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AN EXPERIMENTAL STUDY OF VERBS: THE SHAPING
OF THE MEANING OF WORDS IN MESSAGES

DISSERTATION

Presented in Partial Fulfillment of the Requirements for
the Degree Doctor of Philosophy in the Graduate
School of the Ohio State University

by

The Ohio State University
1981

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To my beloved Lisa for support, encouragement, and her never failing Spirit
ACKNOWLEDGMENTS

I would like to acknowledge the constant and helpful advice, support, and direction given by my advisor, Dr. John J. Makay. In class, in tutorial, and in friendship he was consistently the model of a teacher, scholar, and mentor. Bless you always for your direction and help.
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INTRODUCTION

This dissertation examines the semantic and syntactic properties of language through an experimental study of language use. The purpose of the study is to probe how word meaning is related to grammatical function in a sentence message. Specifically, the study is focused on the role of the English verb in framing the other semantic and syntactic relations in a typical set of sentences. The study also examines specific semantic characteristics of four types of verbs: state, event, activity, and process. The argument is that each verb type exercises a different and more or less stringent control over the other semantic relations in test messages.

The study is described in chapter two. The first chapter discusses the background to semantic and syntactic research that is relevant to the study. Chapter three deals with the systematic nature of language parts and how a co-ordinated set of language rules is evolved. Chapter four is concerned with the question, "What is a language rule?" The final chapter examines language rules from a macrocosmic perspective. Language structure such as that observed in a sentence message is seen in many more complex communicative behaviors throughout society. The essence of the comment in this final chapter suggests a language predication paradigm to examine these more complex behaviors.
CHAPTER I

RESEARCH IN SEMANTICS AND THE STRUCTURE OF LANGUAGE

Why study language: words, their meaning, and messages?

Language is the material, the substance, and the medium of communication. It constitutes as a corpus the repository for the cultural heritage of centuries of experience, thought, and expression. It continues to operate on almost every level of human evolution, personal and societal. Each generation incorporates it into its shared experience. It serves as a shared inheritance, but is constantly reframed in communicative interaction. It is this aspect of language, its personality, yet its common-ality, which gives language unique properties for human communication.

Language is undergirded by a fantastically complicated grid of rule systems that connect the inner world of experience, thought, and perception to the exterior world in which one lives, moves, and exists. This language rule grid changes with maturation and experience to accommodate changes in environment. The predicative function in language stands at the center of this formative and reformatory process.

Questions about Language and Meaning

Some of the most difficult questions about language, meaning, and messages begin with the simple operations of everyday communications. How can a person with the smallest effort through language bring to mind
persons, objects, events, and relations that may be abstract or chimerical? This question has stirred philosophers, linguists, and language scientists.

Plato in his dialogues Meno, Timaeus, and Parmenides argued that a name for natural objects is a reflection of a property residing in a reality beyond the object which one comes to know by sifting the transient qualities of the object. Aristotle believed that a name is an identification of descriptive categorical properties of the object, a similarity between objects was a sign of categorical similarity.

In Judeo-Christian literature, the first man named objects in the world by fiat. It was a creative act. The Roman Lucretius in De Rerum Natura adopted a naturalistic view of language. A name corresponded to natural characteristics of the object which was named. Throughout history many have offered explanations for the assignment of names to the objects of daily existence.

Communication scholars have continued this questioning about the correspondence between names and things. As one examines the relationship between words, meaning, and referents in themselves, the question of the nature of each of these individual parts is raised. What is the meaning of a word? What happens in the interaction among and between words used in messages? These questions have been approached through various quantitative and qualitative methods of study. Empirical research has begun to disclose some of the theoretical junctures by which words and messages are connected.

There are a number of possible entry points into questions about how and what words mean, but the choice made in this study is to
investigate the semantics and syntax of words in messages. At this point, semantics is simply defined as the study of the meaning of words. Syntax is concerned with the way words are used in the grammatical expression of thought.

A singular word used in a message is called a free morpheme, such as "form." A word morpheme is a singular meaning unit. The analysis in this study proceeds from an analysis of the meaning of morphemes in messages and then considers words operating together in expressions of collective meanings.

The word level is commonly viewed as the basic unit because it is central to the construction of other levels. A word is like a cell in the body of a living organism. It constitutes a primitive unit of a larger system of living and active relationships. Words are the primary constituents of messages and their contributory, combinatory, and interactive characteristics are keys to the working of the whole system of language. Words as basic units are selected and used at all other levels of expression. A message, as a thought unit, is represented by a selected composition of words.

In a survey of research trends in communication, Gerald Miller makes a strong case for more research with the basic elements of message construction. He urges more fundamental research with the basic constituents in message construction. Primarily, how can messages be analyzed and described?

In 1965 Noam Chomsky, an important theorist in modern linguistic thought and research, discouraged the prospect of untangling the relationship between syntax and semantics. His attitude was based on a
major theoretical disagreement about the source of language generation. Since that time linguistic theory has evolved a clearer perspective on the questions of how language is produced. It is through the structure of language itself that a vista on language production has come. Language use has provided some avenues into the mind.

The observation that language is structured into subject and predicate has been an important beginning for investigation. Benjamin Whorf observed that in the Indo-European language family there is a verbal and nominal dichotomy bias in thought and expression. This means that the user of the English language tends to think and talk in terms of subject/verb relationships. Expression, he argues, is set in this frame of reference. Greenburg followed this notion in the investigation of non-Indo-European language. He found that even with such languages which do not depend upon word order to demonstrate logical or grammatical relations, there is a bias toward the subject/verb/object word order. This, Greenburg says, may be a universal in language thought and expression. These relations which are semantic and syntactic may be keys to important links in the construction and constitution of language and thought. Whorf and Greenburg's work illustrate the efforts of others in linguistics, psychology, and communication to understand language use via the interaction of syntactic and semantic components in language.

**Language Structure and Meaning**

Language is composed of a system of word units which have relational properties in common that allow one to build a unified system of expression. Each unit of language just as a unit of any system is
constrained by, conditioned by, or dependent on the state of the other units in the system.

The problem of defining a language unit exists primarily in the question of the level of language analysis. Morris in defining language as a system of communication highlighted five characteristics. Language, he said, is "(a) a plurality of arbitrary (conventional) signs, which have (b) a common significance to a group of organisms, (c) a significance independent of the immediate situation, and (d) that are produced as well as received by the users; (e) it is a system in which the signs are articulated by certain rules of combination." Morris' definition of language emphasizes not only the operation of relations among and between language units, but also the importance of language on a social level as it is used by persons in social situations. One is reminded that no matter how intricate and microscopic the analysis of language becomes, it is necessary to return the analysis to the pragmatic level.

Language is not an amorphous collection of disjointed elements, but a wholistic structure of words combined in a coordinated way. Language is an organization of elements combined into a stratified multidimensional whole. Although language may appear to have a linearity about it in terms of its spacial and timed production and reception, that is, words in strings, the interpretation of language is multidimensional incorporating a variety of components. The systematic nature of language multiplies the linear dimensional appearance into an interactional matrix. There are a number of things that happen when a message is spoken. "Systemic units (from acoustic units to complex
syntactic and semantic units) collaborate with units of their own level and form superunits and these in collaboration with their own kind, form still higher units. Each unit performs efficiently, and is assured of its existence, as long as it links together the integrated functions of its counterparts within the corporate structure.\(^6\)

The stratified and combinatory character of language contributes to the creative and multifunctional uses of language expression. Linguistic functions occur at various grammatical junctures in sentences.

If we represent the set of options available to the speaker in the grammar of the English clause, these options group themselves into a small number of subsets, distinct from one another in that, while within each group of options there is a very high degree of interdependence, between any two groups the amount of interdependence, though by no means negligible, is very much less. This provides a syntactic basis for the concept of language functions, and suggests how the diversity of functions recognizable at the semantic levels may be organized in the course of realization.\(^7\)

There is encouragement in the attempt to empirically investigate these systems which operate in language use. The object of this inquiry lies in the linguistic decision making process. Such an investigation should rest upon asking subjects to make semantic and syntactic choices in a systematic fashion.

**How Messages are Produced and Interpreted by a Receiver**

How the coding, production, reception, and decoding of messages is accompanied through the various stages reflecting the physical, linguistic, and psychological interdependencies is the primary question. This processing of meaning is passed through the chain of interlocking
relations called "the speech chain." Very simply, the speech chain is the connection of sounds and physical stimuli at one end of the speech production through the surface structure or the words and phrases that make up the message.

The surface structure is the sentence abstract which stands behind the perceived message. At a higher level of linguistic abstraction is the deep structure or the "representation of the sentence which expresses the grammatical relations independent of the ordering of the surface structure." The deep structure is in turn drawn from the conception of meaning conveyed through this linguistic communication chain of relationships.

The speech chain is structured such that there are different levels and forms through which experience and meaning pass to be encoded as sounds of speech. The receiver may process the sounds and convert them into meaning and experience in personal terms. The amount of equivalence between the sender and receiver may vary, but the process itself is an attempt to achieve the greatest congruity possible by the application of a consistent set of language rules and rule sets from situation to situation. Although the relationship between stages is aimed at providing integrity of function for each stage, each stage functions cooperatively with the other stages in the process. Each stage ciphers message parts as it passes through the system. Each stage or level in the speech chain has a grammar or set of rules which convert signals to higher or lower orders of linguistic understanding.

Although the interrelation between the stages operates in a cumulative and coordinated manner, such that Liberman postulates a
a unique human language capacity (with perhaps some physiological base similar to Chomsky's human language device), this capacity is more than a mechanistic device. The language operations and rules which govern the language gamut from sounds to semantics are related to each other. "The segments at each level are not simply arranged in a linear string, but are rather organized into larger units."\textsuperscript{11} At a higher level, "interaction between humans differs from that of nonhuman species in that it proceeds largely at the symbolic level. This means that people interpret or define another's actions instead of reacting to nonhuman stimuli. In doing so, they draw upon common schemes of interpretation and perceptions for action which form the substance of their social reality. This reality embraces the rule-governed routine activities of everyday life."\textsuperscript{12}

The study of the individual components performing in the speech chain should be undertaken systematically. Each level should be studied not by itself but in relation to other levels of operation.

\textbf{Review of the Semantic and Syntactic Literature}

Research on the syntactic and semantic interaction in the speech chain has provided significant insights into the operation of message processing. In the study of word meanings and message structure several linguistic and psychological issues are forefronted. Studies that focus on the relationship between meaning and grammar demonstrate that grammatical characteristics of language shape semantic limitations. A grammatical structure gives basic shape to a sentence message. Chomsky suggests a basic determinative function for syntax in the way messages are derived from the mind. This position of the grammatical and
syntactic component in forming expression has been seriously challenged in subsequent theory and research. The substance of this research is considered later in this chapter.

Another body of research examines semantic features of words and messages. This research demonstrates the significance of semantics in the shaping of messages. This research also examines the limitations which operate semantically in the formation of messages.

The relationship between the memory and semantic properties has been the object of study. Semantic memory or the way the mind stores or changes semantic information has provided insights into the speech chain. This interface of mind and language characteristics gives a description of each. The importance of the research lies in the revelation of the effects of mental processing on semantic data. A classic case with this kind of research was done by Miller in 1965. His "magic number seven plus or minus two" revealed the mental facility of storing data in an optimum quantity of bits. His research established this primary limitation of the mind in storing data.13

Rankshifting, another semantic and syntactic device, has to do with the way language units are grouped and forefronted in language construction. Embedding, a parallel construction, is seen in a single core message within a larger construction. For example, "Mary said she was going out." The expression "she was going out" is embedded in the total expression. These are two examples that have been characteristic of research on language structure.14

Transitivity and theme are also structural and semantic issues. These studies compare semantic retention to equivalent or nonequivalent
syntactic units. For example, the meaning of the message may change if the structure of the expression is understood differently in two different situations. "Transitivity is the set of options relating to the cognitive content" of the message. Theme is concerned with the information structure of the message.

The burden of this research rests upon determining priority of function for the semantic or syntactic elements in the speech chain. This linguistic and psychological research deals with the interfaces of language structure, semantic characteristics of meaning representation, and the dynamics in varying semantic environments. Against this background, the study reported in the next chapter examines the role of the verb in shaping syntactic and semantic interaction.

Meaning and the Structure of Language

Before proceeding to a presentation of the major positions held by theorists about the relationship of syntax and semantics in the processing of language in the mind, several terms need to be treated in more detail. These terms are meaning, message, and information. Lin presents the view that human communication involves an exchange between persons. This exchange is a "flow of shared meaning." The parameter of exchange is the message.

As suggested above, a word occupies the important point in the conceptualization of meaning and message. It is the major unit linking meaning and message. Defining the nature of a message and the nature of information rests squarely in the question, "What is meaning?" Osgood, Suci, and Tannenbaum summarized the major positions offered in answer to this question.
The major theoretical perspectives on meaning are divided between the linguistic, philosophical, and psychological points of view. The linguistic positions are closely tied to the use of linguistic forms. Bloomfield states "the situation in which the speaker utters it calls forth in the hearer" a judgment which utilizes the native speaker's language ability. In this setting meaning is the "relationship of signs to other signs in the message matrix, but are independent operationally of both the sociological situation-behavior matrix and the psychological organismic process matrix." In this view the meaning emerges from the language forms as they are used.

The psychological perspective is represented by the mentalist, substitutional, and disposition views of meaning. These are again related to the creation of significance by the language user. Each of these depend on the question: Under what conditions does a stimulus which is not the significate become a sign of that significate?

The mentalist view is traditionally a part of the philosophical position articulated by John Lock. Lock suggested that a causality is established between the mental state and the physical object or sounds which evoke the meaning. "Something which is not the significate becomes a sign of that significate if it gives rise to the idea or thought of that significate." The position taken by Ogden and Richards in Meaning of Meaning is rooted in this view. In their terminology, meaning is a referential relation between symbol and referent. Meaning is through the referential interrelation of word, thought, and thing.
The substitution view, closely aligned with the idea behind Pavlovian conditioning, suggests that meaning involves the drawing of equivalence between signs such that two stimuli which are not the same evoke an equivalent response. Charles Morris' *Signs, Language, and Behavior* takes the dispositional view. In this "any pattern of stimulation which is not the significate becomes a sign of the significate if it produces in the organism a 'disposition' to make any of these responses previously elicited by the significate." Each of these positions is a variation on the same idea that meaning is a connection established between signs or stimuli to the mind and the response achieved. They differ in points of emphasis.

The psychological approach to meaning views meaning as a mental process. The psychological perspective states that "whenever some stimulus other than the significate is contiguous with the significate, it will acquire an increment of association with some portion of the total behavior elicited by the significate as a representational mediational process." This is schematically represented in the following way:

```
A
Stimulus-----------------------------Response
Stimulus---rmediation---smediation---Response x

B
Stimulus 1 ----rm1               -------Sm1-------Rx1
Stimulus 2 ----rm2               -------Sm2-------Rx2
Stimulus n ----rmn               -------Smn-------Rxn
/S/         -----------rma             -------Sma-------Rxα
```

Figure 1. Stimuli and Mediated Response.
In this schema of the development of sign processes A illustrates the development of a sign relationship and B the extension of the sign processes as the contiguity of signs produces additional sign relations called "assigns." This stimulus producing process (rm—sm) which is representational and the additional assigns shown in B evoke a mediational signification or meaning. In the schema a significate (S) can produce a response (R) through a connection of the multiple stages of mediation. "A pattern of stimulation which is not the significate is a sign of that significate if it evokes in the organism a mediating process (a) being some fractional part of the total behavior elicited by the significate and (b) producing responses which would not occur without the previous contiguity of non-significate and significate patterns of stimulation."^{23}

In each of these descriptions of meaning the concern is to explain how a sign comes to have a particular significance whether through referential or associated connection, how meaning changes in contextual variance, and how to explain the creation of new or unique references or associations. These theoretical positions need to be brought to the pragmatic level.

Leech proposes a pragmatic system of understanding meaning in language use. He proposes an organization of "communication values" of meaning. He groups these into three categories: conceptual, associative, and thematic."^{24}
1. Conceptual meaning or Sense
   Logical, cognitive, or denotative content

2. Connotative meaning
   What is communicated by virtue of what language refers to?

3. Stylistic meaning
   What is communicated of the social circumstances of language use?

4. Affective meaning
   What is communicated of the feelings and attitudes of the speaker/writer?

5. Reflected meaning
   What is communicated through association with another sense of the same expression?

6. Collocative meaning
   What is communicated through association with words in the environment of another word?

7. Thematic meaning
   What is communicated by the way the message is organized in terms of order and emphasis?

Leech's treatment of meaning takes into account social, psychological, and linguistic values. Conceptual or denotative meaning is an institutionalization of meaning in a formal way. This meaning is a dictionary meaning of a word. Connotative meaning is an account of recent history of word meaning and incorporates newly acquired senses of a word. A word may frequently acquire new associations through use. Stylistic meaning conveys information about the persons and the situations involved with word choice. For example, if a speaker elects to use slang expressions within a social circumstance, this indicates the way the speaker views the circumstance and the other persons in the situation. The affective meaning of a word shows the emotions of use. Some words are more emotionally charged than others. A reflected meaning is experienced as a double sense of the same word. For example,
reflected meaning is often experienced with a taboo subject such as the word "intercourse." In a similar fashion a collocative meaning is experienced when two words are joined in the same semantic environment to give a new meaning. The words "fetus" and "power" joined on a bumper sticker is a new meaning not present in either word alone. Thematic meaning depends upon the order, focus, and emphasis of the words used. Thematic meaning is more directly invested with the pragmatic elements of meaning in language. One can alter meaning associations by matters of degree and kind of adjustments made through order, emphasis, and focus. The use of words is closely associated with changes in language in specific situations and in historic utterances.

