit
Might: Hebrew: Me'od, vehemently, diligently
Mind: Greek: Dianoia, deep thought--mind, imagination

III. Dyads: coordinate pair of words, phrases, or clauses, such as sugar and spice.

A. Heart - Mind (36 relevant citations)

<table>
<thead>
<tr>
<th>Bible:</th>
<th>Book of Mormon:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deuteronomy 28:65</td>
<td>1 Nephi 7: 8</td>
</tr>
<tr>
<td>1 Samuel 2: 35</td>
<td>1 Nephi 14: 7</td>
</tr>
<tr>
<td>1 Chronicles 28: 9</td>
<td>1 Nephi 17:30</td>
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<td>Ezekiel 36: 5</td>
<td>Jacob 3: 1-2</td>
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<td>Daniel 5:20</td>
<td>Jarom 1: 3</td>
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<td>Philippians 4: 7</td>
<td>Mosiah 2: 9</td>
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<td>Hebrews 8:10</td>
<td>Mosiah 7:33</td>
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<td>3 Nephi 2: 1</td>
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<td>3 Nephi 7:14</td>
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<tr>
<td></td>
<td>Ether 4:15</td>
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<tr>
<td></td>
<td>Ether 15:19</td>
</tr>
</tbody>
</table>

| D&C:                   |                         |
| D&C 6:22               |                         |
| D&C 8: 2               |                         |
| D&C 43: 34             |                         |
| D&C 45:65              |                         |
| D&C 64:34              |                         |
| D&C 104:81             |                         |

| Pearl of Great Price:  |                         |
| Moses 4: 6             |                         |
| Moses 7: 18,33         |                         |
| Joseph Smith - History 2: 6, 71: 7 |         |
B. **Heart - Strength** (12 relevant citations)

<table>
<thead>
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<th>Bible:</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Job 9: 4</td>
<td>2 Nephi 4:26</td>
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<td>Psalms 28: 7</td>
<td>Mosiah 11:19</td>
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<tr>
<td>Psalms 38:10</td>
<td>Mosiah 12:29</td>
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<tr>
<td>Psalms 73:26</td>
<td>Alma 26:11</td>
</tr>
<tr>
<td>Psalms 84: 5</td>
<td>Alma 31:11</td>
</tr>
<tr>
<td>Luke 1:51</td>
<td>Helaman 16: 15</td>
</tr>
</tbody>
</table>

C. **Might - Strength** (5 relevant citations)

D. **Heart - Might** (2 relevant citations)

<table>
<thead>
<tr>
<th>Bible:</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Deuteronomy 8:17</td>
<td>D&amp;C 110:6</td>
</tr>
</tbody>
</table>

**Appendix B**

The Challenges and Difficulties Associated With Translation

For the purposes of this study, the Bible was considered in a different light than the other standard works. The Bible is the word of God "as far as it is translated correctly" (PGP, Articles of Faith #8). Because the Bible has been subjected to numerous translations over a large span of years without the availability of the original documents, it has been very susceptible to errors and changes. The Book of Mormon, Doctrine & Covenants, and the Pearl of Great Price are accepted as direct revelation or inspiration from God and recorded as such. Joseph Smith served as the principal receptor of these modern-day revelations, and his record stands today in these standard works with almost no variation from the original documents beyond grammatical, format, and typographical adjustments.

Webster's dictionary defines translation as "the act of giving the sense or equivalent of, as a word or an entire work, in another language; to give form to ideas; also, to interpret; hence, to explain in other words." It is simply the rendering of a literary work originally produced in one language into another. At one extreme of translation stands the literal rendering of the work into another language, word for word, without concern for the primary differences in grammatical structure, idiom and imagery between the two languages (known as a literal translation).

At the other extreme is the adaptation of the work into another language, an attempt to comprehend and communicate the spirit and meaning of the work by adopting it to the conventions and idioms of the language in which it is being rendered (known as an idiomatic or free translation). Translations always involve interpretation; a translator uses the imperfect medium of language to render in another symbolic form what he thinks the author said. A faithful, or word-for-word translation, can rarely preserve the meaning the author intended. Commenting on this phenomenon, Hugh Nibley wrote:

> If language followed natural laws, then the area of intuition might be reduced to nothing and a machine for perfect translation be devised. But one of the greatest charms of language is that it may be used waywardly, wantonly, whimsically, ironically, subtly, naively, or literally to any degree which a writer chooses--and it is the greatest masters
of language that take the most liberties with it. ("Way of the Church," June 1955, p. 385)

Beeckman and Callow, writing about the translation process, add:

The goal should be a translation that is so rich in vocabulary, so idiomatic in phrase, so correct in construction, so smooth in flow of thought, so clear in meaning, and so elegant in style, that it does not appear to be a translation at all, and yet, at the same time, faithfully transmits the message of the original. (Translating The Word Of God. Zondervan Publishing House, 1974)

Translation involves many difficult decisions. In the choice of words and phrases, a translator must choose among alternatives in the receptor language. Other issues, such as what should remain implicit and what should be explicit, must be decided. Implicit information, for example, is found in the same paragraph or an adjacent one (the immediate context), elsewhere in the same document (the remote context), and outside the document (the cultural context). Two important questions that need to be answered to determine the faithfulness of a translation are 1) Does the translation communicate the equivalent meaning of the original? and, 2) Does it communicate it as clearly and as idiomatically as the original did? This study is mainly concerned with the first question, although answers to the second question may help shed light on the meanings of the terms heart, mind, might and strength as used in the scriptures.

All scriptural citations from the Bible are based on the Authorized King James Version (1611). This translation is extremely faithful to the texts available at the time of translation and can be classified more as a literal translation than a free translation (see J. Reuben Clark's Why The King James Version for a more detailed discussion of this problem). One weakness of a literal translation is that it transfers the linguistic form of the original language to that of the receptor language whether or not this is the most natural and clearly understood form. In a more idiomatic translation, the translator uses the natural grammatical and lexical forms of the receptor language to convey the meaning of the original. (See the American Revised edition for an example of this type of translation.) Even the King James translators, who were selected because they were learned men "having special skill in the Hebrew and Greek languages, having taken pains in their private studies of the scriptures for the clearing of any obscurities either in the Hebrew or Greek, or touching any difficulties or mistakings in the former English translations," expressed the liberties they took with their word selection:

For is the kingdom of God become words or syllables? Why should we be in bondage to them, if we may be free? use one precisely, when we may use another no less fit as commodiously? . . . therefore he [God] using divers words in his holy writ, and indifferently for one thing in nature: we, if we will not be superstitious, may use the same liberty in our English versions out of Hebrew and Greek, for that copy or store that he hath given us.

We have not tied ourselves to a uniformity of phrasing or to an identity of words. (Foreword To The Authorized King James Version)

It may appear that all translations can be classified on a continuum ranging from "'literal" at one extreme to "idiomatic" at the other extreme. This approach does not accurately
reflect the basic issue of translation. The differences between translations are more often of emphasis rather than degree of faithfulness. Because languages have different structures, no translation can be completely literal and at the same time convey the meaning accurately. The King James Version is very literary and makes use of many rhetorical figures of speech. Such translations become more complicated as both meaning and power of expression become intertwined to produce good literature. Before considering the actual Biblical citations involving the four terms of this study, we must give attention to the three main reasons why translations often produce unclear passages. They will serve as useful cautions in the analysis of the Biblical data.

(1) **Loss of meanings originally understood by both the author and his audience.** We must assume that the author wrote in a language which was understood by the people to whom his writing was addressed. A translator, therefore, must be highly competent in the language of the original documents and in its nuances and peculiarities. There are no known surviving original manuscripts of the Bible. With the exception of several chapters of Ezra and Daniel, the books of the Old Testament were written in Hebrew. The Hebrew language was generally maintained up to the exile of Israel (722 B.C.) and Judah (586 B.C.), when Aramaic replaced it as the spoken language. At the time of Christ, Greek was the language spoken in the Mediterranean region. Although they were influenced by the Hebrew and Aramaic languages, it appears that the books of the New Testament were originally written in Greek. The Gospels of Matthew and John are possible exceptions. The King James translators were selected based on their "having special skills in the Hebrew and Greek languages," but this was no guarantee that they understood what had been written in those languages and cultures thousands of years before. If a specific concept of the original is unknown or lost, a translator must decide what equivalent it will be given in the receptor language. He may do so by modifying a generic word. Thus, if to the translator the heart represented the base of rational thought, the term **mind** would be used when the faculty is referred to for rational thought. To another translator, it could be the mind that is responsible for rational thought.

(2) **Poor translations.** When we read a book that has been printed from a manuscript prepared by the author himself, and is published under his guidance, we do so with the confidence that its text represents the intended author's meaning in its wording, and even in the details of its punctuation. Any deviation from the author's original intention we attribute to the reader. Although any number of readers may misinterpret or misunderstand the author, having the original document as written and approved by the writer makes it much more possible for one to correctly interpret and understand the intended meaning of the written words. That possibility of correctly understanding the author's meaning is seriously jeopardized when the original documents are lost and only copies or translations into other languages are available. In the case of the Bible, the available texts are copies that are separated from their originals by centuries, with an unknown number of intermediary copies, and in many cases by languages.

No original biblical manuscripts are available today, and many of the documents that were copied over the centuries were, in fact, copies of other copies of the originals. The possibility for errors to occur in copying a text is great. Errors can be introduced by both the casual or absentminded scribe as well as by the conscientious scribe. The results are predictable -- a copy tends to preserve and add to the errors of its predecessors. Many versions of the Bible are available today because translators did not always use the same Hebrew and Greek texts or have the same understanding of the original Hebrew or Greek. None of these texts were free from transcriptional errors. Although the work of the scribes was monumental in preserving the Biblical texts, we must be careful to differentiate between differences that are presented as corrections of faulty texts, and
differences that are deliberate alterations to avoid theologically unacceptable writings. Joseph Smith stated, concerning this matter, "I believe the Bible as it read when it came from the pen of the original writers. Ignorant translators, careless transcribes, or designing and corrupt priests have committed many errors." (Teachings Of The Prophet Joseph Smith, p. 327)

Before the invention of the printing press, all documents were copied by hand. Different kinds of material were used for writing in ancient times. From about 200 B.C., a special technique of treating leather was used to produce parchment, which became the principal material for writing. Scrolls were inconvenient to use, and the codex (book with pages) replaced the scroll as the most common format for recording written records. Papyrus and parchment were subject to wear and tear and decay; this necessitated their being copied. It was difficult to keep errors from becoming part of the documents. A word might accidentally be missed or repeated; groups of words might be inadvertently transposed or replaced by synonyms; handwriting might have been difficult to read, requiring guessing. Errors might have been due simply to carelessness. Scribes often worked under poor conditions and were required to work rapidly without being familiar with the material they were copying. Or if he was familiar with the material, a scribe might have felt that some corrections were needed to clarify the meaning of the text, or to increase its readability and so altered the manuscript. The possibilities for errors are endless, but the major challenges can be summarized as follows:

(A) The confusion of letters and even words with similar appearance. The Hebrew script has several letters that are very similar in appearance and can easily be mistaken.
(B) The accidental transposition of letters within a word.
(C) The incorrect division of a group of words or of groups of letters into words.
(D) Dittography, the accidental duplication of a letter or letters in a single word or group of words.
(E) Haplography, the failure on the part of the copyist to repeat a letter, a group of letters in a word, or even a whole word.
(F) Homoioteleuton: a word in a line occurs again in the next line; and the copyist, having written that word in the first line, continues from that word in the next line, thus leaving out all the intervening words.
(G) The incorrect vocalization of a correct consonantal text due to a misunderstanding or divergent interpretation of the author's intent.
(H) Glosses, a brief note, often consisting of a single word that was evidently written above a word that was thought to need some clarification, and meant to remain external to the text. In the course of time, such explanatory notes were incorporated into the text.
(I) Carelessness or fatigue.
(J) When confronted with a strange word or with a familiar word that produced either an unacceptable or nonsense meaning, the scribe inserted another word to fit the context.

The evidence from the comparisons of available texts suggests that the incidence of copyists' errors are infrequent. Their presence, however, indicates a real need to seek supporting evidence for any possible interpretation given for a single passage. The problem is magnified as errors enter into texts and are then propagated in copies.

(3) Language change. Hebrew and Aramaic are Semitic languages, having a different sentence structure than English. Hebrew and Greek have different verbal systems than English, which requires some adaptation in the tenses used. When the
books of the Old Testament were written, biblical Hebrew was a living spoken language. It possessed a range in vocabulary and grammatical construction much greater than that which can be determined by a few limited surviving documents. Words and phrases that were unintelligible to translators may have been replaced with more familiar terms, thus losing the original meaning. Living languages constantly change, and words that translators may have used in 1611 have taken on different meanings.

Cultural influence may have played a significant role in the word selection of translators. For example, in the 16th century the liver was considered to be the seat of affection and passion. References to the liver as the organ of love can be found in Shakespeare's plays. In our modern society, the liver is never associated with love; it is the heart from which love springs. A translator from either century would approach a reference to the seat of love in man with a different understanding. Jerome, who translated the Latin version of the Bible from the Hebrew and Greek, wrote, "I could translate only what I had understood before." (Quoted in Beeckman & Callow Translating The Word Of God.)

The Hebrew and Greek world views probably exerted an influence on the translators. For example, the Greek influence, with its passion for categorization and definition, provided more alternative ways to express concepts. The New Bible Dictionary provides the following explanation in their definition of the term heart:

The Hebrews thought in terms of subjective experience rather than objective, scientific observation, and thereby avoided the modern error of over-departmentalization. It was essentially the whole man, with all his attributes, physical, intellectual, and psychological, of which a Hebrew thought and spoke, and the heart was conceived of as the governing centre for all of these. Character, personality, will, and mind are modern terms which all reflect something of the meaning of "heart" in its biblical usage. The heart is, however, a wider term, and the Bible does not distinguish the rational or mental processes in the way the Greek philosophy does.

