

The Distance Variable Revisited with Reference to English*

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The main thesis of this paper is that distance is a major variable of relevance to linguistic description and explanation, shedding a great deal of light on the whole structural spectrum of human language. The present paper focuses on ways in which this distance variable is instrumental in explaining various aspects of natural language such as semantic interpretation, surface-structure form, and word order. Although it focuses on the English language, much of our discussion in this paper should be equally relevant and applicable *mutatis mutandis* to other languages as well. If, indeed, it should turn out to be a universal of such major linguistic significance, the distance variable should be incorporated into all explanatorily adequate theories of human language.

0. Introduction

One of the persistent themes in much of my earlier linguistic research was that distance is a major variable in human language. This should be especially evident from Park (1977a, 1977b, 1978, 1979, 1980, 1981, 1982, 1983, 1984, and 1985). In fact, I have also drawn upon this theme quite liberally in my more recent publications such as Park (1992), Park (1995), and Park (to appear).

The present paper builds and expands upon some of the major claims I have already made in those papers regarding the relevance of the distance variable to linguistic description and explanation. It is my intention to demonstrate in this paper that distance is such a wide-ranging variable that no

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adequate description and explanation of human language can afford to do without extensive recourse thereto.

As has just been implied, the distance variable is a linguistic universal in the familiar sense that it is applicable to all natural languages. What this means is that most of what we say in this paper regarding the distance variable in relation to English should be applicable *mutatis mutandis* to other languages as well. At least I know it to be a fact that the distance variable operates with essentially the same force in Korean, which happens to be my native language.

For convenience of exposition, I will be proceeding with my discussion in the rest of this paper in four major steps. Firstly, I will discuss the relationship between derivational distancing and meaning variation. Secondly, I will deal with the role that the distance variable plays in language processing, especially as it relates to semantic interpretation. Thirdly, I will turn to the distance variable as a determinant of length in linguistic expressions. Fourthly, I will show that the distance variable is a factor of crucial relevance to the determination of word order, especially in binominal expressions.

1. Derivational Distancing and Meaning Variation

One linguistic expression may be said to be derivationally more distant than another if the former derives from the latter in one way or another. For example, we can say that *nationalistic* is derivationally more distant than *nationalist*, which is in turn derivationally more distant than *national*, which is in turn derivationally more distant than *nation*.

Several different types of meaning variation appear to be associated with derivational distancing. For example, derivational distancing frequently goes with semantic enlargement and/or intensification. Let us take, for example, the following cognate pairs of words.

- (1) a. clean
b. cleanse (<= clean + -se) (“to clean thoroughly”)
- (2) a. long
b. lengthy (<= (long + -th) + -y) (“very long”)
- (3) a. deep
b. in-depth (<= in + (deep + -th)) (“highly detailed”)

It may be noted in connection with each pair here that the derivationally more distant second word is semantically more intense in one way or another than the derivationally less distant first word. Thus the above data provides us with examples of derivational distancing associated with fairly clearcut cases of semantic enlargement and/or intensification.

It is interesting to note in this connection that in the United States a legal distinction is often made between the two expressions below.

- (4) a. *drunk* driver (“a driver whose alcohol level exceeds the legal limit”)
 b. *drunken* driver (“a driver who is inebriated or intoxicated”)

Note here that a *drunken driver* is legally always a *drunk driver* while a *drunk driver* may or may not be a *drunken driver*. The derivationally more distant *drunken* here is clearly heavier and more intense meaning-wise than the derivationally less distant *drunk*.

As our next example, let us compare the two words in each of the following cognate word pairs with specific reference to their semantic content.

- (5) a. bag
 b. baggage (<=bag + -age) (“bags collectively”)
 (6) a. machine
 b. machinery (<=machine + -ry) (“machines collectively”)
 (7) a. noble
 b. nobility (<=noble + -ity) (“nobles collectively”)

The derivationally more distant second word in each pair here refers to a collection of entities while the derivationally less distant first word in the same pair refers to just one entity. Thus the above data provides us with examples of derivational distancing associated with rather clearcut cases of semantic enlargement and/or intensification.

We may adduce the following cognate word pairs in additional support of our contention that derivational distancing is often associated with semantic enlargement and/or intensification.

- (8) a. prick
 b. prickle (frequentative of *prick*)
 (9) a. wade
 b. waddle (frequentative of *wade*)

- (10) a. prate
 b. prattle (frequentative of *prate*)
- (11) a. daze
 b. dazzle (frequentative of *daze*)

Note that the second verb in each pair above is a frequentative verb derived from the first verb in the same pair. Note further that semantically a frequentative verb is comparable to a plural noun whereas the verb from which it is derived is comparable to a singular noun. Thus, in each pair here, the derivationally more distant second verb has heavier and more intense semantic content than does the derivationally less distant first verb.

The following cognate adjective pairs may also be used to argue for our claim that derivational distancing is often related to semantic enlargement and/or intensification.

- (12) a. sick
 b. sickly (“prone to be sick”)
- (13) a. clean
 b. cleanly (“habitually clean”)

In either pair here, the derivationally more distant second adjective is semantically heavier than is the derivationally less distant first adjective. The suffix *-ly* here adds to the stem the meaning of “habitual/prone” or something like that. Note incidentally that a substantively similar account is evidently applicable to other similar cognate pairs of adjectives such as *kind/kindly*.

The cognate word pairs below can also be used in helping validate our claim that derivational distancing is often bound to semantic enlargement and/or intensification.

- (14) a. wool
 b. woolen (“made of wool”)
- (15) a. wood
 b. wooden (“made of wood”)

In either pair here, the derivationally more distant second member is semantically heavier than is the derivationally less distant first member. Parenthetically, the suffix here adds to the stem the meaning of “made of.” Note that an essentially identical explanation is evidently applicable to such

cognate word pairs as *earth/earthen*, *silk/silken*, and *lead/leaden*.

Our contention here is also supported by the following paraphrase sentence pairs, each of which exemplifies a specific example of lexical conversion or zero-derivation.

- (16) a. Remove the skin from the grapes before you eat them.
 b. Skin the grapes before you eat them.
- (17) a. They preserve most of their peaches in cans.
 b. They can most of their peaches.
- (18) a. He has *become the father of* healthy twins.
 b. He has *fathered* healthy twins.
- (19) a. They always spend the winter in Hawaii.
 b. They always winter in Hawaii.

In each sentence pair here, the underlined verb in the second sentence is converted, i.e. zero-derived, from the underlined noun in the first sentence. Note that, in each sentence pair, the derivationally more distant verb in the second sentence has heavier semantic content than does the derivationally less distant noun in the first sentence. This should be readily apparent from a comparison of the two paraphrase sentences in which the two words in question occur. Observe that, for example, the verb *skin* is equivalent to *remove the skin from* in (16) while the verb *winter* is equivalent to *spend the winter* in (19).

The following set of four derivationally related words can also help validate our argument that derivational distancing is often linked to semantic enlargement and/or intensification.

