PRENOMINAL ADJECTIVE STRINGS

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ABSTRACT

Adjectives in English are believed to have a specific word order when con-joined attributively. Despite transformational grammar theories, there are reasons why syntactic analyses don't always work. Here is cause for psycholinguistic anal-ysis. Researchers have determined that prenominal adjective phrases have word orders that are based more on semantics, rather than syntax. The areas of discus-sion include the general adjective word orders as fixed, restricted, and free. Topics include experiments that have been used to help determine how we perceive and order multiple adjectives when speaking. Other discussions include adjective rank-ing, intuition, perception, order of events, primacy and recency, and proximity.

INTRODUCTION

Imagine 1) a car, 2) moving swiftly, 3) of a particular color, and 4) style (model or age). How could you describe it? If you were constrained to modifiers placed before the noun, in what order would they be placed? Typically, you may have:

a) a ... fast, red, late-model car

b) a ... fast, late-model, red car

c) a ... late-model, red, fast car. More adjectives added will undoubtedly create more variables. Perhaps one of the above sounds right, but why disqualify the others?

Now, say that instead of imagining it, you actually saw it. Would it be a matter of what's actually important, or more impressionable? Or, what was noticed first...the color, the speed, the object? If you saw "a big red barn," was the color noticed first, or the mass?

Many believe it depends on the sequence of events that the observer had witnessed, whether it was first or last. This phenomenon is sometimes called primacy or recency effects. First impressions are believed to be stronger than later ones. If those perceptions are altered, how would they affect the sequence of adjectives?

Adjective ordering has been explained through transformational rules, embedding rules, relative clause reduction rules, obligatory transposition rules, left branching rules, multi branching rules, and so on.[i] None appear to be more or less satisfactory than the other in explaining adjective word order in natural speech.

Transformational theories often explain what had already been spoken; these sentences are rearranged, or transformed, for analysis. These transformations are simply an after the fact analysis.

    The purpose of this paper is to look at theories and experiments that have searched for reasons why we intuitively sequence adjectives into speech specific patterns.

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i. Martin, for one, cites these examples (1968:14, 17, 21, 31-7, 42).

CHAPTER ONE

ADJECTIVE WORD ORDER DOES NOT HAPPEN HAPHAZARDLY

Although adjectives are word classes in themselves, they have subcategories that can be classified,[1] placed in comparative classes,[2] placed in hierarchal positions,[3] given status and rank,[4] and given semantic, syntactic, and morphological criteria.[5] For the most part, adjectives are simply referred to as modifiers. Though it's seldom that we encounter three or more modifiers for a noun at a time, the question of how they're distributed hasn't been adequately answered by transformations. At best, most of the literature on this subject is the way the phrases are *generally* presented. Meaning, often the sentences used are examples using particular situations and contexts.

The adjectives discussed in this paper will be prenominals asyndetically conjoined.[6] The main reasons for looking at this type of adjective order are: 1) this is the way people often speak. We usually omit conjunctions when using adjectives, often for economy of words or for dramatic results, and 2) adjective strings tend to occur more often attributively than predictively.

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1. "Zeno Vendler in 1968 proposed a classification of adjectives based on their transformational derivation in the sense of Harris" (online, "Ask A Linguist").

2. "Double prenominal adjectives afford a clear demonstration of the difficulty of determining the comparison class of measure adjectives systematically" (Siegel 1980:129-30).

3. Charles E. Osgood speaks of sequential psycholinguistics and the linguist who "discovers hierarchies of more and more inclusive units" (1965:93). Adjectives are often used in studies of hierarchal inclusive units and stimulus patterning, for example, as "blue" vs. "I'm all black and blue" (97).

4. Paul Ziff (1961:42, 205).

5. "Adjectives can be classified into seven types on semantic, syntactic, and morphological criteria" Dixon (1982:15-6).

6. Can also be referred to as attributively preferred adjective order, or adjective strings.

Transformations will not be addressed in depth here for two reasons: 1) people have spoken for years without knowing transformational rules, and 2) the rules are post hoc.[7] These rules attempt to reorder phrases. Transformational rules often derive strings that takes one transformational rule, and produces a subsequent underlying string to use with another transformational rule, and so on. They are designed to show what has already been decided and spoken by the speaker. What is being sought here are the reasons why we naturally order adjectives the way we do.

Therefore, I will argue here that the study of prenominal adjective phrases requires more than the application of transformations. Psycholinguistics and semantics must be considered if we're to understand what motivates us to order prenominal adjectives the way that we do.

Chomsky and generative grammar.

A quick overview of Chomsky's generative grammars reveal that he developed a set of criteria to study transformational grammar. In "Aspects of the Theory of Syntax," Chomsky proposed five tree structures that could be used, depending on the types of sentences studied (1965:12). He described specific weaknesses in generative grammar[8] constructions.

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7. This conclusion is by Sandra Annear, and James Martin concurs (1968:17-20). Martin writes, "She argued for the generally accepted three stage derivation of the prenominal adjective, involving the application of three transformations. The first is the embedding transformation; the second is the relative clause reduction rule; and the third is an obligatory transposition rule." In conclusion, she suggested that there could be some "non-syntactic criterion" in finding the answer.

8. See discussion, Section 2: "Toward a Theory of Performance" (1965:10-15).

Chomsky noted that nested and self-embedded constructions contribute to unacceptability, as his concern is with the "organization of memory" and its finite state (or, the limitations of memory for dealing with such constructions). His 4th and 5th constructions, left and right branching constructions, also have problems of acceptability.[9] Of the five constructions, Chomsky suggests that multiple branching constructions are "optimal in acceptability" (1965:13). However, there's an inherent problem with multiple branching.

Multiple branching constructions seem the most plausible for analyses. Yet, Chomsky claims that, "In fact, there is no grammatical motivation for any internal structure," with a coordinated structure such as [[[[*tall young*] *handsome*] *intelligent*] *man*] vs. [*tall* [*young* [*handsome* [*intelligent man*]]]] (1965:196). How would this be handled in a coordinating (multiple branching) scheme?[10] Chomsky states that, this is the *weakest* assumption. "The burden of proof rests on the one who claims additional structure beyond this...that there are perceptual grounds for analysis, or something of this sort" (197).[11]

That being the case, then why consider syntactic arguments at all when "psychological mechanisms"[12] are used to process those sentences? Martin points out that "perceptual grounds" are needed. This implies that psycholinguistic arguments

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9. Left branching (4iv) "suggests decay of memory" (Chomsky 1965:14); right branching (4v) could become "unnatural" (13, 14).

10. Chomsky (1965:196-197).

11. Is this to mean that there's a weakness (in the assumption) of the optimal acceptance of a multibranched construction?