The translators may have restricted the use of the four terms heart, mind, might, and strength so that they were congruent with the philosophical tenets of the Hebrews in the Old Testament and the Greeks in the New Testament. (See Table 1 in Appendix C for a comparison of the frequency in which the four terms are used in the standard works. Note, for example, the high frequency in the New Testament of the use of the term mind as compared to the frequency of its usage in the Old Testament.)

Biblical Data

The reader is well aware by now that human limitations prohibit perfect translations. All translations are susceptible to error and distortion. The Bible in its translated form has limitations. It does contain the word of God, and as such it is a valuable resource for understanding truth. But one must ask the questions: Does the Bible today contain those things which the holy men of God spoke by divine inspiration? Are the messages the same, or have they been altered? Since we no longer are in possession of the original manuscripts, are the meanings of these texts as the translators understood them? In order to answer such questions we must be aware of 1) the senses of the Hebrew and Greek words as used by the authors, 2) the senses of the Hebrew and Greek words as understood by the translators, 3) the English words adopted for their Hebrew and Greek equivalents, 4) the senses of the original Hebrew and Greek words as understood today, and 5) the senses of current Hebrew and Greek words as we understand them today. Unfortunately this information is not available to us today. We can only examine the data
as we now find them and try to understand them in the light of those considerations we have discussed.

Using Strong's Exhaustive Concordance Of The Bible, we can identify the English lexical equivalents of the Hebrew and Greek texts. Each of the four terms is listed in Table A and Table B with their Hebrew or Greek genitives and the percentage of occurrences when that term was translated from that genitive (all references to the Hebrew are from the Old Testament; all references to the Greek are from the New Testament).

Several things become readily apparent from an examination of these data. First, there are multiple lexical genitives in the Hebrew and Greek for each of the four English terms. Second, some of the same lexical genitives are shared by or translated into different English words. For example, the Hebrew word nephesh is translated 15 times as "heart," and 15 times as "mind." (See Table C for a more detailed comparison of the shared genitives for the terms heart-mind and might-strength.) Multiple genitives for each term, some of which are shared, are the results of translation and indicate that any interpretation of Biblical references must be made with caution. Human language, as a medium of communication, is imperfect in its forms and meanings. We can not account for the actions or intentions of all who have influenced the present state of the Bible and must refrain from making judgments concerning the accuracy of the Biblical references. The other standard works--modern revelatory literature--are used to determine the basic meanings that will be affixed to the terms heart, mind, might and strength, and as a standard from which we may compare the Biblical data. It is the authors' conviction that the sources of the modern revelatory scriptures are both sound and more reliable.
Table A

Genitives in the Hebrew and Greek For the Terms Heart and Mind

<table>
<thead>
<tr>
<th>Hebrew Genitives</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>leb</td>
<td>502</td>
<td>66</td>
</tr>
<tr>
<td>lebab</td>
<td>227</td>
<td>30</td>
</tr>
<tr>
<td>nephesh</td>
<td>15</td>
<td>2</td>
</tr>
<tr>
<td>libab</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>lbab</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>bal</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>mecah</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>qereb</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Greek Genitives</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>kardia</td>
<td>160</td>
<td>98</td>
</tr>
<tr>
<td>sklerokardia</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>psyche</td>
<td>1</td>
<td>0.1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hebrew Genitives</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>nephesh</td>
<td>15</td>
<td>39</td>
</tr>
<tr>
<td>leb</td>
<td>11</td>
<td>29</td>
</tr>
<tr>
<td>ruach</td>
<td>6</td>
<td>16</td>
</tr>
<tr>
<td>lebab</td>
<td>4</td>
<td>11</td>
</tr>
<tr>
<td>yeqar</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>peh</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Greek Genitives</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>nous</td>
<td>19</td>
<td>29</td>
</tr>
<tr>
<td>dianoia</td>
<td>10</td>
<td>15</td>
</tr>
<tr>
<td>phroneo</td>
<td>9</td>
<td>14</td>
</tr>
<tr>
<td>prothumia</td>
<td>5</td>
<td>8</td>
</tr>
<tr>
<td>noema</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>psyche</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>anamimnesko</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>gnome</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>sophromeo</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>phonema</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>ennola</td>
<td>1</td>
<td>1.5</td>
</tr>
<tr>
<td>epanamimnesko</td>
<td>1</td>
<td>1.5</td>
</tr>
<tr>
<td>homothumalon</td>
<td>1</td>
<td>1.5</td>
</tr>
<tr>
<td>homophron</td>
<td>1</td>
<td>1.5</td>
</tr>
<tr>
<td>prothumos</td>
<td>1</td>
<td>1.5</td>
</tr>
<tr>
<td>tapeinophrosune</td>
<td>1</td>
<td>1.5</td>
</tr>
<tr>
<td>hupomimesko</td>
<td>1</td>
<td>1.5</td>
</tr>
</tbody>
</table>
### Table B

**Genitives in the Hebrew and Greek for the Terms Might and Strength**

#### MIGHT

<table>
<thead>
<tr>
<th>Hebrew Genitives</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>gebuwrath</td>
<td>26</td>
<td>11</td>
</tr>
<tr>
<td>kowach</td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td>chayil</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>owz</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>own</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>ezuwz</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>teqoph</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>yako'el</td>
<td>1</td>
<td>.5</td>
</tr>
<tr>
<td>yakowl</td>
<td>1</td>
<td>.5</td>
</tr>
<tr>
<td>me'od</td>
<td>1</td>
<td>.5</td>
</tr>
<tr>
<td>otsem</td>
<td>1</td>
<td>.5</td>
</tr>
<tr>
<td>* 177</td>
<td></td>
<td>77</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Greek Genitives</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>dunamai</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>dunamis</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>ischus</td>
<td>2</td>
<td>.9</td>
</tr>
<tr>
<td>ischuo</td>
<td>1</td>
<td>.1</td>
</tr>
<tr>
<td>* 222</td>
<td></td>
<td>94</td>
</tr>
</tbody>
</table>

* Use of the term *might* as the past tense of the verb *may*.

#### STRENGTH

<table>
<thead>
<tr>
<th>Hebrew Genitives</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>owz</td>
<td>57</td>
<td>27</td>
</tr>
<tr>
<td>kowach</td>
<td>54</td>
<td>26</td>
</tr>
<tr>
<td>macuz</td>
<td>22</td>
<td>11</td>
</tr>
<tr>
<td>gebuwrath</td>
<td>17</td>
<td>8</td>
</tr>
<tr>
<td>chayil</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>own</td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td>ezuwz</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>etsem</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>netzach</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>tow'aphat</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>mezach</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>chozeq</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>bad</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>ethan</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>tsuwr</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>20 others</td>
<td>20</td>
<td>10</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Greek Genitives</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>dunamis</td>
<td>7</td>
<td>41</td>
</tr>
<tr>
<td>ishuh</td>
<td>4</td>
<td>24</td>
</tr>
<tr>
<td>ischuo</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>stereoo</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>kratos</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>exousia</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>endunamoe</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>astenes</td>
<td>1</td>
<td>6</td>
</tr>
</tbody>
</table>
Table C
Comparison Of Shared Lexical Genitives For The Combinations Of Heart-Mind-Soul And Might-Strength

<table>
<thead>
<tr>
<th>Referent</th>
<th>Incidence of Translation From Hebrew Genitives %</th>
<th>Incidence of Translation From Greek Genitives in %</th>
</tr>
</thead>
<tbody>
<tr>
<td>HEART</td>
<td>leb 2 nepesh 30</td>
<td>psuche 0.1</td>
</tr>
<tr>
<td>MIND</td>
<td>29 39 11</td>
<td>3</td>
</tr>
<tr>
<td>SOUL</td>
<td>99</td>
<td>100</td>
</tr>
<tr>
<td>MIGHT</td>
<td>gebuwrh owz kowach chayil own ezuwz teqoph dunamis ischus ischuvo</td>
<td>11 1 3 2 1 .5 .5 2 .9 .1</td>
</tr>
<tr>
<td>STRENGTH</td>
<td>8 27 26 5 3 1 .5 41 24 6</td>
<td></td>
</tr>
</tbody>
</table>

Appendix C
Distinctiveness And Similarities Among The Terms Heart, Mind, Might, And Strength

In languages there are words which have generic meanings as well as words which have more specific and precise meanings. Transportation is a generic term that encompasses specific types of transportation, such as by air, water, or land. These specific words are semantically related by sharing a component of meaning. By identifying specific words that have some known relationship, these words can be compared and contrasted to identify the differences in meanings between the words. Also, if one can identify the generic category of a known semantic set, the same result can be accomplished.

The terms heart, mind, might, and strength are used in the Biblical record singularly, in dyads, in triads, and in tetrads (see Appendix A, Table 2). When terms are found in these various combinations, their meanings and relationship to each other can help support individual word definitions and help eliminate certain alternative explanations. The primary question we need to deal with is whether or not the use of these four terms in the standard works allows for mutually distinctive referents. Because the prophets who wrote the scriptures understood the message in a certain way and communicated this message by selecting words as symbols to represent this meaning, we must allow the text to serve as a guide in understanding the meaning of these words. We recognize that scriptures can have multiple meanings, and that meanings for symbols are supplied by people, who interpret the symbols. Symbols do mean different things to different people at different times. Our purpose in examining the four terms when used either singularly
or in some combination is to identify, if possible, any shared component of meaning as well as meaning specific to each term.

**Combinations And Relations Of The Four Terms**

The contexts for these terms, when used in their various combinations, communicate a clear message. An examination of their contextual meaning is instructive and insightful. The four terms, when used in various combinations, are linked to a referent by an action verb. In almost every case the referent is Jesus Christ. In 13 of the 16 references in which three or more of the terms are used, the referent is Jesus Christ. The few instances in which it is not specifically Jesus, the terms refer to ways of serving him, such as by keeping the commandments. The verbs that link these four terms to the Lord Jesus Christ are all similar in their connotations. The verb love is used eight times, the verb turn is used three times, serve is used twice, and worship, reap, and keep are each used once. The message is clear: heart, mind, might, and strength are components or features of man's nature that he is to employ in worshiping the Lord Jesus Christ. The Lord states his eternal purpose, "For behold, this is my work and my glory--to bring to pass the immortality and eternal life of man" (Moses 1:39). The Lord's work is to bring about the perfection or completeness of man, and for this to occur, man must fully employ his heart, mind, might, and strength in loving and serving the Lord. Failure to recognize and fully utilize one's heart, mind, might and strength will result in man becoming less than what the Lord makes possible for all men.

From studying the contexts of these scriptural citations we know that heart, mind, might, and strength are members of a semantic set. A semantic set is a group of words that are specifically related to one another, and to which a generic classification can be assigned to identify them as a group. The use of the terms indicates that they are components or features of man's nature--his being. They are the features that man possesses and controls that are required to fully love, serve, and turn oneself to the Lord. The identification of a component shared by all four terms serves as the first step in understanding the distinctive meaning of each term.

If we are to hypothesize that the terms heart, mind, might, and strength are mutually distinctive, then we must ask upon what basis the terms are mutually distinctive. Ultimately, it is the meaning of each term in its proper context that is most important, but alternative approaches may help establish the distinctiveness of the terms of this study. Two useful approaches involve the study of syntax and of semantics. Syntax is the way in which words are put together to form phrases and sentences; semantics is the study or science of meaning in language forms, especially with regard to its historical change. We will examine the data first on syntactical usage, and then on semantics.

**Rhetorical Terms**

Sentence structure differs in each language but generally includes a subject and a verb. To this core are often added objects (direct or indirect) and modifiers (adjectives, adverbs, pronouns). The expansion or shortening of sentences is often completed with the use of rhetorical devices. Each rhetorical device performs a different function within the sentence structure which may produce a different meaning. The examination of the syntactical structure of all tetrads, triads, and combinations helps us to better determine whether the terms are used in a way that reflects their distinctiveness or whether they are used as various expressions of some common component. Following a presentation of the data using the aforementioned combination of terms, other rhetorical devices will be presented as possible explanations or insights into the meaning of the four terms.
Tetrads, Triads And Dyads

We have previously discussed in Appendix B the special nature of the Biblical citations. The effects of translation and deliberate changes in the Biblical record become evident as we compare the references using combinations of the four terms. Only three tetradic references use the four terms in the standard works, all three are found in the Doctrine & Covenants. The substitute terms soul and understanding are used in three other tetrads found in the Bible and one in the Book of Mormon. Six scriptural references use three of the four terms (triad). Of the six, three are found in the Book of Mormon, three in the Doctrine & Covenants. If the substitute term soul is considered, three other triads may be identified in the Biblical account. Of the six true triads, the term heart is always missing; and of the three references using a substitute word, the term strength is always missing.

As mentioned, an examination of the contexts of each of these references reveals a clear message. Conjoining words are often used to reinforce one another, not to distinguish each term. That is, as the number of terms in a conjoined series increases, the meaning of each term decreases, since it is contrasted with more terms with no appreciable change in the meaning for the whole. Certainly there is some overlap in the meaning of the terms, for they are complimentary. The Lord emphasizes his message and uses the rhetorical force of all four terms in conveying that message. If we hypothesize that the meanings of the four terms are separate and distinct, and complementary in defining a semantic set, then it becomes necessary to isolate the significance of the triads without one of the terms to see how the other terms contrast with the isolated term. This presents no difficulty in arranging the data, for the term heart is always missing in the triads. We examined the contexts of each of the triads and found them to be very revealing. Before the specific injunction to serve or love the Lord with your might, mind and strength, reference is made to a particular disposition or state of righteousness in which one must be found. Accompanying scriptures provide the contextual meaning for the term heart, and once one's heart is in the proper state identified by the Lord, it then becomes essential to employ one's might, mind and strength in the same regard. The term heart is different from the terms might, mind and strength.