- (20) a. establish
 b. establishment
 c. establishmentarian
 d. establishmentarianism

In (20) above, the last word is derivationally more distant and semantically heavier than the third word, which in turn is derivationally more distant and semantically heavier than the second word, which in turn is derivationally more distant and semantically heavier than the first word.

Let us now turn our attention to the following paraphrase sentence pairs, which show that a preposition used post-verbally adds that much to the

meaning of the verb phrase in which it occurs.

- (21) a. He was *trying to reach* the gun.
 b. He was *reaching for* the gun.
 (22) a. She was *trying to catch* the straw.
 b. She was *catching* the straw.
 (23) a. They *tried to shoot* the birds.
 b. They *shot at* the birds.

Given the fact that the two sentences comprising each pair above are near paraphrases of each other, we can say that the post-verbal preposition in the second member of the pair here adds the meaning of something like *try to*. Note that the post-verbal preposition in the second sentence of each pair here may be said to add that much derivational distance to the verb (phrase). Thus the derivationally more distant “verb-preposition” structure in the second sentence of each pair above arguably has more meaning content than does the derivationally less distant “simple verb” structure in the first sentence of the same pair.

What we have said regarding (21), (22), and (23) seems to throw light on the way in which the two italicized verbal expressions in each sentence pair below are differentially interpreted.

- (24) a. He *searched* me.
 b. He *searched for* me.
 (25) a. He *dug* the ground.
 b. He *dug for* jewels.

Note that the preposition *for* in either (24b) or (25b) adds to the verb phrase the meaning of “so as to find” or “in order to find.” Thus the derivationally more distant *search for* and *dig for* here are evidently heavier semantically than the derivationally less distant *search* and *dig* respectively.

The following data is also apparently supportive of our contention that derivational distancing is often associated with semantic enlargement and/or intensification.

- (26) a. I *climbed* the hill this morning.
 b. I *climbed up* the hill this morning.
 (27) a. We saw them *jumping* the fence.
 b. We saw them *jumping over* the fence.

- (28) a. He was the first man to *swim* the channel.
 b. He was the first man to *swim across* the channel.
- (29) a. He was seen to *flee* the scene of the accident.
 b. He was seen to *flee from* the scene of the accident.

In each pair here, the simple verb structure in the first sentence focuses on the completion or end result of the action signified by the verb. On the other hand, the verb-preposition structure in the second sentence of the same pair focuses on the process leading to the end result of the action expressed by the verb. Thus the derivationally more distant verb-preposition structure here once again arguably conveys somewhat more semantic content than does the derivationally less distant simple verb structure.

It may be observed parenthetically here that inflectional distancing may have to be treated as a kind of derivational distancing for our purposes. This is because inflectional distancing also appears to contribute to semantic enlargement in much the same way that derivational distancing does. In support of this argument, we may point out that a noun ending in the plural suffix *-s* refers to more than one entity while the same noun without the suffix refers to just one entity. In fact, not just the plural suffix but all other inflectional suffixes invariably add something to the meaning of the forms to which they are affixed.

At this point, we will so extend our definition of derivational distance as to incorporate the point that, other things being equal, a learned word is derivationally more distant than its less learned counterpart. With this extended definition in mind, let us compare the two sentences comprising each pair below with specific reference to the italicized words.

- (30) a. The driver was clearly *drunk*.
 b. The driver was clearly *intoxicated*.
- (31) a. Smoking is *forbidden*.
 b. Smoking is *prohibited*.
- (32) a. This phenomenon is *unexplainable*.
 b. This phenomenon is *inexplicable*.
- (33) a. The situation was *unavoidable*.
 b. The situation was *inevitable*.
- (34) a. DUI is *unlawful*.
 b. DUI is *illegal*.

Note that, in each pair here, the italicized adjective in the second sentence is more learned and thus derivationally more distant than is its counterpart in the first sentence. Note further that the italicized adjective in the second sentence here is more intense in semantic import than is its counterpart in the first sentence. Thus the data comprising the sentence pairs (30)–(34) is also apparently supportive of our claim that derivational distancing is often associated with semantic enlargement and/or intensification. Incidentally, such additional word pairs as *find/discover*, *teach/instruct*, *buy/purchase*, *cut/sever*, and *do/perform* may also be used in arguing for this claim.

We will now discuss a different type of semantic variation that is often entailed by derivational distancing. This type of semantic variation may be subsumed under the heading of semantic abstraction and/or indirection. Let us begin our discussion here with an examination of the italicized words in each sentence pair below.

- (35) a. He sells agricultural *produce*.
 b. Korea's agricultural *production* has been increasing in recent years.
- (36) a. He is a *Catholic*.
 b. *Catholicism* is a major religion in Korea today.
- (37) a. There are millions of *Christians* in Korea today.
 b. *Christianity* is a very important religion in Korea today.

In each sentence pair above, the italicized word in the second sentence is arguably derivationally more distant and thus semantically more abstract than its counterpart in the first sentence.

Cognate noun-adjective pairs such as *history/historical*, *medicine/medical*, and *nature/natural* may also be used to illustrate the point that we are making here. The derivationally more distant adjectives *historical*, *medical*, and *natural* clearly tend to be semantically more abstract and/or indirect than the derivationally less distant nouns *history*, *medicine*, and *nature* respectively. All this is in line with our thesis concerning the correlation between derivational distancing and semantic abstraction and/or indirection.

Let us now compare the italicized adjective in the first member of each sentence pair below with its italicized cognate in the second member of the same pair, i.e. the adverb in *-ly*.

- (38) a. Mt. Everest is *higher* than any other mountain.
 b. We think very *highly* of Ludwig van Beethoven.
- (39) a. The sky was very *clear* yesterday.
 b. He was *clearly* in the wrong.
- (40) a. The movie was rather *short*.
 b. We got home *shortly* after midnight.
- (41) a. The end is *near*, I am afraid.
 b. He is *nearly* dead, I am afraid.
- (42) a. This bread is as *hard* as rock.
 b. I *hardly* know him.

It is consistently the case for each adjective-adverb pair here that the derivationally more distant *-ly* adverb in the second sentence is of more abstract signification than is its cognate adjective in the first sentence. It goes without saying that the same point can be made with such cognate adjective-adverb pairs as *broad/broadly*, *wide/widely*, *deep/deeply*, *narrow/narrowly*, and *bare/barely*.

The italicized cognate adjective pair exemplified in each sentence pair below may also be cited in support of our claim that derivational distancing is often tied to semantic abstraction and/or indirection.

- (43) a. He was playing with a *live* snake.
 b. *Lively* children need space and plenty of fresh air.
- (44) a. A *dead* deer lay in the snow.
 b. A gun is a *deadly* weapon.
- (45) a. The moon was *low* in the sky.
 b. A *lowly* thing such as a virus can make us powerless.
- (46) a. Traffic is a serious *urban* problem.
 b. To be *urbane* is to be polite and refined.
- (47) a. To err is *human*.
 b. To be *humane* is to be kind and merciful.

