

## EFFICIENCY TOOLS IN THE SPEECHES OF MARTIN LUTHER KING, JR.

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### Abstract

This thesis represents the results of a computer-aided analysis of aspects of speeches of the Reverend Martin Luther King, Jr. Specifically, the analysis has investigated the occurrence of indicators of the efficiency function--tools facilitating the comprehension of a discourse by a hearer or reader--in four speeches of Dr. King.

Contrary to the expectations of many who anticipate complex grammatical structures in the discourse of those who are speechmakers before many and diverse audiences, this study has demonstrated that the speeches of Dr. King are replete with simple structural devices--sequential clauses as opposed to embedded clauses, sentences in which there are clear linkages between clauses, and clear linkages between sentences, to name a few.

The analysis of the texts of Dr. King was accomplished in part by a computer program which used as input a surface semantic description of a sentence as a basis for predicting the syntactic function of elements of the sentence.

### Rationale, Scope, and Methodology

Nida and Taber<sup>1</sup> propose norms for determining the functions of stylistic features. They consider the occurrence of features manifesting the efficiency function--for the enhancement of comprehension on the part of the hearer/reader--and the occurrence of features manifesting the special effects function--serving to stimulate hearer/reader interest in the discourse. Both formal and lexical features might be utilized to effect either of the two functions. They further propose that no discourse is restricted to the utilization of a single function--either efficiency or special effects--since a speaker/writer would be concerned both that his discourse is understood and that it evokes interest. This approach to style, in terms of its effects on an audience, has been discussed by others. See, for example, Chapman<sup>2</sup>, Holloway<sup>3</sup>, and Ohmann<sup>4</sup>.

Martin Luther King, Jr. is considered by many to have been an effective speaker of our times. Certainly, he was effective in attracting large audiences to his podium, and official statistics on the attendance and frequency of turnout at his speeches would bear this out.

Consider, for example, the turnout for the March on Washington where the estimated audience was 200,000. Reston<sup>5</sup> of the New York Times reported: "It was King who...touched the audience... until then the pilgrimage...had been a spectacle." Whether this attraction was due to his political persuasion, his philosophy of non-violence, curiosity, or the sheer beauty of his oratory is not a point at issue here. What is at issue is that he did have a message, and he certainly must have desired his message not only to be heard and understood but to be, in addition, a catalyst to the furtherance of his point of view.

One might expect, then, that the features proposed by Nida and Taber manifesting both the efficiency and special effects function would be present in the discourse of a speaker of the caliber of Dr. King. This study reflects an acceptance of these proposals as norms, and in so doing endeavors to contribute to the substantiation of them as such by measuring the extent of reliance by Dr. King on specific features manifesting the efficiency function. This is not to say that features, in general lexical, manifesting the special effects function are not present in the discourse of Dr. King, but explicit in this study is a goal of specifying a computable process (an algorithm /device) for the recognition and identification of formal features.

By statistical accumulation of data evidencing the presence of certain features enhancing the efficiency function, this study will endeavor to show that there is indeed a high occurrence of formal features for the enhancement of the efficiency function in the speeches of Dr. King. Specific parameters to be addressed herein are:

- 1) intersentence markers
- 2) markers of relationships between clauses
- 3) sentences with simple structure
- 4) potential terminals in a sentence
- 5) clauses in sequence in a sentence

To accomplish the statistical accumulations, the research contained herein utilizes a sentence parser which provides semantic coding as a basis for the recognition of the specific units of interest in Dr. King's discourse. The parsing algorithm will contain tools for a) the recognition of specific kinds of intersentence

markers; b) the recognition of markers between sentences; c) the recognition of simple sentences; d) the recognition of potential terminals in a sentence; and e) the recognition of sequential vs. embedded clauses in a sentence.

Clearly, an investigation into the frequency of occurrence of a limited set of stylistic features in the oratory of a single person will not permit definitive conclusions on the universal set of features present in all oratory. Nor will it define an algorithm (or device) for the consistent recognition of such features. But it is anticipated that these results will serve as substantiation of proposed norms (as mentioned above) and as a cue to both the minimal information necessitated in the processing of natural language as well as a cue to a methodology for the recognition of formal stylistic features.

The appropriateness of an examination of limited stylistic features, however, has been sanctioned by many stylists. Hough<sup>6</sup> states: "The choice of this word rather than that, of this kind of syntactical construction rather than another, is a visible fact, whose nature and effects can be examined." He further elaborates: "Study a particular stylistic device as it is employed in an individual work of art.... We are inquiring how a specific configuration is used for a special...purpose..."