Amster has noted that the greater the number of contexts in which a word is used the more the meanings of a word will increase. Environmental factors are important to meaning also. For example, in the Arctic where snow is an important part of the environment, the people have a broad number of choices of words for snow in a variety of conditions.25

Another way in which meaning association has been viewed is through the use of Venn diagrams. Consider the following as a possible configuration for the intersection of the words love, affection, and friend. The circles represent the meaning of each word and the intersection of the circles illustrates the shared meaning between the words.26
Psychologists have made use of word associations to study the psychology of persons. Early work done by the psychologist Galton with word association has proved to be a helpful device to the diagnosis and treatment of psychological disorders of persons. Galton called this technique a "key to the mind." Word associations unlock and reveal emotional and logical thought patterns. As Galton said, "They lay bare the foundations of a man's thoughts with a curious distinctness, and exhibit his mental anatomy with more vividness and truth than he would care to publish to the world." In recent years word association tests of various types have provided a number of helpful clues to the strength and type of meaning relations that operate between words.

To summarize the discussion and the arguments about a definition of meaning whether referential, associative, or some other perspective — none of these presents a completely satisfactory theory of meaning. Most theorists agree that a complete theory of meaning has not yet been offered.
Syntax and Semantics in Linguistic Theory

This brings the question of the best point of analysis of questions about language, words, meaning, and messages. What is the role of semantic and syntactic characteristics of words in sentence messages to the judgment of the meaning of the sentence constituents? This question highlights aspects of structure and function of words in messages in the communication of meaning. In this frame syntax is the study of "various aspects of how sentences are formed and how they are understood (i.e., interpreted semantically) in particular languages and in language generally. No language allows sentences to be formed by stringing words together randomly. There are observable regularities." It is these regularities which are important in the explanation of how language, communication, and meaning operate in everyday life. These regularities or rules guide and govern attempts to communicate.

Some linguistic theorists see a greater role for syntax in the shaping of a whole grammar than others. Those who argue a greater role for syntax place it in a key capacity of providing primary rules of correspondence between words in grammatical function and meaning. Stockwell suggests the following schema to explain the role of syntax:

Figure 3. Syntax and Language Production
The schema shows the syntactic role of mediating the correspondence between words in messages and the correct semantic representation.

Many linguists support the view that the contents of the top item, the semantic representation are universal. Any language has the capacity to express whatever it needs to. It is obvious that languages are most different in the contents of the bottom box, the words, word sequences, and coding devices of the language. The particular correspondence rules that are invented, the syntax, will depend heavily on our assumption about the form of semantic representations.

A complete grammar of a language includes rules concerning phonology, syntax, and semantics. Phonology has to do with rules of pronunciation, combinations of sounds in a language, and the bounds of significant differences or similarity in the uses of the sounds of the language. Syntax gives a set of rules that "define the set of sentences of the language. They specify what are sentences and what are not." Semantics gives the "literal meaning of sentences and their constituents."  

Leech maps speech sounds to meaning in the following schema:

```
  Encoding  | Phonology  | Decoding
  Syntax    | Semantics  |
```

Figure 4. Language Encoding and Decoding
In this schema one assumes that each set of rules identified with each major component of language interacts with the others to produce an utterance. The kind and extent of these relationships is not completely understood. The argument of the study reported in the next chapter puts the seat of these relationships in the predicate of the message. Further explanation of the nature of the semantic and syntactic roles in the creation precedes the presentation of the predicate argument.

How is Language Generated

When Chomsky proposed the revised basis of transformational grammar in 1965 in his *Aspects of a Theory of Syntax*, the basis of his analysis rested on the view that the primary element in the encoding and decoding was syntactic. Syntactic rules in his system explained linguistic linkages between the conceptual meaning and the ultimate output of an utterance. The schema that he proposed to explain the process was the following:

```
Semantic Interpretation
 |                        (Projection Rules)
 |  (Base)-------------------Deep Structure
 |                          (Transformational Rules)
 |  Surface Structure
 |  Phonetic Interpretation
```

Figure 5. Chomsky's Base Component in Formulation of Language Expression.
In this schema several terms need definition. The base or base component in the system is the primary center for the grammar or collection of rules a speaker/hearer uses to generate or interpret language. The base component is the closest to the central mapping from meaning to structure. It contains a "structural description" of the constitution of the language. These rules, phrase structure rules, are a finite set of rules about the language. The base specifies for each sentence generated a deep structure that determines its semantic interpretation and the surface structure that determines its phonetic interpretation. The first of these is interpreted by the semantic component; the second, by the phonological component. The transformational rules separate Chomsky's grammar from a purely structural rule approach to grammar. As he says, "the central idea of transformational grammar is that it is, in general, distinct and that the surface structure is determined by repeated application of certain formal operations called 'grammatical transformations' to objects of a more elementary sort." Deep structure and surface structure are distinct from each other in that the deep structure is more abstract semantically and syntactically. When the transformational rules or base syntax rules have been applied to deep structure it is rendered closer to the form which is reflected in actual performance of the sentence or utterance.

Chomsky distinguishes between a native speaker's competence to speak the language (or ideal knowledge of the language rules) and the performance which is a specific occurrence or instance from this rule set. This rule set, the phrase structure rules generate the deep structure. This minimum set of rules in the base may represent an
indefinite set of linguistic relations. For example,

1. A sentence (S) may be rewritten (-----) as NP (Noun Phrase) + VP (Verb Phrase)

2. NP-----D (Determiner) + N (Noun)

3. NP-----NP + S

4. VP-----NP + V (Verb)

This minimum set of rules represents an infinite set of possible lexical items and relationships. It successfully accounts for the infinite combinations in language use.

Projection rules bring into effect semantic criteria such as semantic inconsistencies between elements in the deep structure. Transformational rules translate the logical, referential, and the sense of meaningful deep structure relations into a surface structure. These rules may delete or move constituents from one part of the sentence to another. The phonological rules (or the sounding and performance rules of the language) are connected to the production of an utterance which is the culmination of this collective processing through stages of rule sets. Chomsky's reliance on the syntactic base and the reference to the intervention of semantic and phonological interpretations has been criticized by theorists who see the role of semantic and phonological interpretation as more central functions in the generation of language.

In Jackendoff a modification of the process that Chomsky presented is offered. This alteration of the Chomsky process is known as the "interpretative semantics" model. In essence, this revised model argues that semantic interpretation operates not only on the deep structure, but also on the surface structure as well. The model still proposes a
primary syntactic basis for encoding and decoding messages, but more input is given to semantic interpretation in the determination of the surface structure. Jackendoff redraws the Chomsky schema in the following manner:

![Diagram of Jackendoff's Interpretative Semantic Model]

Jackendoff adapts to the persistent semantic problem by expanding the role of semantic representation. He adds "to the semantic representation of a sentence those parts of its content and organization not due to the lexical items, that is, the part of the interpretation traceable to the syntactic structure." In his explanation of the semantic role in language generation, Jackendoff proposes a dual semantic hierarchial structure. First, a "functional structure" which "represents relations in the sentence induced by the verbs, including such notions as agency, motion, and direction. The 'modal structure,' the second hierarchy, specifies the conditions under which a sentence purports to correspond to situations in the real world." It should be
noted here the strategic importance Jackendoff grants to the verb of the sentence in specifying the nature of semantic intervention and influence. This is related to the theoretical argument about the semantic system as a whole which is discussed below.

Further, semantic expressions that Jackendoff introduces are a table of focus and presumption. This determines whether or not the information in the sentence should be taken as new or old. New information is foregrounded structurally. The encoder or decoder then focuses on the new semantic information. In summary, Jackendoff's work is a shift to allow more semantic input in message generation.

A third grouping of linguistic theories about the semantic and syntactic roles in the creation of language is that offered by the "generative semanticists." They make a radical departure from the Chomsky and Jackendoff positions. They grant to semantics the primary determinant function in the generation of language output and the interpretation of input rests in the semantic component. The generative semantics approach "deepens" the deep structure of the interpretative design to allow the semantic component more primacy in the encoding and decoding functions. Syntax in their view is rendered more dependent and secondary in the formation of utterances. Further, the role of transformational rules is more important semantically as a modifier and shaper of meaningful expression. This is quite different from the role played by transformational rules in the Chomsky design where transformational rules did not alter the base component input. The generative schema is pictured as follows:\textsuperscript{40}
The schema shows the initial generation of the message begins with the semantic representation. The transformational rules and the phonological rules each add to the final message output.

In each of the schematics presented by the three linguistic theories, there is a movement toward a greater reliance upon semantic factors in the processing of meaning and mapping linguistically. Additionally, linguistic components are shown to be mutually interdependent structurally and functionally. Leech proposes that the kind and degree of interdependence may be understated in all of these representations. He proposes a different design that is more thoroughly interactive and interdependent than any system of rules and components suggested previously. The strength of his conceptualization is that it is responsive to problems of extralinguistic factors in language use, the scope of linguistic reference, and the problems of the relationships between phonology, syntax, and semantics.\textsuperscript{41}
Leech's View of the Language System

Leech has rendered each major component of language in this schema of language representation as related through the transformational rules and what he calls "expression rules." Expression rules serve an executive function in relating the structure, function, and content of each language component to the others. Leech discusses four processes which are involved in the operation of expression rules. These are "lexicalization, structural compression, linearization, and thematization." Basically, these rules allow input from the grammar as a whole and the lexicon in appropriate proportion. Lexicalization involves the input of words which have compatible semantic features and it has "the psychological role ... of 'packaging' a certain semantic content, so that it can be manipulated syntactically as an undivided unity. There is often a choice of lexicalizing a given content in more than one way (e.g., by selecting from a set of synonyms), of a choice
of lexicalizing to different degrees" as with the choice of one word for a concept or several words for a single concept.

Structural compression is the process of allowing grammatical input or "reducing complexity of constituent structure, in terms of number of elements" and the use of terms of greater or lesser elaboration of semantic or syntactic detail. The decision to say "he" instead of "the man who loves Gloria with all his heart, mind, and soul" is a decision of structural compression. One uses in this case a "proxy form" and a number of terms are subordinated by a single equivalent form.

Linearization has to do with the nature of language as it is presented in a linear string. Linearization is the appropriate inter-relation of the parts of sentences as they try to represent in a linear ordering sequentially complex times, space, and logical relations. In a linear ordering structural decisions must be made to properly picture the nature and types of nonlinear events, processes, and actions. Linearization illustrates the difficulty one may have structurally with language in trying to present complicated nonlinguistic or conceptually meaningful relationships.

Expression rules manage the "process of organizing the elements of a message so that weight and emphasis fall where more natural in English — towards the end rather than the beginning of the sentence. To some extent, this thematizing function is performed by the natural process of matching semantic with syntactic elements." This helps the encoder and decoder to identify new and old semantic data. Expression rules negotiate these changes in conjunction with transformational rules which in this schema are regarded "as devices of linear organization on
the syntactic level, as distinct from rules of expression which map the
semantic level on to the syntactic one.\textsuperscript{45}

Leech's explanation is more systematic and structurally inter-
active than the other schemes of language operation. Leech's model
offers a more balanced perspective on the complicated interworkings of
the syntactic and semantic interface. His approach is also much more
sensitive to the intricate and multidimensional structure of language.
This systematic character of language is an important feature which
reflects back on the way it is produced.

Halliday writes about language forming

a series of 'system networks,' each such network
representing the choices associated with a given
constituent type: clause system network, nominal
group (noun phrase) system network and so on. A
system is a set of features one, and only one, of
which must be selected if the entry condition to
that system is satisfied; any selection of
features formed from a given system network
constitutes the 'system description' of a class
of items. Such a 'selection expression' is then
realized as a structure, the structural repre-
sentation being fully derived from the systemic;
each element of the structure is a point of
entry into a further system network, so that
constituency is based on the concept of 'rank',
with minimal bracketing.\textsuperscript{46}

The way one breaks up linguistic structure and its representation
into its comparable units of various sizes has semantic relevance. The
notion of rank that Halliday mentions and the judgment of the equiv-
alance or difference of units of linguistic structure is basic to a
language system. Rank is an indication of the hierarchial status and
function of elements in an expression. It gives a placement in the
structural judgment of meaningful correlations on the level of analysis
and which elements are related to, superceded, or subsumed by others
semantically and syntactically. Rank specifies the organizational composition and level of placement. As Halliday points out, rank is a unitizing function so that a linguistic segment is viewed as sentence, clause, phrase, or word. "Basic units have 'multivariate' structures in the sense that the structures contain a number of distinct grammatical relations." Further, "To show that a system operates at a given rank is the first step in stating its relationship to other systems; likewise to assign an item to a given rank is the first step in stating the systematic and structural relations into which it may enter and those it may embody within itself. On the structural axis, rank is a form of generalization about 'bracketing' or the structural relation of the units."

**Verbs and the Language System**

The verb operates as a structural and semantic form in the English language. They play a central role in the choice from the lexicon and shape the semantic environment within a message. Linguistic environments are the "circumstances or surroundings in which a sound or grammatical form is found; the surrounding sounds or grammatical forms influence or modify a sound or grammatical form." Within particular linguistic environments (sentence, clause, or phrase) one can expect words to act in characteristic ways or patterns. A pattern is "the manner in which the smaller units of the language are grouped into larger units." A pattern is the name "used by linguists to indicate the fact that regular relations exist between linguistic elements, and that regular classification of linguistic elements is possible at various levels."
Chafe compares the linguistic environment within a sentence to a solar system. In this analogue the verb is seen as the solar center and as such occupies a primary role as a semantic and syntactic organizing agent. In this view, the verb holds a sentence together as an expressive unit and mediates other intrasentence relations. The verb is by no means the only arbiter, but as with the conceptual model, the solar center interacts with the elements which surround it and each of these elements in their turn interact with each other as well. The sum of these interactions of the words within a sentence is greater than the words considered individually.

Each verb possesses unique semantic and syntactic features which when combined with the features of the other elements in the sentence creates a perceptual whole. Chafe argues the primacy of the verb based on the fact that in "every language a verb is present semantically in all but a few marginal utterances" and these are of a "prehuman kind of communication" such as in the expression of pain or pleasure such as "ouch!" or "ah!" Further, "the nature of the verb determines what the rest of the sentence will be like; in particular, that it determines what nouns will accompany it, what the relation of these nouns to it will be, and how these nouns will be semantically specified." This represents a dichotomized conceptual universe of verbs reflecting "states (conditions, qualities) and events; the other the area of the noun, embraces the area of the noun, embraces 'things' (both physical objects and reified abstractions). Of these two, the verb will be will be assumed to be central and the noun to be peripheral." In terms of Chafe's theoretical analogue, "A noun is like a planet whose
internal modifications affect it alone, but not the solar system as a whole.™

This function of the verb as arbiter and mediator of meaning in semantic relationships places the verb in a central position to be studied if one is to examine the judgment of the meaning of sentence constituents. Chafe divides verbs into three classes according to their ability to exercise semantic and syntactic control within a linguistic environment: state, activity, and process. Leech adds event verbs to this list. Each of these verb types exercises unique semantic forces in the organization and structuring of sentence units. Even in sentences where the verb may not overtly focus the action, its role is that of providing a stage or ground for the collaboration of the other elements for the expression of meaning.

The function of the verb as the mediator of meaning should be the most extensive with the process and activity verbs where the verb is the central focuser of the interaction and interrelation of subject, object, and qualitative and quantitative modification. The control and extent of semantic effects continues across time with process and action verbs; whereas, with event verbs the action is viewed as a point in time. One would expect, therefore, that the organizational power or semantic force and perceived importance to the communication of meaning would be less for an event verb than for a process or activity verb.

Extending this same rationale, state verbs simply provide a background against which the substantial semantic elements are figured and this verb should be the least influential semantically of the group.
In the study of meaning and the review of literature about the generation of language syntactically and semantically, the background is laid for questions about how messages are created and how words mean in messages. The role of the verbs in this language process can be seen explicitly in the experimental procedure reported in the following chapter.

**Summary**

In summary, this chapter has examined the structured nature of language. With meaning, although a variety of theories have been offered, none of the theories is a totally comprehensive explanation of how words mean. Returning to the pragmatic level of questions about meaning, it is helpful to see how words are used meaningfully by speakers. As to the questions of how language is produced meaningfully by speakers of a language, the semantic role seems primary. As language is structured, the verb occupies a central position semantically to structure a meaningful expression. In the next chapter this semantic role of the verb is tested to gain insight into the dimensions of the predicative function.


11. Ibid., 302.

12. Miller, G. A. The magic number seven, plus or minus two: Some limitations of our capacity for processing information. Psychological Review, 1956, 63, 81-97.


17. Ibid., 1.

18. Ibid.

19. Ibid., 4.

20. Ibid., 5.


22. Ibid.

23. Ibid., 7.


26. Ibid., 53.


Ibid., 33.


Ibid., 328.

Chomsky, 16.

Ibid.

Ibid., 84-87.


Ibid., 3.


Ibid., 335.

Ibid., 191.

Ibid., 193.

Ibid., 199.


51 Ibid., 196.

52 Ibid.


54 Ibid., 96.

55 Ibid., 97.

56 Ibid., 96.

57 Ibid., 97-98.

58 Ibid., 105.

CHAPTER II
AN EXPERIMENTAL STUDY OF ENGLISH VERBS

In conceptualizing meaning one sees meaning frequently as a static entity rather than a dynamic changing attribute of the flowing and moving universe of things, actions, and events. In this words fulfill a variety of functions in their communication of meaning in a message. Some words define, others describe, and others give an action or state against which the message is drawn out. Fields gives this characterization of the parts of grammatical speech:

A noun is conceived as the symbolic concept expressing the quantitative extension of a group of qualitative percepts of an entity.

Adjectives are the symbolic representation of the qualitative percepts and their extensions which form quantitative concepts or actions.

Adverbs are the modifiers by the means of which we designate the rate or degree of motion or action of the conceived entity as expressed by the verb.

Verbs symbolize the movement of an entity whether a whole or a part, in a quantitative direction at a quantitative rate of change or movement.

Prepositions may be defined as words designating location and direction of movement of an entity.

Pronouns are the representation of nouns expressing their gender which are their sexual qualifications and quantifications or forms.