12. Martin refers to Chomsky's "perceptual grounds for analysis" quote (1968:37).

should take precedence over syntactic ones. After all, isn't perception and intuition used for analysis, especially when interpreting deep structures or metaphors? It goes to follow that transformations are of limited use. They can be used to decrease nesting, and "to reduce the perceptual load,"[13] yet don't seem to account for psycholinguistic motives behind natural speech. It follows that if intuition is used when we use adjective strings, intuition should be of value in explaining why we arrange adjectives naturally in their preferred word order. Syntactic analysis will not explain why prenominal adjectives are ordered the way that they are. In fact, Martin doesn't believe that it's an issue that can be made on the basis of syntax alone. Free word order or fixed?

Although word classes and whole constituent phrases can be moved within the sentence, there are instances where adjectives have less mobility, and, in fact, are fixed.[14] First we'll look at what will not be discussed, as context and semantics restrict specific adjective movement.

Collocations and compounds.

Phrases such as lead foot, flat foot, green thumb, labor conditions, ice water, fold down table, and other phrases have become common and are fixed in our language.[15] These words are commonly associated, and many have become cliches or idioms.

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13. Chomsky acknowledges Ynvge's view that there are uses for transformational rules (1965:198).

14. See constituent movement in "Language Files" (1994:172-173).

15. These collocations have been appropriately called "ready made thoughts" by Alan Kaye (graduate seminar, CSUF).

Stress.

Stress on words constrain meanings, but are usually fixed conventions for particular phrases. For example, tertiary and secondary stress for the phrase "light house keeper" is pronounced differently depending on the meaning. Whether it is a tower displaying a warning or guiding light, one who does little housekeeping, or a house keeper who doesn't weigh very much, the meaning is relayed simply by the stress patterns on the phrase itself. Other examples are Long Island vs. long island, new Yorker vs. New Yorker, make up vs. makeup (reconcile vs. cosmetics), and black bird vs. blackbird, only to name a few (Markel 1969:93).

Word stress does occur naturally. And because of this, phonetician Peter Ladefoged doesn't make an issue of stress patterns.

> The stresses that can occur on words sometimes become modified when the words are parts of sentences...it is as if there were a conspiracy in English to maintain a regular rhythm. However, this conspiracy is not strong enough to completely override the irregularities caused by variations in the number and type of unstressed syllable. ...Stresses tend to occur at regular intervals. But the sound pattern of English does not make this an overriding necessity, adjusting the lengths of syllable so as to enforce complete regularity. (1993:119)

In other words, Ladefoged basically states that we should not to read too much into stress and intonation patterns.

Yet, if stress and intonation patterns aren't considered useful for analyses of grammar, what are they used for? Lenneberg explains that intonation patterns contain rhythm which acts as a timing device, and can be considered an "organizing principle" for articulation (1967:118). This topic will not be pursued further, as this writer is in agreement with Ladefoged and Lenneberg: stress doesn't constrain adjective word order.

How others have viewed adjectives.

Adjectives consist of a word class that has taxonomies. In other words, their meanings can be subdivided into related categories. Just as "mutually suitable" word classes can be substituted within a sentence, suitable meanings of each related category of an adjective can also be substituted provided they are mutually suitable in semantic meaning (Brown & Miller 1994:24). And by using Dixon's examples (below), one can see how those semantic types (or his taxonomies) can be substituted within a sentence.

Of these taxonomies, Dixon proposed his "seven semantic types which make up the word class Adjective" (1982:16).[16] These classifications are:

1. Dimension: big, large, little, etc.

2. Physical property: hard, soft, heavy light, etc.

3. Color: red, black, white, etc.

4. Human propensity: jealous, happy, kind, etc.

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16. Depending on the author, there have been more or less taxonomies listed. Dixon has been referenced by many, and his descriptions are appropriate for this discussion as they are semantically grouped.

5. Age: new, young, old.

6. Value: good, bad, proper, perfect, etc.

7. Speed: fast, quick, slow, etc.

Preferred adjective order and proximity.

Grammarians have commented on where adjectives should be placed in relation to the noun.

In 1765, William Ward (119) presented a grammar, and questioned placing substantives and adjectives too far apart (Appendix A). Too much distance between them, he said, wasn't necessary and may "occasion obscurity." Even though Ward realized that the (case) endings of substantives and adjectives would allow a "greater diversity of order," the closer placement of those words seemed to be a pre-condition for easier comprehension.

In Henry Sweet's "English Grammar" (under the heading "More than one adjective"), he wrote, "When a noun has more than one modifier, the general principle is that the one most closely connected with it in meaning comes next to it" (1898:8). To illustrate this, he chose to show that the closest adjective instinctively becomes "logically a modifier" of the noun. Two of his examples are "the three *wise men*," meaning, "the three *sages*"; and, "a tall *black man*," meaning, "a tall *negro*." Selection restrictions.

Selection restriction merely restricts the selection of words that can be conjoined. It relies on "an intuition of what the 'normal' or 'literal' use of the language

allows" (Brown & Miller 1994:74). Below are some selective restrictions for adjectives, which means that free word order is not permitted.

Intensifiers.

Brown & Miller note that an adjective within an adjective phrase is often an optional modifier taken from a class called intensifiers (1994:83).

	Adj. phrase:	(*Intensifier*	*Adj*)	
that		*very*	*old*	man
that		*rather*	*strong*	cider
an		*extraordinarily*	*long*	story

Modifier affinity and petrified compounds.

By the same rules, Norman & Rumelhart show that there is a modifier affinity at work here. The modifiers they chose didn't necessarily have to be intensifiers, but merely have to possess an immediate relationship to a noun (1975:360).

The example shows that "blue cheese dressing" is parsed as:

(a) blue + cheese

(b) (blue cheese) + dressing,

as *blue* modifies *cheese*, and not the dressing. The authors state that, "The tendency of a modifier to refer to an object is referred to an its *affinity* to the object. Affinity is a measure of the node-space distance between the modifier and its possible objects" (Norman & Rumelhart 1975:361). There's such a close correlation between the two, that the phrase can't be broken up.

Norman & Rumelhart also refer to a "named subset," which can't be transposed or interrupted either; "A named subset is a subset of a class that has special properties not derived from the name." Their example is "green grape," which is small and seedless. Nevertheless, it's a subset of a grape that is green. They also include idioms such as "white elephant," as it's neither an elephant or white. This phenomenon has also been described as a "petrified compound" by Vendler (1968:131). His examples are *Basque hat, Polish notation,* and *Turkish coffee.* "Due to the uniqueness of the link, the compound cannot be broken up and any other adjective, regardless of its rank, comes before."

Rote.

Rote is just one more example of consistency of phrases. "The simplest way of controlling the order of a string of words is to memorize the string as a single rote unit (online, *Basic Syntactic Processes*).

Proximity has it's reasons.

Regardless of whether the proximity of the words shown above were in an obligatory or optional position, their proximity tend to dominate the idea of the sentence. Other word classes use proximity too. To illustrate this, Lindner used verbs and particles to illustrate this principle. Here, words that are optionally placed next to a verb evokes a stronger overall impression of the predicate. In other words, other word classes use proximity for much of the same reason adjectives do.