It is obvious here that the derivationally more distant adjective in the second sentence of each pair is semantically more abstract and/or indirect than the derivationally less distant adjective in the first sentence of the same pair. It may be in order at this point to observe that semantic abstraction/indirection often overlaps semantic enlargement/intensification.

This is evidently the case with (35)-(47) as well as with much of the rest of the data used in this section of the paper.

The two pairs of sentences below contain data that is also supportive of our claim that a derivationally more distant expression is often of more abstract signification than is a derivationally less distant one.

(48) a. The wound *healed* quickly.

b. *Health* is better than wealth.

(49) a. It was a very *slow* train.

b. *Sloth* breeds a scab.

In either pair above, the italicized word in the second sentence is derivationally more distant and thus semantically more abstract than its cognate in the first sentence.

Let us now compare the two members of each of the following cognate word pairs.

(50) a. gold

b. golden (“very favorable”)

(51) a. wood

b. wooden (“stiff and unnatural”)

(52) a. lead

b. leaden (“lacking liveliness”)

(53) a. silk

b. silken (“smooth and lustrous”)

It is quite clear that the derivationally more distant second member of each word pair here is semantically more abstract and/or indirect than the derivationally less distant first member of the same pair. The parenthesized “glosses” in (50)-(53) are designed to bring out the greater semantic abstractness and/or indirectness of the second member of each pair here relative to the first member of the same pair.

The cognate noun-adjective pairs below may also be used in validating our claim that derivational distancing often goes with semantic abstraction and/or indirection.

(54) a. prince

b. princely (“noble, royal”)

- (55) a. king
 b. kingly (“majestic”)
- (56) a. child
 b. childish (“immature”)
- (57) a. man
 b. manly (“masculine”)

Once again, it is evident that the derivationally more distant second member of each word pair above is semantically more abstract and/or indirect than the derivationally less distant first member of the same pair.

It is interesting that what we have said regarding (50)–(57) also applies to the “semantically” cognate pairs of words below.

- (58) a. star
 b. stellar (“outstanding”)
- (59) a. mouth
 b. oral (“spoken”)
- (60) a. son
 b. filial (“befitting a son or daughter”)
- (61) a. hand
 b. manual (“employing human rather than mechanical energy”)

Note at this point that the cognate pair *beside/besides* offers another interesting example supportive of our contention here. *Beside* has a locative signification of a concrete nature while *besides* has a non-locative meaning of a rather abstract nature. Thus we may say that the derivationally more distant *besides* is semantically more abstract and/or indirect than the derivationally less distant *beside*.

Let us now turn our attention to the cognate adjectives *farther* and *further*, as used in the two pairs of sentences below.

- (62) a. Pusan is *farther* from Seoul than Inchon is.
 b. Pusan is *further* from Seoul than Inchon is.
- (63) a. *Any *farther* questions?
 b. Any *further* questions?

Note here that the irregular *further* may be said to be derivationally more distant than the regular *farther* is. Thus we may argue that the derivationally more distant *further* can be used in the rather abstract sense of

“additional” while the derivationally less distant *farther* cannot be so used. If this is correct, then the data comprising (62)-(63) is also in compliance with our contention that derivational distancing is often tied to semantic abstraction and/or indirection.

Let us now compare the cognate adjective pair *littler* and *less*, as used in the two paraphrase sentence pairs below.

- (64) a. This boy is *littler* than that boy.
 b. *This boy is *less* than that boy.
- (65) a. *This boy is *littler* tall than that boy.
 b. This boy is *less* tall than that boy.

We can see here that *less*, but not *littler*, may be used in the rather abstract sense of “to a smaller extent” whereas *littler*, but not *less*, may be used in the rather concrete sense of “smaller in size”. Since the irregular *less* may be said to be derivationally more distant than the regular *littler*, this is in line with our claim that derivational distancing is often bound to semantic abstraction and/or indirection.

The cognate pair of past participles exemplified in either sentence pair below is amenable to a similar explanation.

- (66) a. The Korean War *bereaved* her of her husband.
 b. *The Korean War *bereft* her of her husband.
- (67) a. *The accident left him completely *bereaved* of his senses.
 b. The accident left him completely *bereft* of his senses.

Note that normally *bereft* means “lacking/empty” while *bereaved* means “left alone,” so that the former is more abstract in meaning than the latter. Thus the derivationally more distant *bereft* is semantically more abstract and/or indirect than the derivationally less distant *bereaved*. Once again this complies with our contention that derivational distance often translates into semantic abstractness and/or indirectness.

The cognate pair of past participles exemplified in the paraphrase sentence pairs below may also be accounted for along identical lines.

- (68) a. They have *sheared* all their sheep.
 b. ?They have *shorn* all their sheep.
- (69) a. *The prisoners were *sheared* of their dignity.
 b. The prisoners were *shorn* of their dignity.

Sheared means “cut the fleece from” whereas *shorn* means “deprived,” so that the former is less abstract in meaning than the latter. Thus the derivationally less distant *sheared* is semantically less abstract and/or indirect than the derivationally more distant *shorn*, which is in compliance with our main thesis here.

Let us now examine the following sentence pairs with special reference to the italicized prepositions.

- (70) a. I live *in* Seoul.
 b. I was born *in* 1940.
 (71) a. The bird was *on* the rooftop.
 b. He was here *on* Sunday.
 (72) a. I saw him *at* the gate.
 b. I saw him *at* noon.

Note that the prepositions *in*, *on*, and *at* are primarily locative prepositions and only secondarily temporal prepositions. Thus these prepositions are, as it were, derivationally more distant as temporal prepositions than as locative prepositions. So the data comprising (70)–(72) is supportive of our claim in that the derivationally more distant temporal uses of the prepositions are, indeed, semantically more abstract and/or indirect than the derivationally less distant locative uses of the same prepositions.

Let us take a look at the following data with special reference to the italicized portions.

- (73) a. I *heard* the song.
 b. I *heard of* the song.
 (74) a. He was *reading* Shakespeare.
 b. He was *reading about* Shakespeare.
 (75) a. She *wrote* poems.
 b. She *wrote on* poems.

(73a) implies that “I came into direct auditory contact with the song,” whereas (73b) implies that “I only came into indirect auditory contact with the song.” (74a) implies that “he had direct contact with Shakespeare’s works,” whereas (74b) implies that “he only had indirect contact with Shakespeare’s works.” (75a) implies that “she herself is a poet(ess),” whereas (75b) does not have such an implication. Thus, in each sentence

pair here, the derivationally more distant verb-preposition structure in the second sentence is semantically more indirect and/or abstract than the derivationally less distant simple-verb structure in the first sentence.

Incidentally, the sentence pairs (24) and (25) can be re-cited here in support of our contention that derivational distancing is often tied to semantic abstraction and/or indirection. Note that the act of *searching* directly affects *me* in (24a), but not in (24b). Note also that the act of *digging* directly affects the *ground* in (25a) while it does not directly affect *jewels* in (25b). Thus, in (24) and (25), the derivationally more distant *search for* and *dig for* express a higher degree of semantic indirection and/or abstraction than the derivationally less distant *search* and *dig* respectively. In fact, the sentence pairs (21), (22), and (23) can also be re-cited here to argue for our position that derivational distancing correlates with semantic indirection and/or abstraction.