The most compelling evidence of some distinctive components in the meaning of each of the four terms is evident in an examination of the dyads. For example, the most common dyad is that of heart-mind. We have discussed the confusion in the biblical record of translating these two terms from the Hebrew and Greek. Examination of the relationships of the two terms when used together strongly indicates distinctiveness. The two terms symbolize components of man which are interrelated and their relationship may vary from being equally weighed, such as in 1 Chronicles 28:9 "and serve him with a perfect heart and a willing mind," to a completely opposite state, as recorded in Alma 13:4--"hardness of their hearts and blindness of their minds." Various contrasts exist between these two states. Never do they appear to be used as synonyms when used in combination. The term heart has some distinctive component which the term mind does not possess, and vice-versa.

It is difficult, if not impossible, to determine precise definitions for terms that are conjoined in a specific context. Conjoining terms tend to work together when used in the same context. The longer the list of conjoining terms, the more overlap in meaning. Meanings are stable because they overlap. Therefore, there exists some redundancy in the use of the terms in combination, but it is also apparent that differences or distinctiveness exists between the terms.

A discussion of selected rhetorical terms presents alternative explanations of the use of the terms heart, mind, might and strength.
1. **Polysyndeton**: three or more words joined by conjunctions, as in

<table>
<thead>
<tr>
<th>Reference</th>
<th>Terms Joined by Conjunctions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mark 12:30</td>
<td>all thy heart and with all thy soul and with all thy mind and with all thy strength</td>
</tr>
<tr>
<td>Luke 10:27</td>
<td>all thy heart and with all thy soul and with all thy strength and with all thy mind</td>
</tr>
</tbody>
</table>

(See also Mark 12:33, Deuteronomy 6:5, 2 Kings 23:25, Matthew 22:37, Doctrine & Covenants 59:5, and Doctrine & Covenants 98:47.)

The purpose for the insertion of the "ands" is to make the reader slow down and consider briefly each listed word. The author wants the reader to be aware of each term. There are examples of polysyndeton in all the standard works, perhaps an indication of the importance many prophets felt in communicating the distinctiveness and vital relationship of each term, or in emphasizing the overall message from the Lord.

2. **Asyndeton**: giving a series of words or phrases without any conjunction between them, as in

<table>
<thead>
<tr>
<th>Reference</th>
<th>Terms Joined without Conjunctions</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 Nephi 25:29</td>
<td>worship him with all your might, mind, strength, and your whole soul.</td>
</tr>
<tr>
<td>Alma 39:13</td>
<td>turn to the Lord with all your mind, might, and strength, that ye lead away the hearts no more to do wickedly.</td>
</tr>
</tbody>
</table>

Asyndeton allows a reader to move quickly over various matters presented to reach a climactic or summary statement at the end. For example, in 2 Nephi 25:29, the prophet Nephi points out that one could and should worship the Lord with one's mind or one's might or one's strength. However, to emphasize the possibility of one worshipping with some, and not all, of these resources available to man, he includes the summary statement, "and your whole soul."

3. **Permutations**: a form of parallelism in which two parallel lines are quoted with permutations (change in the order of sequence, of elements, or objects in a series) of the original balanced term and its position in the line. If we assume the earliest use of the terms of this study is recorded in Deuteronomy 6:5, we can compare this use with later parallel usages and positions of terms:

<table>
<thead>
<tr>
<th>Scriptural Reference</th>
<th>Terms In Their Positions In The Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deuteronomy 6:5</td>
<td>heart soul might</td>
</tr>
<tr>
<td>2 Kings 23:25</td>
<td>heart soul might</td>
</tr>
<tr>
<td>Matthew 22:37</td>
<td>heart soul mind</td>
</tr>
<tr>
<td>Mark 12:30</td>
<td>heart soul mind</td>
</tr>
<tr>
<td>Mark 12:33</td>
<td>heart understanding soul strength</td>
</tr>
<tr>
<td>Luke 10:27</td>
<td>heart soul strength mind</td>
</tr>
<tr>
<td>2 Nephi 25:29</td>
<td>might mind strength soul</td>
</tr>
<tr>
<td>Mosiah 2:11</td>
<td>might mind strength</td>
</tr>
<tr>
<td>Alma 39:13</td>
<td>mind might strength heart</td>
</tr>
<tr>
<td>Moroni 10:32</td>
<td>might mind strength</td>
</tr>
<tr>
<td>Doct. &amp; Cov. 4:2</td>
<td>heart might strength</td>
</tr>
<tr>
<td>Doct. &amp; Cov. 11:20</td>
<td>might mind strength</td>
</tr>
</tbody>
</table>

The permutations allow for variation in the emphasis placed on different terms, reflecting the dynamic nature of the relationship between them.
With permutations, important meaning cannot be given to individual words or to the order of words, but only to the overall rhetorical effect of the lines. There appears to be distinguishable patterns of usage in the individual books of scripture. In the Doctrine & Covenants, the order of the terms is consistent. See number four, Parison, for further consideration of word order.

4. **Parison**: phrases or clauses in parallel construction often with similar words in similar positions in the clauses. The pattern in which these terms are located in the scriptures, along with the particular terms that are included in these references, may very well be a result of the specific message being communicated in each book of scripture. Consider the scriptural references from the Latter-day revelatory works:

<table>
<thead>
<tr>
<th>Reference</th>
<th>Words</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doct. &amp; Cov. 4:2</td>
<td>heart, might, mind, strength</td>
</tr>
<tr>
<td>Doct. &amp; Cov. 59:5</td>
<td>heart, might, mind, strength</td>
</tr>
<tr>
<td>Doct. &amp; Cov. 98:47</td>
<td>hearts, might, mind, strength</td>
</tr>
<tr>
<td>Mosiah 2:11</td>
<td>might, mind, strength</td>
</tr>
<tr>
<td>Moroni 10:32</td>
<td>might, mind, strength</td>
</tr>
<tr>
<td>Doct. &amp; Cov. 11:20</td>
<td>might, mind, strength</td>
</tr>
<tr>
<td>Doct. &amp; Cov. 20:31</td>
<td>might, minds, strength</td>
</tr>
<tr>
<td>Doct. &amp; Cov. 33:7</td>
<td>might, mind, strength</td>
</tr>
</tbody>
</table>

Or the Old Testament use:

<table>
<thead>
<tr>
<th>Reference</th>
<th>Words</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deuteronomy 6:5</td>
<td>heart, soul, might</td>
</tr>
<tr>
<td>2 Kings 23:25</td>
<td>heart, soul, might</td>
</tr>
</tbody>
</table>

The particular pattern in which these terms are located in the scriptures, along with the particular terms that are included in these references, may very well be a result of the specific message being communicated in each book of scripture, or the same message being communicated to different cultures and times.

5. **Tetrads and Triads**: These two rhetorical terms have been discussed previously. In order to produce a certain effect on the reader, conjoining terms may also be positioned so as to create assonance, alliteration, or rhyme. Consider the impact of the following phrase:

<table>
<thead>
<tr>
<th>Reference</th>
<th>Words</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>heart, might, mind, and strength</td>
</tr>
</tbody>
</table>

6. **Alliteration**: the repetition of the same sound at the beginning of words.

7. **Prefixal alliteration**: the repetition of the same prefix in words that are close together.

8. **Consonance**: the repetition of consonant sounds, regardless of spelling.
9. **Suffixal homoeoteleuton:** the placing of words that end in the same suffix close together.

10. **Superconsonance:** the repetition of a group of sounds, as in a consonant cluster.

A possible explanation for this particular arrangement of terms is to cause the reader to vocalize the words with a certain rhythm, to emphasize the importance of each term. Of course this would be the result of the work of translators, if the phrase was not originally given in English. The only three references that use this order are, however, from the Doctrine & Covenants.

11. **Anabasis or Catabasis:** listing words or phrases in an order of increasing or decreasing order of importance or of appreciation. Our purpose at this point is not to determine the relative importance of each term. We are considering the possible explanations for the manner in which the data are presented. For example, in the following two scriptures we find this arrangement:

   - Doct. & Cov. 59:5
     - with all thy heart,
     - with all thy might,
     - mind,
     - and strength
   - Doct. & Cov. 98:47
     - with all their heart,
     - and with all their might,
     - mind,
     - and strength.

Whether or not ranking is present is difficult to determine. This ordering does draw distinction between the individual terms.

12. **Enumeration:** listing several specific examples in order to define the scope of a generality or to express magnitude and pervasiveness. We discussed this possibility previously when we considered the common contexts in which we find the various combinations of these terms. Some redundancy does exist in the use of the four terms as well as distinctiveness.

13. **Pleonasm:** the addition of unnecessary words or words repetitious in meaning in order to express an idea completely or to add emphasis. When considering the generic-specific word distinction, the terms heart, mind, might, and strength were used to express the idea that man is to employ fully all the components or features of his nature in serving and loving God. The possibility exists that the emphasis in these references is on the concept of giving of oneself completely, and not on the individual terms.

14. **Syntheton (complementary):** two or more words conjoined in common usage, where the words are related in meaning but are not synonyms. The dyads provided the greatest evidence for syntheton as an actuality. Again, the use of this rhetorical device supports the idea that the terms are separate and distinct.

15. **Systrophe:** providing a series of descriptions of a thing without having defined it. The contexts in which the four terms are used in some combination indicate that the duty of man requires him to employ his heart, mind, might, and strength in serving the Lord. The Lord neither defines these terms nor indicates how one is to employ these resources. This may be the generic component shared by all four terms.

What can we conclude after considering the most plausible syntactical explanations? At this point we are unable to define or give a precise definition to any one term. The four terms within the sentences and phrases of the scriptures reinforce one another in expressing an important message from the Lord. The Lord neither defines the four terms
nor indicates how one is to employ these resources. The specific meaning of these terms must come from another source or approach than syntactical analysis. Therefore we will turn our attention to the study of semantics for help in understanding the meaning of each term based on its scriptural usage.

Semantics

A word is no more than a symbol used to represent an area of experience or a part of one's environment or culture. Human language has limitations in conveying meaning. Even to formulate a definition of any one term takes some combination of words. Each word may be given different senses, or symbolize more than one area of experience or part of one's environment. The different senses of a word are present depending on the context in which the word is used. The senses of a symbol are provided by those who use them; a word as a symbol does not have senses. In translation, a translator constantly makes choices between lexical alternatives in an effort to match what he perceives to be the original meaning. Various senses of each word are considered in determining what the word represents. Dictionaries are created based on this principle. Anything less than a complete understanding of the word in all its usages leaves a translation susceptible to error. Translators can make errors by placing a word in a context in which it does not communicate the meaning of the original. Therefore, any attempt to define a term requires an examination of that term in all its contexts. For the purposes of this study, as previously explained, the scriptural citations in which the terms heart, mind, might and strength are used will serve as the relevant contexts. Because of the large number of citations involved, a systematic approach was essential in determining word senses, and thus word definitions.

The five-step process used in determining tentative descriptive definitions for the four terms of this study was stated previously (see page 3). Step 1 involves identifying each word in all its contexts. In Appendix B we discussed the myriad of problems and challenges of translating from one language to another. A context can be easily misunderstood, changed or lost in the process of translation. The Biblical citations are especially susceptible to the loss of word meaning and substitution by other of different senses for the original symbol. For this reason we will give more weight to the other books of scriptures in which these conditions are not present. An examination of the frequencies of the use of the four terms in the scriptures reveals a higher frequency of use in the nonbiblical sources. (See Table 1 for a comparison.) The following general categories resulted from our analysis of the scriptural citations for the terms heart, mind, might and strength. Appendix E provides a complete list of the contexts in which each term was used in the scriptural citations.