In each of these typifications of grammatical role, one can recognize some of the constituents of each position of mover and moved.
substance and action. Around these one can recognize other qualities and characteristic relations such as modification and the clarification of sentence relations. Words in isolation apart from other words evoke meaning with their singular use. Words in combination, however, can build a whole message structure. It is this message structure and how it is built through the verb that is of concern here. In investigating the effects of words in a message, one must determine the common effect. In asking what words mean in messages, one is concerned not only with what words mean, but also what and how they mean together.

"The goal of a semantic theory of language ... is to explicate the way in which the meaning of a sentence of specified structure is derivable from the fully specified meaning of its parts. The semantic structure of sentence components is given in terms of semantic features. A sentence includes optional as well as obligatory parts; all the optional parts, and some of the obligatory ones, contribute to the semantic structure as a whole." A complete theory of semantics with the totality of scope and descriptive completeness to explain all semantic phenomena associated with a natural language has yet to evolve. However, some important clues to semantic operations have begun to emerge.

In chapter 1 the ways that the verb mediates important linguistic relations in a message were described. The predication in a message is the substantial content of what is meaningfully expressed by a message. The verb sets up the relationships within a sentence message semantically and syntactically. The verb determines the kind of subject, object, and intramessage relations. From this, language meaning is seen as the
particular type of predication accomplished through a message. Predication may assume a variety of forms and effects, but the verbal conditions that pertain through the continuum of state, event, activity, and process are the object of study here.

The Verbal Continuum

For a clear conceptualization of the linguistic and psychological nature of the verbal continuum represented by the verb types, it is necessary to examine some background issues in everyday thought and action. The root questions about the nature of things and how things change are found in the opposite affirmations of constant change in the world against that of changelessness. The philosopher Heraclitus many centuries ago said, "all things flow" or change. On the other hand, there is a firm sense that things remain substantially the same. If one examines the social world, one finds the presence of both these points of view. Language reflects these ways of thinking.

Kress suggests that it is the faculty to abstract from experience and to experience that one is able to bridge the gap between the polar ways of thinking. Language is an extremely important part of this abstracting. "The process of abstraction provides a means of reconciling being and becoming." He further suggests that while "form is general, content remains unique."

In the study of language, social action, and thought relationships, one is challenged to move away from static conceptions and view these activities as a continuing movement of discrete parts. "Can we, for example, conceive of society not as a single 'network' but as a 'networking,' or of our subject matter as 'economizing activities,' not
as 'the economy'? .... A major barrier to the exercise of imagining a social science of process is the metaphoric and linguistic framework with which we approach the world.\(^5\) Language in this sense becomes the agent by which one frames the manner of meaningful thought and action in the world.

From this philosophical polarity one can see the linguistic prejudice that exists in language. Between these philosophical and linguistic poles, stand the four verb types given above. Stative verbs assume a state of being or static existence. As one moves toward the other pole of thought, the event concept posits a fixed point in time. Activity verbs display a continuous action. The process verbs represent the other pole of thought. Each verb creates a different semantic and syntactic environment. In the experimental procedure described below, the effects of the verbs on this continuum are examined through judgments subjects make about the meaning of words in sentence messages.

**Research Questions**

The theoretical perspectives offered by Leech's systemic view of language, Chafe's view of the primacy of the verb in the syntax and semantics of messages, and Halliday's examination of the structure of language raise several questions.

Would the verb be judged the most important word to the meaning of a sentence message?

What is the relationship between the nominal and the predicative elements in the representation of meaning?

Are there differences in the judgment of the meaning of words in messages with each verb type?
Hypotheses

From these research questions and the rationale and theoretical perspectives developed previously, the following hypotheses are submitted for empirical testing.

Hypothesis 1: As subjects are asked to rank words in sentence messages according to the amount of meaning or essentiality of each word in the communication of the total meaning of the message, the verb will be judged the most essential.

Hypothesis 2: The process and activity verbs will be judged more essential or important to the meaning than the event and state verbs which will be judged the least essential or important of the four verb types.

Method

Research Variables

In order to test these hypotheses one hundred student subjects from the beginning communication course at the Ohio State University were asked to make judgments concerning the importance of meaning of the words in sixteen experimental sentence messages. A copy of the sentences in exactly the format it was presented to the subjects is in the Appendix to this paper.

The independent variables in the research are the semantic features of the four verb types: process, activity, event, and state verbs. Four verbs representing each verb type are used in the creation of sixteen ten-word sentence messages. Process verbs (widens, deteriorate, grow, and mature), activity verbs (write, play, work, and eat), event verbs (fall, hit, find, and jump), and state verbs (live, know, stand, and contain) are used in the generation of simple declarative sentences. Each of the verbs with each verb type are taken from a list in Leech's
book *Meaning and the English Verb*.* The sentences presented to the subjects are presented in a statistically random order.

The dependent variable is the subject's judgment of the importance of the message words to the communication of the meaning of the sentence as a whole. Subjects are asked to rank the words in the sentence from most important to the least important to the meaning of the message. The ranking gives an assessment of the subject's perception of each word in the communication of meaning. This dependent measure gives a numerical placement for each word in the sentence message. Comparisons of the rankings are then made across subjects by the summing of the rankings to obtain a mean rank for each word in the sixteen sentence messages. Attention can then be drawn across syntactic or grammatical categories such as verb, noun, preposition, etc.

**Procedures**

**Subjects**

Subjects were offered extra course credit for participating in the experiment.

**Instruction to the Subjects**

Subjects were given a one page sheet entitled "Telegraph Messages." There are two conditions under which the ranking proceeded in order to see if there was a bias in the testing or ranking procedure. The first condition calls for subjects to make a continuous paring of the words, and the second condition asks subjects to add words to the message.
The subjects were read the following instructions:
Assume that you have been sent to a Western Union office with this set of sixteen messages and sixteen dollars. It is important that you send these messages right away. Each message contains ten words and the cost of sending a message is ten cents per word. When you arrive at Western Union you find that you have lost some of the money. This will make it necessary for you to shorten each message by three words. As you decide which words to scratch out, eliminate the words in an order which has the least effect on the total meaning of the sentence. Scratch through the word which you think is the most expendable and write a ten above it. Do the same with the next word you scratch out and write a nine above it, and the same with the next word — scratch through it and write an eight. When you have completed the shortening of all sixteen messages, then turn the paper face down and wait for the other students to finish the task. While you are waiting, please do not talk among yourselves because you may disturb others who are still working. Are there any questions? You may begin.

You now have sixteen seven-word messages to send. You approach the desk and inquire about sending the messages, but the Western Union person tells you that the rates for sending messages has doubled. This will make it necessary for you to shorten each message by three more words. The problem you face is this. Which of the remaining seven words can you scratch out and keep the original meaning of the message. As you decide which three additional words you will scratch out, indicate the order in which you would eliminate them, that is, the word which is the least essential to the total meaning of the original message. As you decide which words to scratch out, write a seven above the first, a six above the second word you eliminate, and a five above the third word. When you have done this for all sixteen messages, turn your paper face down and wait for the others to finish. Again, please no talking.
You may turn your papers face up. You now have sixteen four-word messages. Of these remaining four words, which is the least important and which is the most important to the total meaning of the original message? Indicate as you did with the other words, the least essential of the four remaining words to the most important word. Follow the same procedure as you did with the other words. Write a four above the least important word, a three above the next least important word, a two above the next and place a one above the word which you think is the most important in expressing the original meaning of the message. When you have finished this procedure for all sixteen messages, turn your paper face down and wait for the others to finish.

Following the collection of the papers, students are debriefed about the experiment.

In the second condition called the Up Condition, the subjects were given different instructions in that the procedure was reversed. The procedure in the second condition follows the same format as the first except that the paring of words to the four essential words is carried out first. The subjects in the second condition are allowed to add words in successive stages.

**Condition 2**

The following instructions were given to subjects. Assume that you have been sent to a Western Union office with this set of sixteen messages and sixteen dollars. It is important that you send the messages right away. Each message contains ten words and the cost of sending the message is ten cents per word. When you arrive at Western Union you find that you have lost most of the money. You only have enough money to send a four word message. As you decide which of the four words to send, pick the four words which are the most important to the total meaning of the sentence. Circle the four most important words. After you have done this, write a one above the word you think is the most
important, a two above the next most important
circled word, and a three above the third, and
a four above the last of the circled words.
When you have finished doing this for all six­
teen messages, then turn the paper face down
and wait for the other students to finish the
task. While you are waiting, please do not
talk among yourselves because you may disturb
the other students who are still working. Are
there any questions? You may begin.

You now have sixteen four-word messages to send.
You approach the desk and inquire about sending
the messages, but the Western Union person tells
you that the rate for sending the message is
only seven cents per word. This will make it
possible for you to add three words to each
message. The problem you now face is this:
Which three of the remaining six words will you
add to the message? As you decide which three
words to add, add the words which contribute
the most meaning to the messages. Of the six
unused words which is the most important to the
meaning of the message? Draw a circle around
this word and place a five above it. Do the same
for the next two words, writing a six above the
next word and a seven above the next. When you
have done this for all sixteen messages, turn
your paper face down and wait for the others to
finish. You may begin.

You may turn your papers face up. You now have
sixteen seven-word messages. Of these three
remaining words, which is the least important
and which is the most important to the total
meaning of the original message? Indicate as
you did with the other words, the importance of
the remaining words to the meaning of the whole
message. Follow the same procedure as you did
with the other words, circle the next most
important meaning word and write an eight above it.
The same with the next most important word, writing
a nine above it, and, finally write a ten above the
least important meaning word in the sentence message.
When you have finished this for all sixteen sentence
messages, turn your paper face down and wait for the
others to finish. Again refrain from talking as a
help to others who may still be working. You may begin.

Following the collection of the papers, the students are debriefed about the experiment.

Results and Discussion

Test sentence elements viewed as the least important were the determiners (articles), conjunctions, and in most cases, the prepositions. In Table 1, a linear ordering of each message is given for both experimental conditions. The table order is from the most important word at the far left to the least important at the far right. The most important message units are found initially. The words are listed in the order of their mean ranking by the subject judgment. As predicted in the initial position, one frequently finds the verb, but in a number of cases, the verb is displaced by other sentence elements such as the noun/subject or the object of the verb.

Table 2 helps to see the summary of averages for each condition in the experiment. The table shows more precisely the amount of differences numerically from the ranking of individual words in the experimental conditions. Table 2 allows one to check individual words against each other to see the average comparisons between the rankings of various grammatical types. Table 3 allows a view of the differences which exist between the conditions. In addition, the verb type is given and the lowest ranking in either condition. Finally, Table 3 gives an indication of which verb on the average was given the lowest mean ranking in the experiment.
In Table 4 the four verb types are compared in the rankings in each condition. Table 5 affords a look into the ranking of the various verbs from each of the four experimental verb types. Notice in the data should be made that the state verbs generally are amongst the least important among the verb types with the event and the activity verbs next, and finally, the process verbs. There are some exceptions to this, but statistically the second hypothesis was borne out and was supported significantly. Using the Spearman Multiple Rank Correlation Test, it was possible to take the data from Table 5 and obtain 0.05 significance (two tailed). This was support for the hypothesized continuum from process, activity, event, and state. Table 6 provides an insight into the average rankings of the subject/verb arrangements and the relationships of the sentences tested in both conditions. In this table it is possible to see a comparison of the average ranks of the subjects and the verbs according to verb type.

Hypothesis 1 was not supported statistically. As Table 2 shows the verb is judged most important in less than half of the test sentences. There are several reasons for this. The test procedure itself did not fully separate the words semantically on the core message level. The procedure brought the subjects to a core message in both conditions. It appears that the subjects took the nominal elements as with the subject or object and verbalized them, that is, fused them with the verb in a core message and placed the verb in the second position instead of the first. This is seen in the core message data in Table 8. As this experiment is repeated, it would be interesting to ask subjects to separate and send one word for the
message and see if this alters some of the nominal choices as the first rank. This data highlights the variable effects of the verb in the semantics and syntactics of the expression of meaning in sentences.

As the data as a whole is examined statistically, several things are shown. The non-parametric test, the Friedman two-way analysis of variance by ranks, provides the basis to determine significance of the related samples drawn from a number of populations and allows the inference concerning the alikeness or difference of the population means in the ranking of the sentence message words. Through this test it is possible to see if there is a significant difference in the way words are ranked within sentences. With this it is possible to compare the ranking of specific grammatical elements. It shows that there are consistent significant differences in the ranking of words in the messages.

The distribution free multiple-comparisons test based on the Friedman rank sums was used to obtain a comparison of specific word rankings in the sentence messages. Within a sentence, specific word rankings can be tested to determine if there is a significance between particular words and the manner in which they are ranked. Using the multiple-comparisons test, it was determined that there is a significant difference between the verb and the other elements in the sentence.

Using the Spearman rank correlation coefficient, it was possible to see if there are significant differences between the two conditions in which words are ranked in the experimental sentences. The Spearman test shows that there is not a significant difference between the same
word rankings in the two conditions. Again, the alpha level was 0.05 (two tailed).

To summarize, Hypothesis 1 was not supported. The verb was judged the most important meaning item in under one half the test messages. This may have been due to semantic operations within the core message. However, if one were to compare the verb to any other speech part (such as subject or object), the verb as a single grammatical unit would fair better in the rankings. If compared on this basis, the verb would be the most important categorical item above subjects or objects considered as separate categories of items.

Hypothesis 2 was supported statistically. The variable semantic control of the verb types was demonstrated. The process verbs exercised more control semantically and were judged consistently more important than the other verb types.

The Use of Ranking Procedures with Semantic Testing

Leech argues that in the area of semantic testing one should use a much less stringent alpha level than that used in other areas of hypothesis testing.7 His argument is that ranking may in some cases more directly effect and be effected by thought processes that are operant with semantic testing. Ariel surveys several semantic tests including ranking and sees it as a valuable method except in those cases where there is ambiguity in the ranking procedure.8 Ambiguity in her discussion has to do with the confusion of the grammatical relations. In the procedure reported above the two ranking conditions are assurance of the absence of such ambiguities. In the subject debriefing there was no indication of ambiguity in the ranking procedure. In view of this, the failure of
the first hypothesis to achieve significance is mitigated.

Rank Comparisons and Semantic Structure

Guilford comments further on the usefulness of the ranking method to achieve measurement accurateness.

The method of rank order has been one of the most popular and one of the most practical of the psychometric methods. Its appeal has consisted largely in the ease with which a relatively large number of stimuli can be judged with reference to one another, and also in its wide range of applicability. It forces observers to make the maximum number of discriminations as in the method of paired comparison, and thus provides as much discriminatory information as is possible to obtain from them. Any stimuli that can be manipulated in any manner so that O can place them in a serial order can be treated with this method....Stimuli that have been ranked by a number of observers can be placed in a 'pooled' rank order. More than that, scale values that refer to an interval scale can be assigned to the stimuli. The method bears some superficial resemblance to that of successive categories on the one hand and to that of paired comparisons on the other. It resembles the former in that the stimuli are arranged by O along some psychological continuum. It differs in that there is only one stimulus to a category and in the manner of scaling from the judgments. The resemblance to paired comparisons is more fundamental in that each stimulus is in essence compared with every other stimulus. Any stimulus $S_j$ may be said to have been judged greater than all stimuli $S_k$, $S_l$, ..., $S_n$ that are ranked lower in the list and judged less than those ranked higher, $S_i$, $S_h$, ..., $S_a$.

Guilford's comments regarding the method of rank ordering are helpful to understand the basis of comparison which is made statistically from the ranking of one word to another in the sentence. It also provides a basis of comparison between the ranked words across
Ranking differences are related to semantic and syntactic choices rather than problems in the utility of procedure used in the experimental procedure. Bias in ranking would reflect consistent position ranking in some unusual way and this is not observed in the data. This would be evident all the more in English which is a language which depends on word order, position, and word placement for meaning. This would be a systematic and consistent error factor in the data, but since significance was demonstrated in Hypothesis 2 despite the possible presence of this factor, the data would be more conservative as they are reported. This would urge the acceptance of a less stringent alpha level in the rejection of the null hypothesis.

Ariel argues for a much more relaxed alpha level. This certainly casts a different light on the data with the first hypothesis. Oden and Anderson call attention to the semantic constraints which are operating upon the individual choices made by persons in semantic decisions. As they say, "A semantic constraint is a relationship between two parts of a proposition such that the meaning of one part conditions what the other part is likely to be. In particular, verbs often constrain certain aspects of agents, objects, recipients, and so on." The semantic constraints operating in the experimental data are no doubt residual in the core messages of the ranking procedure. With additional testing these restraints may become more explicit.

Erwin-Tripp list a number of semantic relations which are operative one on another. They are listed here in order to give an idea of the kinds of factors which are a part of a ranking of semantic items.
1. Modality — this is the contrast between asking, demanding, and commenting

2. Vocatives — this includes things along the nature of interjections or purely gestural forms of address

3. Identification and existence — this includes a single term for nominatives and includes nouns of every variety, proper and common

4. Non-existence and negation

5. Reoccurrence of objects or events — this category includes comparatives

6. Location

7. Possession

8. Conjunction

9. Attribution — this is the giving of particular characteristics to a thing or quality

10. Action-agent-object — this is the word order most common in English

11. States — stative verbs

12. Recipients — these include datives or indirect objects

All of these features are represented in the everyday use of language. This list summarizes the kinds of semantic interaction operative in language. Ranking involves the choice of one characteristic over the others. Again, it is the verbal functions and the nominals or objects connected with them that are ranked as the most essential to the expression of meaning.

Another major factor which should be considered in the ranking procedure and in examining the nature of the ranking problem has to do with the nature of the words as linguistic categories. Ranking frequently becomes a decision as to which way one will divide the
semantic and syntactic elements. Ranking presents a unique psychometric choice in assessing the differences or similarities between the perceived situations of choice.

In the ranking procedure reported in this research subjects are asked to rank grammatical and semantic elements against each other in terms of the importance to meaning. As Halliday points out, the linguistic system is arranged in a segmental fashion. Ranking choices are then between different grammatical forms, semantic content, and the linguistic environments in the experimental messages. This ranking situation provides a direct comparison between verbs with their semantic features to the other elements with their semantic and syntactic features. This comparison within the messages shows the primary action-agent-object choice is ranked highest.