Now the following paraphrase sentence pairs may also be adduced in support of our contention that derivational distancing is often associated with semantic indirection, abstraction, and/or enlargement.

- (76) a. We use a great deal of *electric* light.
 b. *?We use a great deal of *electrical* light.
- (77) a. *My father studied *electric* engineering.
 b. My father studied *electrical* engineering.

Note that *electric* refers to electricity itself whereas *electrical* refers to the application of electricity. Thus it appears that the derivationally more distant *electrical* is semantically more indirect, abstract, and/or heavier than the derivationally less distant *electric*.

An essentially identical account is apparently applicable to the cognate adjective pair *economic/economical*, as exemplified in the following paraphrase sentence pairs.

- (78) a. Greespan was once on the Council of *Economic* Advisers.
 b. *Greespan was once on the Council of *Economical* Advisers.
- (79) a. *Subcompact cars are generally more *economic* than compact cars.
 b. Subcompact cars are generally more *economical* than compact cars.

Note that *economic* refers to the economy itself whereas *economical* means something like “thrifty or sensible from an economic point of view.” Thus the derivationally more distant *economical* appears to be semantically more indirect, abstract, and/or heavier than the derivationally less distant *economic*.

It appears that our discussion here can also help explain the difference in meaning between the two members of each sentence pair below in quite obvious ways.

- (80) a. *GONE WITH THE WIND* is a *historic* novel.
 b. *GONE WITH THE WIND* is a *historical* novel.
- (81) a. This is a *comic* book.
 b. This is a *comical* book.

A(n) *historic* novel is a novel that (directly) makes or made history whereas a(n) *historical* novel is one based (indirectly) on history. A *comic* book is a book of comic strips whereas a *comical* book is a funny or amusing book. Thus, in (80) and (81) above, the derivationally more distant *historical* and *comical* appear to be semantically more indirect, abstract, and/or heavier than the derivationally less distant *historic* and *comic* respectively.

Recall our earlier remark that inflectional distancing may be regarded as a kind of derivational distancing for purposes of our discussion here. With this in mind, let us consider the following sentence pair with particular reference to the two different tokens of the verb *be*.

- (82) a. I am glad I *am* with you.
 b. I wish I *were* with you.

Note that both *am* and *were* here refer to the present with the proviso that the former refers to a factual present situation whereas the latter refers to a counterfactual present situation. Since a counterfactual situation is farther removed from reality than is a factual situation, we may say that *were* in (82b) represents a higher degree of abstraction and/or indirection from present reality than does *am* in (82a). If this is correct, then we may argue that the derivationally more distant *were* here is semantically more abstract and/or indirect than the derivationally less distant *am*.

The following sentence pair may also be accounted for along essentially identical lines.

- (83) a. I am glad I *was* with you.
 b. I wish I *had been* with you.

Note that both *was* and *had been* here refer to the past with the proviso that the former refers to a factual past situation whereas the latter refers to a counterfactual past situation. Since a counterfactual situation is farther removed from reality than is a factual situation, we may say that *had been* in (83b) represents a higher degree of abstraction and/or indirection from past reality than does *was* in (83a). If this is correct, then we may argue that the derivationally more distant *had been* here is semantically more abstract and/or indirect than is its derivationally less distant counterpart *was*.

Let us now compare the two sentences making up each (near) paraphrase sentence pair below, focusing on the tenses of the auxiliary verbs.

- (84) a. *Can* you help me with my homework?
 b. *Could* you help me with my homework?
 (85) a. *Will* you open the door for me, please?
 b. *Would* you open the door for me, please?

Note that the auxiliary verb is in the present tense in the first sentence of either pair here while it is in the past tense in the second sentence of the same pair. Note further that the present tense here implies a higher degree of assertiveness or urgency (and thus a lower degree of politeness) than does the past tense. We may thus say that the derivationally more distant past tense here is semantically more indirect, i.e. farther removed from assertiveness or urgency, than is the derivationally less distant present tense.

It may be in order here to observe that (86c) below is less assertive than (86b), which is in turn less assertive than (86a).

- (86) a. I *wonder* if you could spare me a few minutes.
 b. I *wondered* if you could spare me a few minutes.
 c. I *was wondering* if you could spare me a few minutes.

(86c) here is derivationally more distant than (86b), which is in turn derivationally more distant than (86a). Thus this data can also help validate our contention that derivational distance often translates into semantic indirection.

It is interesting to note in this connection that the presence in a sentence of an auxiliary verb such as *will*, as opposed to its absence therefrom, is indicative of indirection from (present) reality, factuality, or certainty. In view of the fact that an auxiliary verb serves to increase the derivational distance of the predicate in which it occurs, this may also count as evidence for our contention that derivational distancing is often associated with semantic indirection.

2. Notional Distance and Length

Notional distance appears to be a major determinant of the length of a linguistic expression. We will begin our discussion here with perceptual distance as a variable of relevance to the length of a linguistic expression. Let us compare the two near paraphrase sentences below, focusing on the predicates.

- (87) a. I *found him sick*.
 b. I *found him to be sick*.

In the sentence pair here, the predicate implies a more immediate perception in the first sentence than in the second in that the perception process implied is far less drawn out in the former than in the latter. Thus we may say that the perception implied is more distant in the second sentence than in the first. What is important for our purposes here is that the perceptually more distant predicate in the second sentence is formally longer than its perceptually less distant counterpart in the first sentence. It may be noted incidentally that *to be* is employed here as the surface marker of the greater perceptual distance of the predicate in the second sentence vis-à-vis its counterpart in the first sentence.

An essentially identical account may apply, albeit with much less force, to the following sentence pairs.

- (88) a. They *seemed healthy*.
 b. They *seemed to be healthy*.
 (89) a. They *appeared healthy*.
 b. They *appeared to be healthy*.
 (90) a. I *considered her a good teacher*.
 b. I *considered her to be a good teacher*.

- (91) a. I *thought them harmless*.
 b. I *thought them to be harmless*.

In each pair above, the longer predicate in the second sentence may imply a slightly more drawn-out and/or deliberate process of perception than does the shorter predicate in the first sentence.

Let us now compare (87)–(91) with (92)–(95) below.

- (92) a. They *look healthy*.
 b. *They *look to be healthy*.
 (93) a. Apples *smell nice*.
 b. *Apples *smell to be nice*.
 (94) a. Apples *taste nice*.
 b. *Apples *taste to be nice*.
 (95) a. Apples *feel nice*.
 b. *Apples *feel to be nice*.

Note that the second sentence in each pair here is ungrammatical while its counterpart in each pair from (87) through (91) is grammatical. This is because the verbs in (92)–(95) here are expressive of far more immediate perception than are the verbs in (87)–(91). The perception implied here is thus far less distant than that implied in (87)–(91), so that there is apparently no room whatsoever for the extra length marker *to be* here.