HEART

The 1598 references in which the terms heart or hearts were used were classified into five general categories. These five categories emerged as a result of the examination of the context in which this term was used. The five categories and the percentages of the total within each category are as follows:

1. Indicator of an individual's eternal identity. Each person possesses a soul, which is the cumulative eternal personality of an individual, including 1) the original intelligence, 2) the premortal spirit body, and 3) the mortal or physical body. Examples include:

   Keep thy heart with all diligence; for out of it are the issues of life. (Proverbs 4:23)

   The meek shall eat and be satisfied: they shall praise the Lord that seek him: your heart shall live for ever. (Psalms 22:26)
He hath made every thing beautiful in his time: also he hath set the world in their heart (Hebrew: hath set the eternal in their heart without which man cannot find out the work that God hath done.) (Ecclesiastes 3:11)

2. **The seat of rational functions and decision making.** The heart thinks, understands, makes decisions, enlightens, processes information, and stores it in memory. Examples include:

And immediately when Jesus perceived in his spirit that they so reasoned within themselves, he said unto them, Why reason ye these things in your hearts? (Mark 2:8)

For as he thinketh in his heart, so is he: Eat and drink, saith he to thee: but his heart is not with thee. (Proverbs 23:7)

But we, brethren, being taken from you for a short time in presence, not in heart, endeavoured the more abundantly to see your face with great desire. (1 Thessalonians 2:17)

3. **Indicator of a positive disposition.** With the ability to make decisions and express volition, the heart manifests itself as disposition--prevailing tendency, mood, or inclination. A person's heart--character or disposition--is subject to change. Positive examples include the following:

I know also, my God, that thou triest the heart, and hast pleasure in uprightness. As for me, in the uprightness of mine heart I have willingly offered all these things: and now have I seen with joy thy people, which are present here, to offer willingly unto thee. (1 Chronicles 29:17)

And it is requisite with the justice of God that men should be judged according to their works; and if their works were good in this life, and the desires of their hearts were good, that they should also at the last day be restored unto that which is good. (Alma 41:3)

Behold, verily I say unto you, that the heart of my servant James Covill was right before me, for he covenanted with me that he would obey my word. (D&C 40:1)

4. **Indicator of a negative disposition.** Dispositions can also be of a negative nature and, just as with positive dispositions, certain consequences necessarily follow. Examples include the following:

But behold, there are many that harden their hearts against the Holy Spirit, that it hath no place in them; wherefore, they cast many things away which are written and esteem them as things of naught. (2 Nephi 33:2)

And their hearts are corrupt, and full of wickedness and abominations; and they love darkness rather than light, because their deeds are evil; therefore they will not ask of me. (D&C 10:21)

But thine eyes and thine heart are not but for thy covetousness, and for to shed innocent blood, and for oppression, and for violence, to do it. (Jeremiah 22:7)

5. **Seat of Feelings and Emotions.** The heart manifests nuances of disposition such as grief, joy, desires, passion, affections, afflictions, etc. Examples include the following:
Yea, and cry unto God for all thy support; yea, let all thy doings be unto the Lord, and whithersoever thou goest let it be in the Lord; yea, let all thy thoughts be directed unto the Lord; yea, let the affections of the heart be placed upon the Lord forever. (Alma 37:36)

But Ammon said unto him: I do not boast in my own strength, nor in my own wisdom; but behold, my joy is full, yea, my heart is brim with joy, and I will rejoice in my God. (Alma 26:11)

Thou shalt not hate thy brother in thine heart: thou shalt in any wise rebuke thy neighbour, and not suffer sin upon him. (Leviticus 19:17)

The distribution of the references among these five categories is as follows:

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eternal Identity</td>
<td>8%</td>
</tr>
<tr>
<td>Seat of Rational Functions</td>
<td>14%</td>
</tr>
<tr>
<td>Indicators of a Positive Disposition</td>
<td>35%</td>
</tr>
<tr>
<td>Indicators of a Negative Disposition</td>
<td>28%</td>
</tr>
<tr>
<td>Seat of Feelings and Emotions</td>
<td>15%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
</tr>
</tbody>
</table>

MIND

The mind is a system of attracting, organizing, and implementing knowledge or information for use by the heart. The 240 references were classified according to the following three categories: 1) an indicator of a capacity or attribute of the mind, 2) a function performed by the mind, and 3) a condition or state in which the mind exists. The three categories and the percentage each category makes up of the total number of references are as follows:

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacities or attributes</td>
<td>41%</td>
</tr>
<tr>
<td>Functions</td>
<td>25%</td>
</tr>
<tr>
<td>Conditions or states</td>
<td>34%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
</tr>
</tbody>
</table>

1. Capacities or Attributes. The mind as a system possesses different capacities and attributes. The scriptures indicate at least nine distinguishable capacities or attributes of the mind: 1) depository, a receptacle or stage in which thoughts enter or attempt to enter (the mind also acts as a filter) to gain attention, 2) capable of disposition, inclinations, and desires, 3) veivable, the veil acts as a controller, 4) focusable, capable of concentrating on one thing to the exclusion of other things, 5) directable, by the divine, mortal beings, Satan, or self, 6) that which the mind deals with may be reflected in a person's actions or "state of mind," 7) attuneable or connectable to other minds, 8) expandable, or capable of greater performance, and 9) responsive to light and darkness. Examples include the following:

Now, as my mind caught hold upon this thought, I cried within my heart: O Jesus, thou Son of God, have mercy on me, who am in the gall of bitterness and am encircled about by the everlasting chains of death. (Alma 36:18)

And I said unto them that the water which my father saw was filthiness; and so much was his mind swallowed up in other things that he beheld not the filthiness of the water. (1 Nephi 15:27)
And now, behold, is your knowledge perfect? Yea, your knowledge is perfect in that thing, and your faith is dormant; and this because ye know, for ye know that the word hath swelled your souls, and ye also know that it hath sprouted up, that your understanding doth begin to be enlightened, and your mind doth begin to expand (Alma 32:34)

2. Functions. The mind is the capacity man has by which he becomes aware of things as they are, as they have been, or as they will be. The scriptures indicate that the mind has the ability to perform the following functions: to recall or remember, to forget, to study, to think, to change, to love, to serve, to question, and to assent. Examples include the following:

And the second time the cock crew. And Peter called to mind the word that Jesus said unto him, Before the cock crow twice, thou shalt deny me thrice. And when he thought thereon, he wept. (Mark 14:72)

But, behold, I say unto you, that you must study it out in your mind; then you must ask me if it be right, and if it is right I will cause your bosom shall burn within you; therefore, you shall feel that it is right. (D&C 9:8)

And we have beheld that the great question which is in your minds is whether the word be in the Son of God, or whether there shall be no Christ. (Alma 34:5)

3. Conditions or States. The mind, as a capacity, is a tool subject to the management and leadership of the heart. At any given moment, its condition or state is directly related to the desires of the heart of said person. Minds can be prepared, enlightened, or disturbed. They may exist in numerous states such as excited, peaceful, corrupt, etc. Examples include:

These were more noble than those in Thessalonica, in that they received the word with all readiness of mind, and searched the scriptures daily, whether those things were so. (Acts 17:11)

Behold, thou knowest that thou hast inquired of me and I did enlighten thy mind; and now I tell thee these things that thou mayest know that thou hast been enlightened by the Spirit of truth. (D&C 6:15)

And also Zeezrom lay sick at Sidom, with a burning fever which was caused by the great tribulations of his mind on account of his wickedness, . . . And this great sin, and his many other sins, did harrow up his mind until it did become exceedingly sore. (Alma 15:3)

MIGHT

The term might refers to the resources--both temporal and spiritual--that are legitimately accessible to a person. Might is all the resources that an individual commands or controls that are at his or her disposal which function independently of the body. It includes a person's moral influence and all other forces or materials that are under his or her dominion. Might is expressed in terms of 1) a person's willful application, 2) one's personal effort and resources, and 3) one's resources, including, but extending beyond the physical body. Examples include the following:

Forasmuch as there is none like unto thee, O Lord; thou art great, and thy name is great in might. (Jeremiah 10:6)
Both riches and honour come of thee, and thou reignest over all; and in thine hand is power and might; and in thine hand it is to make great, and to give strength unto all. (1 Chronicles 29:12)

The references to might have been classified according to the three categories listed below with their respective percentages:

1. Willful application 25%
2. Personal effort and resources 33%
3. Internal and external resources 42%
Total 100%

STRENGTH

Both might and strength share several similar contexts. The term strength can be distinguished from the term might by a certain significant characteristic. Strength denotes the physical properties associated with an individual's body that are instruments of power in a bodily sense. Thus, strength includes life, energy, power, vitality, support, endurance, regenerative powers, and procreative powers as expressed through the physical body. The term might may also include these dimensions of man, but includes influences that extend beyond the physical body. Representative examples include:

And now, because of this great thing which my people the Nephites, had done, they began to boast in their own strength, and began to swear before the heavens that they would avenge themselves of the blood of their brethren who had been slain by their enemies. (Mormon 3:9)

Neither did Jeroboam recover strength again in the days of Abijah: and the Lord struck him, and he died. (2 Chronicles 13:20)

And it came to pass that they ate and slept, and prepared for death on the morrow. And they were large and mighty men as to the strength of men. (Ether 15:26)

Cast me not off in the time of old age; forsake me not when my strength faileth. (Psalms 71:9)

SUMMARY

In our attempt to understand the meanings of the four terms as they are found in the scriptural references, we have followed the steps we outlined previously. In Step 1 we identified the contexts in which each term is found. In Step 2 we formed general categories that emerged from an examination of the various contexts. In Step 3 we regrouped the contexts according to the subcategories that belong to each term. The subcategories suggest the different senses of each term. In Step 4 we compared each term and its subcategories to determine distinctiveness or similarities among the terms. The subcategories represent a characteristic of the term in each of its senses. We recognize that scriptures can have multiple meanings as the senses originate with people. We wanted to know if some characteristic or identifying attribute was unique or was stressed for a given term that would help us understand its meaning. A comparison of the specific components of each term reveal that which gives that term its distinctiveness. On completion of these four steps, we were in a position to formalize our tentative descriptive definitions for each of the four terms, which is Step 5.
Table D

A Comparison of the Frequency of Scriptural Use of the Terms

Heart, Mind, Might, & Strength In the Standard Works.

<table>
<thead>
<tr>
<th>Rank</th>
<th>Heart/s</th>
<th>Mind/s</th>
<th>Might</th>
<th>Strength</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>B.M. 2073</td>
<td>PGP 900</td>
<td>D&amp;C 260</td>
<td>B.M. 555</td>
</tr>
<tr>
<td>2.</td>
<td>D&amp;C 1900</td>
<td>N.T. 467</td>
<td>B.M. 132</td>
<td>O.T. 462</td>
</tr>
<tr>
<td>3.</td>
<td>O.T. 1528</td>
<td>D&amp;C 440</td>
<td>O.T. 108</td>
<td>PGP 350</td>
</tr>
<tr>
<td>4.</td>
<td>PGP 1200</td>
<td>B.M. 286</td>
<td>N.T. 40</td>
<td>D&amp;C 290</td>
</tr>
<tr>
<td>5.</td>
<td>N.T. 1093</td>
<td>O.T. 90</td>
<td>PGP 0</td>
<td>N.T. 113</td>
</tr>
</tbody>
</table>


** The figures in this column represent a weighted value based on the expected frequency of references if all the books of scriptures were of equal length. Actual number of references are listed in Table 1 of Appendix A. The Old Testament represents 50% of the total volume of scriptures in the standard works; the New Testament record represents 15%; the Book of Mormon accounts for 22%; the Doctrine and Covenants represents 10%; and the Pearl of Great Price accounts for 2%. When one examines each of these records to determine the actual number of references to heart, mind, might and strength, it becomes apparent that each record does not give equal attention to the four terms. The relative emphasis each source gives to these terms can be illustrated by standardizing the frequency of their appearance with the total volume of scripture represented by each book. The results of this standardization are depicted in the charts above. It is apparent that the Book of Mormon, the Doctrine & Covenants, and the Pearl of Great Price use the terms of this study proportionately more often than the Biblical record.

Formula:
(Actual number of references) x (Expected percentage) = **
Appendix D

A Systematic Approach to Substantiating Definitions or Meanings Given to the Term Heart

The objective of our analysis was to systematically eliminate the unlikely or unsubstantiable meanings associated with the term heart, until what remained was a window of possibility within which we could then establish tentative but defensible and descriptively operational definitions for these terms. Our operational definitions are based on the results of this analysis. These same results can be useful in examining the adequacy of any definitions offered for these four terms. A definition may be found inadequate if it is too narrowly defined, that is, if it focuses on fewer than the major components identified by its use in the scriptures. Or a definition may include components that are neither defined nor alluded to in the scriptures. An example will help illustrate the usefulness of our analysis.

Although the authors have examined many theological dictionaries and commentaries, we selected the following definition to provide an illustration for examining the adequacies of definitions. This particular entry for the term heart reads:

A basic concept of primitive anthropology ("primordial word") which designates that single center of the personal spirit's self-control and psychosomatic autonomy which can only be reached asymptotically. It cannot, of course, be localized in the physical heart, but the latter is its primordial symbol. Strictly speaking, the heart is peculiar to man, being the primordial unity of man who is naturally and substantially composite (at once body and soul). The heart is also the dynamic principle which drives man to see that ultimate and ultimately unattainable understanding of himself which can only be found in his own heart. (Theological Dictionary, Herder and Herder, 1965, p. 199)

The definition stated above uses the term heart as a symbol of the composite body and spirit or soul of an individual. The heart is unique to man in that it possesses volition, autonomy, desire, and the capability to know oneself. The definition assumes that man is driven by this innate or primeval desire to know oneself.

According to our analysis of all the scriptural citations using the term heart, the definition cited above is lacking in both scope and depth of meaning. It is true that heart is often used symbolically. But this symbol is denotative, referring to the state or condition of an individual's eternal identity, and not the specific components of man, such as spirit and body. This state or condition emerges within the individual as one makes choices and exercises control and management over the resources at its disposal, such as the mind. The heart possesses rational as well as emotional capacities. Therefore, the heart is the decision-making center within us, which manifests itself as disposition—prevailing tendency, mood, or inclination. We find these aspects missing from the definition provided. Numerically speaking, the Herder & Herder definition does not account for 86% of the data found in the scriptures (see Appendix C).

Our purpose in examining all the scriptural citations using the terms heart, mind, might and strength was to provide defensible and descriptively operational definitions for these terms. We felt these definitions should be broad enough to include all relevant information contained in the scriptural uses of the four terms, but should not exceed what the scriptures reveal about the heart, mind, might and strength. The window of
possibility created by our analysis can be applied to any and all definitions and provides an excellent starting point in understanding the consequences of one's view of the nature of man.