The entire language system is compared. The hierarchy of individual forms, the structure between and within units, and the class of individual units are compared. In Halliday's analysis of the hierarchy of elements, he defines a hierarchy as "a system of terms related along a single dimension which must be one involving some form of logical precedence (such as inclusion)." The successive adjectives "American, European, and African" in message three is an example. A taxonomy of the hierarchy is a description of the interrelations of these terms considered equivalent. As Halliday says, "a taxonomy is taken to mean a special type of hierarchy, one with two additional characteristics: (1) there is a constant relation of each term to the terms immediately following it, and (2) a constant reciprocal relation of each to that immediately preceding it." The ranking choices help
to determine the nature of the taxonomy in that words related must be ranked against each other. In this light, choice of the higher rank is then given on the basis of the position of words in the serial order. The decision is based not on equivalent semantic weight, but on different syntactic placement.

The ranking in the experimental messages takes place across these interlocking relations. The ranking procedure allows description of the information structure as grammatical units and semantic units are counterposed. This information structure is a part of the language. The information structure is reflected in the manner of representation between the internal linguistic system and its representation of the external word which is mapped by the linguistic units. As Halliday says about these information units,

The distribution of the discourse into information units is obligatory in the sense that the text must consist of a sequence of such units, but it is optional in the sense that the speaker is free to decide where each information unit begins and ends, and how it is organized internally; this is not determined for him by the constituent structure. Whether it could be said that the distribution of information specifies a distinct constituent structure on a different plane; this 'information structure' is then mapped onto the constituent feature as a specified in terms of sentences, clauses, and so forth, neither determining the other... The information unit is what the speaker chooses to encode as the unit of discourse; the decision is a meaningful one, and a text may be structured into units in any number of ways all other features remaining constant. At the same time, the information unit is the point of origin for further options regarding the status of its constituents: for the selection of points of information focus which indicate what new information is being contributed. The distribution into information units thus determines
how many points of information focus are to be accommodated, and specifies the possible limits within which each may be located. It does not, however, fully specify its location; the assignment of information focus is a distinct option within the information unit ... The system of information focus is thus dependent on the information structure; it involves the selection, within each information unit, of a certain element or elements as points of prominence within the message. Each informational unit has either one primary point of information focus or one primary followed by one secondary. The choice is again realized in the formal logical structure, by the assignment of the tonic (tonic nucleus) in the tone group.\textsuperscript{14}

According to Halliday, ranking will involve a choice across units to weigh those units syntactically and semantically to the message as a whole. The structure is malleable according to the expression need. The syntax may be arranged to the semantic purpose. Ranking is primarily a semantically structured choice.

The work of Trager and Smith substantiates further structuring of language into information units on the phonological level. They suggest a methodology of speech tone analysis to study language structure. Using their methodology on the experimental messages would be an interesting comparison to the ranking results.\textsuperscript{15}

With this present research the ranking procedure allows subjects to make qualitative and quantitative decisions about word structure and the meanings of these choices. The use of nonparametric statistics with ranking scores still allows rigorous tests of the kinds of structural and content issues of semantics and syntactics. The ranking scores foreground the language rules operating in the messages.
From the data of the ranking procedure the predicative function is central, but other methodologies may be used to further describe the interactions within the semantic and syntactic structure. This is a possibility for further research.

**Nominative and Predicative Functions**

One of the interesting interactions in the data is the apparent interplay between the nouns and the verbs. It appears that the substantial terms (subjects and objects) operate in cooperation with the verbal elements. In these interactions in the core messages the elements are fused semantically. A context is built which is difficult to separate meaningfully. If the contextual structure is broken further than the core ambiguity results. For example, in sentence eight, "plants" is ranked as the most essential meaning word with the process verb "grow" in the second rank position. Together they build a semantic context that is difficult to separate. Yet it is the verb that gives the possibility for the subject noun to exist in the context. In the context created by the two words there is a closure to the idea communicated. The other words elaborate this context further. Although the verb dictates the kind of noun that semantically (one could not substitute a noun like "rock" that has no living quality) fits, the dependent noun is brought into the verbal context. The verb is the primary context builder. Closure is the degree to which the context is complete and free of ambiguity. The more semantic information present the less ambiguity in the contextual structure.

To use a visual illustration, one projects or assumes what an ideal circle looks like. Its shape and characteristics are assumed. If one
were to draw a circle freehand, more than likely the shape would deviate from the ideal. Thus, although the shape is not exactly right, one assumes the figure is a circle based on the portion of characteristics representing the ideal which are present. Even if portions of the curved line were absent, within limits one would supply the missing parts mentally to call the figure a circle. The greater the quantity and quality of the information given the easier it is to fill in the missing parts to form the whole.

The same thing happens when items are missing from a semantic context. The context is closed into a whole based on the rest of the semantic structure present. Since the verb governs the other semantic characteristics and relationships within the semantic context, its primary semantic role is clear. This may not be reflected in the ranking unless the core elements in the message cannot be separated.

Other research that supports this semantic context building has been done by Boomer\textsuperscript{16} and Rosenberg and Jarvella.\textsuperscript{17} Boomer's research shows that structural decisions are made in the choice of the initial sentence elements. Rosenberg and Jarvella show that sentences are much more easily perceived if the semantic core is clear.

Returning to sentence eight, "plants grow" is a basic semantic context. Other contextual information such as the locative element "soil" which is ranked next provides more closure to the core affirmation. The next word in the ranking "heights" further elaborates the context, but this additional information or comment is not essential to the core message. Other words such as "fertile" and "great" fulfill the further comment on the primary context.
Context confusion makes the information structure more difficult to process and understand. Research done by Wasson illustrates the importance of the core context being clearly arranged semantically. Wasson found that a sentence like "a whale is not a butterfly" is much more difficult to process informationally than a sentence like "a whale is not a fish." In these sentences the copulative verb "is" is weak in semantic clarification. It serves a simple equative function to the semantic properties of the subject and object. Other more semantically restrictive verbs would control the context more forcefully than the stative verb "is."

Context is further built by prepositions in the way they connect semantic items. Again in sentence eight, the prepositions "in" and "to" serve attributive functions and mark the province of semantically connected items. The prepositional elements serve the important directive functions in the "fine tuning" or final structural completion of the context. Prepositional elements correctly place the last things in the context mold. This finishing is reflected in the rankings, but even the ranking of the prepositions is in relation to their importance to the semantic necessities in the core message. A higher priority is given to the preposition "in" with its reference to "soil" than to the preposition "to" with its reference to heights because "soil" has the higher ranking.

A further observation about this context building from the rankings in the data is the creation of context in the two experimental conditions. In the first condition the subjects were asked to trim the message down to the essentials. In this condition the relations were
more problematic because decisions were yet to be made in regard to relations to the substantial elements, i.e., plants to grow to soil to heights. In this condition, contextual decisions are less assumed and more problematic. The contextual problem in this case is foregrounded. In the up condition, these decisions are already made since they began with a core message. Additions are for elaboration and the relations do not have to be made with reference to what the final core message will be.

Grossman puts the contextual relations in the frame of the equation \( W = f(p_1, p_2) \). \(^{19}\) \( W \) is the contextual whole and \( p_1 \) and \( p_2 \) are the parts of the context. \( f \) is the functional "nexus" which connects the parts to constitute the whole. The conception of the same whole may vary considerably depending upon the nexus which is operational. The verb plays an important role in this nexus. The verb allows or emphasizes the direction or attention or focus of meaning to the other sentence parts. In some cases the subject is the focus and in others the object or some other element. The verb in sentence five is an example. The verb "hit" gives way in the ranking to the focused nouns "baseball" which was hit and to "window" through which the baseball was hit. In this case the verb forms the semantic nexus.

**Grammatical Functions Ranked in Both Conditions**

Which words are ranked differently in the two conditions? This is an important question because it shows up the interaction of the semantic function with the structural function in ranking the message words.
Conjunctions and prepositions are judged more important and essential to the meaning in the down condition. If given the sentences as a whole and asked to pare down the words, conjunctions and prepositions are viewed as more important. In this condition one is conscious of maintaining existing semantic relationships. The difference in ranking in these two conditions is shown in Table 2. The conjunctions in sentences 3, 4, 6, and 9 are exemplary. The prepositions in sentences 1, 2, 3, 4, 6, 12, or 13 are examples of the same trend.

Descriptive words and attributive words such as adjectives and adverbs describing time and manner of actions are judged more essential in the up condition. Again, this can be seen in the data summary in Table 2. The descriptive "fearful" or "another" in sentence 1, "stained" in 5, "fear" in 12, and "wide" and "settlements" in 14 follow the same pattern. Words concerned with number, time, or manner of action follow the same pattern also. Examples of this are "all" and "sorts" in 2, "through" in 5, "weekends" in 9, "past" in 11, "until" in 15, and "only" in 16.

The rankings in sentences in the two conditions show a conjunctive and descriptive shift. Prepositions and conjunctions are judged more important to the meaning of the whole message than descriptive words in the down condition, but the up condition reverses this and the descriptive are judged more essential. This is observable in the examples given above. The explanation for this is probably in the function of the words syntactically. In the down condition organizational words are more problematic. How will this paring effect the sense of the message? Substantive words that are the most active
semantically are less effected. In the up condition the descriptive words are seen contextually attached. In the down condition, the initial paring can be accomplished by eliminating the determiners. In the up condition the ranking begins by identifying the essential core. In this case description (semantic concerns) supercedes organizational concerns.

Words which appear in serial order naming descriptive characteristics, objects, conditions, or groupings of categorical things are judged differently in the up and down conditions. Examples of these serial lists or constructively grouped words are seen in "American, European, and African" in 3, "pain and agony" in 4, and "sad, distraught, and confused" in 6, "neighbors and friends" in 9, and "day by day" in 13. In each of these cases, as the data in Table 2 shows, in the up condition subjects rank the initial descriptive word as the most important, that is, to represent the whole group. This effect is reversed in the down condition where the post position is judged as the most important. This effect illustrates again that semantic concern is primary in the up condition.

Pronouns, although serving an important grammatical role of subject of the sentence, are not ranked most important. Table 6 shows the average ranking for subject and verb of each message in both conditions. Pronouns in the subjective place in the sentence held an average ranking of 5.4192. The average ranking of the verbs is 2.7883.

The stative verbs were the most effected by differences in the ranking conditions. With the stative verb "live" in sentence 1, the adjective "fearful" is given a higher ranking, but in the down condition
"fearful" ranks after the preposition "with." The words "thought" and "live" are linked semantically into context with modification from "fearful." In the up condition the verbal context focuses more explicity upon the verb and its modification. In the down condition the personal dimension of the message is primary. In the down condition the subjects tended to preserve the identity function or nominal connection to the sense of the message, whereas, in the up condition modification or description became more important to the context. This tendency is noticed more frequently with the stative verbs. With activity verbs where the subject is more involved in the verbal action, the opposite tendency is observed.

Word ranking observations given here suggest that the semantic and syntactic choices are not made independently of each other, but are made interactively. Choices as to the most essential meaning words are made within the constraints of each; however, effects vary with the semantic characteristics of the verb in the message.

**Predication and Language Structure**

How are these constraints on language choices influential to language generation? Some of the more promising areas of research to answer this question are in the area of language acquisition by children, language produced by persons with brain damage, and in the observation of common language production errors in everyday speech.

Menyuk makes the point that "during the language acquisition period, the child achieves the ability to add together, delete, substitute, and invert items to generate new strings (of words). He must observe restrictions concerned with specific context. He achieves the
ability to observe sentence X and sentence Y and determine that their underlying structure is the same or different and in what way they are alike or different. In the acquisition of other abstract perceptual and conceptual systems he must be able to perform similar operations.20 These abstract systems are the semantic structure of the language. Learning the system involves the intuitive understanding of the properties of words and their combination. Gardner reports the need of brain damage patients to do the same kinds of relearning after strokes or accidents.21 Speech errors in everyday communication show the misplacement of semantic and syntactic rules momentarily.

The research reported from the ranking of words in terms of meaning does expose the priority of some semantic functions in the dismantling and reconstructing of speech samples. The verbal role is substantial in this context building. The act of predication or making a meaningful expression involves the building of a semantically functional whole. The verb acts to focus and coordinate the language in a meaningful way. This predication is the structuring of linguistic parts to express the connection between meaning and linguistic rule limitation.

Predication is more than language. Predication is the assertion made through the particular collection of persons, context (linguistic and social), and the other factors that bear on the communication situation. Predication as it is considered in itself is the substance of the communication. This is seen most explicitly in the kind of effects from the verbal frame: process, activity, event, and state.
There is a predilection in the use of language and language structure toward the framing of meaning in terms of these verbal modes. The four verb types represent a verbal continuum of expression. The semantic features of the verb related to process, activity, event, and state are essential frames for the expression of meaning.

**Summary**

Words reflect the thought from which they come. As one characterizes the scope of conditions that pertain to the descriptive task from the surrounding world the continuum; state, event, activity, and process, are characteristic modes of perception.

In observing the linguistic relation to the world, the verb focuses these conditions in the language. The verb semantically and syntactically shapes the message. It was hypothesized that the verb should then be judged the most important word to the meaning of a sentence message. This was tested by asking subjects to rank words in messages according to meaning. This hypothesis was not supported. This nonsupport was attributed to the difficulty of subjects to independently weigh each word in the core message. The second hypothesis that the verbs representing state, event, activity, and process constitute a continuum with increasing semantic effects was supported statistically.

The next questions to be undertaken are related to the effects of rules in the operation of language meaningfully. The nature of language and how it is used leads into what some effects of language rules are on the expression of meaning. Finally, the personal and societal effects of language use are examined.


4 Ibid.

5 Ibid., 41.


13 Ibid.


CHAPTER III

LANGUAGE AND LANGUAGE USE

Language is such an intricate part of everyday life that it is difficult to hold the phenomenon at an arm's length to examine it. Even in doing so one violates the sense in which language is a part of being human. In rendering language an artifact one cuts it away from its ground of being in human use. The analysis of language should continually be brought back to the pragmatic level. For this reason this chapter examines the relationship between language, experience, and meaningful expression.

Chapter 2 examined an experimental situation of language use. This chapter studies more closely the relation of language structure and language use. In the next chapter language rules are examined as rules in order to typify their nature.

There is a duality about language. It operates in one's life on a spontaneous level in an unconscious fashion almost like a biological function, yet one can become conscious of particular words or the activity of speaking at any time. Much of the time one simply uses language without any specific design or forethought and at other times, one may weigh every word and decide which words to use in response to persons and situations.
The Development of Language

In the first years of life, a child slowly acquires the ability to "do" language. The activity of acquisition and the skill in language use increase. Language skill emerges along with biological maturation. The rudiments of the skill develop from a primitive stage where the child experiments with making noises for personal amusement. Even in early infancy the child learns to use cries in a communicative way. As a child grows, individual words emerge. Reinforcement from human companions elicit or perhaps undergird this language performance. Eventually the child learns to use words expressively. The process of language acquisition is set in motion and the vocabulary is expanded. The language repertoire grows and the skill with the rules of grammatical expression grows as well.

Studies of children's semantic and syntactic competence illustrate this language development. A single word is used initially with a broad range of functions and meanings. At this stage a word has a generality of pragmatic values. The word "hot" may indicate temperature, light, or even danger. As the linguistic skill develops, a sentence word assumes a differentiated function. The single word is separated into several discrete meanings. Braine's study of children's language, its semantics and syntax, presents a picture of children's grammar with early words. He calls this grammar, pivot grammar. The similarity of pivot grammar to the model offered by Chafe of adult grammar is striking. Braine argues that there is a central word or pivot word which is modified in either the anterior or the posterior position. The relationships of the words to each other is dichotomized.
in a subordinate (movable) and supraordinate (pivot) relationship. Comparing this to adult grammar of clauses and phrases in sentence structure, one discovers the same kinds of relationships, although adult grammar is executed in a much more complex fashion with a great many more semantic and structural rules.

Early in the child's language development, modifiers may occupy either anterior or posterior positions. A child could just as easily say "Mommy shoe" as "shoe Mommy." An adult would tend to take the second utterance here and see it as an expression of two individual sentence utterances. That is, the second would more often than not be taken as an expression or personal address or vocative "shoe! Mommy." rather than a genitive or possessive case modification.

The development of connectiveness between words gives a clue to the differentiation of language functions. In the development of language, children go through several discernable states. Wood outlines six stages of complexity with language. The first stage begins with the use of a single word as expressive of a complete sentence thought. The second stage of modification is the stage where relationships between words are established syntactically and semantically. Much of the learning with these two stages takes place between the first and second year. In the third year, in addition to an increased lexical learning, a child continues to structure word and sentence relations. At this stage, full subject and predicate relations are employed along with the structural growth. Next in the growth process is the operational changes. Here such things as the addition of more subtle structural relations, for example, word ordering, are added. From the
middle of the third year to the seventh year, a child acquires a more refined categorical system for semantic and syntactic features. This is a development of the competence for using ever increasingly complex sentences. This stage continues through the age of ten. Carol Chomsky's experimentation with children and language shows that up to ten years of age children are still acquiring semantic differences with verbs such as ask/tell and promise. For example, a ten year old may not yet have learned the distinction between a promise and a threat. This is to say that the sentence, "I promise you will be punished" may be taken as a promise not as a threat.

Learning the language is a process that continues semantically and syntactically throughout maturational years. This rule learning is accomplished linguistically in what Chomsky calls the development of language "competence." Competence is the basic intuitive ability of the native speaker to know and use language rules with grammaticality. One knows the bounds of what is and what is not an acceptable sentence in the language.

There is additional learning which is a part of the language maturation process. In this learning one acquires nonverbal and situational rules of communication. Menyuk reports a study on the nonverbal interaction between parent and child in which the nonverbal communicative signs are synchronized with major sentence and thought breaks. This indicates that this communicative activity is structured semantically and syntactically as well. In the maturation of linguistic processes one acquires other communication skills.
Learning a language appears to be sequential in the development of more complexity. Rule learning is a part of this process. The work of Piaget and Vygotski developed strong arguments correlating the connection between psychological and neurological maturation and language ontogenesis. Learning a language involves learning perceptual rules and linguistic correlates and mapping one to the other. Piaget calls these mental mappings "schema." Schema are mental routines that process information in a consistent fashion. As one matures one develops more schema and existing schema are connected to form even more complex routines.