Our discussion here also throws plenty of light on why the infinitive-marker *to* is not usually allowed after such transitive verbs of immediate perception as *hear* and *see*. Let us take a look at the following paraphrase sentence pairs.

- (96) a. We *heard him sing*.
 b. *We *heard him to sing*.
 (97) a. We *saw them practice*.
 b. *We *saw them to practice*.

The verbs *hear* and *see* in (96) and (97) are verbs of maximally immediate perception on the order of such verbs as *look*, *smell*, *taste*, and *feel* we have already considered in connection with (92)–(95). There is thus no room for the extra length marker *to* in the predicates of (96) and (97) above, which is why (96b) and (97b) are not grammatical.

We will now turn our attention to causational distance as a determinant of length in linguistic expressions. Let us begin our discussion here with a comparison of the two paraphrase sentence pairs below.

- (98) a. They *had him turn* himself in.
 b. *They *had him to turn* himself in.
 (99) a. *They *got him turn* himself in.
 b. They *got him to turn* himself in.

Note here that *have* has a more immediate force of causation than does *get*, so that the former implies a shorter causational process or distance than does the latter. Thus the verb *have* in (98) is causationally not distant enough to warrant the extra length marker *to*, whereas the verb in (99) is causationally so distant that this extra length marker is obligatory. And this is evidently why (98b) and (99a) are ungrammatical while (98a) and (99b) are grammatical.

The two paraphrase sentence pairs below may also be accounted for along exactly identical lines.

- (100) a. They *made him die*.
 b. *They *made him to die*.
 (101) a. *They *caused him die*.
 b. They *caused him to die*.

It is interesting to observe here that (102c) below expresses greater causational distance, and thus is longer, than (102b), which in turn expresses greater causational distance, and thus is longer, than (102a).

- (102) a. I *made him a happy boy*.
 b. I *let him be a happy boy*.
 c. I *caused him to be a happy boy*.

Needless to say, what we have just said regarding (102) is in line with our contention that causational distancing tends to lengthen the expression in question.

One and the same verb may vary its causational immediacy/distance from one use to another. Let us take, for example, the verbs *shoot* and *fall*, as used in the following two sentence pairs.

- (103) a. They *shot him dead*.
 b. They *shot him to death*.
 (104) a. She *fell dead*.
 b. She *fell to her death*.

Note that, in either (103) or (104) here, the predicate normally implies a more instantaneous death in the first sentence than in the second sentence. This suggests that the predicate is causationally more distant in the second member of either sentence pair above than in the first member of the same pair. Thus it appears that the causationally more distant predicate in the second member of either pair here is longer than the causationally less distant first member of the same pair, which is in line with our thesis here. Incidentally, the preposition *to* is employed here as the surface marker of the extra length resulting from a greater causal distance.

Our discussion here also sheds light on why the first sentence in each pair below is ungrammatical (while the second sentence in the same pair is grammatical).

- (105) a. *She *bled dead*.
 b. She *bled to death*.
 (106) a. *They *starved her dead*.
 b. They *starved her to death*.
 (107) a. *?They *burned him dead*.
 b. They *burned him to death*.

The verbs here, i.e. *bled*, *starved* and *burned*, are normally verbs of non-immediate causation. Note here that *dead*, the predicate-final one-word complement in the first member of each pair above, is too short for the verb of non-immediate causation with which it is used. This is evidently why the first member of each sentence pair above is ungrammatical while the second member of the same pair is grammatical.

It is interesting that the following paraphrase sentence pairs are also amenable to an essentially identical explanation.

- (108) a. *He *was made die*.
 b. He *was made to die*.
 (109) a. *He *was heard sing*.
 b. He *was heard to sing*.

- (110) a. *They *were seen practice*.
 b. They *were seen to practice*.

Note that the verbs here have lost much of their original causational/ perceptual immediacy in the process of passivization with the result that they are no longer verbs of immediate causation/perception. Thus, in the first sentence of each pair above, the absence of *to* renders the predicate too short for the passivized main verb, which is now a verb of non-immediate causation/perception. This apparently leads to the ungrammaticality of (108a), (109a), and (110a) above.

Quite often, spatio-temporal distancing also has the effect of lengthening the linguistic expression involved. Let us begin our discussion here with a consideration of the following sentence pairs.

- (111) a. Julius Caesar was assassinated in *44 B.C.*
 b. *Julius Caesar was assassinated in *44*.
 (112) a. ??John F. Kennedy was assassinated in *A.D. 1963*.
 b. John F. Kennedy was assassinated in *1963*.

Note here that *B.C.* is obligatory when we refer to the temporally quite distant year of Caesar's assassination while *A.D.* is definitely better left out when we refer to the temporally proximate year of Kennedy's assassination. The obligatory use of *B.C.* in (111), as opposed to the disallowance of *A.D.* in (112), is in line with our contention that temporal distance tends to translate into the relative length of the linguistic expression in question.

It is interesting to note in this connection that the first sentence below is grammatical while the second is not.

- (113) a. The volcano erupted in *A.D. 79*.
 b. *?The volcano erupted in *A.D. 1989*.

A.D. in *A.D. 79* is perfectly justified because its referent is temporally quite distant from the present. On the other hand, *A.D.* in *A.D. 1989* is out of place and not justified because its referent is temporally quite proximate to the present. At any rate, the use of *A.D.* in sentences like (113a), as opposed to its disallowance in sentences like (113b), is clearly a function of the difference in relative temporal distance between the present and the referents in question.

It is worth noting at this point that the past-tense suffix or the (future) auxiliary verb serves to add to the length of the verb phrase in which it occurs. The resultant lengthening here can also be thought of as a function of temporal distancing from the here and now of the speech context.

Note also that the third-person-present-singular suffix serves to lengthen the verb phrase in which it occurs. The lengthening here is also apparently a function of spatio-temporal distancing from the here and now of the speech context. Note in this connection that the referent of a third-person pronoun is not normally present in the immediate context of speech and is, therefore, spatio-temporally removed therefrom.

Let us now examine the following paraphrase sentence pairs.

- (114) a. John F. Kennedy was president in *the 1960s*.
 b. John F. Kennedy was president in *the 60s*.
 (115) a. Abraham Lincoln was president in *the 1860s*.
 b.*Abraham Lincoln was president in *the 60s*.

It is interesting that the temporally proximate *1960s* may be reduced to the shorter form *60s* whereas the temporally distant *1860s* may not normally be thus reduced. This is apparently in line with our claim that spatio-temporal distance translates into the relative length of the expression in question.

In some instances, however, even *the 1860s* may lose its prefix *18*, giving rise to the shortened form *the 60s*. In the context of a discussion centering around the history of the 19th century, for example, *the 1860s* may freely be reduced to *the 60s*. This is because *the 1860s* is referentially quite proximate to this particular context of (historical) discourse.

Let us now compare the two sentences below, in which *Father* and *The father* are intended to refer to one and the same person, i.e. the speaker's own father.

- (116) a. *Father* said to come home early.
 b. *The father* said to come home early.