Appendix E

Classification Of The Terms Heart, Mind, Might And Strength According To Their Contexts

I. HEART
   A. A person's eternal identity
      1. Description of characteristics
      2. Condition or state of disposition
   B. Seat of rational functions
      1. Without saying anything aloud
         a. consider
         b. decreed
         e. meditate
         f. mused
         i. utter
      2. Seat of thought
         a. think, thought
         b. doubt
      3. Seat of understanding
         a. know, knowledge
         c. understand
      4. Processing of information
         a. deceive
         b. discerneth
         e. presume
         f. reason
         i. treasure
      5. Memory and storage
         a. in
         b. retain
      6. Functions
         a. bless
         b. commune
         e. entered
         f. perceive
         i. take it
         j. teacheth
   C. Indicator of a positive disposition
      1.
      a. abide
      b. according
      e. applied
      f. arise
      2.
      a. be
      b. believeth
      3.
      a. carried
      b. come
      e. clean
      f. contrite
      4.
      a. decreed
      b. desire
      e. dwell
      5.
      a. endure
      b. engage
      e. established
      f. exalted
   d. imagine
   g. meditate
   h. say, said
   b. study, instruction, search
   d. wisdom
   c. condemn
   g. set
   h. tempted
   c. all
   d. after
   g. assure
   b. bind
   d. broken
   c. changed
   d. circumcise
   c. direct
   d. do
   c. enlarge
   d. enter
6. a. faithful       b. found       c. flesh       d. free
   e. full
7. a. give          b. glory       c. grace       d. guide
8. a. harden       b. have        c. hid         d. holiness
   e. honest       f. humble
9. a. incline       b. inscribe    c. inspired    d. integrity
   e. is in
10. a. keep         b. knit        c. know
11. a. largeness    b. lay         c. lift        d. lowly
12. a. magnify
13. a. new
14. a. obey         b. one         c. open
15. a. penetrated   b. place       c. plaque      d. pray
   e. prick        f. proved      g. put         h. perfect
   i. plant        j. pout        k. prepared    l. pride
   m. purpose      n. pure
16. a. regard       b. require     c. right       d. rend
   e. revive
17. a. sanctification b. search     c. secret      g. sincerity
   d. set          e. shed        f. shined      k. song
   h. singleness   i. soften      j. solemnity   o. stirred
   l. sound        m. spirit      n. establish  s. sunk
   p. strength     q. stubbornness r. subduing
   t. sway
18. a. table        b. take        c. tell        d. tender
   e. thankful     f. took        g. touch      h. treasure
   i. try          j. true        k. trust      l. turn
19. a. understanding b. united     c. upright
20. a. vanity
21. a. wash         b. willing     c. wise        d. whole
   e. win          f. withheld    g. written
D. Indicator of a negative disposition

1. a. adultery  b. affecteth  c. against  d. all  
   e. astonished
2. a. backslider  b. be  c. blindness  d. blotted  
   e. broken  f. bowed  g. brought
3. a. carry  b. changed  c. come  d. conceiveth  
   e. corrupted  f. covetousness  g. cut
4. a. deceit  b. decline  c. deliant  d. depart  
   e. desireth  f. spiteful  g. devices  h. devised  
   i. died  j. divided  k. doubtful  l. dwell
5. a. ensnare  b. err  c. enticed  d. envy  
   e. entereth  f. evil  g. exalted  h. exist
6. a. fail  b. fears  c. fill  d. foolish  
   e. freteth  f. forgave  g. froward
7. a. gain  b. gathereth  c. glory
8. a. hath  b. haughty  c. hid  d. hold  
   e. humbled  f. hypocrites  g. harden
9. a. imagination  b. impenitent  c. inspire  d. intent  
   e. is
10. a. know
11. a. lay  b. lead  c. lift  d. lust
12. a. magnify  b. make  c. melt  d. moved  
   e. murderers  f. murmurings
13. a. perfect  b. perish  c. perverse  d. place  
   e. plan  f. poor  g. power  h. prepared  
   i. pride  j. put
14. a. rage  b. rebellious  c. removed  d. reproach  
   e. right  f. riveted
15. a. satisfied  b. seek  c. set  d. slow  
   e. sit  f. smitten  g. soften  h. sought  
   i. sown  j. steal  k. stir  l. stout  
   m. sworn
16. a. take  b. things  c. trust  d. treasure  
   e. turn
17. a. unbelief  b. uncircumcised  c. unsteadiness
18. a. walk  b. waxed  c. way  d. weak  
e. went  f. whole  g. wicked  h. wilfulness  
i. without  j. won  k. work  l. written

**E. Seat of feelings and emotions**
1. Feelings and emotions  
   a. affections and feelings  
   b. capacities of an emotional heart  
2. Positive feelings  
   a. rejoice  b. glad  c. joy  d. merry  
   e. lifted up  f. comfort  g. cheer  h. love  
   i. courage
3. Negative feelings  
   a. anguish  b. astonishment  c. broken  
   d. bitterness  e. cried  f. depressed  g. desolate  
   h. discouraged  i. despair  j. envy  k. empathy  
   l. faint  m. fear  n. failed  o. grieved  
   p. groaneth  q. guilt  r. hot  s. hate  
   t. heavy  u. lust  v. mourn  w. offense  
   x. overwhelm  y. pained  z. ravished  aa. sorrow  
   bb. sick  cc. sad  dd. trembled  ee. troubled

**F. Other Usage**
1. Figurative application (e.g. "heart of the land.")  
2. Literal references to the physical organ

**II. MIND**

**A. Capacity or attribute**
1. depository  2. disposition, inclination  3. vealable  
4. focusable  5. directable  6. content display  
7. attuneable  8. expandable  9. sensitive to light and darkness

**B. Functions**
1. recall, remember  2. forget  3. study  
4. direct attention  5. change  6. love  
7. serve  8. think  9. question  
10. assent

**C. Condition or state**
1. Pre-state  
   a. prepared  b. enlightened  c. disturbed  
2. Description  
   A. a.alienated  
   B. a.bitter  b. blinded  
   C. a.carnal  b. corrupted  c. covered by darkness  
   D. a.divine  b. defiled  c. delicate  d. deranged  
   e. despiteful  f. doubtful  
   E. a.excited  
   F. a.faint  b. fervent  c. firm  d. fixed  
   e. frenzied
G. a. grief  b. humility
H. a. hardened  b. humility
I. a. impressionable  b. invigorated
P. a. peaceful  b. pure
R. a. ready  b. renewable  c. reprobate
S. a. satisfied  b. shaken  c. sober  d. sound
V. a. vane
W. a. weary  b. wicked  c. willing

II. Might

A. Willful application

B. Personal effort and resources

C. Resources, including but extending beyond the physical body

IV. Strength

A. As expressed through the physical body
   1. Life
   2. Energy
   3. Power
   4. Vitality
   5. Support
   6. Endurance
   7. Priesthood
   8. Generative and regenerative power
The conference of bible translators in Stuttgart in April 1984 noted with some satisfaction that there were three new translations of the bible currently available to speakers of German. Since that time a fourth has appeared. Now that sufficient time has passed and the enthusiasm associated with the Luther year has subsided at least somewhat, we can take the opportunity to examine the advantages and disadvantages of each, especially with regard to the needs of LDS readers, that is, to determine which translation would be best suited for use by members of the church and missionaries in German speaking areas. Let me first describe briefly the four recent bible translations.

A. Die Bibel nach der Übersetzung Martin Luthers mit Apokryphen, Deutsche Bibelgesellschaft, 1985. The Old Testament was completed in 1964 with some recent changes in the spelling of proper names and the change of die Kinder Israel 'the children of Israel' to die Israeliten 'the Israelites.' The Apocrypha was completed in 1970. The OT and the Apocrypha are part of the same project that completed the NT in 1956. The NT (1984) is the latest revision by a different group of translators of the traditional Luther text which first appeared in 1522 and was extensively revised by Luther himself as late as the edition of 1545. This latest revision follows extended and often heated discussion of the modern revisions of the Luther NT in 1966 and 1975 and represents the currently approved text of the Council of the Evangelical Church in the Federal Republic of Germany, the German Democratic Republic and Austria for church services, school instruction, and private devotion. (Lu)

B. Revidierte Elberfelder Bibel, R. Brockhaus, 1985. The New Testament first appeared in 1855 and the complete Bible in 1877. It was translated by John Nelson Darby—founder of the Plymouth Brethren—who subscribed to the theological doctrine that a divine inspiration extends to every word of the Bible, consequently, it adheres very closely to the original text. This historical development accounts for its reputation of being accurate. In 1960, the work of revising the Elberfelder translation was begun. It was felt necessary to revise some of the complicated sentence constructions (present participles, un-German word order, absence of verbs), replace archaic expressions and to base the translation on a reliable version of the Greek and Hebrew according to the best manuscript information currently available. In 1975, the New Testament and Psalms were published. In November, 1985, the complete bible became available after more than 20 years of work. It claims to have retained its previous reputation of being the "most reliable German bible translation" (die genaueste und zuverlässigste deutsche Bibelübersetzung, K. Weber, Bibelübersetzungen unter der Lupe, Aßlar, 1984, p. 77). (Elb)

C. Die Bibel, Altes und Neues Testament, Einheitsübersetzung 1980 (Katholische Bibelanstalt, Stuttgart), Lizenzausgabe Herder, Freiberg. This is the result of a project initiated and published by the Catholic Bishops of Germany, Austria, Switzerland, Luxemburg, Lütich and Bozen-Brixen as a result of the impetus provided by the Second Vatican Council. The text of the psalms and the New Testament is the ecumenical text arrived at in consultation with the Council of the Evangelical Church in Germany and the Evangelical Bibel Society in the Federal Republic of Germany. The work was begun in 1962 and
soon included all the bishops of German speaking areas in Europe and received the name "Uniform Translation" because it was to produce a uniform text for use in the church schools in every diocese. The project also had consultants from the Evangelical Church in Germany from the very beginning and in 1970 it was contractually formalized. One of the first results of this ecumenical project was the list of biblical names published in 1972 (see below on spelling). The names of the ecclesiastical administrators responsible for the project are listed in the introduction. This version is quite different from the catholic translations previously available (Allioli, Karrer, etc.) for several reasons. First of all, the older versions were not the result of official church-wide policy and thus were not officially approved for use in all geographical areas of the catholic church in German speaking areas. In addition, earlier catholic translations were based on the Vulgate and did not reflect the earliest form of the original Hebrew and Greek texts. Perhaps the most important development for catholics and non-catholics alike is the absence of didactic notes supporting the interpretations of the Catholic Church that were previously required before church approval was granted (Robert Steiner, Neue Bibelübersetzungen, Neukirchen, 1975, p. 119). Controversial interpretations are avoided. The text itself is presented for the most part without interpretive theological commentary. (EU)

D. Die Bibel im heutigen Deutsch. Die Gute Nachricht des Alten und Neuen Testaments mit den Spätschriften des Alten Testaments (Deuterokanonische Schriften/Apokryphen), Stuttgart, Deutsche Bibelgesellschaft, zweite, durchges. Auflage, 1980. This is the complete German Bible patterned after the 'Good News' version of the United Bible Societies (1966-76). It is a completely different type of bible translation based on the work of Nida and Taber and their "dynamic equivalents." The work was done by an international and interconfessional team. The names of translators, editors and consultants are listed in the appendix in the back. (BhD)

Names:

EU and BhD render proper names in the form recommended by the ecumenical commission (Ökumenisches Verzeichnis der biblischen Eigennamen nach den Loccum-Richtlinien, Stuttgart, Deutsche Bibelgesellschaft, Katholische Bibelanstalt, 1981), e.g. Noach, Ijob, Ezechiel, Jered. In the effort to preserve the text of Martin Luther as far as possible, Lu has retained the older spellings Noah, Hiob, Hesekiel, Jared instead of using the suggested uniform spelling of names. Elb also retains traditional spellings for proper names and the names of the biblical books. All four now have the uniform spelling for Rut. With respect to the names of the books themselves, BhD bridges the gap between the traditional forms and the more modern ones based on modern biblical scholarship by listing both forms in the list of abbreviations, in the table of contents and in the heading on each page: 1. Buch Mose (Genesis). Lu and Elb have 1., 2. Buch Mose, etc. and EU has the Latin names Genesis, Exodus, Levitikus. In the table of contents and on the title page of each book (but not in the heading of each page within the book), Lu and Elb (except for the unusual Kohelet) have added in their most recent editions the modern form of the name in order to ease the problem of identification for readers who are more familiar with the traditional spellings, e.g. Lu, Das Buch Hiob (Ijob); Elb, Das zweite Buch Mose/Exodus. EU is now the only one that does not list both names for the biblical books. Since two traditional versions have acknowledged the influence of the EU, I believe it is appro-
priate to recommend that the EU reciprocate and list the traditional names.

In the case of the psalms, Lu has the older form: der Psalter, whereas EU, BhD and Elb have only die Psalmen. Lu also has the traditional name der Prediger Salomo, whereas EU and BhD have the modern, untraditional Das Buch Kohelet, from the Hebrew form of the name which has recently become popular, more in German than in English where the Greek form (Ecclesiastes) still predominates. BhD again has the older form (der Prediger) in parentheses. Elb has simply Prediger.

Order of Books:

The most significant difference in the order of books lies in the placement of the books of the apocrypha. EU intersperses them throughout the OT, whereas Lu and BhD place them in a separate section between the OT and the NT. Elb does not include them and there is no hint in the information provided by the publisher that editions with the apocrypha will be available. In Lu and H, the supplement to Daniel is in the separate section for the apocrypha between the Old Testament and the New Testament, but EU has it as chapters 13-14 of Daniel. This inclusion of the apocryphal books presents a problem for unsophisticated readers who may not be in a position to appreciate the historical and critical problems connected with the deuterocanonical books. When they appear alongside and within the other traditionally accepted books of scripture, it tends to give them the same status. New and inexperienced LDS readers may not be sufficiently aware of the statement in D&C 91 or able to take advantage of it when reading the apocryphal books. As a matter of practice, LDS leaders have never quoted very widely from the Apocrypha nor have they ever authorized for speakers of English the use of a bible that contains the Apocrypha.