A study done by Greenfield, Nelson, and Saltzman of the logic of children in play activities illustrates the increasing ability of children for more complex thought routines. Children aged from 11 to 36 months were given cups of three graduated sizes. This graduated size of the cups allows children while playing to combine the cups in several strategies. The various combination patterns reflect a range of patterns of different complexity. Children from the youngest group tended to place cups together in a manner similar to Braine's model for children's grammar, a pivot item covered by another larger one. The older children showed a slightly more complicated strategy for nesting the cups in combinations of pairs. The oldest children displayed a sequential pattern in their play with the cups nesting in other cups or over the others. The study postulates that this may parallel a developmental sequence with language acquisition behaviors. Language growth has physiological, psychological, and linguistic connections.
Clark has drawn a comparison between perceptual learning and linguistic learning.\(^9\) He studied a child's perception of space and time and how these perceptions are related to a child's expressions about time and space. He concludes that language develops dimensionally just as perception does with reference points, planes, and space. Linguistically and psychologically, terms for things, places, and times and the perception of these tend to be divided between egocentric and nonegocentric dimensions and reference points. Clark's argument is the coordination of both language and perception. He describes the dimensions of each of these, L-space and P-space. One's prejudices and assumptions perceptually (P-space and time) are reflected in one's expressions of these perceptions in (L-space and time) equivalent manner.

On the semantic level of learning, Rosch offers the provocative idea that learning word meanings involves the acquisition of a categorical structure of word features or attributes. In effect, learning to use a word means establishing a distinctive set of features which are structured into a categorical system. This is provocative because it extends the approach first offered by Katz that words have "distinctive features" which define and limit the combination of words with each other on semantic grounds.\(^10\) As Katz explained one is intuitively predisposed to combine words such as "handsome" and bachelor" because they fit semantically. Words such as "pretty" with its feminine connotation would not be an appropriate modifier for the masculine noun "bachelor." One may observe socially that neophytes to the language, such as a foreign speaker or a child, are often excused for this
"semantic mistake." Another example would be the child's question, "When was this coin born?" Obviously, in one's use of the language one knows that a coin is made not born.

Rosch suggests that words are marked by discrete bundles of features which "differentiate category and selection restrictions." She argues that each word is marked by "core meanings" or focal examples or cases of a correct use and that each word in one's lexicon is "surrounded by" less representative cases which derive from the core meaning. Identifying a word meaning involves the degree to which one is able to identify the center or core example. Synonymy involves the degree to which the core meanings or words match. Just as one would try to match two colors by placing them together one compares words on the basis of distinctive features.

In summary, language develops with human maturation with increasing complexity in structure and meaning. From very elementary semantic and syntactic beginnings, the human language ability grows in stages of complexity. One learns word meanings and their perceptual correlates and how to put words together into a meaningful structure. It is now in order to examine these language structures and how one might describe them.

### Representing the Structure of Language

In an effort to describe and define the structural relations in sentences, the structural linguistics of the 1950's developed a system to systematically outline sentence relations which was known as "immediate constituents." Several graphic modes were developed to show the relations between sentence components. Using a number of brackets
a sentence is marked for structural relationship. In a sentence like "A young man with a paper followed the girl with the blue dress." the bracketing is as follows:

(((A)((young)(man)))((with)((a)(paper))))(((follow)(ed))
  (((the)(girl))((with)((a)((blue)(dress))))))

Another method to graphically display sentence relations is the tree diagram, as illustrated below.

Figure 9. Tree Diagram of Sentence Structure

The binary nature of language is clearest with the tree diagram. This segmentation of the components raises the question not only of the relations between elements, but also the question of what elements may be selected to replace or substitute for other sentence components. For example, the first part of the sentence one may select a single person noun to describe the agentive actions of the young man, such as in, "Jim followed the girl with the blue dress." In this case "Jim" fulfills the semantic and syntactic requirements of the whole phrase, "the young man with a paper." Jim is an animate, human, masculine agent with these distinctive features or characteristics. "Jim" satisfies the
structural equivalence requirements that follow or are necessarily a part of that which would make substitution possible.

In sentence 6 of the Western Union messages, "I write this note to you sad, distraught, and confused." subjects were faced with the task of deleting words found equivalent, as between the words "distraught" and "confused." "Sad" in the initial position was chosen to represent the others. Subjects were faced with the task of choosing one item among the three to represent the total manner in which the note was written. The sum of the ranks of the three words as shown in Table 7 did display a degree of linearity in the rank preference. "Sad" in this case with the highest ranking is identified as the "head" word or the word to represent the others. The test data shows that the subjects tended to relegate to the initial word this function of being the head word.

**Language, Structure, and Meaning**

The representation of meaning in the structure of language is the linguistic process. The problem is that of offering an explanation of how language meaning and language structure are generated or encoded and how this same linguistic data is decoded and understood by the receiver. The linguistic theory and arguments associated with the various theoretical perspectives were discussed in Chapter 1. These theoretical points of view all faced the same basic explanatory problem. The relationship between experience and meaning to the symbolism of language is offered in the schema of Moulton.\(^\text{12}\)
Moulton gives this explanation of the above schema:

Any communication system must be connected at two ends with the world outside the system. At one end, human language is connected with the world of human experience—all the things we talk about when we use language. At the other end, human language is connected with audible sound—the noises we make when we use language. These two external ends are our only points of entry when we try to study the nature of human language. We cannot observe directly what goes on between these two external ends, within language itself. The best we can do is to note the correlation between experience and sound—and try, from this, to deduce something of the inner workings of this most enigmatic, ingenious, flexible, productive, and elegant of all human communication systems.

In a similar vein of thought, Wanner asks the question, "Do we understand sentences from the outside in or from the inside out?" He also suggests a comparative approach using both ends of the language question. Semantic and syntactic decisions are made in relation to both ends of this question.

The investigation of language structuring in normal use has provided some insight to the language question. Fodor and Bever designed an experiment on language perception and language structure. This study, known as the "click" study, tests the structural units of
semantics in language. One observes in language a series of meaningful units as shown in the bracketing and tree diagrams. Fodor and Bever constructed an empirical test of the nature and bounds of these sentence units. Taking a sentence like: "That he was happy was evident from the way he smiled" they recorded the sentence and asked subjects to listen to the sentence with a click sound superimposed at various junctures in the grammatical structure. Their findings showed that subjects most accurately located the click sound when it occurred between major phrasal or grammatical junctures such as between "happy" and "was" in the sentence above. When the click occurred in other positions, the subjects tended to hear the click not at the point of superimposition, but rather they more frequently moved the click perceived to the next nearest major phrase juncture. Studies of this kind demonstrate the importance of semantic and syntactic structure in the processing of a sentence linguistically. One would infer from this data that the mind manages semantic and syntactic features as distinct units.

Structure and the semantic environments of expression effect other aspects of information processing. Wason's study cited earlier is another example of semantic effects on information processing. Miller, Heise, and Lichten found that words in a semantic environment were more easily identified than isolated words. Rosenberg and Jarvella tested other semantic criteria such as well formedness on sentence perception. Their test involved the superimposition of noise on sentences. They found that those sentences which were more easily identified were clear thematically. Sentences in which the theme was unclear were more
difficult to perceive over the noise which shadowed the listening. Sentences with the greatest amount of semantic clarity were most easily identified.

Savin and Perchonock showed that syntactic information such as passive voice and semantic information such as negation took up space in the memory and limited the amount of recall subjects could give from word lists after listening to various types of sentence structure. This experiment illustrates the discrete structural elements that operate in the mind in processing linguistic information.

This linkage between experience, language encoding, perception, and decoding is the object of semantic testing. These tests allow a look at the "in the mind" language operations. Boomer's study mentioned in brief above, investigated the relationship between points of hesitation in the encoding of messages. At what point does the subject most commonly pause to "think" about the content of what is about to be said? He hypothesized that hesitation may signal major points for encoding decisions in language use. The pause is taken as a decision of what to say (meaning and experience decision) and a pause may signal a decision about how to express structurally the intended content. A hesitation is a mapping point during which a subject pauses while searching for the appropriate syntactic and semantic structuring. Boomer found that with ten words in the initial position the greatest number of pauses occurred between the first and second words. The number decreased after each succeeding word in the message utterance. Boomer explains that the selection of an initial word in the expression "sets certain constraints for the structure of what is to follow. The
selection of a first word has in greater or lesser degree committed the
speaker to a particular construction or at least a set of alternative
constructions, and has also foreclosed the possibility of other
constructions."

Boomer's research leads back to the question of the nature of the
semantic and syntactic interplay. If one assumes that the initial pause
reflects the result of an encoding decision from the original meaning,
then a pause allows for additional semantic decisions to be negotiated
into a structured expression. Green suggests that this meeting of
syntax and semantics is one of rule governance or deciding which rules
in the language apply. Simply put, structural juncture points, or
head points are the area where the domain of the rules are negotiated
mentally. Hesitation, in the performance may be a signal not to a
single linear process, but to a decision between syntactic and
semantic constraints.

Carroll argues that the "comprehension factors," that is, an under­
standing of how the language works, is a totality of lexical knowledge,
grammatical knowledge, and the ability to "locate facts" in discourse
and the relation of these to an internal factor which is influential
in putting the comprehension beyond the givens to the guessed intention
in the communication. "A part of the 'competence' of the language user
is the 'knowledge' of a large collection of these rules relating form
and meaning .... We cannot, of course, expect every language user to have
in his 'competence' the sum total of the rules relating form and
meaning in a given language, but it is clear that the comprehension of
any utterance or discourse would entail the knowledge of whatever rules
are actually applied in the utterance or discourse.\textsuperscript{21} These rules which relate experience, meaning, syntax, and semantics and the symbolization in sound or writing are fundamental to expression.

\textbf{Language and Social Environment}

Garfinkel makes this statement about the manner in which everyday events are woven together through one's daily actions to form a continuing process by which one understands the world around. "Our society's members encounter and know the moral order as perceivedly normal courses of action — familiar scenes of everyday affairs, the world of daily life known in common with others and with others taken for granted. They refer to this world as the 'normal facts of life' .... massive facts of the members' daily existence both as a real world and as the product of activities in a real world. They furnish the 'fix,' the 'this is it' to which the waking state returns one, and are the points of departure and return for every modification of the world of daily life that is achieved in play, dreaming, trance, theater, scientific theorizing, or high ceremony."\textsuperscript{22} It is from this basic set of rules and routines which hold one's world together that language works and weaves the basic experience all share. States, events, and actions are blended together into a continuous process which one calls daily life. One is frequently undisturbed by this relationship to the rules of language and social interaction until it is rendered problematic. Garfinkel offers this example:

\begin{quote}
On Friday night my husband and I were watching television. My husband remarked that he was tired. I asked, "How are you tired? Physically, mentally, or just bored?"
\end{quote}
H) I don't know, I guess physically, mainly.
W) You mean that your muscles ache, or your bones?
H) I guess so. Don't be so technical.
(After more watching)
H) All these old movies have the same kind of old bedstead in them.
W) What do you mean? Do you mean all old movies, or some of them, or just the ones you have seen?
H) What's the matter with you? You know what I mean.
W) I wish you would be more specific.
H) You know what I mean! Drop dead!

The rules of language and language use are a regular part of one's daily life, but one is rarely aware of them on a conscious level.

In the effort to understand the ways in which meaning is conveyed or shared among persons, one is aware that understanding and successfully using language interpersonally is more than knowing the linguistic rules of the language. In fact, coming to an understanding of the "total meaning of an utterance" has to do with the relation of a sentence or discourse to its total context. If one widens the context beyond a mere 'verbal' context, that is to include the total situation in which the message occurs, its "total" meaning may entail the point-to-point relations between the elements encoded in the sentence and the things, attributes, events, and relations existing in some actual or fictional reality. Comprehension of the "total meaning" includes the linguistic and the nonlinguistic meaning.

Illustrations of this point is shown in the efforts of computer programmers to use basic language rules to see if the computer can generate "answers" to questions. The computer may utilize a set of rules from the language to generate a number of grammatical sentence answers, but the computer cannot consistently respond to extralinguistic
factors which render the response nonsensible. Coding this collection of rules related to social reality is a very complex task.

Others have attempted to develop rule models for performing language functions from a formal basis such as mathematics. One set of examples is that developed by Maurice Gross in *Mathematical Models in Linguistics*. Gross undertakes the task to formalize language into a systematic procedure for mapping grammatical structures to mathematical models with rules of correspondence. Although many of these types of model building have had some measure of success, they have not yet shown the adaptability to situational variance. When one begins to enumerate all the classes of grammatical, semantic, syntactic, and situational communicative rules, one begins to understand the complexity of the language process.

**The Influence of Perception on Language Use**

Perception influences the way in which one talks about the world. In addition to the intricate sets of semantic, syntactic, and situational rules that operate in language use, there are other basic factors of perception which are influential on the use of language. The following example is drawn from the language and perceptions of persons living in the geographical setting around Cincinnati, Ohio. Cincinnati is separated from Kentucky by the Ohio River and is also the point at which a small tributary river, known as the Licking River, joins the Ohio. The following map indicates the communities and the geography involved:
If a person is in Covington, that person would speak of going "over to Cincinnati." If the person is going to Newport, one speaks of going "over to Newport." If the person is going to Fort Mitchell, which is elevated from the river region, then one goes "up to Fort Mitchell." The area of Florence, some nine or ten miles south of the city of Covington, would be referred to as going "out to Florence." This is a graphic example of the manner in which the perception of the geography of a place effects the way persons speak about the environment.

Perceptions of motion also effect the way one speaks. Talmy made an extensive study of the relationship between language and the perception of motion. He observes that a situation is divided in such a way that the language reflects the divisions in the perceived motion situation. He says that "one object moving or located with respect to another object" is part of a "motion situation." The motion situation
is composed of the "figure" or the object which is moving plus the "ground" term which is a reference point to judge the movement. The "path" is the projection of the object along a particular course in relation to the surrounding objects. Each part of the motion is reflected linguistically. The "figure constituent" is a nominal, the path is given in the preposition, and the verb reflects the motion. This analysis is consistent with the work of Clark cited above in which perceptions are reflected in the development of language.

Learning a language involves learning the semantics and grammar of that language. Some languages reflect particular prejudices about perceptions. A case in point is to consider two questions and notice the time or place prejudice is reflected in the language. One person may ask another, "Where do you live at?" The same question put by someone else may reflect a concern for time, "Where do you live now?" Crosscultural studies of language such as that done by Whorf give further conceptual restraints that are present in language. It is clear that in learning a language one learns more than grammatical rules of use.

Language as a Structured Behavior

Language is a human behavior governed by sets of rules which are both linguistic and extralinguistic. Vetter and Howell conclude that "an adequate theory of language is going to have to account for the original and creative bridges constructed by the child to get from his original experimental and maturational limitations to rules that underlie adult linguistic performances." If one views language as a continually developing and changing process that touches every aspect
of one's life maturationally, socially, and psychologically then
language is tied in with many of the other behavioral parts of life.
Shands underscores the systemic nature of the language ability and the
manner in which humans structure thought, speech, and environment.  

Human beings gain a unique aptitude for 'mental
experiment'; they can visualize as actual those
structures which are only possible or desired.
Because of this mental equipment, humans are
able to transform, consciously and deliberately,
what is amorphous and unpredictable into an
ordered, structured, heterogeneous, and pre-
dictable system. Exploiting intensively the
cognitive aspect of information, culture
elaborates particularly its steering, control-
ling faculty. Reshaping the world into a
structure which did not before exist independ-
ently, human beings impose limits on an unlimited
world and restrict the multitude of abstract
possibilities. But in doing this, they also
limit, indirectly and unintentionally, the
range of those personality structures which
are considered successfully accommodated to
a human world structured in just this way. In
this frame of reference, the assimilatory-
accommodative function of culture emerges as
a dialectic unity of control and orientation,
directed both 'inside' and 'outside.'

Language is used to structure situations and the manner of interaction
between groups and individuals. The process of language in human life
gives a blending of a number of different code or rule orientations
into the system of communication. As Birdwhistle has said, "any coded
ACT, regardless of the modality employed for transmissional purposes,
gains its MESSAGE identity, its SOCIAL reality, its SOCIAL shape, its
relevance to SOCIAL action, not from the modality but from the system
which 'employs' it. Codification is a function of society and of
communication and not of modality."  

The rule nexus is related to
language process and usage, because language is so intricately tied
to human life and living.

Benjamin underscores this when he says "the key to a piece of language is often not the way it looks (its form), but how it behaves in context (its function)." The nature of this rule nexus is at the very core of an understanding of the relationship between semantics and syntax in language use.

Pike argues that there are primary grammatical units which are basic forms in the language. These basic forms are connected to each other through a functional relationship defined by, characterized by, and executed through a system of "notion." Form is understood to be related to position in the sentence and it works in a grammatical sense. The concept of notion is the logic which undergirds the language structure. Notion operates in giving grammatical expectations to words in semantic environments. The choice between differing words depends on the grammatical notion required in a semantic environment.

Jesperson introduces the idea of a semantic and grammatical frame in linguistic environments. The frame operates the property of the verb to dictate the manner in which semantic environments are constituted. The verbal frame is the cluster of nominative and verbal elements as they compose the semantic world in which language is conceived. Pike makes the same point that language is a "form-meaning composite."

Givon develops more fully the idea of notion in a semantic and syntactic sense. He introduces the idea of basic notions being that of agent, intent, control, and mediation for causation. He says that these are socially "correlated dimensions of our notions of manipulative
causation, control, and culpability." He develops these notions in terms of semantic variance which are a part of interpersonal manipulation and interaction.