Ullman<sup>7</sup> is also encouraging: "This is the way stylistic analysis proceeds: It takes a particular device in a language or in a limited corpus and examines the different effects which emanate from it. But one could also reverse the process and investigate, for example, the various devices through which irony is expressed in the language or corpus."

It is further anticipated that many linguists will insist that a speaker such as Dr. King will have demonstrated a wide variety of structural tools in his oratory. This study proposes to show evidence, as has Ohmann<sup>8</sup> in his analyses of Faulkner, et al, substantiating Milic<sup>9</sup> that "the language of an individual is restricted...though...able to interpret the full range of syntactic patterns...the language affords, for some reason he seems to depend for his expressive needs on merely a selection from the available total." Further discussion of the expectation of restricted use of language tools can be found in Chapman<sup>2</sup> and Ohmann.<sup>10</sup>

Since it is expected that the structural patterns present in Dr. King's oratory are very limited in number and recurring, one anticipates that a parsing algorithm for the recognition of these structural units will be simple. A parser based on a transformational model, for example, would contain many "complications...irrelevant to the particular problem...the student of style

may wish to feel free to use the simplest grammatical model that satisfies the requirements of his particular job."<sup>11</sup> Further, it is anticipated that the algorithm used in this study in identifying the regular recurring structural patterns (the analogies) in the speeches of Dr. King will also identify the anomalies by the rejection of them as analogies.

Given the above considerations concerning the rationale and methodology for the study and the delimiting of the scope, the following section will discuss the specific speeches of Dr. King comprising the corpus for the study.

### The Corpus

Four speeches have been selected to comprise the corpus for the study. Text I is popularly known as I had a Dream.<sup>12</sup> Text II is the Nobel Prize Acceptance Speech.<sup>13</sup> Text III is the text of Dr. King's statement on the eve of his death,<sup>14</sup> and Text IV is a sermon delivered by Dr. King at his home church in Atlanta, Georgia.<sup>15</sup>

The texts cited above were selected as representative of the gamut of the speech types delivered by Dr. King based on the makeup of the audiences which were present. Text I was delivered to general audience composed of old and young, black and white, rich and poor, educated and uneducated. Text II was delivered to a more elite audience, probably all highly educated and distinguished in their fields--the Nobel Prize Committee. The third text represents an impromptu speech delivered by Dr. King on the eve of his death. The final text was delivered by Dr. King to his usual audience--his flock at his home church.

Text I contains 81 sentences, 1,644 words, and 156 clauses. The mean (simple average) words per sentence is 20.2, and the mean clauses per sentence is 1.9. Text II contains 43 sentences with a total of 1,156 words and 122 clauses. Here, the mean sentence length is 26.91 words, and the mean number of clauses per sentence is 2.7. Text III consists of 23 sentences, 34 clauses, and 256 words. The mean number of words per sentence is 11.13, and the mean number of clauses per sentence is 1.48. Text IV contains 136 sentences, 2,316 words, and 250 clauses. The mean sentence length is 17.05 words. The mean number of clauses per sentence is 1.8.

Combining the data from the four texts, the corpus consists of 283 sentences, 562 clauses, 5,391 words. The mean sentence length for the corpus is 18.971, and the mean number of clauses per sentence is 1.982. The standard deviation of the sentence lengths is 12.96 words. The standard deviation of the clauses

per sentence is 1.32. Table 1 summarizes the mean sentence lengths in words by text and for the corpus. Table 2 contains comparable data for clauses per sentence.

These statistics have been obtained by a manual tallying of the sentences, clauses, and words in the texts and as such are

TABLE 1

MEAN WORDS PER SENTENCE BY TEXT AND CORPUS

Text	Mean Words/Sentence
I	20.2
II	26.9
III	11.13
IV	17.02
Corpus	18.97

TABLE 2

MEAN CLAUSES PER SENTENCE BY TEXT AND CORPUS

Text	Mean Clauses/Sentence
I	1.93
II	2.79
III	1.48
IV	1.84
Corpus	1.99

preliminary and for the purpose of demonstrating the volume of information under study. Further, the tables presented here are for the purpose of describing the raw data worked with in this research. Further sections contain discussions of the data with respect to the parameters under investigation and the significance of them to the style of Martin Luther King, Jr. A fuller study of the research discussed herein may be found in Smith<sup>16</sup> from which this study was extracted.