Verbs and their phrases can be moved or shifted. One aspect of this movement is sometimes called a verb particle shift, as in "he backed *up* the car," rather

than "he backed the car *up*"; "he threw *in* the towel," rather than "he threw the towel *in*." Lindner claims that using such words (or particles) can be used towards the end of the phrasal verb (closest to the verb) for effect, as in [verb + *particle]*, e.g., "come *in*," "get *up*," and "rose *at*."

Also, verb particles are placed closer to the noun to be associated with them and for greater impact. In either case, the purpose is that it produces a "complet-edness" of meaning and adds emphasis (Lindner 1983:41). It helps to achieve a semantic focus. A few examples by Lindner is that the word "up" is often singled out as having unique properties, as it denotes "perfectivity, completiveness, and accomplishment...or of a goal," e.g., "Wake up!" or "Get up!" In other cases, prox-imity of particles in phrasal verb constructions shift emphasis: 1) He puffed *out* his check, 2) Fluff *out* your hair a bit, 3) My hair frizzed *out* this morning (1983:95). In all three clauses, *out* is optional and is placed after the verb for emphasis. Summary.

This section has attempted to show that transformational methods may work when applied for specific phrases, yet will not always work successfully when applied to prenominal adjective phrases. There are times when intuition and per-ception seem to be of more use than transformational grammars. Examples were shown that some phrases are fixed in their patterns, while some were optionally bound by their proximity to their noun. Optional proximity helps to achieve semantic focus, as seen with Lindner's verb particles. Ward believes that proximity lessens confusion, that it helps in comprehension. Annear, Chomsky, and Martin have

demonstrated that one thing is certain, that transformational analysis hasn't yielded

an explanation of why we order adjectives the way we do.

CHAPTER TWO

A QUESTION OF CONTEXT AND RESTRICTIONS

In the previous chapter, the restrictions discussed contributed to fixed order adjective phrases. This section discusses the adjectives that are allowed a *freer* word order, and the reasons why we might be inclined to place adjectives into a preferred word order. Context and semantics help to determine the placement of adjectives.

It isn't difficult to find literature on intuition, as it being used to describe what an informant or native speakers use when deciding on what is correct or improper grammar. As noted before, despite the logic and system of transformational rules claimed to be used in analysis, it's the linguist's intuition that's the deciding factor. Needless to say, it is how we *feel* about the words being used and what they convey to others that's important. Fortunately, we pretty much agree on what words *generally* mean.

Adjective rank, privilege of occurrence, and specialization.

As stated before, it was William Ward who offered one of the earliest justifications for the placement of substantives in relation to adjectives,[17] "...too much distance...may occasion obscurity" (1765:119). Prior to that, it was less important to have a specific word order due to the English case system. On inflection reduction, Robertson & Cassidy wrote, "whereas Old English adjectives had 13 different

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17. That this author has found.

inflectional forms, Modern English adjectives have only 2" (1954:281). As English evolved, people intuitively developed word order conventions.

Martin[18] states that Henry Sweet was one of the first to address the effect of meaning with specialization, that there is a "gradation of increasing specialization" of an adjective phrase (Sweet 1898:8). By his implication, a gradation implies a difference, or that an hierarchy of word meanings exist.

Paul Ziff's idea on adjective specialization had to do with assigning them *relative ranks* (1961:204). By ranking adjectives, we assign them a *privilege of occurrence*. This privilege is assigned due to the relative number of nouns they can modify. Adjectives having higher rank are more flexible, can be used in more environments, yet are considered less specialized. Lower ranking adjectives are considered more specialized, and are limited to their use with nouns.

Martin explains:

> By this Ziff means that the high-ranking adjectives such as good
> can appropriately modify more nouns that can the lower ranking
> adjective red. For example, good may modify the noun music,
> whereas red cannot. On the other hand, every noun which may be
> modified by red can be modified, in some context, by good.
> (1968:15)

By using Ziff's example, Martin states that a privilege of occurrence should be considered as a means to determine preferred adjective order, "especially with

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18. Martin (1968:8).

attributive adjectives." Ziff's example is [a_1 + a_2 + *noun*] and *not* [a_2 + a_1 + *noun*] (1961:205). For example, "little white house" is preferred over "white little house." The word "little" has the greater privilege of occurrence as "a little sonnet" is preferred over "white sonnet"; and, "a little trip" over "a white trip." Yet, problems exist with giving words special privilege.

The problem here is that privilege of occurrence doesn't always work out so easily. Ziff claims that by using the phrase "intelligent old man," *old* commonly has a higher privilege of occurrence since it can be used in more contexts than *intelligent* can as a modifier. So, using *old*, *young*, and *good*:

More probable	Less probable, yet has special emphasis
an intelligent *old* man	an *old* intelligent man
a pious *young* girl	a *young* pious girl
the handsome *young* man	a *young* handsome man
the damn *good* pit	the *good* damn pit[19]

Although Ziff's idea is persuasive, he couldn't account for the exceptions noted above. He wrote that, "some other principle other than simple privilege of occurrence must be at work here. ...I can provide no satisfactory syntactic characterization" (1961:205-6).

A case against definiteness.

Danks and Glucksberg refute Ziff's idea that there exists a viable reason to rank adjectives by their privilege of occurrence. They do, however, agree with

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19. Note: "...and here 'good' sounds like 'god' for the same reason" (Ziff 1961:205).

Martin (1969), Annear (1964), and Vendler (1963), that attempts are in vain if one tries to explain adjective ordering with syntactic rules alone. They believe that it's necessary to consider a semantic solution.

Danks and Glucksberg's proposal was to look at the *intrinsicalness* of the property donated by the adjective in relation to the noun. This is unlike Ziff's rule, which constrained the more definite adjective closer to the noun. Danks & Glucksberg state that the more intrinsic a property the adjective has to the noun, the closer it will be placed in relation to it, such as the *big red Swiss tables* (1971:63), or *red Thai candles*. *Swiss* and *Thai* have a more intrinsic property of the objects they modify than their color, and *big* is not intrinsic at all. They claim that when speakers wish to distinguish a particular object, they often use adjectives. For example, *red* is used to distinguish among many tables if the color is used in the phrase *red table*. This infers that the speaker would most likely exclude tables that are *not* red when they specifically designate *red tables*.