Most linguists tacitly assume that the subject of causative expressions is nominal, and this is borne out by the surface syntactic facts. Philosophers, ... quite often quote (cause) as a predicate that takes two sentential arguments (processes, actions, events, or states). That is, they regard it as a relation between a cause proposition Pc and an effect proposition Pe. In language, the Agent-subject of Pc is most likely to be considered the subject of the entire causative expression, while the Patient-subject of Pe is considered the object of causation. What is involved, in essence, is a Raising or Foregrounding process, via the condensation of the semantically underlying Pc and Pe into a single proposition that often involves a single lexical verb. The two most Privileged nominals involved, i.e., the one considered agent-initiator and the one undergoing the significant change of state/location, are given prominence as subject and object of the causative verb, respectively.

The essence of Givon's argument is that the force of how something is said operates on a semantic field or plane. Within a field or plane of influence or environment, there is a degree of control manifested by the operational units. Control is given to that element or series of elements which are foregrounded or placed in semantic center or raised up. Perfertti and Goldman equate the degree to which information in a sentence is lifted up to the theme. They argue that the basis for raising in thematization has to do with semantic functions in the message. "Thematization is the fundamental process, but one which has more than one mental activity associated with it. While forming images is one activity, a more general requirement of understanding a discourse is establishing reference by whatever means. Different designators
must come to converge on a single referent from which predications are made.\textsuperscript{37} It is at this point that one sees again the role of the verb in focusing the manner in which the nominal elements are raised or brought into focus meaningfully within a frame of semantic reference.

In the work of Ehri and Muzio the influence of verb meanings on the memory for adjectives and other parts of speech, the theme focused by the verb was more easily recalled.\textsuperscript{38} The role of the verb in forming an interpretative frame illustrates the significance of its semantic and syntactic functions.

The Verb and Language Use

Austin's \textit{How to Do Things with Words} proposes that words are used to act-centuate.\textsuperscript{39} That which is accentuated is that which is predicated. In stative predication the "subject has no control over the process in which he or she is involved." In active predication, the proposition involves participation by the subject. While "a person may accidently 'make' a state or an event come into being, he can only deliberately 'make' another person perform an active action."\textsuperscript{40}

Givon sees the relationship between the nominal and the verb as that of a seesaw in which the outcome of control is at question.\textsuperscript{41} There are the elements of subject and object which are on the two ends of the plane of elevation or embedding. The verb is the fulcrum of the see-saw. When the subject is raised and has control, the object goes down and in essence loses control. This process, however, is mediated through the verb.

Reiss draws up the nature of the interaction between the subject-verb-object. In the relationship between this nominal and verbal
association, "the concept of association of ideas is fundamental for the concept of an idea itself, ... the essence of thought is the perception of relationships or associations between ideas." The substance of expression is this verbal and nominal association.

Lakeoff comments further about this relationship. "The closest thing to a generalization that we can offer is that the main VERB (the most dominant VERB in the sentence under consideration) governs a great many rules .... Government seems to be an important notion in grammar .... a government theory must be able to define a mechanistic procedure such that given an input a transformational rule and the tree it is operating on, the procedure will find the item in the tree which governs the rule." The substance of this rule governance function of the verb is seen by Scheffer as a temporal, spacial, and dynamic frame of action or state. Phases can be ingressive, progressive, regressive, or resultive. He contrasts this with modes of states and he categorizes these as inchoative, continuous, conclusive, or resultive. Scheffer's thought puts the verb into time frames or action frames. In the stative condition one simply equates conditions as in I1=I2=I3 ... = In, but in the progressive or action frame this equation becomes I1+I2+I3 ... +In=i. "The progressive is used as a grammatically weightier form than the non-progressive to draw special attention to the predication, to the nature of the activity — including action, state, occurrence, etc.— expressed by the verb in the progressive." The importance for this verbal frame is crucial. As Palmer argues, the verb fulfills a basic information function in offering guidelines semantically for linguistic
probability, possibility, conditions, and manner or mode of conception
of grammatical and verbal action or being.

It is beyond the scope of this study to demonstrate how the verbal
framework operates, but the significance of the role of the verb is
central. The verbal place in mediating sentence semantic and syntactic
relationships varies with the type of predication, but as Dawkins says,
"The subject-verb relationship is basic in semantic and syntactic
meaning, so when that relationship has been made less clear than usual
(by the separation of the two or by a possible ambiguity), then still
another element of difficulty has been added to a sentence."\textsuperscript{46}

Summary

This chapter has examined in more detail the nature of language as
a regularly patterned human behavior. In the development of language
from birth, one observes the evolution of an increasingly differentiated
and complex system of expression. This change is a process deeply rooted
in the development of thought and other behaviors rooted in the develop-
ment of thought and other behaviors rooted in the social world. In
the study of language, one realizes that language behavior reflects
mental operations which are observable in language use. Linguistic
forms and functions are rooted in the verb. The verb is the primary
rule governor in language.


23. Garfinkel, H.


33. Pike, 276.


35. Ibid.

37 Ibid.


40 Givon, 60.

41 Ibid.


45 Ibid.

CHAPTER IV
WHAT IS A LANGUAGE RULE?

Grammar has been treated for very long as a system of normative or perscriptive rules. Usually when the word grammar comes up, this is the thought that comes to mind. This is partially correct. Grammar is concerned with language rules, but the rules emerge from the language. The rules do not control the language; it is rather that rules are formulated based on observations of language use. Grammar is a set of rules which spell out the relations between linguistic elements in the language. "Grammar is that complex set of relations. According to a recent definition, grammar is 'a device that specifies the infinite set of well-formed sentences and assigns to each of them one or more structural descriptions,' that is to say it tells us just what are all the possible sentences of a language and provides a description of them. This is no small task, but one that is well worthy of human study."¹

Grammatical relations are representations or mappings of relations of the external world and the manner to represent them linguistically. In the same sense a rule is a statement about such relations and is a "GENERALIZATION about regularities observed in the linguistic behavior of speakers of a particular language, and whenever possible, about such regularities, to the extent that they exist, in ALL languages."² It could be said further that "rules are merely a convenient abridgment,
a compact representation, of that set of observations .... they also PREDICT THE FORM OF SENTENCES THAT HAVE NOT BEEN OBSERVED. In this sense, they GOVERN the linguistic behavior of speakers.3

Although rules change from community to community and in time, "it is possible to discern a large core of stable, consistent behavior that may be described as rule-governed behavior."4 The average speaker of a language does not consciously create language with the rules in mind, but they are inherent in the performance.

Each native speaker of the English language has an intuitive sense of the rules in his or her language. One may not be able to give the rule for a language, such as subject/predicate agreement, but if asked, one could respond with the correct form. "Every speaker has a keen perception of what is and what is not a sentence in his own language. If from a given list of words (e.g., the entries of a dictionary), we proceed to build sequences, all speakers of the language will reach consistent judgments about which are sentences and which are not."5 This "sense" about what is an acceptable sentence and what is not is "grammaticality." Basically, grammaticality is an intuitive understanding of how closely a sentence conforms to one's internal model of the correct rule sets.

Chapter 2 examined the judgments of persons about the importance of sets of words in representing meaning. Some words were judged consistently less important to the meaning of a message, while others were judged consistently more important. The ranking of the kinds of words tended to follow a pattern throughout.
Sadock draws up the problem with grammar and language rules.

The goal of formal linguistics is to make explicit the relationship between linguistic meaning and linguistic form. Since native speakers of a language are capable of matching meaning and form both when they speak and when they apprehend speech, the formal description of this relationship for some language can be looked at as a model of the abstract linguistic competence of a speaker of that language. The formal system that makes explicit the mappings between meaning and form and vice versa is called grammar. The grammar of a natural language can be conceived of as a device that specifies a set of all ordered pairs \((LS, SS)\), such that \(SS\) represents a grammatical sentence of the language and \(LS\) is a logical structure or semantic representation that represents a meaning of \(SS\) in the language.

In this an attempt is made to erect a theoretical bridge between meaning and its ruled representation. The word "rule" has had multiple uses in the linguistic literature.

What are the major factors in the definition, use, and domain of rules? Communication across time and space is dependent upon a shared system of rules in language. This system is cohesive and it is constructed wholistically. It is multifaceted structurally and functionally with coordinated relations and parts.

To talk about a rule without some reference to the domain of its application or some frame of reference is absurd. One may talk about kinds of rules or types of rules, but to be understood, they must be related to the area of their application and use. This is the primary nature of rules. They are relational. Rules vary in definition in accordance with the activity out of which they emerge. To view them without some frame of reference is to empty them of their content.

For example, if someone walked up to a street corner and asked another
person, "What's the rule?" one would be at a loss to give a reply. One may apply the question to the situation and say "Cross on green." The point is that rules are understood relationally to the domain of their use. The question is in relationship to what. One would be correct in saying that rules are everywhere and nowhere. Rules operate on every level of our personal and social lives, but in any discussion of them one must bring them back to the place they are used. For this reason language rules must be constantly held up to language use.

No matter how one looks at language rules, they are primarily connectors to and from the personal world of experience and meaningful expression. They are the link between what one knows and what one can say.

Searle develops the notion of two basic kinds of rules. The first is what he calls a "regulative" rule. Regulative rules operate within a regular activity, but such a rule is not essential to the activity for continued existence. The second type of rule, a constitutive rule, is the definer and sustainer of the activity itself. Language rules consist of both of these types. Basic grammatical roles like subject, verb, object, or other modifying words may have to follow constitutive rules of relation in order for the language to have meaning at all. Regulative rules would fall into the area one normally calls "style." Stylistic rules allow a variety of word orders or structures for the expression of meaning. Constitutive rules and regulative rules are intricately interwoven in expression of meaning. These rules structure, categorize, quantify, and qualify; but in all these relations these
rules give constitution or reality to the meaning expressed.

If language did not possess this ability to present this presence of reality in expression or have basic existential or ontological characteristics, the referential problems would be outrageous. It would be like the people in Jonathan Swift's Laputa in *Gulliver's Travels* who had to carry items of reference with them in order to communicate. In order to make reference to something, one had to pull the item from a large sack on one's back and to point to that item in order to communicate the reference. In Swift's world, the scholar who made many references in a day's time was a very burdened individual. Through language, however, one is able to refer to an entity in a substantial fashion without the physical presence of the entity itself. This is made possible through the ruled relationship in language use between reference and the referent. Through ruled relations in language, an entity, state, or activity can be substantially present referentially. The constitutive dimensions of rules substantially define and frame the conditions for expression.

*Language Rules and Knowing*

As rules describe, constitute, and frame the existence and nature of the world around, linguistically one sees the relation of particular things to each other. One can grasp a thing linguistically through the language itself. There is a measure of creativity and uniqueness at each performance of the language. As one measures out relationships between things linguistically, one defines a particular point of view toward these things. Sheriff in her research with children and their language use while playing found that with the introduction of an
unnamed object into a social play situation it was named almost immediately. In the naming process, the nature of the object and its use was substantiated. The act of naming is the act of drawing a conceptual circle around an object as it will exist or does exist in a situation of use. Old words or concepts may be renamed to give a new meaning or to correspond to a new meaning. Linguistic naming is the measuring up of a particular thing or concept. Naming is a way of knowing about something.

This knowing function is the development of a boundedness, but the bounded function is seen in relation to personal or self dimensions. Rules translate the encompassed or named dimensions into patterns that assume a meaning on a personal level. This makes a notion or thing manageable. Consider the problem of trying to talk about the distance to the stars. One knows that a mile is 5,280 feet. One also knows that light travels at the rate of 186,000 miles per second. In addition, one knows the relationship of seconds to a year. When, therefore, one says that the distance to the stars is several billion light years, in a sense, by the relation of units, one is able to encompass in a boundedness the unknown and make it known in some measure. This is carried out through ruled relationships. The rule brings into relationship that which is in the world beyond.

The rules of language are at the very heart of basic questions about how it works. For example, I. A. Richards asked, how does a metaphor work? A metaphor is the act of applying a ruled linguistic relationship. When the poet says, "My love is like a red, red rose" a ruled equation is established that links properties of the rose to the
person. When one juxtaposes the words, the qualities are directly compared. The copula verb "is" operates in the predicative role to equate. The power semantically of the metaphor resides in the way "love" and "rose" are drawn into proximity. Two substantial elements are drawn into the same semantic environment by this ruled relationship. A collusion of semantic being is created. The verbal function gives the basis for this interaction.

A rule may not work. Austin describes the case where the ruled relationships may not fit. Austin uses the term "happiness" to describe the degree of fit between words in an expression. Happiness is the intuitive sense of the speaker to know whether a linguistic expression is well constructed. The language user knows if there is a sense of completedness, finishedness, and wholeness to a language enactment.

**Rule Systems in Operation**

Kenneth Burke in his book *Language as Symbolic Action* develops three primary rules that are needed for a ruled message expression. Without this triad of rule functions there could be no state or sense of happiness about the language fit. The first function in language rules of this triad is the clarification and definition of the nature of the constituents. This is a statement or understanding of the nature of a particular thing or idea to which reference is made. The second rule function has to do with a definition of the extentional characteristics and recognition characteristics of the rule. This gives rule users the signs by which they recognize particular features of a rule and its application. The third element in rule functions is the utility of the
rule. The utility function is primarily the essence and content of what one knows about the rule and knows about that to which the rule refers and the manner in which it will operate or does operate. Together these three provide closure on the rule situation operations. At times these individual rule characteristics and functions overlap in their application one to another, but as they operate together they define the character of rules, give the nature of the interaction between the substantial elements within the sentence and give the nature of a hierarchy and mode of interaction within a particular rule environment.

By way of analogy, these three rules operate much like the game Paper, Scissors, and Rock. This children's game is played with rules that the participants on call flash out a free hand displaying spontaneously either a fist, representing a rock, two fingers, representing scissors, or a flattened hand, representing paper. The winner of the game is determined by the manner of interaction between the characteristics of the displayed items. For example, scissors cut paper. Therefore, the scissors and paper interaction produces scissors as the winner. However, scissors with rock give rock the victory because rock breaks scissors; but rock would lose to paper because paper covers rock. This simple rule set provides closure to the ruled interactions.

Closure is provided on the basis of the nature, application, and utility of the rule reference. Put yet another way, a rule defines what a thing is, the conditions of its recognition and operation, and what the outcome of rule interaction will be.

With any rule, there is bound to be some degree of permeation with another rule. In addition, there are circumstances, especially in
language rules, where rules will operate together. This is seen in language with the rule of word order and grammatical function. At some points several rules may fulfill the same function which gives redundancy. But even this factor assures the absence of ambiguity in the expression. Some rules intensify or mitigate the force of the others, but in all these circumstances the rule system is an accurate composite expression.

As the language theories presented in Chapter 1 showed, the language rules operate on several levels of interaction in the generation of a representative meaning in the language expression. Toulmin uses the term "fields" to describe levels of semantic understanding in the logic of expression. The analysis of rule systems must proceed on a common level of discourse. When one speaks of rule permeation, association, identification, and the degrees and kinds of interaction, one is speaking of the areas or environments of linguistic interaction. The form of interaction is largely dependent upon the nature of the level or field of interaction.

Elsewhere, Toulmin and Harre discuss rule operation in the sociolinguistic environments. Special emphasis is placed on the interaction of persons involved in communicative situations. Harre divides communicative interaction into discrete units called "episodes." Each communicative episode is the "minimally meaningful social action." Harre's analysis elevates the linguistic understanding of rules to the field of social interaction which in turn reflects back to the basic use of language. This underlines the fact that rules at any level of operation are not used in isolation from the other levels of rule use.
The Verb and Expression

What is the specific relationship between the verb and the type of verb to what and how something is expressed? In Chapter 2 the effects of various types of verbs was demonstrated. Each verb type interacts with the linguistic environment in a different way. The shift in verbal characteristics from state, event, activity, and process show a different kind of predication or expression. Chapter 3 postulated different kinds of verbal effects with a progressive aspect than with a stative frame of reference. The argument is that language rules operate differently in each of these semantic environments of the verb. A stative verb is the presence of equative, definitional, or conditions, e.g., I am, this is. With event verbs there is a tendency toward past tense or future tense anticipating or reflecting back on an event that has happened. With activity verbs, one has a continued interaction in a particular area of semantic thought. One can speak of a series or multiple, continued, and interconnected interaction linked in the process verbs. As one moves from state to event to activity and process, the rules which govern each of these shift and increase the number of fields of interaction. One has in the stative condition a tableau field. The tableau is an existential factor or emphasis. With an event one has a tableau and a particular point in the semantic field. With an activity one has a tableau and a series of connected points. Finally, with process, one has a cross section of tableaus leading into a continuing interaction. Meaning is dependent on the kind of predication. The verb shapes the kind of rule applications that operate in the semantic environment.
Chapter 3 considered the relationship between rules and language use with special notice shown to some of the ways language rules focus semantic attention, sequence, and frame the linguistic interactions. Language rules map the correspondence from mind to speech. In everyday language, the rules on a number of levels of understanding linguistic and social are operating. As Chafe says, "language contains something—perhaps 'grammar' would be the name for it — which is self-contained enough so that its workings can be understood without recourse to broader questions of human knowledge." Chafe says that this is a faulty assumption and that one must know the broader frame of knowledge that undergirds language in order to understand it. In order to understand "how language works" one must investigate how "knowledge of the world effects what we say about it." Chafe proposes a context rule which states that one must "add and delete certain kinds of transitory constraints" defined by the discourse needs. These constraints include such things as developing an understanding for the foregrounding of information presented in discourse, speaker identity, and definiteness. Within this context, one can then delimit the operating resources of semantics at work. Chafe discusses semantic resources as the noun-verb relations which include an understanding of the agent, patient, and beneficiary functions in a linguistic expression. He sees this primarily in terms of the verb and noun relationship. This relationship consists of a lexical unit which "carries the main burden of information conveyed by the verb and the noun." When one combines the basic inherent features, that is, the semantic features in the lexical unit together with the contextual features one is able to put together the
entirety of the expression. In this way one is able to raise to the conscious level and attain in the discourse the realization of new information. This is foregrounding. Foregrounding involves the raising into focus the particular concept. The action is a verbal focus.