2. ... There are many things contained therein that are not true, which are interpolations by the hands of men.
3. Verily, I say unto you that it is not needful that the Apocrypha should be translated.
4. Therefore, whoso readeth it, let him understand, for the Spirit manifesteth truth;
5. And whoso is enlightened by the Spirit shall obtain benefit therefrom;
6. And whoso receiveth not by the spirit, cannot be benefited. Therefore it is not needful that it should be translated. Amen.

This serious difference between catholic and protestant attitudes toward the inclusion of the apocrypha in the bible was recognized by bible societies and ecumenical groups and found expression in their Guiding Principles for Translating the Bible (London, 1968) as follows:

It is recognised that on the one hand an edition of the complete Bible bearing the imprimatur of the Roman Catholic authorities will contain the deuterocanonical texts and that, upon the other hand, while many groups within Protestantism have employed the Apocrypha, a great majority find it impossible to accept an arrangement of the Old Testament which does not clearly distinguish between these texts and the traditional Hebrew canon. It is suggested that these two positions can in practice be reconciled if normally, in editions of
the Bible published by the Bible Societies and bearing the
imprimatur of the Roman Catholic authorities, the deuterocanonical
texts are included as a separate section before the New Testament.
In the case of the Book of Esther the translation of the Greek text
will be printed in the deuterocanonical section while the transla-
tion of the Hebrew text will be printed among the books of the
Hebrew canon. The deuterocanonical parts of the book of Daniel will
be presented as part of the separate section. (quoted in Siegfried
Meurer, "Ist die Zeit schon reif für eine Einheitsbibel der deutsch-
Sprachigen Christenheit?" Die neue Lutherbibel, Beiträge zum
revidierten Text 1984, Stuttgart, 1985, p. 100)

Meurer also expresses his surprise that the EU did not follow this recommenda-
dation, especially since it intends to be an ecumenical edition. This very
serious disadvantage for LDS users as well as for many other protestants would
have been avoided, if this recommendation had been followed.

There is no chapter four of Malachi in German bibles; it is contained in the
last part of chapter three. The reference in the D&C, Section 2 should read
3:23-24. In the New Testament, there is a minor difference in order. EU, BhD
and Elb place Hebrews and James after Philemon. In Lu, they are placed after
3 John just as in editions of Luther appearing during his lifetime.

Pagination:

Lu numbers the pages for each section (OT, Ap, NT, other) separately. EU
numbers all four sequentially. Elb and BhD begin numbering over again at the
beginning of the NT.

Introductions:

Elb does not have an introduction to each individual book nor did the first
edition of the 1984 revision of the NT. The most recent edition of the
complete bible has added an Inhaltsübersicht 'table of contents' of just a few
lines. BhD also has the same type of Inhaltsübersicht of just a few lines.
EU has an introduction to each book with an overview of the contents as well
as information and conjecture about dates of manuscripts and authorship. In
the case of Isaiah, it has separate headings placed within the text itself
(Der erste Jesaja (Protojesaja), Der zweite Jesaja (Deuterojesaja), Der dritte
Jesaja (Tritojesaja) corresponding to the division of the text mentioned in
the introduction. It is the only one of the four new translations that makes
any mention of this interpretation of the text and its author. These critical
introductions which question the integrity and prophetic/apostolic authorship
of many of the books are one of the most serious disadvantages for LDS as well
as for many other protestant readers. (For a balanced discussion of this
problem, see L. Lamar Adams and Alvin C. Rencher, "The Popular Critical View
of the Isaiah Problem in Light of Statistical Style Analysis," Computer
Studies in the Humanities and Verbal Behavior IV (1973):149-157, or the less
technical treatment by the same authors in "A Computer Analysis of the Isaiah
"conservative theories tended to be supported more than divisionist theories." p. 157. This means that the division of Isaiah into three parts is at best
premature and at worst irresponsible and misleading.)
Besides the one just mentioned concerning Isaiah, the main authorship problems relate to the letters traditionally ascribed to Paul. Lu includes Paul's name in the title of each epistle both in the table of contents and at the beginning of the letter: Der Brief des Paulus an die ... 'the letter of Paul to ....' BhD has a general heading in the table of contents (Die Briefe des Apostels Paulus 'the letters of the Apostle Paul') and includes his name in the title at the beginning of each epistle. EU has a general heading in the table of contents (Die Paulinischen Briefe 'The Pauline Letters') but does not include his name in the title of any of the letters (Der Brief an die ... 'the letter to ...'). In addition, in the material in the introductions to each letter and in the general introduction to the Pauline letters, serious doubt is expressed as to whether or not Paul actually wrote some of the letters traditionally ascribed to him (Ephesians, Colossians, Hebrews, Timothy, Titus). Elb has nothing to indicate the author of the letters in the table of contents nor in the titles to the individual letters. The reader is left to assume the traditional attribution of authorship. A summary of the statistical studies dealing with the authorship problems in the Pauline epistles is found in an article by Kendra L. Lindsay and Thomas W. Mackay ("An Authorship Study of the Pauline Epistles," paper presented at the International Conference on Computers in the Humanities held at Brigham Young University, June 26, 1985). They conclude that the differences may indicate multiple authorship, that the differences are not explained by the theory that Hebrews was not written by Paul, that Hebrews appeared to be as Pauline as any of the other epistles, that the difference between Galatians and Ephesians was of unusual strength and that more work needs to be done before we will be able to explain all of the relationships. Once again it is premature to exclude Paul as the author of some of the letters attributed to him and such theories should not be included in the introductions in a general bible.

In the Psalms, Lu, EU and Elb have headings for the five internal divisions ("books") within the text. BhD lists the traditional division in the introduction. The numbering of the individual psalms is now uniform in all four. Lu, EU and BhD all have inserted slightly different headings at the beginning of each psalm indicating its overall content (Ps 96: Lu Der Schöpfer und Richter aller Welt 'the creator and judge of all the world,' EU Der Herr, König und Richter aller Welt 'the Lord, king and judge of all the world,' BhD Gott, der König der ganzen Erde 'God, the king of the whole earth'). Elb again has left the text as is and not introduced any additional headings. All four present the psalms in the form of poetry. The presentation in one column per page in Lu and Elb is a clearer indication of poetic form than that of EU and BhD in two columns per page, since in most cases the entire poetic line is contained within a single printed line. Lu includes the Hebrew particle in capitals (SELA). EU has it in small letters in square brackets. Elb replaces it with two slashes (///). BhD omits the word or any representation of it and explains the practice in the introduction to the psalms.

All four translations contain notes with information about readings in the manuscripts, alternative translations and cross-references in the following order of descending frequency: Elb, EU, BhD and Lu. Elb has about 50% more than EU and BhD and Lu has about 50% less than EU and BhD. In Lu, the cross-references appear (indexed with a letter and right justified) after the individual verse. Other notes on manuscripts, etc. appear (with an asterisk and left justified) after the verse. In Elb, cross-references are indexed
with a letter of the alphabet and appear in the inside margin (the outside margin has the verse number). Other references are numerically indexed and appear as footnotes at the bottom of the page. BhD has all references as footnotes at the bottom of the page, cross-references indexed with letters and others indexed by verse. EU has cross-references indexed by verse at the end of every section that has a heading or at the end of the chapter itself if there are no other divisions with headings within the chapter. Other notes are indexed by verse in the footnotes. EU also has division headings in capital letters for sections larger than chapters as listed in the introduction: DAS WIRKEN JESU IN GALILÄA (after Luke 4:13). The total effect is that the text is interrupted regularly and is very disjointed. Lu is somewhat less disjointed because it has fewer notes. The text is BhD and Elb suffers the fewest interruptions and appears more as a running text as in the original because the notes are in the margins or footnotes.

Permit me one further comment about the layout that has a bearing on the readability and integrity of the text. EU (in the complete bible, paperback edition by Herder and the small edition by the Katholisches Bibelwerk), BhD and Lu all present the text in two columns per page. EU and BhD have a small superscript numeral at the beginning of each verse with the first verse of the paragraph indented about three spaces. Lu begins each verse with a superscript numeral indented one space. It is easier to find the individual verse but the text is further segmented. Elb presents the text in a single column per page. The chapter and verse numbers are in the outside margin (cross-references are on the inside margin). This system provides the easiest method of finding a verse and at the same time presents the text as text in whole paragraphs. Small stars indicate the beginning of a verse. (Some editions of EU-NT and the preliminary editions, both published by the Katholische Bibelanstalt--present the text in a single column.) BhD is printed in a very readable new font (Biblica) created especially for this edition of the Bible by Prof. Kurt Weidemann.

EU is the most likely to question or exclude a controversial segment of the traditional text, although all four include basically the same information regarding the readings in the manuscripts. With respect to the now famous comma johanneum (1 John 5:7f), EU omits it from the text but includes the omitted portion in the footnote. Lu, Elb and BhD omit it without note or comment. The KJ version included it because Erasmus had reluctantly been forced to include it as part of what became the textus receptus. NKJ has a note to the effect that it is omitted in the NU-text (Nestle-Aland, United Bible Societies text) and the M-text (Majority text).

Elb has 70 as the number of men set apart to serve in Luke 10:1 (and 17). There is no footnote as to other manuscript readings with 72. The three others have 72 but include a note that some manuscripts have the number 70, the number in the KJ version and the one used as the basis for the Quorum of the Seventy in the LDS church.

Measures and Coins:

This is one area where the revised text of Luther (1984) has generally abandoned some of the original vocabulary used by Luther (Scheffel, Klafter) and replaced them with more modern equivalents (Zentner/Sack, Faden 'cord,' literally 'fathom'). Luther 84 retains Scheffel in Matth 5:15 ('under a
bushel'), which I believe is motivated by the desire to retain Luther's formulation of this well known verse. All four retain Ellen (KJ 'cubit') in its symbolic use in Rev 21:17, including BhD which had a conversion into meters (70 Meter hoch) in the 1968 and 1971 editions of the NT. There is now a slight discrepancy between the OT of Luther which still has archaic Schefel, e.g., in Isaiah 5:10 and the NT which has replaced it with modern day measurements. Lu has retained the modern German manner of referring to distance by the amount of time required to cover it introduced in the 1956 edition of the NT ((Weg)Stunden in Luke 24:13, Joh 6:19, 11:18) whereas the other two use measures of distance (EU and Elb Stadien, BhD Kilometer). (The King James Version has 'threescore furlongs' and the New King James Version has 'about seven miles.' ) The situation is similar with respect to coins. Lu retains archaic units like Heller (Luke 12:59), Scherflein (Mark 12:42 and Luke 21:2) and Groschen (Mark 12:15). Groschen is sometimes replaced by the somewhat more precise Silbergroschen (Luke 15:8-9, 20:24).

EU is more likely to use the Greek terms (Meile, Stadien). EU has the modern Liter in Joh 2:6 (ungefähr 100 Liter), yet retains the archaic Ellen in Joh 21:8 (etwa 200 Ellen, cf. BhD etwa 100 Meter). Both EU and Elb use Hebrew measures in the OT (1 Kings 5:25, 2 Chr 2:9, Isaiah 5:10): Kor, Gomer, Homer, Bat, Efa. The situation is similar with respect to coins. EU uses more of the Greek units (Denar, Drachme, Doppeldrachme, Mine). For Scherflein '(widow's) mite,' it uses the symbolic zwei kleine Münzen and letzten Pfennig 'uttermost farthing' (KJV), 'last penny' (NKJ) for older Luther letzten Heller. (The 1972 edition of EU even had das letzte Lepton with an explanatory footnote.) Elb does not use the Greek units quite as extensively as EU.

BhD makes the greatest attempt to render measures in modern terms: Liter, Kilometer, Fässer, Sack, Flasche. Instead of using the Greek word in Revelations 14:20, 21:16 (cf. E 1600 Stadien), it retained the symbolic number and used a modern circumlocution: 1600 Wegmaße 'measures of distance.' The 1968 and 1971 editions had let the attempt to modernize override the symbolic meaning and rendered it 270 Kilometers. For coins it also converts to generally understood, but imprecise equivalents: Goldstück 'gold piece' for EU 10 Minen, Millionenbetrag 'millions' for EU 10,000 Talente, Silbermünze 'piece of silver' for EU Drachme, Silberstücke 'pieces of silver' for EU Denare. All have footnotes or notes in the back about conversions.

Language:

Let me first present some of the findings of an examination of 1 Cor 13. Even though EU and BhD generally replace the subjunctive with the indicative neither felt inclined to do so in this section so well known to speakers of German in Luther's formulation. Luther uses very common subjunctive forms that are still in use today (hätte, wäre, wüste, gäbe). In addition to these, EU has besäße and BhD has spräche, nähme and even the very unusual and infrequent kennte. Elb has indicative forms in this section. Luther follows the Greek closely in his repeated use of aufhören (4 times in v. 8). Elb has three varieties: vergeht, weggetan werden, aufhören. EU varies more freely, presumably according to context: hört auf, hat ein Ende, verstummt, vergeht. BhD has vergehen, hört auf, verstummt, ein Ende nehmen. Lu, EU and Elb (with some use of the pronoun sie) follow the Greek in repeatedly using the noun form die Liebe. BhD, however, interprets this in a less abstract formulation that focuses attention on the behaviour of the person who exhibits the
attribute of love and writes *wer liebt* 'he who loves.' BhD modernizes *(Besitz* for Lu *Habe, geduldig* for Lu *langmütig, spielt sich nicht auf* for Lu *bläht sich nicht auf* and *in der Sprache des Geistes* for Lu *Zungenreden*) and occasionally interprets *(Geheimnisse Gottes* for Lu, EU and Elb *Geheimnisse* and *stehen wir Gott gegenüber* for Lu, EU and Elb *von Angesicht zu Angesicht*). In descending order from traditional/archaic to modern, we can rank the four translations in this area: Luther, Elb (Rev), EU and BhD.