> This line of reasoning leads to the general principle that the most discriminative adjective tends to be placed first in a string of two or three adjectives. Which adjective is most discriminative would be determined by the pragmatic demands of the communication situation. Thus, if a speaker intends to refer to one of two tables, one of them Swiss, one German, and both red, he would say *Swiss red table*, and not *red Swiss table*. (Danks and Glucksberg 1971:66)

Using the intrinsicalness of ordering two adjectives, one would look at the pragmatics of what is to be expressed. For example, if there were two young small boys, and depending on what a person wanted to characterize, the size or the age, that adjective would go in the first intrinsicalness position. The ordering would satisfy the intrinsicalness and pragmatic rules. The intrinsicalness of three adjectives presents its own problems, however. What happens when a person wants to specify one object or a set of objects out of a larger group of objects? "Absoluteness, which by its common definition seems intuitively related to intrinsicalness, is operationally related to our notion of a pragmatic communication rule" (Danks & Glucksberg 1971:66).[20]

Zeno Vendler also sought the *natural order* of adjectives in unbroken prenominal strings, which was "the problem that motivated this whole study" (1968:126). The difference between Vendler's and Ziff's work is that Ziff assigned a privilege of occurrence with the rank of adjectives; Vendler believed that intuitively, the various kinds of adjectives determine the ordering of transformations. In other words, "Thus, by postulating an ordering of transformations, it may be possible to explain the ordering of adjectives in terms of the ordering of transformations which derive them" (Martin 1968:21).

Vendler first sees that there are different transformations needed to analyze prenominal strings versus uncoordinated strings that are treated differently: *long and Polish word* vs. *long, Polish word* (1968:127). Once uncoordinated phrases

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20. Referring to Martin's scaling of adjectives, and is more interpretable.

are established, transformations are "applied in a definite order," and that "the order stipulated by the classification of adjectives given..." (Vendler 1968:127). For example, Vendler claims that a given noun N and two adjectives A_z and A_y, is such that $_z$ is higher in rank than $_y$. As it turns out, he states that $A_z A_y N$ will typically be the outcome. His "classification of adjectives given" is still basically the same as ranking, yet is more specialized for two reasons: 1) through transformation, the more *substantial* adjective occurs next to the noun (although not of a higher rank according to Ziff's definition), and 2) regardless of importance, it is nonetheless placed in an hierarchy or rank relative to other adjectives.

The problem with adjective rank and multiple meanings.

Jean Aitchison addressed retrieval and the problem of ranking. How do we categorize or rank words like adjectives since there aren't any clear cut boundaries of meaning from word to word? And, if that's the case, would a preferred word be in an assigned first, second, or third position in a phrase if we are to subscribe to the theory of ranking, for example?

English is riddled with polysemous words, or words with "multiple meanings" (Aitchison 2001:60). Also, we all have our own ideas of what words mean; we each process words we know in relation to the meaning we're accustomed to. Several ways of dealing with this is by the *prototype theory*, which helps us to categorize words. "Humans then, appear to find some instances of words more basic than others" Aitchison implies (2001:51).

In Aitchison's book, Eleanor Rosch, a cognitive psychologist at University of California Berkeley, designed an experiment that show how people define semantic sets, or how some people might regard some types of birds "birdier" than others, or some vegetables as more vegetable-like than others. The instructions read:

> "This study has to do with what we have in mind when we use words which refer to categories.... Let's take the word red as an example. Close your eyes and imagine a true red...an orangish red...purple red...some reds are redder than others. Think of dogs.... (53)

With those instructions and a questionnaire, the students were asked to rate a category against the examples given. The categories listed comprised of basic names such as furniture, fruit, vegetable, bird, and so on. Under each category was a list of 50 or so examples that would be rated how good of an example it was for the specific category it was listed under. The category fruits, for example, had: orange, lemon, apple, peach, etc. It was found that "good exemplars"[21] scored higher (Aitchison 2001:53-4).

Among the higher exemplars scored, *robin* was associated with bird over the other alternatives (in descending order): sparrow, canary, blackbird, dove, lark, parrot, pheasant, albatross, toucan, owl, flamingo, duck, peacock, ostrich, emu, penguin, bat (Appendix B). This was attributed to frequency of usage, or that people just happen to have a stronger association to particular words because they

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21. Exemplars or "paragon exemplars" are individual ideal models, used for describing a person or thing as excellent. For instance, "Michael Jordan is a paragon exemplar for basketball," or "That is the Cadillac of vacuum cleaners" (online, *Lecture 10*).

use them more frequently. "It took longer to say 'Yes' to 'A penguin is a bird' than it did to 'A sparrow is a bird'" (Aitchison 2001:54). Other associations that fared better were guns and daggers for weapons; saws, hammers, and screwdrivers for carpenters tools; shoes and stockings for clothing. Frequency of usage seemed to coincide with exemplar rankings in specific geographic areas.[22]

What couldn't be explained was that word frequency alone couldn't account for the answers given. The results for furniture, for example, yielded love-seat, davenport, and cedar chest over refrigerator. Rosch states that since refrigerators are a standard part of American life, "prototypical" examples were chosen instead, and it wasn't entirely clear why. Again, it was assumed that people chose an "ideal exemplar," or "prototype" (Aitchison 2001:55). In turn, people will tend to use prototypes to associate with more commonly available words. It's also more convenient to associate the prototype with "damaged examples," it was found. Damaged examples are those that are part of a group and shares the primary features of the prototype except that it has been altered in some way. (A one-winged robin that can't fly is still considered a bird.)

Another interesting feature that Rosch had noticed was that people had an overall faster response to good exemplars. For example, "it took longer to say 'Yes' to 'A penguin is a bird' than it did to 'A sparrow is a bird" (Aitchison 2001:54). Yet, the good exemplars are ones that weren't expected: furniture yielded love-seat,

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22. The concern for studies of different geographic areas is that certain fruits, for example, are more likely to be associated with and used more frequently in different regions. "In California nectarines and boysenberries are commoner than mangoes and kumquats" (Aitchison 2001:54-55).

davenport, and cedar chest over refrigerator (as noted above). Rosch's question was, if students were simply responding quicker to words that were more commonly used. "Obviously, frequency of usage is likely to have some effect" (54).

As far as word associations are concerned, co-ordinates[23] tend to be the most common way that words of the same detail are clustered together. This allows us to use words within the same detail, yet keep their semantic distinction further apart. Co-ordinations are, "words which cluster together on the same level of detail, such as salt and pepper, butterfly and moth..." (Aitchison 2001:84). Although the results in these experiments included nouns with adjectives, adjectives have been seen to have semantic representations that cluster together as well. Word associations, therefore, may alter the adjective hierarchy.

Adjective order is not a function of syntax.

Martin has argued that preferred adjective ordering "has not shown to be a function of syntax" (1969:472).[24] He explains that first, "speakers generally choose nouns before modifying adjectives on common sense grounds. Second, there are certain adjectives that must be chosen after the choice of the noun on logical grounds." The procedure for choosing an adjective is a context sensitive procedure, and that it's necessary to consider the noun and the denotation of the adjective selected. He argues for the *definiteness of adjective denotation*,[25]

> Adjectives which denote the same property regardless of the

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23. As spelled in Aitchison's book.
24. Also, Martin (1968:29, 47).
25. Martin refers to Sweet, 1898, and Ziff, 1960 (1969:473).

meaning of the modified noun are said to be more definite in
denotation than adjectives which denote different properties in the
context of different nouns. (472)

Adjectives that are preferred closer to the noun "will generally have a higher temporal accessibility than those preferred further from the noun" (473). In other words, his example shows that *a large red barn* can be seen as red not having the need for a barn to express its denotative properties. Red is apparent as an adjective without the noun. It has a definite quality. Large, however, requires a sense of *reference* to the barn to express its denotative properties within the context. One could refer to a large grain of sand or a large planet, but red is red.