Austin and Searle have made significant contributions in the understanding of the nature of verbal action. One accomplishes different effects with different kinds of predication. They identify the act of speaking words for communicative purposes as a "locutionary act." The result of the physical production and its perception by another is the "illocution." The further effects of the illocution upon emotions, thoughts, or others subsequent behaviors is called the "perlocution." Campbell's analysis of Austin's work points out the difficulty of drawing a clear line between the illocutionary and perlocutionary acts. Campbell uses Austin's word "uptake" to describe the manner and degree to which perception of language locutions are understood and effects are viewed through possible modification in the subsequent behaviors and conventions. Campbell believes that "all speech acts produce some effect upon the feelings, thoughts, or actions of those involved in such acts, and therefore, all speech acts are perlocutions." At various times one is more aware of the force and intention of speech acts or the effects of our efforts to communicate. The point of this interaction between the verbal effects and one's awareness of producing them is the domain of verbal rule. At this point one becomes conscious of what is working and how it works.
Burke observes the juncture of these two and notes it in terms of the directing of the "attention" and "intention" of consciousness through linguistic actions. Language plays a decisive role in focusing and foregrounding information from the environment. Burke turns this consciousness around and speaks of language use and rules in terms of the degree of "unconsciousness." The agent in the use of language may be using language in varying degrees of consciousness or unconsciousness. Language may effect or be effected by physiological processes or other personal or social processes. Language action may cause one to act or think in a particular way as a result of "terministic compulsion."

Burke shows the effects of language to move persons through linguistic actions. This is a conceptual framework informed by the linguistic structure. Language rules grow out of this conceptual framework. Language rules are the effectors of these connections.

In this discussion of verbs and expression, the verb is the shaper of the kind of linguistic act. The language operates to tie the internal and external references in these verbal relationships. The nature of the predication or verbal act depends on the semantic forces operating out of the verb to other ruled relationships linguistically and extralinguistically.

Bower describes the nature of this conceptual framework as follows:
A language rule is a specific conceptual arrangement with a specific predication involved in the conceptual system. As Bower puts it, "A proposition is a subject-predicate construction put together according to certain rules but such stipulation only invites one to supply the semantics of possible constructions." The list of combinations listed above is a set of possible parameters for a rule system in the verbal system. A specific set of rules is that list of unique or distinctive formations operating together as has been noted in the nature of this complex. This necessarily involves the issue of structure, function, substance, and relationship among and between the individual parts of the total system. Language rules are both constituent and regulatory in their manner of operation within this system.

As noted above in Chapter 1 in the final linguistic model offered by Leech, the generation of language rules is mediated by an executive function which binds together individual production elements from
semantics, syntactics, morphology, and other situational factors. This executive function is called a set of "expressive rules." The various levels of rule operations are bound together by expressive rules. Expressive rules are comprehensive for the whole system. This whole system is described by Blumenthal. "It hardly needs to be said that individual words must be understood before the sentence-thought can be comprehended. But the important fact is that the reverse relationship also exists: With the majority of words we do not at all arrive at a recognition and assimilation of word meaning separate from sentence comprehension." In this kind of arrangement one recognizes the fact that individual production levels are operating along with an executive function which combines the individual rule sets into a workable comprehension. Most specific functioning language rules are field dependent. The field is governed by the predication. This is to say that within a particular conceptualization, one finds the definition and limitation of those rules which operate within it. The list given by Bower above is exemplary of the syntactic and semantic rules which operate within the language. The information in the rules is the constitution process. Blumenthal goes on to say that "the structure of any particular language is largely field-independent, being determined by its own particular conventional rules, but the field determines how the rules are applied." Collins and Quillians argue that the verb in linguistic situations operates as the primary context shapers and inferentially operates as a primary rule governor in the language. The verb is a primary agent in the interaction between rule sets.
As one examines the rules in expressions, the verb is the determiner of the structuring of information. As Stockwell says, "The verb also contains some marker that determines the focus of the predication — that is, it determines which of the several entity words associated with it is to be taken as information shared by the speaker and hearer, and which is to be taken as new information, placed in the foreground of attention." Stockwell observes further that the language rules help one to identify the primary content and its representation.

The substance and intention of a sentence is its message and the form in which the message is coded is its code. 'Code' refers to surface structure; 'message' refers to abstract logical structure. When we speak of focusing, we do not refer to any change in the substance of the message, only to changes in the way the message is coded relative to what preceded, to what is presupposed, and to what is most important in the speaker's intention. Focusing rules introduce special markings into the surface structure to set off some element or elements as new or important; they assign PROMINENCE to that part of the message which the speaker wants to place in the foreground, and they destress (place in the background) that part of the message which merely provides continuity with what preceded or what confirms the presuppositions that are shared.

Postal in his work On Raising summarizes the arguments which surround the rules of focusing or raising individual portions of a message structure. "We are dealing here with a special feature of natural languages, namely, the linkage of certain assumptions with certain rules. These assumptions are not part of the core messages of sentences and .... is thus an important technical problem as to how their relation to core meanings and grammatical structure should be described."
The issue is which set of rules will go into operation in a given situation in order to express the desired or intended result. The question of which rules apply and which rules take precedence for the accomplishment of a particular intention is a matter of rule governance. This is the "notion that among the syntactic rules of the language are some whose application is determined (i.e., forced, permitted, or prohibited) by the presence of a particular verb or adjective in the environment of the rule's application."^34

Lytle argues for an understanding of rules in language use which incorporates both an executive function which helps to understand the larger context of rule governance and specific rules which operate together to represent linguistic meaning. According to his account, these "teams" of rules negotiate the particulars of rule governance.^35

Quirk, Greenbaum, Leech, and Svartvik in their grammar of English demonstrate the comprehensiveness of this problem of rule governance. The "connectedness" of the semantic structure in language is the primary factor in how well one comprehends messages. In his research he points out that those messages which have a high proportion of verbs are easier to understand than those messages which contain a high proportion of abstract nouns or descriptive words. The verb is basic to the clear interpretation of the message.

To summarize this matter of the verb, language rules, and expression, the verb is the primary rule governor. The verb frames and directs the force of expression. The verbal function stands in a basic position in the expression rules. Predication of states, events, actions, and processes govern the rule framework. Speech acts are predicated by the
unique verbal functions. The verbal function informs the application of other semantic and structural rules. The verb guides rule relevance and application.

**What is the Nature of a Language Rule?**

The final burden of the question, "What is the nature of a language rule?" must take into account the totality of perceptual, conceptual, and linguistic perspectives and comes finally to the issue of the manner in which the verb acts as a predicator of the entire system. The interfaces of these perspectives are put together by the predicate system. Miller and Johnson-Laird make this statement about the relationship between language and our perception of the events, activities, and processes which take place in our everyday world. "Because the perception of a change or pattern of changes as an event is highly subjective, our talk about events is even more dependent on conceptualization than our talk about objects. That is to say, some pattern of change may be regarded as an event simply because it is how we talk about it, not because we perceive it that way."37

As one experiences the continuous flow of events, activities, processes, and states in the surrounding world, language through the predicative mode fuses these different aspects of life into a perceptual and conceptual whole. Any system of language rules will reflect the verbal functions from which they come. Language acts on the perceptions and conceptions of the language environment. To the question "What is the nature of a language rule?" one must look at the predicative system to which they are related and from which they are derived.
In the concern for the meaning of words in messages, the role of the verb is substantial. It occupies the central position in mediating verbal relationships in a ruled way. This is theoretically relevant to the nature of the expressive creation of messages. The variability of this role has been demonstrated experimentally in Chapter 2. In the examination of language use and the rules which guide this usage, the verb plays a substantial role in the framing and application of language functions inside the message structure and in the definition of extralinguistic relationships. The role of the verb is primary in the formation and governance of words in messages. The verbal contents of the message rest upon the role of the verb to provide an orderly, simple, and structurally meaningful pattern. The discovery of distinctive associations and structural connectedness depends upon the manner and type of predication operating in the message. The linguistic system depends upon the structural predication embodied in the language negotiations.

In the use of language in situations one may find a predilection to use particular kinds of predication as a guide to the kinds of thought, perceptions, and conceptions characteristic of the language user. This simply recognizes that language is a large part of human interaction. Language emerges from the experience of the language user.

**Summary**

This chapter began with a consideration of grammar as a basic set of rules which guide the correspondence between linguistic expression and the experiential logic to which it is related. The knowledge about these rules of correspondence is intuitively known by the competent
speakers of the language. Rules, in order to be meaningful, must be related to the language and mind of the user. Rules constitute the basis of expression and regulate the optional uses of language. The correspondence feature of language helps the language user to grasp the world in which the language is used. Rules operate in a systematic and coordinated way to provide meaningful expression. The verbal role is basic in the constitution and regulation of language rules. The verb is a part of the governance of rule systems and their application. The verb is the connector semantically and syntactically in expressive meaningfulness. A language rule is a rule of correspondence within the language and to the world to which one refers.


Ibid.

Ibid., 4.


Austin, J. *How to do things with words*. Cambridge: Harvard University, 1975, 133-164.


16 Ibid.

17 Ibid.

18 Ibid., 46.

19 Searle, 30.


21 Ibid., 290.

22 Burke, 45.

23 Ibid., 72.

24 Ibid., 50.


26 Ibid.


29 Ibid.

Stockwell, 38.

Ibid., 156-157.


Chapter V

LANGUAGE IN LARGER FORM

Chapter 1 examined the nature of meaning in language. The second chapter examined the nature of verbs in the meaning of messages. The third chapter examined the nature of language structures, and the previous chapter examined the characteristics of the rules that operate in language use. Throughout this study the focus has been on the effects of the English verb to shape meaning in expression. This final chapter examines some of the consequences of this verbal way of looking at language. Language is examined in its larger forms in human life.

Language rules and the semantics and syntax of verbs has been the focus of the foregoing chapters. Linguistic theory has accounted for the way words mean in messages and the manner in which language is generated. Initial theoretical attempts to explain language generation which placed this process within the frame of structural limitations has given way to a semantic basis for language creation. The verbal context of messages has been shown to be of primary importance in negotiating semantic and syntactic relations. It remains to draw out some of the implications of this verb centered view of language.

The structure of language semantically and syntactically has been observed in sentence messages. The structure permeates not only the
microscopic level of language, but also the behavioral form of language in its larger uses in discourse and in social situations.

This final chapter examines this larger structuring in order to understand the place of language in society and culture. This extends the meaning of words in messages to the meaning of these language elements in larger communicative behaviors.

Language pervades one's personal and social life. On a more basic daily level, as the sociologist Erving Goffman says, "it is my belief that any group of persons ... develop a life of their own that becomes meaningful, reasonable, and normal once you get close to it, and that a good way to learn about any of these worlds is to submit to the daily round of petty contingencies to which they are subject." The psychological, social, and distinctive personal modes of living are put into the frame of language. What can one learn about human life by examining its language use? This is a basic question to understanding the nature of a language community or an individual in such a community.

Trager and Smith put the relationship of language and life in a direct manner. Each influences and is influenced by the other.

The unstated assumptions of a societal structure and its overall value systems, can be assumed to reflect and be reflected in the language, and Sapir and Whorf have made a number of valuable suggestions in this connection. Of course, it would be much too facile a conclusion that a certain kind of linguistic system 'makes' a society go in for science, or for belief in certain myths, or for one analysis of physical phenomena as against another. We merely suggest that certain linguistic structures may reinforce and strengthen each other in ways worth investigation. Here again the matter of levels must be emphasized: We had better be
pretty sure of our ground in microlinguistic analysis and the parts of metalinguistics and ethnological material before trying to do this kink of work. 2

Given the foregoing analysis of the nature of the verb in linguistic construction, one may ask are these verbal qualities reflected in the larger language structure? How could one describe this larger structuring of the language in larger forms? These questions form the basis of the analysis in this chapter. The argument is that the larger language forms operating in peoples lives also constitute a structural character that can be described.

Language forms on the microscopic level exist within a context. Larger forms exist in a context as well. Language interacts with a multitude of other extralinguistic elements. Each of these operates on and with the other to give the "daily round of petty contingencies" a form in which persons live and move. One might call this a daily narrative that has a degree of organization and unique consistency. This narrative has within it linguistically those assumptions about environment and events that are a part of persons lives. The language helps the individuals to bracket into this world a comprehensive reality. This narrative reality is by no means totally lexical, but is interactive with environmental factors.

One's "story" is the collection of these narrative structures into a personal accounting of events, activities, and processes. The word "story" as it is used here describes the larger linguistic framework of an individual or group. It is at once an artifact and inseparable from the constitution of personal or group reality. Story has a psychological and sociological structure which is characteristic of the whole
life of an entity. Story is more formal in some entities than in others. Every entity has this narrative structure which undergirds the daily flow of activity and intercourse. This story has a predicative base which can be examined by looking at the linguistic content used by the entity to describe itself.

**Language and Narrative Structure**

Language is at once an intimation of where the speaker is "coming from" (assumptions, personal nature, and personal history) and where one is headed (anticipations and goals). Language is something of a forecast for persons. Most of this reflection from the person is unconscious. Even after a brief encounter with another individual, one makes sweeping generalizations about intelligence, social class, place of birth, and personal character. George Bernard Shaw's play *Pygmalion* is a good example of the relationship between language and culture. Liza in the play is lifted from her poor socioeconomic state by the elevation of her language. In daily interaction one relies upon language to make many judgments about persons and the environment. Language becomes a panoply for the display of many behavioral potentials.

Language use is a key to other larger concerns, presumptions, and modes of life. One could gather insights into this collection of assumptions and concerns that make up the narrative structure by sampling the language used to describe particular facets of the environment. A number of writers suggest the practicality of this kind of analysis. Word choice may indicate philosophical orientation or signal the way an individual views a social situation.
This study is based on the structured nature of language as it operates in communication. It is multidimensional and it is connected to the personal world of meaning. Language is part of the equipment that one uses to interact with the environment and gather from that environment one's needs. In this interaction one builds basic forms to put comprehensiveness to the communicative interaction. These forms become characteristic of the particular structuring of a contextual communication or set of communications.

Langer suggests that these forms are from their smallest to their largest dimensions guided by a governing "significant form." Significant form is the larger picture or model on which and through which more minute decisions or actions are undertaken. It is the blueprint from which communicative forms come and to which they refer. Without a significant form, one's symbolic life (how one talks, reasons, and shapes reality into a whole) would be disconnected and discontinuous.

Shands makes this point in the same way that Langer's argument proceeds. "The structure of a linear discourse language does violence to basically transactional processes by necessitating that they be described in selfactional or in interactional form for the purposes of dissemination and instruction." One is forced to structure communications for meaning. Shands argues that information is a dimensionless quality and that it becomes meaningful as a set of patterns. Communication is then the establishment of areas of similarity of shape or patterns with varying degrees of stability, prominence, or continuity as they are viewed by persons. "A complex symbol such as a
sentence ... is an articulate form." These forms fit together into larger forms to accomplish communication at every level and area of life. If one can assess these basic forms, there is a significant form to the degree that the individual forms are cohesive. Significant form guides the continuous conception of contiguous idea building in communication.

A number of language theorists have suggested the dimensions of significant form in communication. Burke calls this communicative building the "constitution" of an intelligible form. This form filters, transforms, molds, and initiates consistent communicative construction. This larger language form is the key to a higher level research of language in human life. Chomsky suggests that language forms are basic constructs of mind and can be used to study the higher level of mind and thought.

Rumelhart and Norman suggest a learning process that may stand behind the significant forms in communication. They identify the form with the psychological collection of "schema" (not unlike Piaget's term to identify the connection of thought and language development). Schema, they theorize, are changed, generated, and rearranged by processes they call accretion, restructuring, and tuning. Accretion is the constant addition of learned data relevant to everyday life. As need demands, schema are tuned with the addition, subtraction, or focusing of data relevant to consistency. Restructuring is demanded when newly acquired data does not support the old schema structures. They say further that schema are "active processing units, each schema having the processing capability to examine whatever new data are being
processed by the perceptual systems and recognizing data that might be relevant to themselves. Schemata activate themselves whenever they are appropriate to ongoing analysis, and they are capable of guiding the organization of the data according to their structures. Schemata then can control and direct the comprehension process itself.

When one undertakes to answer questions about language, thinking, learning, and these things in the life of individuals communicating, they must be seen comprehensively. Significant form gathers each of these activities into a process of cohesive expression. This is a larger level of the communication system. Such a system must, as Bertalanffy says, be a "complex of elements in interaction, these interactions being an ordered (nonrandom) nature."

The forms in communication impact on individuals in important ways. The forms may guide subsequent behaviors. Speeches, mottoes, movies, plays, pictures, or any number of communicative media may contain an expressive form which "in-forms" subsequent thoughts or actions. For example, the impact of the novel Uncle Tom's Cabin helped to galvanize the antislavery sentiment before the Civil War into a specific form. The form in the expression shapes the experiences and thoughts into a particular schemata. A company motto or an advertising theme is an attempt to establish the form in the mind of the hearers. The hope of the advertiser is that the form will become relevant and significant to the target audience to the end that they will remember and patronize the product. This manner of significant form utilization happens in all aspects of personal and social life.
The sense of what is called significant form in the narrative structure of one's life is present in what Bormann calls the "rhetorical vision." He speaks of elements in a communication "chaining out" from person to person. This communicative and conceptual form is expansive in personal, psychological, and social terms. This expansiveness of the form from the inner world is epicentric — it spreads from the original form. In interaction with other forms it may be adjusted or changed in the process of expansion.

**Significant Form in Personal Terms**

Significant forms are present in the personal psychology and language. One could argue that a personal history is a collection of one's personally meaningful self-description. Boulding sees this as a collective image with elements arranged in significant ways. This plays a role in perception and behavior. The significant form for him is an image which "determines what might be called the current behavior of any organism or organization. The image acts as a field. The behavior consists in gravitating toward the most highly valued part of the field."  

This field structure is modified in a manner similar to Rumelhart and Norman's description of schemata changes above. The field informs the psychological and perceptual basis for behavior. The terminology is again different, but the view of this structuring of behavioral forms is also described by Freud, "as the architectural principle of the psychic apparatus, we may conjecture a certain stratification or structure of instances as deposited in strata." The psychologist, like a geologist, reads the strata of personal structure. Freud in the therapy technique
asks the patient to remember the personal narrative in order to assist with personal restructuring. The term that Freud uses for this "remembering" is akin to the original Greek term anamnesis. This kind of a remembering involves the reliving of recall in order to display it with reality.