The reader should be forewarned that this paper is intended to be read by linguists. It is assumed that the reader is knowledgeable of past and present trends in the branches of linguistics. Readers who are uninitiated in the field might consider Dinneen<sup>17</sup> which is fairly objective in its treatment of the trends in linguistics from ancient times to the mid 1960's.

## Text Analysis Procedure

In this section the grammar and the algorithm for the analysis of the texts comprising the corpus are presented. As stated earlier the goals of the analysis are: a) the recognition and identification of explicit semantic-syntactic markers between sentences, b) the recognition and identification of explicit semantic-syntactic markers indicating relationships between clauses, c) the recognition and identification of sentences with simple structures, d) the recognition and identification of potential terminal points in a sentence, and e) the recognition of sequential versus embedded clauses in a sentence.

### The Grammar

The grammar underlying the parsing algorithm is presented below. It is defined as an ordered 4-tuple:  $\langle V, V', SC, 'S' \rangle$  where  $V$  is the vocabulary of terminal symbols (or words from sentences or items from the lexicon);  $V'$  is the vocabulary of nonterminal symbols (the semantic codes, etc.);  $SC$  is a set of semantic compatibility rules; and  $'S'$  is an initial string or sentence. The semantic compatibility rules are presented below as a numbered set of rules in Backus-Naur Form to more efficiently indicate alternative reductions.

In Backus-Naur (or Backus-Normal) Form (BNF) alternative reductions for an element of  $V$  or  $V'$  are specified in one rule. This is in contrast to the method used generally by linguists in specifying a separate rule for each alternative. For example, many linguistic systems would specify rule 1 as:

$E \rightarrow EE$   
 $E \rightarrow EAE$   
 $E \rightarrow E\text{-lexeme}$   
 $E \rightarrow EV \ O \ E.$

In the notation utilized here nonterminal symbols are enclosed in angular brackets ( $\langle \rangle$ ), and the alternatives are separated by vertical bars ( $|$ ).

### The Semantic Compatibility Rules

- $\langle E \rangle := \langle E \rangle \langle E \rangle \mid \langle E \rangle \langle A \rangle \langle E \rangle \mid E\text{-lexeme} \mid \langle EV \rangle \langle O \rangle \langle E \rangle$
- $\langle S \rangle := \langle K \rangle \mid \langle K \rangle \langle RCUTS \rangle \langle S \rangle \mid \langle RCUTS \rangle \langle S \rangle \mid$
- $RCUTS := \text{WHILE} \mid \text{ALTHOUGH} \mid \text{WHERE} \mid \text{THAT} \mid \text{WHEN} \mid \text{WHO} \mid \text{WHOSE} \mid \text{WHICH} \mid \text{WHAT} \mid \text{BECAUSE} \mid \text{WHY} \mid \text{UNTIL} \mid \text{AS} \mid \text{WHENEVER} \mid \text{BUT} \mid \text{IF} \mid \text{FOR} \mid \text{SO} \mid \text{EVERYTIME} \mid , \mid - \mid " \mid ' \mid \text{AND} \mid \text{OR} \mid :$
- $\langle K \rangle := \langle E \rangle \mid \langle X \rangle \langle E \rangle \langle X \rangle \mid \langle X \rangle \langle E \rangle \mid \langle E \rangle \langle X \rangle$

5.  $\langle X \rangle = \langle O \rangle \mid \langle A \rangle \mid \langle RHT \rangle$
6.  $\langle A \rangle = \langle A \rangle \langle A \rangle \mid \langle A \rangle \langle RHM \rangle \langle A \rangle \mid A\text{-lexeme}$
7.  $\langle O \rangle = \langle O \rangle \langle O \rangle \mid \langle A \rangle \langle O \rangle \mid \langle O \rangle \langle A \rangle \mid \langle O \rangle \langle RHM \rangle \langle O \rangle \mid O\text{-lexeme}$
8.  $\langle RHT \rangle = \langle RHT \rangle \langle O \rangle \mid \langle RHT \rangle \langle RHT \rangle \mid \langle RHT \rangle \langle RHM \rangle \langle RHT \rangle \mid RHT\text{-lexeme}$
9.  $\langle RHM \rangle = \text{AND} \mid \text{OR} \mid \text{BUT} \mid \text{NOR} \mid \text{NEITHER} \mid \text{EITHER} \mid$

In the above rules E-lexeme, O-lexeme, A-lexeme, etc., refer to a word from the lexicon belonging to the semantic domain indicated. RCUTS represents a subset of relators (R).