Because of this strong association that's been established intuitively, a higher temporal accessibility exists for adjectives closer to the noun, and are "more easily learned as responses...generally capable of stronger associations with the noun" (Martin 1969:473). Martin notes that Shapiro[26] described a "response latency indicative of associated strength" with those adjectives that are preferred close to the noun. Therefore, the adjective preferred closer to the noun will have a higher temporal accessibility; thus, that an adjective chosen closer to the noun is chosen *prior* to the choice of adjective further from the noun (1969:473).

Summary.

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26. Shapiro, S. I. (1966).

Chapter one showed the more constrained situations where adjective order must be adhered to. This chapter provided contexts and explanations of adjectives in freer word orders.

Since the loss of the case system, people developed their own conventions on where to place adjectives. Ward believed that keeping substantives and adjectives closer together would allow the meaning to be more concise. Sweet addressed specialization (ranking) with adjectives, and Ziff assigned them relative ranks and a privilege of occurrence. Ziff, however, couldn't account for the exceptions syntactically.

Danks & Glucksberg defined the idea that adjectives have intrinsicalness. Intrinsic adjectives should be placed closer to the noun; discriminative adjectives should be placed further away from the noun. This seemed tenable until a larger group of objects was introduced into the analysis. Vendler tried to find the natural order of adjectives and place the more substantial adjective closer to the noun. As it turns out, he too proposed the idea of ranking.

Aitchison explains things a bit differently. She acknowledged semantic sets, yet tried to define the boundaries of meanings that people used. Using Rosch's experiments, Aitchison claimed that many words are rated according to their frequency of usage. Also, it was found that people have exemplars that they associate with, and are personal choices. Perhaps a more interesting aspect of Rosch's experiments was that people had a faster response time to associating with those exemplars. Aitchison's findings should be considered important as we sometimes

retrieve unexpected results, but of the same semantic set. Also, the speed of

retrieval correlated with familiarity.

CHAPTER THREE

MULTIPLE WORDS, LEXICAL SEARCH SPEED, AND NEGATION

Martin's encoding experiments.

There were two encoding[27] hypotheses that Martin wanted to test. First was "that adjective order is closely related to adjective accessibility" (1968:161). Second, he then wanted to see if adjective order is related to the speed of adjective decoding. The first hypothesis on encoding was supported; the second hypothesis on decoding wasn't (170). (Only two experiments for encoding adjective accessibility will be covered.[28])

In his first experiment, four colored circles were shown:[29]

1) one large red circle,

2) one small red circle,

3) one large yellow circle, and

4) one small yellow circle.

To test the independent variable, Ss were asked to describe each of these figures in adjective-adjective-noun phrases when the figures were presented, e.g., *that is a large red circle*. By giving the order of adjectives, Ss assigned ranks to the adjectives asked for (encoding = producing). Adjectives appearing first in order would be given a higher rank.[30]

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27. Under "Psychological Meaning" regarding *signs* and *signification*, a "mediational process or state which occurs in the organism whenever a sign is received (decoded) or produced (encoded)" (Osgood, 1957:3).
28. More detailed explanations of his experiments are provided in his dissertation: "A study of the determinants of preferred adjective order in English," University of Illinois, 1968:87-165.
29. Martin noted that size and color are two strongly ordered dimensions, and easy to manipulate.

To test the dependent variable, Ss were asked to respond to either value, the *size* or *color* as quickly as possible when the figures were shown. As it turned out (and predicted), there was a *longer latency response* with the dimension *size*. This gave evidence that "color adjectives are more accessible than size adjectives" (Martin 1968:89). (Note: In Martin's theory of denotation, since the noun is chosen first, the adjacent adjective is retrieved first. In this example, it is the color that's chosen first.)

Again, his second experiment of encoding was to determine adjective accessibility, and followed the same basic premise and procedure of the colored circles; however, four hand drawn faces were shown: two older (happy and sad) faces, and two younger (happy and sad) faces. The experiment called for Ss to use the mood adjectives *happy* or *sad*; the age adjectives were *young* or *old* (Martin 1969:475). It was predicted that because of age being of lower rank, it would be closer to the noun and elicited faster response times rather than *age-mood-noun*. Of the 18 Ss chosen, 14 consistently assigned age adjectives a lower rank than mood adjectives, i.e., produced phrases like *happy old man* (Martin 1968:114). Subsequent experiments used similar themes with *happy* or *sad* and *dumb* or *smart*, *honest* or *dishonest, intelligent* or *unintelligent*, and (triplets) *tall, bright, lamp* and t*all, bright, mountain*. As it turns out (and supported by the first hypothesis), it is often possible to predict relative adjective order.

Multiple entry hypothesis and decision latency.

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30. It's assumed here that Martin refers to Zeno Vendler's definition of *rank*.

Jastrzembski & Stanners reported that words that have multiple meanings have multiple memory entries, therefore contribute to faster response times when searched (1975:534). The experiments conducted were in line with those conducted by Rubenstein[31] and Clark.[32] Rubenstein and Clark set out to show that, conversely, homographs[33] could be accessed quicker than nonhomographs. The study done by Jastrzembski & Stanners sets out to increase the number of meanings in the words (originally, the homographs in previous tests) to see if there was an increase of lexical search speed when trying to access a word's alternate meaning(s).[34]

The basic design by Rubenstein and Clark was a word-nonword decision. When a visually presented letter string was shown, Ss simply had to decide as quickly as possible whether or not it was an English word; this resulted in a response time for word-nonword recognition. The study by Jastrzembski & Stanners added more words with more meanings. When response times were compared to two groups of HNM and LNM,[35] those with the higher number of meanings had shorter response latencies.[36]

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31. Rubenstein, H., Garfield, L., & Millikan, J.A. Homographic entries in the internal lexicon. (*Journal of Verbal Learning and Verbal Behavior*, 1970, 9, 487-494.)
32. Clark, H.H. The language-as-fixed-effect fallacy: A critique of language statistics in psychological research. (*Journal of Verbal Learning and Verbal Behavior*, 1973, 12, 335-359.)
33. Defined as words which have two distinct meanings, vs. nonhomographs, which has a single entry (Jastrzembski and Stanners 1975:534).
34. According to Crystal, homographs refer to words that have the same spelling, but differ in meaning.
35. High Number of Meanings, averaged 41.5 meanings; Low Number of Meanings, averaged 12.2 meanings.
36. Also, "The ambiguity effect, where a word with multiple meanings is recognized faster than an unambiguous word (Balota et al. 1991; Jastrzembski 1981; Jastrzembski and Stanners 1975)"; online, "*The ambiguity effect.*"

The results were conclusive; shorter response latencies occurred with HNM words. According to Jastrzembski and Stanners, the decreased latency effect supported 1) the "multiple entry hypothesis," and 2) determined that a "memory search process terminates when an entry is detected" (Jastrzembski and Stanners 1975:536).