An individual or a community may have an intricate narrative of basic forms. In a sense, being a part of a community means becoming a part or identifying a part of these forms with one's self. When one incorporates the narrative structure as a part of one's personal life, then one becomes a part of that community.

Other psychological approaches to this collection of significant forms of narrative structuring, point out the importance of identifying the forms. Berne calls this collection of personal narrations the "script." As he says, "since the dominant influence in social intercourse is the script, and since that is derived and adapted from a protocol based on early experiences of the individual with his parents, those experiences are the chief determinants of every engagement and of every choice of associates .... the script analysis is useful because it is subject to testing by any qualified observer anywhere. Such testing requires neither a prolonged period of preparation nor a unique situation." It is this point of view that encourages a research methodology to examine the linguistic keys to person and social life.
Narrative Structure, Significant Forms, and Verbal Keys

Scheflen puts communication behavior and meaning in this way. "It is now clear that language and nonlinguistic behavior have a much broader role in human affairs than simply the exchange of meaning and information. The communication system is a means of regulating transactions of all types of behavior and of maintaining social order and social control." Scheflen argues that all behavior is structurally bound together and related to previous and postsituational behaviors. He calls the system of meanings and behaviors an "emic" system. An emic system is a particular style or "a particular way of enacting some customary sequence of behavior. The form of the behavior will be that of some particular emic system or cultural tradition, but the manner or demeanor will be altered in a way that is characteristic for that particular institution or individual." This emic system is comprehensive from the most specific language arrangement to the larger forms of communicative behavior. The form in one level may carry over to equivalent forms at other levels. It is possible to trace these forms from the larger to the smaller forms. In this context, one may examine language forms and trace these to more complex behaviors in human life and society.

The identification of significant forms in language, for example, the predilection to speak in a verbal mode such as process, activity, event, or state, may be traced to more comprehensive behaviors. This would encourage an investigation into the kinds of language that persons use in situations as a characteristic of larger forms which effect other behaviors. This investigation would encourage the comparison of
language forms with other patterns of behavior.

Such investigation would look specifically at the predicative elements in the language. The foregoing chapters have demonstrated the significance of the role of the verb to shape language structure. Since the linguistic structure is built up from the verbal system, it may be that the semantics of the verb has an influence on other meaningful structures. Significance on a linguistic level may bring a significance on a higher level of human thought and action. The argument here is that the investigation of predication in the language of persons is a key to larger behaviors. This is a contrast to the Whorfian hypothesis that language determines behavior. The meaning of forms in language reflects the meaning in larger conscious and unconscious behaviors. The theoretical implications for this kind of approach to the meaning in language structures is that the key to other "in the mind" behaviors would become more accessible. The specifics of a language methodology would correlate the presence of verbal descriptors to particular behaviors in typical circumstances of such behavior. The application of this kind of language sampling could be brought into every area of human verbal interaction. Any language utilizing entity from persons to persons in organizations could be examined. As meaning is associated with language use, so language use is associated with other behaviors at every level of human society. This is the key to understanding the verbal basis for those behaviors.

The conclusions of this study of the English verb and the way it acts to shape meaning in messages are that the verbal frame of reference is basic not only to language behavior, but also to other
behaviors. The task ahead is to pair language behaviors with other behaviors and to delve into the fabric of the weave of language, thought, and action.


5. Ibid.


8. Ibid., 42-47.


14. Ibid., 125.

16 Ibid., 179.
APPENDIX A
I live everyday with the fearful thought of another seizure
I find all sorts of metal with this little machine
The American, European, and African teenagers mature at different rates
As a soldier of fortune, I know pain and agony
I hit the baseball through the church's stained glass window.
I write this note to you sad, distraught, and confused
The highway department widens the roads in the summer months
Plants grow in this fertile soil to such great heights
We play cards on weekends with the neighbors and friends
We fall down these steps at least once a week
The memories of this past summer stand in my mind
I jump from airplanes for the sheer heck of it
The paintless buildings of the ghetto deteriorate day by day
The wide plains contain the marks of the settler's path
I work every night in the factory until eleven o'clock
I only eat chili with plenty of ice water around
APPENDIX B
<table>
<thead>
<tr>
<th>Conditions Up and Down Ranking</th>
<th>Verb Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Up seizure Down seizure</td>
<td>fearful live thought everyday another I with of the S</td>
</tr>
<tr>
<td>Down seizure</td>
<td>live thought I with fearful of another everyday the</td>
</tr>
<tr>
<td>2. Up metal Down metal</td>
<td>find machine with sorts I all little thin of F</td>
</tr>
<tr>
<td>Down metal</td>
<td>machine find with I sorts thin of all little</td>
</tr>
<tr>
<td>3. Up mature Down mature</td>
<td>teenagers different rates American European African at and the P</td>
</tr>
<tr>
<td>Down mature</td>
<td>teenagers different rates African European American at and the</td>
</tr>
<tr>
<td>4. Up pain Down pain</td>
<td>soldier know agony fortune I an of a and S</td>
</tr>
<tr>
<td>Down agony</td>
<td>soldier pain know I fortune and of an a</td>
</tr>
<tr>
<td>5. Up baseball Down baseball</td>
<td>window hit church's through I stained glass the the E</td>
</tr>
<tr>
<td>Down baseball</td>
<td>window hit through church's I glass stained the the</td>
</tr>
<tr>
<td>6. Up write Down write</td>
<td>and I note distraught confused you this to and A</td>
</tr>
<tr>
<td>Down write</td>
<td>and distraught confused I you to note this and</td>
</tr>
<tr>
<td>Step</td>
<td>Action</td>
</tr>
<tr>
<td>------</td>
<td>--------</td>
</tr>
<tr>
<td>7.</td>
<td>Up</td>
</tr>
<tr>
<td></td>
<td>Down</td>
</tr>
<tr>
<td>8.</td>
<td>Up</td>
</tr>
<tr>
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<td>Down</td>
</tr>
<tr>
<td>9.</td>
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</tr>
<tr>
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<td>Down</td>
</tr>
<tr>
<td>10.</td>
<td>Up</td>
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<td>Down</td>
</tr>
<tr>
<td>11.</td>
<td>Up</td>
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<td>Down</td>
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<tr>
<td>12.</td>
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<td>Down</td>
</tr>
<tr>
<td>13.</td>
<td>Up</td>
</tr>
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<td>Down</td>
</tr>
<tr>
<td>14.</td>
<td>Up</td>
</tr>
<tr>
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</tbody>
</table>

Table 1 (continued)
<table>
<thead>
<tr>
<th>Table 1 (continued)</th>
</tr>
</thead>
</table>
| **15. Up**
| Work | Factory | Night | Eleven | Every | Until | In | O'clock |
| **Down**
| Work | Factory | Eleven | Night | I | Until | In | O'clock |
| **16. Up**
| Chill | Eat | Water | With | Plenty | Only | Ice | I | Around | The |
| **Down**
| Chill | Eat | Water | With | Ice | I | Plenty | Only | Around | The |
Table 2
Summary of Averages for Dual Verbal Conditions

<table>
<thead>
<tr>
<th>Condition</th>
<th>I live</th>
<th>everyday</th>
<th>with</th>
<th>the</th>
<th>fearful</th>
<th>thought</th>
<th>of another</th>
<th>seizure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Difference</td>
<td>0.693</td>
<td>1.030</td>
<td>2.681</td>
<td>1.927</td>
<td>1.142</td>
<td>2.068</td>
<td>.289</td>
<td>1.930</td>
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</table>

<table>
<thead>
<tr>
<th>Condition</th>
<th>I find all sorts oftotals with this little machine</th>
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</thead>
<tbody>
<tr>
<td>Difference</td>
<td>0.600</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Condition</th>
<th>The American European and African teenagers nature at different rates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up</td>
<td>9.916</td>
</tr>
<tr>
<td>Difference</td>
<td>1.238</td>
</tr>
<tr>
<td></td>
<td>An a soldier of fortune I know pain and agony</td>
</tr>
<tr>
<td>---</td>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td>4.</td>
<td></td>
</tr>
<tr>
<td>Up</td>
<td>7.000</td>
</tr>
<tr>
<td></td>
<td>7.051</td>
</tr>
<tr>
<td>Down</td>
<td>7.729</td>
</tr>
<tr>
<td></td>
<td>8.000</td>
</tr>
<tr>
<td>Difference</td>
<td>.729</td>
</tr>
<tr>
<td></td>
<td>1.058</td>
</tr>
<tr>
<td>Average Ranking</td>
<td>7.365</td>
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<tr>
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<td>8.359</td>
</tr>
<tr>
<td>5.</td>
<td>I hit the baseball through the church's stained glass window</td>
</tr>
<tr>
<td>Up</td>
<td>5.788</td>
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<tr>
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<td>3.712</td>
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<td>5.695</td>
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<td>3.466</td>
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<td>4.000</td>
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<td></td>
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<td>Down</td>
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<td>The highway department when the roads in the summer months</td>
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<td>3.534</td>
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Table 2 (continued)
<table>
<thead>
<tr>
<th></th>
<th>Plants grow up</th>
<th>in thin fertile soil</th>
<th>to much great heights</th>
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<tr>
<td>0</td>
<td>1.602 3.019</td>
<td>6.027 8.193</td>
<td>4.000 3.085</td>
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<tr>
<td></td>
<td>1.915 3.051</td>
<td>5.562 8.685</td>
<td>6.258 3.373</td>
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<td>.223 .032</td>
<td>1.895 .918</td>
<td>2.227 .512</td>
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<tr>
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<td>1.804 3.035</td>
<td>6.105 8.401</td>
<td>5.127 3.629</td>
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</table>

|     | We play cards on weekends with the neighbors and friends up | 5.173 3.290 | 1.016 7.401 | 3.684 6.019 | 9.519 8.662 | 9.271 4.288 |
|     | Down | 5.508 2.081 | 2.508 0.260 | 5.203 5.508 | 9.220 4.780 | 7.966 3.924 |
|     | Difference | .335 .366 | .662 .739 | 1.929 .511 | .299 .319 | 1.304 .846 |

|     | We fall down the steps at least once a week up | 4.016 1.681 | 5.077 7.692 | 2.269 0.750 | 7.398 4.250 | 8.933 4.385 |
|     | Difference | .222 .314 | .924 .800 | .663 .182 | .316 .337 | 1.720 .216 |

|     | Down | 1.729 1.678 | 6.424 0.475 | 6.119 2.670 | 5.251 5.992 | 7.000 3.390 |
|     | Difference | .675 .332 | 1.422 .955 | 1.080 .082 | .057 1.162 | .115 .102 |
Table 2 (continued)

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<th>for the</th>
<th>show</th>
<th>back of it</th>
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<td>5.864</td>
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<td>1.695</td>
<td>7.525</td>
<td>4.085</td>
</tr>
</tbody>
</table>
Table 2 (continued)

| 16. I only eat chili with plenty of ice water around |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Up | Down | Difference | Average Ranking |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 6.404 | 6.115 | 0.289 | 6.177 | 7.024 | 0.847 | 5.204 | 6.317 | 0.873 | 5.971 | 2.906 | 8.055 |

*10 least essential meaning word

1 most essential meaning word
<table>
<thead>
<tr>
<th>Verb</th>
<th>Absolute Difference</th>
<th>Verb Type</th>
<th>Average Both Conditions</th>
<th>Lowest Ranking Condition</th>
<th>Order of Highest Ranking</th>
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<td>1.723</td>
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### Table 4

**Verb Type and Experimental Condition**

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<td>Up</td>
<td>Down</td>
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<tr>
<td>4.115</td>
<td>live</td>
<td>3.005</td>
<td>2.212</td>
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<td>3.692</td>
<td>know</td>
<td>3.921</td>
<td>3.712</td>
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<td>5.231</td>
<td>stand</td>
<td>5.280</td>
<td>1.401</td>
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<td>2.904</td>
<td>contain</td>
<td>4.102</td>
<td>1.577</td>
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### Table 5

**Verb Type Rankings**

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<td>know</td>
<td>14</td>
<td>hit</td>
<td>12</td>
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<td>stand</td>
<td>16</td>
<td>fall</td>
<td>2</td>
</tr>
<tr>
<td>contain</td>
<td>15</td>
<td>jump</td>
<td>1</td>
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Table 6
Average Rankings for the Subject/Verb of the Menzeym

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<th>Subject</th>
<th>Verb</th>
<th>X</th>
<th>Verb Type</th>
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</thead>
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<tr>
<td>1. I</td>
<td>live</td>
<td>3.600</td>
<td>state</td>
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<tr>
<td>2. I</td>
<td>find</td>
<td>2.536</td>
<td>event</td>
</tr>
<tr>
<td>3. unicorn</td>
<td>study</td>
<td>1.892</td>
<td>process</td>
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<tr>
<td>4. I</td>
<td>know</td>
<td>3.643</td>
<td>state</td>
</tr>
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<td>5. I</td>
<td>hit</td>
<td>3.466</td>
<td>event</td>
</tr>
<tr>
<td>6. I</td>
<td>write</td>
<td>2.655</td>
<td>activity</td>
</tr>
<tr>
<td>7. department</td>
<td>widen</td>
<td>1.971</td>
<td>process</td>
</tr>
<tr>
<td>8. plants</td>
<td>grow</td>
<td>3.035</td>
<td>process</td>
</tr>
<tr>
<td>9. we</td>
<td>play</td>
<td>3.057</td>
<td>activity</td>
</tr>
<tr>
<td>10. we</td>
<td>fall</td>
<td>1.588</td>
<td>event</td>
</tr>
<tr>
<td>11. memories</td>
<td>stand</td>
<td>5.260</td>
<td>state</td>
</tr>
<tr>
<td>12. I</td>
<td>jump</td>
<td>1.743</td>
<td>event</td>
</tr>
<tr>
<td>13. buildings</td>
<td>deteriorate</td>
<td>2.203</td>
<td>process</td>
</tr>
<tr>
<td>14. plains</td>
<td>contain</td>
<td>4.003</td>
<td>state</td>
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<tr>
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<td>1.720</td>
<td>activity</td>
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<td>16. I</td>
<td>eat</td>
<td>2.280</td>
<td>activity</td>
</tr>
<tr>
<td>Message and Conditions</td>
<td>Score</td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------------------</td>
<td>-------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. I live everyday with the fearful thought of another closure</td>
<td>422</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. I find all sorts of metal with thin little machine</td>
<td>415</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. The American European and African teenagers mature at different rates</td>
<td>433</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. As a soldier of fortune I know pain and agony</td>
<td>416</td>
<td></td>
<td></td>
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</tbody>
</table>
Table 7 (continued)

<table>
<thead>
<tr>
<th></th>
<th>hit the baseball through the church's stained glass window</th>
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<tbody>
<tr>
<td>Up</td>
<td>301 193 400 99 206 481 204 372 373 151</td>
</tr>
<tr>
<td>Down</td>
<td>336 190 509 140 262 473 290 465 422 164</td>
</tr>
</tbody>
</table>

6. I write this note to you and distraught and confused.

| Up | 208 148 399 226 403 298 176 273 509 250 |
| Down | 320 169 496 457 122 201 215 503 225 |

7. The highway department widens the roads in the summer months.

| Up | 488 119 114 109 455 122 342 474 206 336 |
| Down | 493 201 237 109 538 109 366 489 224 430 |

8. Plants grow in this fertile soil to such great heights.

| Up | 181 157 355 426 200 202 439 461 296 231 |
| Down | 113 180 327 508 369 199 400 529 390 235 |

9. We play cards on weekends with the neighbors and friends.

| Up | 269 169 96 389 190 313 495 232 482 223 |
| Down | 325 169 188 485 307 325 574 212 470 202 |
Table 7 (continued)

<table>
<thead>
<tr>
<th></th>
<th>Fall</th>
<th>Down</th>
<th>These</th>
<th>Sleeps</th>
<th>at least</th>
<th>once</th>
<th>a week</th>
</tr>
</thead>
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<tr>
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<td>400 118 455</td>
<td>390 221</td>
<td>404 228</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>11. The</td>
<td>299 100 245</td>
<td>501 173 527</td>
<td>451 279</td>
<td>425 246</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. I</td>
<td>409 70 408</td>
<td>220 131 272</td>
<td>316 359</td>
<td>171 413</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>13. The</td>
<td>515 71 579</td>
<td>500 361 151</td>
<td>312 328</td>
<td>413 240</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. The</td>
<td>227 82 263</td>
<td>104 328 494</td>
<td>307 223</td>
<td>415 417</td>
<td></td>
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<td>15. The</td>
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<td>221 318 590</td>
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<td>427 378</td>
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<td>16. The</td>
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<td>347 246 126</td>
<td>178 303</td>
<td>352 321</td>
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<td>295 460 141</td>
<td>126 413</td>
<td>397 363</td>
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<td>18. The</td>
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<td>203 459 159</td>
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<td>144 207</td>
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<td>242 516 195</td>
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<td>179 258</td>
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Table 7 (continued)

<table>
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<th>until</th>
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<th>o'clock</th>
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<td>500</td>
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<td>216</td>
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<td>221</td>
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<td>with</td>
<td>plenty</td>
<td>of</td>
<td>ice</td>
<td>water</td>
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<td>111</td>
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149
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<td>pain</td>
<td>agony</td>
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<td>chill</td>
<td>water</td>
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Holyoak, K. J. The role of imagery in the evaluation of sentences: Imagery or semantic features?. Journal of Verbal Learning and Verbal Behavior, 1974, 13, 163-166.


Leach, E. *Culture and communication*. Cambridge: Cambridge University, 1976.


Miller, G. The magic number seven, plus or minus two: Some limitations of our capacity for processing information. Psychological Review, 1956, 63, 81-97.


Turbayne, C. M. *Myth of metaphor* (2nd ed.). Columbia, South Carolina: University of South Carolina, 1970.