A person who says (116a) is likely to feel psychologically closer to his or her father than does a person who says (116b). If this is correct, then we can say that psychological distance also translates into linguistic length in a rather straightforward manner, as in (116). Incidentally, the definite article

The here serves as the surface reflex of the greater underlying psychological distance of *The father*, as opposed to *Father* here.

Notional/referential distance between linguistic elements often translates into the length of the expression in which they occur. Let us consider the following pair of sentences, focusing on the parts in italics.

- (117) a. She can't come with us because *she* is with *child*.
 b. She can't come with us because *she* is with *a child*.

Note that the referent of *she* is much closer to that of *child* in (117a) than in (117b). For the the referent of *child* is inside that of *She* in (117a) while the referents of these two words are merely next to each other in (117b). Note further that (117b) is longer than (117a), albeit by only one word, i.e. the indefinite article *a*. Thus we may argue that the difference in referential distance between *she* and *child* accounts for the difference in length between (the subordinate clauses of) the two sentences in (117) above.

Let us consider the following two sentences, focusing on the difference in referential distance between *man* and *wife*.

- (118) a. They were pronounced *man and wife*.
 b. They were pronounced *a man and a wife*.

The relationship between *man* and *wife* is referentially much closer in (118a) than in (118b) because the two persons referred to here make up a married couple in the former, but not in the latter. Thus the referential distance between the two words is greater in (118b) than in (118a). Again this difference in referential distance between *man* and *wife* in the two sentences here accounts for the difference in length between the two sentence-final coordinate noun phrases.

A similar account is applicable to the following pairs of sentences.

- (119) a. He was sent to prison.
 b. He was sent to a prison.
 (120) a. He is still in bed.
 b. He is still on the bed.

In either sentence pair here, the relationship between the referents of the two underlined nominal elements is closer in the first sentence than in the second. Once again this difference in referential distance between the

nominals in the two sentences finds formal expression in the difference in length between (the sentence-final noun phrases of) the two sentences. From (119) and (120) here as well as (116)-(118), we can see that the articles *a(n)* and *the* often serve as surface reflexes of greater underlying referential distances of one sort or another.

Parenthetically, it is apparently no coincidence that the proximal preposition *to* is deletion-prone whereas the distal preposition *from* is not. Let us take a look at the following paraphrase sentence pairs, focusing on the italicized parts.

- (121) a. Inchon is *near to* Seoul.
 b. Inchon is *near* Seoul.
- (122) a. Inchon is not too *far from* Seoul.
 b. *Inchon is not too *far* Seoul.
- (123) a. He moved *back to* the west.
 b. He moved *back* west.
- (124) a. He moved *back from* the west.
 b. *He moved *back* west.

It is quite clear from this data that the proximal *to* may (easily) get deleted whereas the distal *from* may not. This arguably complies with our contention that referential distance (or proximity) is a factor of direct relevance to determining the relative length of a linguistic expression.

The same phenomenon is observable from the four paraphrase sentence pairs below.

- (125) a. Where did they go *to*?
 b. Where did they go?
- (126) a. Where did they come *from*?
 b. *Where did they come?
- (127) a. John gave a book *to* Bob.
 b. John gave Bob a book.
- (128) a. Bob received a book *from* John.
 b. *Bob received John a book.

Before we proceed any further with our discussion here, it may be pointed out that the distal *from* may sometimes be deleted when it occurs in the sphere of influence of such distally-oriented verbs as *escape* and *flee*. Thus

we may derive “*He escaped the punishment*” and “*He fled the war zone*” from “*He escaped from the punishment*” and “*He fled from the war zone*” respectively by deleting the distal *from*. Since the distal *from* is itself quite proximate to the distal orientation of the verb (phrase) here that its deletability may also be thought of as a function of the proximity or distance between the two. Viewed in this way, the deletability of the distal *from* here is not really a counterexample to the point we are making.

It is interesting that the complement of the proximal *to* is also evidently far more deletion-prone than that of the distal *from*, as can be seen from the two paraphrase sentence pairs below.

- (129) a. (?)I will help them if you ask me *to help them*.
 b. I will help them if you ask me *to*.
 (130) a. I wanted to help them, but he kept me *from doing so*.
 b. *I wanted to help them, but he kept me *from*.

It may be noted in passing that (129b) is much more natural than (129a), which may suggest that the proximal preposition *to* sometimes downright requires complement deletion. In contrast, the distal *from* seems to discourage, or rather disallow, complement deletion.

The proximal *to* along with its complement is often deletable, which is not the case with the distal *from* (along with its complement). This is evident from the following paraphrase sentence pairs, in each of which the second sentence is supposed to be derived from the first.

- (131) a. *In addition to English*, he speaks two languages.
 b. *In addition*, he speaks two languages.
 (132) a. *Apart from that*, she was a very good kid.
 b. **Apart*, she was a very good kid.

It is noteworthy that the notionally proximal *besides* also allows its complement to get deleted whereas the notionally distal *except for* does not do so, as can be observed from the following paraphrase sentence pairs.

- (133) a. *Besides that*, she was a very good teacher.
 b. *Besides*, she was a very good teacher.
 (134) a. *Except for that*, she was a very good teacher.
 b. **Except for*, she was a very good teacher.

3. Distance and Word Order

Distance, as measured from a number of reference points, is a major word order variable. Distance from the here and now of the speech context, for one, often determines the order in which words occur in a large number of expressions, especially binominal expressions. Let us take, for example, the italicized binominals in (135) below.

- (135) a. They looked *here and there*.
 b. They traveled *hither and thither*.
 c. I have tried *this and that*.
 d. They have worked both *at home and abroad*.
 e. I enjoyed reading *FROM HERE TO ETERNITY*.
 f. *Here* today, *gone* tomorrow.
 g. Things *present* are judged by things *past*.
 h. He comes to visit me *now and then*.
 i. *Now is now and then was then*.

Note that in each and every one of the binominals in (135), the first term is referentially closer to the here and now of the speech context than is the second term. Based on this observation, we may contend that, other things being equal, the term that is referentially closer to the immediate context of speech precedes the term that is less close thereto.

It goes without saying that word order for the italicized portions of the following sentences can be accounted for along essentially identical lines.

- (136) a. *Here today, gone tomorrow*.
 b. One hour *today* is worth two *tomorrow*.
 c. One *today* is worth two *tomorrows*.
 d. If *today* will not, *tomorrow* may.
 e. He said, "*Now or never*."

In all the examples we have cited so far, the here and now of the speech context is the starting point from which distance is measured for our purposes. In fact, distance, as measured from other starting points, also plays a role in determining the order in which words occur in a fair number of expressions. Let us examine the following data, focusing on the italicized portions.

- (137) a. He will come back *sooner or later*.
 b. Both *pre- and post-war* novels were considered for the prize.
 c. A *nine-to-fiver* is one who works regular day-time hours, as in an office. (*nine*: nine A.M. / *five*: five P.M.)
 d. There are *SEVEN-ELEVENS* all over the the United States.
 (SEVEN: seven A.M. / ELEVEN: eleven P.M.)
 e. This book is for Grades *One through Three*.
 f. He works out *two, three* hours a day.