A examination of the parable of the prodigal son (Luke 15) shows similar tendencies. Luther is the most archaic, traditional and "biblical." In descending order toward modern, less traditional, more prosaic language we have Elb, EU and BhD. BhD is quite distinct from the other three in its choice of vocabulary:

<table>
<thead>
<tr>
<th>Bibel im heutigen Deutsch</th>
<th>Lu, Elb, EÜ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gemeindevorsteher</td>
<td>Älteste</td>
</tr>
<tr>
<td>Gesetzeslehrer</td>
<td>Schriftgelehrte</td>
</tr>
<tr>
<td>Oberster Priester</td>
<td>Hoherpriester</td>
</tr>
<tr>
<td>Christusfeind(e)</td>
<td>Antichrist(en)</td>
</tr>
<tr>
<td>Prokurator</td>
<td>Statthalter</td>
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<tr>
<td>Samaritaner</td>
<td>Samariter</td>
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<td>Nazarener</td>
<td>Nazoräer</td>
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<tr>
<td>Zolleinnehmer</td>
<td>Zöllner</td>
</tr>
<tr>
<td>Epileptiker</td>
<td>Mondsüchtige</td>
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<tr>
<td>Dunkelheit</td>
<td>Finsternis</td>
</tr>
<tr>
<td>Vertrauen</td>
<td>Glaube</td>
</tr>
</tbody>
</table>

BhD is clearly more modern and of necessity less "biblical."

More Luthern than Luther:

In some instances, Elb has retained archaic vocabulary that is in the older (1883, and/or 1912 and/or 1956) editions of Luther that have been modernized in the (1975 and) 1984 edition(s). For instance (from Mark), *sich verwundern, Schüssel, ehebrecherisch, Becher Wassers, Kindlein, falsche Christi, verdolmetscht, feine Leinwand, ehere Gefäße* in Elb and one or more of the older editions of Luther have now been modernized as follows in Luther 1984: *sich wundern, Schale, abtrünnig, Becher Wasser, Kinder, falsche Christusse, übersetzt, Leinentuch, Kessel.* Elb thus retains more of the vocabulary and flavor of the original Luther than the present edition of Luther and in this one particular area can be said to be more Luthern than Luther ("lutherischer als Luther").

Archaic features in Elb:

In nine verses, Elb has an awkward and archaic construction in the subjunctive, e.g., Joh 8:19 "... so würdet ihr auch meinen Vater gekannt haben." The others have either the present subjunctive *kenntet* (Lu) or the paraphrase *würdet kennen* (EU). Only a few other bibles show this feature (Zinzendorf 1744, Cartier 1770, Bahrdt 1777, Milheimer Ausgabe 1924, Bruns 1959, Neue-Welt-Übersetzung 1971 and none has more than three examples in these nine
206 verses.

An examination of the 1975 edition of the Elb New Testament with the one currently in the complete bible (1985) shows that the latest version has been modernized somewhat in the area of vocabulary, grammatical constructions, word order and in the use of a particular manuscript (Matth 21:29-31).

Nevertheless, the latest version still has archaic vocabulary differing from the other three (gewehkagt, Vollendung des Zeitalters, Regenten, seihen, Grüfte) and follows the Greek much too closely in the use of the article, plurals, compounds words, tenses, clause and sentence construction and order, and present and past participles. The cumulative effect of this strict adherence to the Greek original is a style that is not smooth, colloquial German but wooden, unusual and Hellenized.

The treatment of the name Jah(we):

Lu renders the Hebrew Jahwe (JHWH) in capitals der HERR and retains the shorter form (Jah) in Hallelu-ja. Bhd regularly uses der Herr for Jahwe and sometimes adds the explanatory Preist den Herrn after Halleluja at the beginning of a psalm or before it at the end of one. EU regularly uses der Herr for the vast majority of the occurrences of the tetragrammaton JHWH, but in a few verses whose structure accommodates a name (Ex 3:18, 6:3, 20:2, 34:6, Deut 4:7, 35, 39, 6:4, 1 Kings 18:21, 39) it uses the Hebrew form Jahwe: Jahwe, der Gott der Hebräer 'The LORD God of the Hebrews.' It is the only one of the four recent translations which uses the form Jahwe extensively in the German text. Elb takes an entire paragraph in the introduction to explain the origin of the name Jehovah, which was used in its older edition, and why it has chosen to replace it with der HERR in the current revision since there is not enough information to be sure about the pronunciation. In one verse (Ex 3,15), it uses Jahwe and the footnote refers the reader to the introduction. Where the Hebrew text has Jah (in a handful of verses in Psalms), Elb also has Jah: Ps 135:4 Jah hat sich Jakob erwählt 'The LORD has chosen Jacob for Himself' NKJ. It also retains the formula Halleluja in the Psalms. The use of Jehovah in the older edition of the Elberfelder translation was one, perhaps the most important reason it was esteemed so highly and used by the Jehovah's Witnesses up until the time they produced their own translation (New World Translation, die Neue-Welt-Übersetzung). The translation of the Jehovah's Witnesses by the Watchtower Society even goes so far as to introduce without any textual justification the name Jehovah 237 times into the text of the New Testament and 72 times into the footnotes (S. Kubo and W. Specht, So Many Versions, revised and enlarged edition, Grand Rapids, Michigan, 1983, p.98).

As far as I am able to tell by examining the verses listed in Wigram, (The Englishman's Hebrew and Chaldee Concordance of the Old Testament, Nashville, 1980), the German paraphrases of the Old Testament by Martin Buber (Die fünf Bücher der Weisung), which, by the way, generally have a very Hebrew flavor in vocabulary and word order, do not use the name Jahwe. Instead, Buber uses ICH BIN or simple ER. The translation of the Hebrew canon by the Jewish Publication Society of America (The Torah, Philadelphia, 1962) uses Hebrew forms (Ehyeh-Asher-Ehyeh) only in Exodus 3:14, the same verse in which Elb has Jahwe. I believe this is way modern translations should handle this problem, i.e., give the flavor of the original Hebrew if it is felt necessary to do so only in Exodus 3:14 and then use some other formulation. The treatment in EU is too scholarly and confusing for most bible readers.
Word order:

Two elements of word order in bible translations (the so-called "Saxon" genitive and the position of the verb) have already been examined extensively and can give us some insight into some syntactical differences. Luther's earlier translations had numerous Saxon (= preposed) genitives: in meines Vaters Haus 'in my father's house' (John 14:2). Of fifteen such examples in the Luther text of 1956, the following numbers were retained in the four translations under review here (M. Folsom, "Lutherische Sprachmuster in der deutschen Bibelsprache," Linguistische Studien, Akademie der Wissenschaften der DDR, Zentralinstitut für Sprach-wissenschaften, Reihe A, Luthers Sprachschaffen 119/3 (1984):65-80):

<table>
<thead>
<tr>
<th>Translation</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Luther 1984</td>
<td>10</td>
<td>66%</td>
</tr>
<tr>
<td>Revidierte Elberfelder</td>
<td>4</td>
<td>27%</td>
</tr>
<tr>
<td>Einheitsübersetzung</td>
<td>1</td>
<td>6%</td>
</tr>
<tr>
<td>Bibel im heutigen Deutsch</td>
<td>2</td>
<td>13%</td>
</tr>
</tbody>
</table>

This information allows us to make some general statements about the conservative nature of the language in the translations. Even though the intent of the recent revision of the Luther text was to restore the language of Luther as much as possible, this is one area where they felt there were compelling reasons not to revert to an archaic word order and thus only two-thirds of the archaic preposed genitives were retained. BhD and EU have done away with them almost entirely. Elb stands between the two poles; it is somewhat more modern than Luther but more archaic than BhD or EU.

The second study deals with elements of word order peculiar to Luther that are retained in modern translations (M. Folsom, "Die Stellung des Verbs in der deutschen Bibelsprache von Luther bis heute," Germanistische Linguistik 2 (1985):144-154). Of 99 items in twelve different word order categories, the translations discussed here retained the following:

<table>
<thead>
<tr>
<th>Translation</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Luther 1984</td>
<td>55</td>
<td>55%</td>
</tr>
<tr>
<td>Revidierte Elberfelder</td>
<td>15</td>
<td>15%</td>
</tr>
<tr>
<td>Einheitsübersetzung</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Bibel im heutigen Deutsch</td>
<td>0</td>
<td>0%</td>
</tr>
</tbody>
</table>
Neither of the translations undertaken in the 20th century exhibits any of the archaic word order features of the original Luther examined in the study. The Luther 84 revision retains about the same level of archaic language in this section as in the one just discussed (slightly over half). The revised Elberfelder translation once again occupies a position between the more archaic Luther 84 and the other two modern translations and shows just slightly more archaic features than in the previous study.

In the matter of following the text of the Greek original, let me mention the matter of translating the Greek future passive into German. Forty-six Greek future passives (wird gerettet werden ‘shall/will be saved’ wird gegeben werden ‘will be given’) in the New Testament were examined in the four translations. The number translated with the future passive into German are listed below:

<table>
<thead>
<tr>
<th>Translation</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Luther 1984</td>
<td>15 (4)</td>
<td>32.6% (41.3%)</td>
</tr>
<tr>
<td>Revidierte Elberfelder</td>
<td>46</td>
<td>100%</td>
</tr>
<tr>
<td>Einheitsübersetzung</td>
<td>23</td>
<td>50%</td>
</tr>
<tr>
<td>Bibel im heutigen Deutsch</td>
<td>9</td>
<td>19.5%</td>
</tr>
</tbody>
</table>

In ascending order of closeness to the Greek original, we have BhD, Lu, EÜ and Elb. We should note further that this adherence even to the forms of the Greek text is the reason Elb is called "the most exact and the most reliable" translation. It does not necessarily represent the most "German" way. The future passive is not a frequent tense in modern spoken German and this fact is reflected in the very few examples in H. Lu and EÜ occupy the middle ground.

Inspired Text:

In a letter of January 1981, the Quorum of the Twelve approved the use of EÜ in all official contexts (instructional material, glossaries, concordances, footnotes, etc.) and continues: "You will certainly be glad to know that of all those previously translated, the new German Bible comes closest to the King James version and that it will be a wonderful help and blessing for our German-speaking Saints" (quoted in M. Snow, "The Challenge of Theological Translation: New German Versions of the Standard Works," Dialog 17 (Summer 1984), p. 134). This appeal to the authority of the King James Version seems to indicate that we have become victims of the inspired translation trap, that is, we esteem the translation of the text higher than we do the original text. Since we deal almost solely with the biblical text in its translation into English, we come to think that the wording, the rhythm, and interpretation are somehow sacred in themselves without regard for the text in the original Hebrew or Greek. This is an understandable misconception and has happened many times in the past with the biblical text. Eugene Nida (Toward a Science of Translation, Leiden, 1964, p. 27) describes the process.
The Greek of the LXX became the "inspired" text over the original Hebrew. The Latin of the Vulgate became the authoritative text and language of the church over the original Hebrew and Greek. For us, the English of the King James version has become the language of the church and the bible over the original Greek and Hebrew. People ask the Bible Societies if they publish the King James Version in Japanese ... implying that they regard the King James version as in a special sense divinely inspired.

In addition to the fact that the translation can never be better than its source without the same kind of inspiration as the original source, it is in fact not true that the EÜ is the closest of the modern translations to the King James version. Listed below are a few categories for comparison.

<table>
<thead>
<tr>
<th>Closest</th>
<th>Farthest</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) text(us receptus)</td>
<td>Lu</td>
</tr>
<tr>
<td>2) introductory notes</td>
<td>Lu and Elb</td>
</tr>
<tr>
<td>3) apocrypha (omit)</td>
<td>Elb</td>
</tr>
<tr>
<td>4) coins/measures</td>
<td>Lu</td>
</tr>
<tr>
<td>5) Isaiah</td>
<td>Lu, Elb and BhD</td>
</tr>
<tr>
<td>6) names</td>
<td>Lu and Elb</td>
</tr>
<tr>
<td>7) 70 x 7</td>
<td>Lu, Elb and BhD</td>
</tr>
<tr>
<td>8) sacral markers</td>
<td>Lu and Elb</td>
</tr>
<tr>
<td>9) archaic style</td>
<td>Lu and Elb</td>
</tr>
</tbody>
</table>

In the categories listed here, EÜ is the farthest from the King James version, and Luther the closest. I would very much like to know what categories were examined in the previous study.

As a personal note, I would like to described what I believe are the best features of these four new bibles that I would like to see in my own personal "ideal" bible. I like the visually pleasing biblical font Biblica in BhD. The verse and chapters numbers in Elb allow the fastest possible finding of a verse. This layout is far superior to the others. Likewise, the presentation of the text in continuous, uninterrupted paragraphs in one column to a page in Elb with the footnotes in the margins or at the bottom of the page give a much a more realistic view of the original documents and allow me to focus on the text itself without interference from so many outside elements. To be consistent, I suppose I should want to do away with the section headings and relegate them to the footnotes, but that is one tradition no publisher seems willing to abandon. Quotations from the Old Testament in italics (EÜ) allow me to see at a glance which portions of the text are direct quotations and help me to realize the intimate connection between the Old Testament and the New Testament texts. The chiastic structure of portions of the text in the concordant version of Isaiah could be indicted by equal indentation of related lines as in the Concordant Version of Isaiah. In a few places (e.g., Amos), BhD indicates chiastic structure by letters in parentheses. Readers of the bible who are not aquainted with Hebrew literary fugures would appreciate one of these or some other help in understanding Old Testament texts. With respect to style, I much prefer the consistent, christological style of a
strong, committed Christian reformer (Lu) to a wooden, Hellenized style or the prosaically modern style of scholarly experts and critics of the texts.