Adjectival negation.

Negation has an adverse time effect on sentence comprehension. If latency is a consideration in adjective response, then negation should be considered as a factor in determining latency and prenominal ordering of adjectives. Although one can not use *not* with asyndetic phrases, one can use negative prefixes such as *un-(happy*, for example), or any sequence of [*not* + *adjective*], or simple lexical entries such as *sad* or *doubted*.

Although Sherman discovered that four main negatives were the most problematic (in order from the most difficult: *doubt*, *not*, *no one*, and *-un*), the study did contain adjectives and correlates with lexical search speeds. Appendix C shows the results and sample questions used for experiment one.

Mark Sherman's study[37] on adjectival negation claims that negatives are cognitively more complex, which is demonstrated by an increase in verification time (1976:143). No more will be addressed on this matter, as the key results of the study showed that 1) either overt words (such as prefixed *unhappy* [an adjective])

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37. See also Chase and Clark (1972), Trabassos, Rollins, and Shaughnessy (1971), Sherman (1973), and Bever (1970).

or implicit words (such as *sad* [an adjective]) did not consistently increase sentence difficulty providing there weren't additional negatives within the sentence, 2) multiple negatives increased the complexity, and 3) different types of negatives varied the complexity of comprehension, which could not be predicted (153).

Summary.

Martin's research into adjective ordering made him a follower of Annear's transformational conclusion on adjectives, which stated that adjective order is not a function of syntax (supported by Danks & Glucksberg, and Vendler). Martin demonstrated that color should be closer to a noun than dimension. Martin also experimented with adjectives of age and mood, with corresponding results. In later research, he defines his idea of adjective denotation--that adjectives closer to the noun have a higher temporal accessibility.

Reaction time (latency) was found when Martin and Rosch conducted their tests with associated words. The results of Martin and Rosch's have the implication of stating that 1) there is a time factor associated with familiarity, and 2) that the majority of the selected words of the test subjects were predictable as their faster response times tended to be closer to the noun.

Jastrzembski & Stanners' multiple entry hypothesis calculated the measure of decision latency. With it, they found that words with higher number of meanings allowed for faster searches that terminated once a meaning was found. Sherman found that words that carried negative connotations placed within a sentence

required a longer time for a person to fully understand the sentence, resulting in an extended latency time.

One can infer that a faster response to specific words correlates to a more *natural* [38]response in conversation and may give credence to Martin's denotation theory. .

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38. Writer's emphasis.

CHAPTER FOUR

SPEECH PRODUCTION

Tentative theories of word order in speech production.

Free adjective word order allows for free adjective phrase production. If there are restrictions (as in chapter one), we intuitively correct for those restrictions before speaking. The question here is then, what constitutes free word order? More importantly, what motivates us to produce one phrase when we can easily enough produce it in other ways? A place to begin is with free recall studies.

Brown & Thompson consider free recall, or output order, to be indicative of item strength. Item strength, "is defined in terms of probability of recall (i.e., the higher the probability of recall for an item, the greater it's strength [1971:444])." They consider that two factors are responsible: primacy and recency effects, and degree of learning.[39] The results of the single study were indicative of the primacy-recency effect. In addition, the learning effect added item strength.

A primer on primacy, recency, and the order effect paradigm.

Interest in primacy and recency goes back to 1925 when Lund conducted studies of recall effects to advertisements. He concluded that "The Law of Primacy in Persuasion" stated that the side of an issue presented first will have greater effectiveness than the side presented subsequently *(Primacy-Recency,* online).

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39. Learning should not be considered here, as explained below in their text. The primacy-recency effect studies were not intended to be used for memory tasks such as learning.

In 1946, Solomon Asch used adjective comparisons to reveal a primacy effect on impressions. Asch noted that we envision a trait (of a person) as an independent impression, and that particular trait adds to the sum of their overall impression. So, if a person posses traits *a, b, c, d*, and *e* for example, one would have the overall impression of a person as: *Impression = a + b + c + d + e* (Asch 1946:258-259). For Asch, it was a matter of *how* those effects were assimilated, then recalled that interested him. He also observed that "not all qualities have the same weight in establishing the view of the person" (262). Although the idea itself seemed elementary, it stirred controversy and opened the field of research into recall effects.

The implications of his studies, and subsequent ones by others, are important for the following reasons. One, Asch used adjectives to reflect the qualities of a person. Two, when observing a person, the events are not observed as one immediate impression, or could be considered a *perceptive continuum.*[40] Three, no particular trait-adjective has a fixed meaning.[41] Four, it was observed that there is a primacy-recency effect inherent when recalling information. How primacy and recency is compared is often viewed as the order effect paradigm.

Primacy and recency.

Primacy and recency is the way in which we order temporal information presented to us. We perceive information in a succession of time. We allow that perceptive data to be arranged into classes, according to groupings, and "is

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40. Albertazzi (1997:11).
41. Jones & Goethals (1972:30). Also, as adjectives are said to have a plasticity and are context bound for specific meanings.

indiscernible from the one immediately adjacent to it and distinct from all the oth-ers" (Albertazzi 1997:11).[42] The data that is placed first is considered the primacy effect; the data that is placed last is considered the recency effect (or the *most recent* data assimilated). "The order effect paradigm can be simply described as comparing responses to one sequence of information with responses to the same information presented in reverse order" (Jones & Goethals 1972:27). Reverse order allows first or last impressions to be compared by recall, which have the greater effect of recall at times.

It is not to be assumed that primacy, recency, or the order effect paradigm is so simplistic; many process are at work that produce impression formations. For example, the primacy effect alone is attributed to three processes: attention decre-ment (fatigue, or losing interest in the stimulus), discounting (discounting experien-tial data if seen as incongruent to previous data), and assimilation (having preconceived categories or expectancies that subsequent data is shelved into). On the other hand, recency also has three factors to consider (Jones & Goethals 1972:43-44). Yet, the most important idea considered here for recency is recall readiness.

There's sufficient evidence to suggest that recall readiness contributes much to the most recent event that is the best remembered. When looking at results pro-duced, primacy and recency effects are obtained on a serial position curve. This is

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42. The writer has found this to be the best example of introducing (encoding) of "perceptive data" thus far.

typically a U-shaped curve because of the first and last items were better recalled or had a stronger effect. The items listed in the middle of events are usually remembered last, therefore had the weakest effect on recall. This may offer an explanation of why the discussion of ranking, hierarchies of adjectives, and privilege of occurrence is so focused on the peripheral prenominal adjectives (either the furthest or closest to the noun).