The grammar described above is based on a linguistic statement developed by Dr. Michael Zarechnak<sup>18</sup> for the analysis of weather report data. The approach discussed here represents an expansion and extension of the approach to more general literature. The author provided the computational approach and methodology for the weather report analysis. Using Kholodovich's<sup>19</sup> theory of subsets it was determined that the weather report sentences could be represented in a limited number of frames. (See Smith<sup>20,21</sup> for a summary.) In the treatment of the sentences as string formulae this grammar is also influenced by the work of Zellig Harris.<sup>22</sup>

With respect to the goals listed at the beginning of this section, the analyzer (parser) described above accomplishes the identification of explicit markers between clauses, and rejects those sentences in which there are no explicit markers between pairs of clauses. Via the recognition of sequential clause boundaries, it also indicates potential terminal points in a sentence and the number of clauses per sentence. Since the kernelization algorithm relies on explicit markers between sequential clauses to effect kernelization and rejects sentences with embedded clauses, it indicates sequential vs. embedded clauses. In flagging sentences with introductory relators, the analyzer has also accomplished a portion of the identification of explicit markers between sentences.

Some final observations should be added at this point concerning the goals and motivation for the analyzer described above. The analysis is accomplished by the analysis of word-level semantic units to obtain information on the surface sentence structure. No deep semantic structure analysis (ala generative semantics) summoning, for example, hypothetical underlying propositions or deep syntactic structure analysis (ala transformational theory) providing, for example, proposed kernel structures underlying verbal (infinitive, gerundive, participial) phrases is included.

The clause (or kernel sentence or configuration) discussed herein is strictly a surface structure unit in which a finite verb form occurs with or without its subject or object noun-phrase. That is to say, a configuration with one or more deleted noun-phrases but with a finite verb form is considered a clause.

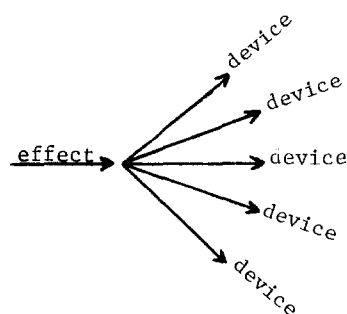
This type of analysis, then, in terms of the surface structure alone is considered by some to be a current trend. J. D. Fodor<sup>23</sup> for example, states: "The move has been from the interpretation of deep structures alone (as in Katz's theory) via the interpretation of deep and surface structures (as in Jackendoff's theory) to the interpretation of surface structures alone." For a contrary view one is referred to Woods.<sup>24</sup>

#### Statistical Measures of Style

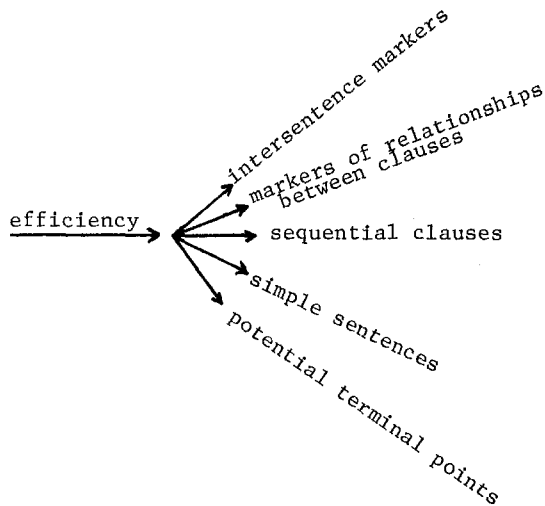
In the analysis of selected texts this study has accumulated statistics on certain features proposed as manifestations of the efficiency function in the discourse of Martin Luther King, Jr. These specific features were chosen following the dictum of stylists such as Chatman:<sup>25</sup> "we count features only to demonstrate that they are distinctive enough to be noticed without recourse to statistics; the count is significant only insofar as it corresponds to a preformed impression in the sensitive reader's mind." The study contained herein may well exemplify what Enkvist<sup>12</sup> alluded to in the following: "It is the task of Linguistic Stylistics or Stylolinguistics to set up inventories and descriptions of stylistic stimuli with the aid of linguistic concepts."