In the italicized binominals here, the first term is invariably closer to the starting point of estimation, either temporal or numeral, than is the second. In fact, the first term of each binominal here is the starting point of enumeration for all practical purposes while the second term of the same binominal is the end point thereof. At any rate, we can see here that the term that is closer to the starting point of enumeration precedes the one that is less close thereto.

It is important to remember at this point that the starting point of enumeration is not always numerally smaller than the end-point thereof. In the context of a countdown, for instance, the starting-point numeral is always larger than the end-point numeral. Thus we may say something like “*Five, four, three, two, one*” rather than “*One, two, three, four, five*,” that is, when the countdown begins from the numeral *five*.

Numerals in binominals also regress from larger to smaller ones when they are in the sphere of influence of such verbs of regression/diminution as *plunge* and *plummet*. Thus the starting-point numeral in such binominals is larger than the end-point numeral. This is evident from data such as the following.

- (138) a. *The temperature *plunged from 10 to 40 degrees*.
 b. The temperature *plunged from 40 to 10 degrees*.
 (139) a. *His score *plummeted from 60 to 100*.
 b. His score *plummeted from 100 to 60*.

Needless to say, we may replace *plunged* and *plummeted* here with such verbs of regression/diminution as *dropped* and *fell* and still get the same results.

The italicized portions of the following sentences can be used in making

the point that what is referentially closer to the starting point of a flow or process precedes what is less close thereto.

- (140) a. Dr. Sammy Lee is a *Korean-American*.
 b. I have a very good *French-English* dictionary.
 c. 感謝 is a *Sino-Korean* word.
 d. His *British born-and-bred* wife teaches English here.
 e. *CRIME AND PUNISHMENT* is a great novel.

Let us now examine the following pairs of sentences, focusing on the italicized (de)verbal binominals.

- (141) a. She *washed and dried* the dishes.
 b. He *sealed and addressed* the envelopes.
 c. The *hit-and-run* driver is still at large.

Note that what is referred to by the first term of each binominal here took place prior to what is referred to by the second term of the same binominal. As in many other examples, in fact, the first term here refers to the very starting point of the process in question while the second term refers to the end point of the same process. Thus the first term here is referentially closer to the starting point of the process than is the second term, which is why the former precedes the latter. This is, of course, in compliance with our contention that an element that is closer to the starting point normally precedes an element that is less close thereto.

Let us now compare (141a), (141b), and (141c) with (142a), (142b), and (142c) respectively.

- (142) a. She *dried and washed* the dishes.
 b. He *addressed and sealed* the envelopes.
 c. ?The *run-and-hit* driver is still at large.

Note that the order for the two terms of each binominal is reversed here so that the sentences in (142) are interpreted quite differently than those in (141). For example, *drying* is interpreted as preceding *washing* in (142a) while it is the other way around in (141a).

It is interesting that our preceding discussion throws plenty of light on why the two verbless clauses in each of the following proverbs occur in the order in which they do.

- (143) a. No pains, no gains.
 b. No pain, no cure.
 c. No bees, no honey. No work, no money.
 d. Short pleasure, long pain.
 e. Garbage in, garbage out.

Note that the first clause in each proverb here refers to the starting point of a process whereas the second clause refers to the end point of the same process. Thus the first clause is referentially closer to the starting point than the second clause, which is apparently why the former precedes the latter.

An essentially identical account is applicable to the order in which the two constituent clauses of each coordinate structure below occur relative to each other.

- (144) a. Work hard, and you will succeed.
 b. Work hard, or you will fail.
 c. Money is round, and rolls away.
 d. The weather wasn't very good, and (so) we canceled our picnic.

It may be observed at this point that all of our examples in both (143) and (144) express a cause-and-effect relationship and that the cause is the starting point while the effect is the end point.

In many instances, the starting points of temporal estimation and of the speech context appear to converge in that distance measurement from either starting point leads to exactly the same result. This is the case when the starting point of temporal estimation is anchored in the here and now of the speech context.

In fact, all the examples cited in (136) may be accounted for just as well in terms of distance from the starting point of temporal estimation. The examples given in (135g), (135h), and (135i) may also be explained equally well in terms of distance from the starting point of temporal estimation, except that here distance measurement is regressive from the starting point rather than progressive therefrom.

When the starting point of temporal estimation is anchored in the past, however, then it does not converge with the starting point of the here and now of the speech context. When we refer to the result of plastic surgery,

for example, we often use the expression *then and now* meaning “before and after the surgery.” In this context, *then* refers to the starting point of the process in question whereas *now* refers to the end point of the same process. Thus this *then and now* contrasts with *now and then*, whose word order is accounted for in terms of distances measured from the starting point of the here and now of the speech context.

It is worth noting in this connection that *now and then* is an idiom with a repetitive sense while *then and now* is not such an idiom. In fact, similar binominals are also often repetitively interpreted idioms when the starting point of temporal estimation is anchored in the here and now of the speech context. When the starting point of temporal estimation is not thus anchored, however, this does not seem to be the case. For example, *this and that*, *here and there*, and *hither and thither* are repetitively interpreted idioms whereas *that and this*, *there and here*, and *thither and hither* are not usually interpretable as such idioms.

Distance, as measured from unmarkedness, often plays a pivotal role in determining the order in which words occur in binominals. Let us begin our discussion here with a consideration of the italicized binominals in the following sentences.

- (145) a. Ask him if he is *for or against* the proposal.
 b. We debated the issue *pro and con*.
 c. *Rightly or wrongly*, he decided to side with them.
 d. *For better or worse*, he chose to stay behind.
 e. Marriage *makes or mars* a man.
 f. It was a *hit-and-miss* type of thing.

The first term of each binominal here refers to the unmarked, positive pole of an opposition while the second term of the same binominal refers to the marked, negative pole of the same opposition. Thus we can say that the first term is referentially closer to unmarkedness than the second term is, which is in our terms why the former precedes the latter in surface order.

We can explain along identical lines the order in which the two terms of each binominal in the data below occur relative to each other.

- (146) a. He was wearing his shirt *inside out*.
 b. She laid the cups *upside down* on the tray.

- c. We will proceed with our program *with or without* his help.
- d. *To be or not to be*, that is the question.
- e. They searched *high and low* for the keys.
- f. They remained friends through *thick and thin*.
- g. He played *fast and loose* with her emotions.
- h. The young president was well liked by *rich and poor* alike.

The order for the two constituent clauses of either proverb below is also determined by the difference in distance from unmarkedness between the two italicized words.

- (147) a. *Win* some, *lose* some.
- b. *Finders*, *keepers*; *losers*, *weepers*.

We will now turn our attention to a slightly different kind of distance of relevance to our present discussion. Let us examine the following sentence pair.

- (148) a. This is an *aluminum beer can*.
- b. *This is a *beer aluminum can*.