In the studies submitted, there is one word of caution. The primacy-recency effects were not intended to be used for memory tasks such as learning. "Lund's factor of 'primacy in persuasion' ...should be distinguished from 'primacy' in serial learning (*Primacy-Recency,* online).These are two different events. A view on children's constraints on adjective order.

Although children are considered to be the source of change for language, they do learn from adults a generalized set of rules. For example, children learn that adults normally place adjectives before nouns, such as size, color, and material (noun) such as *big yellow ball* (Scheffelin 1971:34).

Scheffelin also found that children are sensitive to adjective ordering in terms of motor responses (comprehension) and linguistic responses (post-labeling). In her set of trials, boys and girls seemed to assimilate and respond differently to information. In one of Scheffelin's tests, boys and girls (ages 5-8) were tested on production by choosing and describing colored blocks upon oral instructions. This test consisted of having the child describe a block and two of its characteristics, along with the material it's made of (such as wood). The response elicited would

be in the form of *big red wooden*, or *little blue wooden,* for example. The frequency of children's responses to controlled word associations were measured.

The results showed that girls responded faster to *size, color, material*; boys responded quicker to *color, size, material.* Scheffelin believes that difference may have been with how the linguistic cues given by the instructor were perceived. The girls may have been more dependent on the verbal cues (the instructions), while the boys may have focused more on the visual stimuli (the colored blocks). Yet, the post-labeling (responses) were similar.

This leads Scheffelin to believe that motor responses are a personal matter, but production is a social matter. "A person observes and acts for themselves, but he reports for others" (Scheffelin 1971:40). Even though the processes at work for ordering adjectives may have been different, the outcome of adjective ordering were in the more commonly accepted ways that are used most often by adults. Scheffelin suggested that it may be due to patterns that were previously heard most often. "What child has not heard of Little Red Riding Hood and The Big Bad Wolf?"

Summary and conclusion.

The task has been to find out why prenominal adjective string patterns are produced in the mind of the native speaker. There are fixed conventions for speak-ers and many are restricted semantically due to their proximity of the noun (*blue cheese* + *dressing* for example). The other extreme is "free" or preferred word order that we have the option to exercise.

According to those who have pursued this topic, relative ranks give adjectives a special status that place them in a preferred order furthest from the noun, or to be the words that are chosen to be spoken first. Perhaps this may attribute to the primacy effect. Danks & Glucksberg defined the idea of intrinsicalness, which claims to have the adjective placed closer to the noun because of its inherent association with the noun modified.

Vendler tried to find the natural order of adjectives, and suggested the placement of the more substantial adjective closer to the noun. Discriminative adjectives should be placed further away from the noun too, and seemed tenable until a larger group of objects are introduced into the analysis. Ziff couldn't account for the exceptions he found syntactically. Annear, Martin, and others have found, and are convinced, that syntactic transformations are a failure due to problems that lie in the semantic meanings of adjectives.

Aitchison acknowledged semantic sets, and along with Rosch's experiments, have found that we have preferences which were found by frequency of usage experiments. People have exemplars that they associate with, and they respond faster when associating to those exemplars. Speed of retrieval seems to correlate with familiarity. Familiarity tends to be associated with closer placement to the noun, according to some. Primacy-recency suggests that this familiarity is more likely a personal choice, and is given preferential order in the first position if emphasis is intended.

Children may be a key in finding how we develop those patterns of preferred adjective ordering. Although they are not sophisticated with the vast semantic shades of meaning of many words, they do understand specific patterns of adjective placement by conveying their linguistic responses, or *post-labeling* (Scheffelin 1971:39).

Richards has a different explanation. Despite the preferred ordering theories presented in this paper (and hers), the concepts of *definiteness*, *denotative dimensions*, and *intricalnes*s, for example, can *not* be assigned to the ordering behavior of three year olds. Just as people are unaware of using transformation rules in their speech to produce proper grammar, children are unaware of semantic classes, let alone many of the meanings of words that they use. Just as adults do, children respond holistically rather than analytically to discourse. Imitation is a feasible explanation of how children respond to speech. Richards mentions that even three year olds would have a tendency to remember the most preferred word order from adults, as the primacy of first occurring adjectives is a stronger advantage over later occurring ones (1977:273).

Although both Richards and Scheffelin allow imitation of speech to be considered, this consideration is for tendencies of speech patterns that prescribe general linguistic rules. As for the variations that we hear, Scheffelin adopts a sociolinguistic approach to linguistic production: both genders have their own ways of apprehending and responding to tasks, "A person observes and acts for themselves, but he reports for others" (1971:40). On the other hand, Richards tends to view it as

more of a personal venture: "Adjective ordering serves as an egocentric function

for the speaker, rather than a communicative function for the listener" (1975).

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Appendix A

GRAMMAR. 119

" *Britifh*" is derived, continues always of the neuter gender : and in the expreffions, " *Britifh kings—Britifh queens*," the object, " *Britain*," is ftill of the fingular number. As to Cafe, I have fhewn above, that whatfoever unites with the nature and being itfelf of any object, makes the whole one complex object ; fo that one part thereof cannot ftand in one kind of connexion, and another part in another, with any third object, or with any verbal ftate. And therefore there is no need for a particular direction added to an adjective, to fhew that it ftands in the fame relation to fome word, as the fubftantive or verb does, on which the adjective depends. Therefore the grammatic variations of cafe, gender, and number, add nothing to the fignification of adjectives ; and for this reafon, the Englifh adjectives have no fuch grammatic variations.

This want of variation in the adjectives of this language makes it neceffary to place every adjective as clofe as poffible, either before, or behind the fubftantive on which it depends, or, if it depends upon a verb, as clofe behind fuch verb as poffible. For were it otherwife, when more fubftantives than one are in a fentence, or more verbs than one, it might not be eafy, or perhaps not poffible, to determine which fubftantive or verb the adjective fhould be immediately joined with ; and, if feveral adjectives and feveral fubftantives are in a fentence, the ambiguity would be ftill greater. Whereas, in the Latin and Greek, the termination of an adjective compared with the terminations of the fubftantives in the fentence, ufually fhews with which it is to be united. This gives an opportunity in thefe languages for a greater diverfity of order in placing words in feries, than the Englifh will admit of. But when all is done, the mind muft confider the adjective and its fubftantive in one view, before it can apprehend the complex object which is denoted by them both together ; and therefore it may juftly be queftioned, whether placing the one fo far from the other, as they are frequently placed in Latin and Greek, does not fometimes occafion obfcurity. As