#### The Style of Martin Luther King, Jr.

Ullman<sup>7</sup> discussed two general approaches to stylistic studies. In the first of these the stylist begins with a stylistic device and analyzes a corpus for effects from the device. In the second approach the stylist begins with an effect and analyzes a corpus for devices which have contributed to the effect. This approach might be graphically depicted as follows:



The approach taken in this stylistic study of the oratory of Martin Luther King, Jr. might be considered analogous to the second approach above. Its graphic depiction is as follows:



such that the effect proposed is the efficiency function (facilitating understanding on the part of the hearer/listener), and the devices under inspection in the analysis are a) intersentence markers, b) markers of relationships between clauses, c) sequential clauses, d) simple sentences, and e) potential terminal points.

With respect to intersentence markers it has been shown that all of the texts are strongly linked by repetition, anaphora, and introductory relators. An inspection of the texts shows that there is indeed a preponderance of sentence to sentence links plus links joining early parts of the texts to latter portions. The text coherence is accomplished in part in text I by repetitions such as "I have a dream", "Let freedom ring.", etc. In text II, one can observe the various repetitions and references to "I accept the Nobel Prize for Peace", "this award", "this prize", "I accept", etc. Text III is less linked by anaphora and repetition than the other three texts. Dr. King relies more on introductory relators with 56.52% of the sentences in this impromptu text delivered on the eve of his death containing introductory relators. Text IV is linked by repetition and references such as "It's midnight.", "the bread of hope", "the bread of faith", "the bread of love." Clearly, therefore, this device is heavily present in Dr. King's oratory.

The second device indicative of the efficiency effect under analysis in the texts is the presence of markers between clauses. In the four texts 151 of the 283 sentences are multi-clausal. Of these 137 (48.41%) contain explicit markers between clauses. Fourteen of these (4.95% of the corpus) contain clauses in which the boundaries between are unmarked.

Further, with respect to the third device--sequential clauses--141 sentences (49.82% of the corpus) are composed of clauses in sequence while 10 sentences (3.53% of the corpus) contain embedded clauses. Thus with respect to marked versus unmarked clause boundaries and sequential versus embedded clauses, 127 sentences (44.88% of the corpus) contain clauses in which the interclause boundaries are marked and in which the clauses are in sequence. Twenty-four sentences (8.48% of the corpus) contain sentences in which the interclause boundaries are unmarked or in which embedded clauses are present. Further, none of the sentences with unmarked clause boundaries contains embedded clauses, and none of the sentences containing embedded clauses has unmarked interclause boundaries.

In considering the fourth device--simple sentences--this study has shown that 132 sentences (46.64% of the corpus) are simple with respect to the number of clauses (one) per sentence. Further, since clauses in sequence are less complex and easier for the listener to decode, one may consider the 127 sentences with clauses in sequence and marked interclause boundaries simple also. Thus, 259 sentences (91.52% of the corpus) are simple.

Finally, with respect to potential terminal points in a sentence, one can see that clauses in sequence provide potential terminal points. Thus, the 141 multiclausal sentences which contain clauses in sequence are evidence of the potential of terminal points in addition to the point at the end of the sentence.

Clearly, from the above one can see that the five devices proposed as contributors to the efficiency effect are present in high proportion in the oratory of Martin Luther King, Jr. This study has shown that, consciously or not, Dr. King has structured his oratory such that there is a preponderance of tools which aid the hearer/reader in the comprehension of the text. One might conclude by agreeing with Nichols<sup>26</sup> who quotes Aristotle as having said that to know what to say is not enough, but one must also know how it must be said. She summarizes by stating that, indeed, the effectiveness of Adlai Stevenson, John F. Kennedy and, Martin Luther King is in part due to the "uniqueness of their handling of the language patterns."

#### General Conclusions

As was stated in the introduction, this study does not purport to capture the total style of Martin Luther King, Jr. It has endeavored to show evidence of specific structural (and lexical to a very small extent) devices which enhance the efficiency function. Anyone inspecting these texts of Dr. King's

may observe that there is a wealth of both structural and lexical tools which might provide inspiration to further study of the oratory of Dr. King.

With respect to structural analysis, one might consider the role of infinitive phrases, gerunds, and participles in Dr. King's texts. One might also be interested in analyzing the clause construction of his sentences with respect to modifiers, the presence or absence of the subject and object, etc.

There are also indications of studies which might approach an analysis of Dr. King's style on the lexical level. One observes many instances, especially in "I Had a Dream"<sup>12</sup> of metaphor, simile, collocative clash (unusual combinations), and dated and outmoded words. These are just a few of many indications of further direction in the study of the style of Dr. Martin Luther King, Jr.

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