Summary:

A. Because of the history of German bible translations, Lu is most traditional with respect to names, text and language. It is somewhat archaic linguistically, is written in a "sacred" style, is faithful to the spirit of the original documents and is the closest to the LDS tradition associated with the King James version.

B. Elb is most likely to present the text as in the original manuscripts and has the most cross-references to aid understanding of the text from within the texts themselves. It retains some of the archaic features of older editions of Luther and is faithful to the spirit of the original texts. It reflects details of the original text most accurately even to such details as the use of the future passive, plurals, acticles, etc. It is compatible with the LDS tradition associated with the King James version.

C. EÜ is most critical of traditional views on authorship and casts doubt on the authenticity of some texts. It is most innovative textually and includes texts that are not accepted as inspired by the LDS and many other protestants. It is closest to the catholic tradition (apocrypha, names from the Vulgate). It is middle of the road in linguistic matters except for the radically innovative Umkehr for 'repentence.' It is least compatible with the LDS tradition associated with the King James version.

D. BhD stands between traditional and modern views on the matter of text, names of books and the apocrypha and attempts to accommodate both. It is innovative and modern linguistically which accounts for its lack of sacred style. It is in too liberal a tradition to be compatible with the LDS tradition associated with the King James version.

We have in essence four different types of translations: 1) one based on the theory of the inspired text which is very literal (Elb), 2) one based on the theory of dynamic equivalents in the modern language (H), 3) one which incorporates modern scientific criticism and catholic tradition (EÜ), and 4) one which preserves the work of a reformer who infused the translation with a unifying theological concept measured "against the Rock of Christ" (Quoted in M. Reu, Luther's German Bible, Columbus, Ohio, 1934, p. 133)

In my opinion, neither BhD nor EÜ can be recommended for LDS readers. The approval of EÜ was premature in light of the problem with the critical introductions and the interspersing of the apocrypha. We should follow the example of the Luthern Church in Germany which withdrew the unduly innovative 1975 translation of the New Testament which followed the EÜ in its use of Umkehr, etc. and returned to a more traditional text of Luther with Büs. I believe, the choice for LDS readers really comes down to the choice between Lu and Elb. Elb reflects the original texts in greater detail but that is also the reason it sometime sounds rather stiff and it retains some archaic features. Lu retains much of the powerful style of the reformer familiar to most speakers of German over the centuries. The scales are tipped in the direction of Lu when we take into consideration the role of the Luther bible in the LDS church. From the beginning of the church in German speaking areas,
the Luther translation was used by its members. Up until 1980, all translations of the LDS scriptures into German were based in the language of the Luther translation (basic theological concepts and the passages of Isaiah and Matthew in the Book of Mormon). The decision to abandon the Luther translation in favor of a highly critical, apocryphal, catholic translation was precipitous and ill-advised. We should reinstitute the long established tradition and return to the language and spirit of Martin Luther.

Some may think this recommendation too conservative, too traditional, but we can come to no other conclusion if we start with the position of the church in English speaking areas. We have resisted any recommendation to use any translation other than the Authorised (King James) Version. We have invested large amounts of time and money in producing an annotated edition of it which preserves a very archaic form of English. We seem too timid to want to produce a translation of our own, either because of the immensity of the task or perhaps because of the lack of qualified and trusted experts within the church. We are thus forced to rely on the work of others to provide a usable bible. Now that others have completed the task of removing some of the archaic and misunderstood elements from the King James version and published the New King James version, we remain as one of the few groups that cling to a venerable but archaic text. The 1984 edition of the Luther text is at the very least somewhat less archaic and somewhat less dated than our present King James version. If we continue to use the King James version in English speaking areas, we can certainly continue to use the slightly modernized edition of Luther in German speaking areas.

My personal recommendation is to choose any modern bible which does the following:

1) Renders proper names as close to the original as possible but not radically different from traditional spellings. If there is a choice between the protestant and catholic traditions, preference should be given to the protestant tradition for historical reasons.

2) Places the deuterocanonical books in a separate section before the New Testament. In the case of the Book of Esther, the translation of the Greek text will be printed in the deuterocanonical section while the translation of the Hebrew text will be printed among the books of the Hebrew canon. The deuterocanonical parts of the book of Daniel will be presented as part of the separate section.

3) Does not include interpretive headings and unsubstantiated theories about authorship and chronology.

4) Presents the text as much as possible as a single column text. Headings, chapter and verse numbers, references and footnotes should be as unobtrusive as possible.

5) Provides enough manuscript information in the footnotes so that the reader can understand the extent of textual evidence. No doctrine is altered in any substantive way by the variant readings.

6) Uses names for coins and measures that have meaning for the reader. Archaic names (farthing, furlong, mite) should be replaced by general terms (a
small amount, a short distance) or by the original Hebrew or Greek term with an explanation in a footnote.

7) Modernizes archaic words and language, if possible, without doing violence to the traditional text.

8) Renders the tetragrammaton (JHWH) as a title (LORD, HERR) and not as a transliteration (Yahweh, Jahwe). If a transliteration is used at all, then only in a verse or two in the OT (e.g., Ex 3:14).

9) Gives precedence to the original Hebrew and Greek texts over translations, yes, even English translations (even the King James Version, The Living Bible, and the New World Translation).

10) Gives precedence to the biblical literary tradition of the target language (in this case German) over translations (especially literal ones) of English translations of the original Hebrew and Greek.
The idea of looking for Hebraisms in the Book of Mormon is not new. It goes back at least to 1909 when Thomas W. Brookbank published a series of articles on "Hebrew Idioms and Analogies in the Book of Mormon" in The Improvement Era. Although he confessed that "not many different kinds of Hebrew idioms" were known to him to exist in the Book of Mormon, he maintained that some of them were so well sustained that it was necessary to refer the authorship of the Book of Mormon to someone who was familiar with the peculiarities of the Hebrew language (p. 117). Since then, other researchers have added to his list.

One might ask why one would look for Hebrew influence on the translation of the Book of Mormon? One reason is that, although they wrote the record which they kept on metal plates in reformed Egyptian, those who kept the record came from a Hebrew speaking area and claimed that they were still using Hebrew, albeit in an altered form, until near the end of their existence. Consequently, Hebrew modes of expression could have influenced their writing.

Furthermore, the translation process as described by those involved would permit a reasonably literal translation of the original so that these Hebrew modes of expression could have been carried over into English.

In addition, Joseph Smith was an inexperienced translator, and inexperienced translators tend to be literal in their translations. In fact, Joseph Smith claimed with respect to at least part of the translation that it was not his own work but rather a "literal translation...not by any means a modern composition." Exactly what he meant by "literal" is impossible to know, but his point was obviously that he was staying close to the original text, not creating freely as he worked.

So, beginning with Brookbank, considerable work has been done by Mormon scholars in examining the Book of Mormon for evidence of Hebrew influence on its language in connection with vocabulary, modes of expression and syntax. Many such "Hebraisms" have been found, but most of them have their counterparts in the King James Version, the English of which has been extensively influenced by the Hebrew original.

Since Joseph Smith was acquainted with the King James Version, and obviously tried to use a religious-language style in producing the Book of Mormon, he could have reproduced Hebraisms in the King James Version in his translation; consequently, their value as witnesses for the language on the plates is diminished.
In this paper we shall consider three examples of possible Hebrew influence on the translation of the Book of Mormon which do not have counterparts in the King James Version and, consequently, could be independent evidence of Hebrew influence on Joseph Smith's translation attributable to the language of the original plates.

The first example is the use of the word "under" instead of the expression "instead of". This example was first pointed out by Sidney B. Sperry some time ago.

The Book of Mormon text is Alma 13:18 (260). Speaking of the great king Melchizedek it reads, "and Melchizedek did establish peace in the land in his days; therefore he was called the Prince of Peace, for he was the king of Salem; and he did reign under his father." "He did reign under his father"—This could possibly mean that Melchizedek reigned as a viceroy under his father, but such a statement here seems unlikely. The whole tenor of this section is to extol the greatness and uniqueness of Melchizedek. To say that, after all, he was number two is an unfitting anticlimax.

Rather, the idea of the original was probably that Melchizedek followed his father as king of Salem. This probability is strengthened on noting that the following verse, nineteen, goes on to talk about succession, "there were many before him, and also there were many afterwards."

The preposition "under" is used here instead of an expression such as "in the place of." Now, it happens that in Hebrew the preposition "under" (tahat) is used to express this idea. For example, in Genesis 35:36 we read, "And Hadad died, and Samiah of Masrekah reigned in his stead." "in his stead" is the translation of tahat "under" in Hebrew (see also 1 Kings 5:1, 2 Kings 14:21 etc.). In all the instances where this usage occurs in the Hebrew Scriptures, the King James translators have translated it correctly into English; consequently, Joseph Smith could not have picked up the literal translation from the English King James Version.

My second example is the use of the word "word" in the Book of Mormon where the context requires "thing." Our prime example is in Alma 14:18 (263). The account here relates that while Alma and Amulek were in prison, some persons came to see them, and "they questioned them about many words; but they answered them nothing." Now, as this is phrased, it appears that there was a dictionary quiz going on in the jail—"they questioned them about many words." It seems, however, more likely that the questions would have been about religious doctrines or political matters. A more accurate statement would be that they questioned them about many matters or things.

The confusion here could again be the result of one word in Hebrew, davar, being the equivalent of two words in English, "word" or "thing". In the King James Version davar is translated "word(s)" over 500 times and "thing(s)" more than 200 times. In Alma 14:18 "things" would definitely have been better than "words."
There is no example of a similar mistranslation in the Old Testament. An instance when such a translation could have occurred is Ecclesiastes 5:2, "Be not rash with they mouth, and let not thine heart be hasty to utter any thing (lit. a word [davar] before God." Here, as in many other places, although the context is that of speaking, the translators have appropriately translated davar "thing" rather than "word."

Another example from the Book of Mormon is found in Helaman 9:2 (431), which reads, in part, "if this thing which he hath said concerning the Chief Judge be true, that he be dead, then will we believe that the other words which he hath spoken is true". It would have been more natural to say "we will believe the other things which he has said are true."12

Our third example is the usage of the word "that" before a direct quotation. One example is in 1 Nephi 3:15 (10), "But behold I said unto them, that as the Lord liveth, and as we live, we will not go down unto our father in the wilderness, until we have accomplished the thing which the Lord hath commanded us." We see here direct discourse preceded by the word "that," which should introduce indirect discourse. If "that" were replaced by quotation marks the sentence would be grammatically correct. Another example occurs in chapter seventeen verse fourteen (43), "Yea, and the Lord said also, that after ye have arrived to the promised land, ye shall know that I, the Lord, am God..."13

Now the vocabale ki in Hebrew which generally serves as a conjunction meaning "because" or "that" may also be used to introduce direct discourse.14

An example where this construction occurs in the Old Testament is Genesis 21:30 "And he said, For these seven ewe lambs shalt thou take of my hand . . ." The Hebrew reads literally, "And he said, that (ki) seven ewe lambs . . . "Here the King James translators have translated ki as an emphatic for. They then felt the need to add the word "these." A simpler translation is possible when one recognizes that ki is being used as a marker of direct quotation: "and he said, 'seven ewe lambs shalt thou take . . ."'

Note that, although the King James Translators did not recognize ki as being equivalent to quotation marks, they have avoided a literal translation which would have introduced the direct discourse with the word "that." Joseph Smith could not have picked up the literal construction from reading his English Old Testament.

In summary, then, these three examples of unusual or incorrect English usage in the Book of Mormon: "under" for "instead of," "words" for "things," and "that" as marker of direct discourse could be instances of Hebrew usage influencing the translation English of the Book of Mormon. Since they are not a reflection of Hebrew influence on the King James Version which Joseph Smith might have assimilated through reading the Bible, one must explain their existence in some other way.
One explanation would be that they are literal translations reflecting
the vocabulary or thought patterns as recorded on the plates by the
original authors whose writing was influenced by Hebrew.

END NOTES

1. Volumes 13 (1909-1910), 17 (1913-1914) and 18 (1914).

2. See the bibliography in the author's Brigham Young University M.A.
Thesis, "Possible Lexical Hebraisms in the Book of Mormon (Words of

3. Mormon 9:32-33, see Joseph Smith Jr., The Book of Mormon (Palmyra,
E. B. Grandin, 1830) p. 538.


5. See Joseph Smith, History of the Church of Jesus Christ of Latter-
day Saints, ed. B. H. Roberts (Salt Lake City: Deseret Book Co.,
1951) I, 71.

6. See William Rosenau, Hebraisms in the Authorized Version of the
Bible (Baltimore: The Lord Baltimore Press, 1902).

7. Sidney B. Sperry, "Hebrew Idioms in the Book of Mormon," The
Improvement Era, 57 (1954) 703.

8. References to chapter and verse are as in the 1981 edition. They
are followed by parenthesis containing the corresponding page in
the 1830 edition. Quotations are as in the 1830 edition.

9. Francis Brown et al., A Hebrew and English Lexicon of the Old


11. See Robert Young, Young's Analytical Concordance (Grand Rapids,
Mich.) 975-977, 1068-1070.

12. Italics are mine.

13. Italics are mine.