From "An Essay on Grammar" by William Ward, 1765
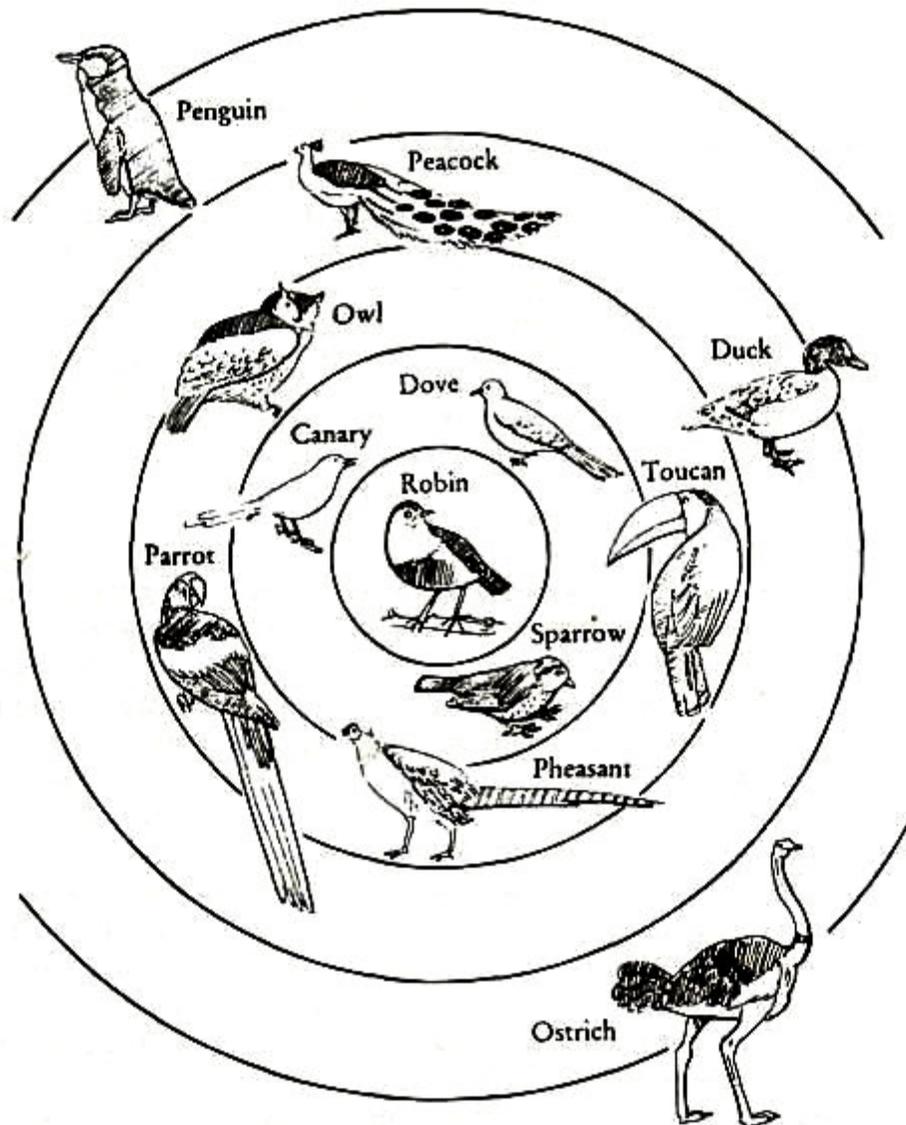
Appendix B

Basic Ingredients

Figure 5.1   Birdiness rankings

Birdiness Rankings in Aitchison's *Words in the Mind*

Appendix C

TABLE 1

MEAN RESPONSE TIMES[a] AND ERROR RATES (PERCENTAGE) FOR EACH NUMBER OF NEGATIVES IN EXPERIMENT[b]

Number of negatives in sentence	Excl.	Incl.	Error rate
0	4.75	4.75	0.0
1	5.92	5.94	4.7
2	7.45	7.63	12.5
3	9.71	9.25	29.7
4	11.41	9.56	40.6

[a] RTs in seconds; the average standard error was 0.53 sec for the Excl. analysis and 0.55 sec for the Incl. analysis.

[b] Excl. = errors excluded, Incl. = errors included.

TABLE 2

MEAN RESPONSE TIMES [a] AND ERROR RATES (PERCENTAGE) FOR EACH COMBINATION OF NEGATIVES IN EXPERIMENT I[b]

Negatives	Times		Error rate
	Excl.	Incl.	
No negatives	4.75	4.75	0.0
no one	5.72	5.72	0.0
doubted	6.55	6.58	15.6
not	5.97	5.97	0.0
un-	5.49	5.52	3.1
no one doubted	5.85	6.00	6.3
no one, not	7.81	8.01	15.6
no one, un-	7.36	7.63	15.6
doubted, not	8.92	9.55	18.8
doubted, un-	7.44	7.39	12.5
not un-	7.64	7.62	6.3
no one doubted, not	8.40	7.92	31.3
no one doubted, un-	7.63	8.15	15.6
no one, not un-	10.67	9.68	37.5
doubted, not un-	12.97	11.70	34.4
no one doubted, not un-	11.41	9.56	40.6

[a] RTs given in seconds; the average standard error was 0.61 sec for the Excl. analysis and 0.71 sec for the Incl. analysis.
[b] Excl. = errors excluded, Incl. = errors included.

Stimulus Sentences Used in Experiment I

1. He was (6 ft.-5 in., 4 ft.-lO in.) tall, and thus (everyone, no one) (believed, doubted) that he would (not) be uncomfortable with very tall girls.

2. Because he inevitably did (well, poorly) at all sorts of games of chance, everyone believed that he would be lucky at roulette.

3. Because the evidence was (forged, genuine), everyone believed that it would be questionable in a court of law.

4. Because he (often worked for hours at a time, usually worked for 10 min at a time), everyone believed that he was capable of sustained effort.

5. Because Mary's personal appearance was always (immaculate, slovenly) everyone be-lieved that she would be tidy in her house-keeping.

6. Bob was a very (sensitive, hard) person, and thus everyone believed that he would be hurt by criticism.

7. Because he was wearing (bright red clothing and it was a clear day, black clothing and it was a dark night), everyone believed that he would be visible to the enemy.

8. He always (thought out his decisions

carefully before proceeding, acted on impulse and demanded to have his way), and thus everyone believed that he was reasonable in most of his actions.

9. He (loved, hated) little children, and thus everyone believed that he would be willing to perform at the children's Christmas party.

10. He liked to (make decisions for the group, let others make decisions), and thus everyone believed that he would be suited for the director's job.

11. Because he was quite (sober, drunk), everyone believed that his speech would be intelligible to the group.

12. John had repeatedly (made, lost) money on the stock market, and thus everyone believed that he would be successful in his latest stock venture.

13. The boy liked to (plan ahead, live only for the present), and thus everyone believed that he would be prepared for future events.

14. Because their defenses were extremely (weak, strong), everyone believed that they would be vulnerable to attack.

15. He had just (won a lot of money in a con-test, lost a lot of money at poker), and every-one believed that he would be happy about this.

16. Because he had (strong moral and ethical convictions, a tendency to steal and embezzle), everyone believed that he would be honest in his business dealings.