Note that, of the two modifiers of *can* in (148) above, *beer* is primary while *aluminum* is secondary in that the can here exists for beer, not for aluminum. Thus *beer* is closer to the *raison d'être* or basic function of the *can* here than is *aluminum*, which is arguably why *beer* must occur closer to *can* than does *aluminum*. It may be observed in passing that a *beer aluminum can* in (148b) would have the absurd meaning of "a can that is made of beer and used as a container for aluminum."

An essentially identical account is applicable to the italicized portions of the following sentence pair.

- (149) a. He has just bought a *gas cigarette lighter*.
- b. *He has just bought a *cigarette gas lighter*.

In the sentence-final noun phrase of (149a), *cigarette* is more closely linked to *lighter* than is *gas* in that what a lighter lights is not *gas* but *cigarettes*, and that *gas* is only what a lighter uses to light a cigarette. Parenthetically, the ungrammatical *a cigarette gas lighter* of (149b) can only have the absurd semantic interpretation "a lighter that uses cigarettes to light gas."

4. Distance and Language Processing

The main thesis of this section is that distance is a major variable in language processing. We will lead off our discussion here by making the point that the degree of proximity between related elements translates into the ease of processibility and comprehensibility of the expression in which they occur. Related elements here are mostly the immediate or string constituents of one and the same construction. Let us take, for example, the following paraphrase sentence pairs.

- (150) a. *The reading of the Bible* is not allowed on Fridays.
 b. ?*The reading on Fridays of the Bible* is not allowed.
- (151) a. She *called down* the boy who was always late.
 b. ?She *called the boy who was always late down*.
- (152) a. They cannot *set aside* a whole system of rules devised by Congress itself.
 b. ?They cannot *set a whole system of rules devised by Congress itself aside*.

Note that, in each pair above, the immediate constituents of the italicized portion is continuous in the first sentence while they are discontinuous in the second sentence. Note further that the first sentence in each pair is more readily processible and comprehensible than the second sentence in the same pair. Thus it is apparently the case that proximity between the immediate constituents of a construction is in direct proportion to the processibility and comprehensibility of the construction.

It is in order at this point to observe that lower-level discontinuity is often preferable to higher-level discontinuity because the former is less disruptive of processing and comprehension than is the latter. With this in mind, let us take a look at the following paraphrase sentence pairs.

- (153) a. *Word came* that the enemy was planning a night raid.
 b. (?)*Word that the enemy was planning a night raid came*.
- (154) a. The *time* has *come* for them to send out their annual requests for donations.
 b. (?)The *time* for them to send out their annual requests for donations has *come*.

- (155) a. The *news spread* that the princess was planning to appear on the talk show.
 b. (?) The *news that the princess was planning to appear on the talk show spread*.

In each pair here, the first sentence contains a discontinuous construction on a lower level than does the second. The first sentence is indeed thus more readily processible and comprehensible, and thus stylistically a bit better, than the second sentence.

Let us now think of the fact that the first member of each paraphrase sentence pair below is often stylistically favored over the second member of the same pair.

- (156) a. This is an *editorially good* paper.
 b. This is a *good paper editorially*.
 (157) a. Who else's *paper*?
 b. (?) Whose else paper?
 (158) a. *Your problems* and mine
 b. (?) *Your and my problems*

In each pair above, the two italicized immediate constituents are closer to each other in the first sentence than in the second sentence. As a result, the first sentence here is a bit more readily processible and comprehensible than the second sentence, which is evidently why the former is often stylistically preferred to the latter.

The distance variable under discussion here also throws light on interesting data such as the following.

- (159) a. *Sitting* near the door, *I* could hear *him* cry.
 b. *I* could hear *him* cry, *sitting* near the door.

Note that *sitting* is closer to *I* than to *him* in the first sentence above while it is the other way around in the second sentence. Note further that normally *I*, rather than *him*, is interpreted as being the subject of *sitting* in the first sentence while it is the other way around in the second sentence. From data such as (159) above, we can see that elements are more likely to be interpreted as belonging together in one linguistic unit when they are closer together than when they are less close together.

The following sentence pairs can also be used to demonstrate that elements that are closer together are more likely to be interpreted as forming a close-knit linguistic unit than those that are less close together.

(160) a. Who wrote that *dirty British book*?

b. Who wrote that *British dirty book*?

(161) a. They *immediately asked* us to *help* him.

b. They *asked* us to *help* him *immediately*.

In (160a), *British* and *book* are the immediate constituents of a lower-level construction, which is in turn immediate constituent with *dirty* in a higher-level construction. In (160b), on the other hand, *dirty* and *book* are the immediate constituents of a lower-level construction, which is in turn immediate constituents with *British* in a higher-level construction. In plain English, *book* is modified primarily by *British* and secondarily by *dirty* in (160a) while it is the other way around in (160b). Thus *a dirty British book* means “a British book that is dirty, i.e. covered with dirt,” whereas *a British dirty book* means “a book of dirty jokes that originates in Britain.”

As for (161), *immediately* is closer to *asked* than to *help* in (161a) while it is the other way around in (161b). Thus *immediately* qualifies *asked* in (161a) and *help* in (161b), with the result that (161a) implies that the request for help was *immediate* whereas (161b) implies that *immediate help* was requested.

Let us consider the following sentence with special reference to the adverbial *once again*.

(162) They said *once again* the situation was serious.

Note that *once again* is equidistant to the main clause *They said* and the subordinate clause *the situation was serious* with the result that *once again* may qualify either clause. Thus the sentence is two ways ambiguous. It is interesting to note here that this two-way ambiguity may be resolved by using the subordinator *that* either before or after *once again*, as in the following sentences.

(163) a. They said *once again* that the situation was serious.

b. They said that *once again* the situation was serious.

In (163a), where *that* puts some distance between *once again* and *the situa-*

tion was serious, once again can qualify *They said* only. In (163b), where *that* puts some distance between *once again* and *They said*, on the other hand, *once again* can qualify *the situation was serious* only.

Let us turn now to the two sentences below, in which formal differences, including length differences, are apparently linked to differences in semantic interpretation.

- (164) a. *Bob and Sue greeted each other.*
 b. *Bob greeted Sue, and (then) Sue greeted Bob.*

Bob's greeting of Sue and Sue's greeting of Bob are (almost) simultaneous and thus maximally proximate to each other in (164a), while they are sequential and thus less than maximally proximate to each other in (164b). Thus (164a) may arguably be shorter and more compact structurally than (164b) because the former implies a higher degree of proximity between the two acts involved here than does the latter.

Needless to say, exactly the same account should also be applicable to the following sentence pairs.

- (165) a. *John and Bob saw each other.*
 b. *John saw Bob, and (then) Bob saw John.*
 (166) a. *John and Bob wrote to each other.*
 b. *John wrote to Bob, and (then) Bob wrote to John.*

We will now turn our attention to the interesting fact that two juxtaposed identical elements tend to radically reduce the processibility and comprehensibility of the expression in which they occur. Let us take the paraphrase sentence pair below, for example.

- (167) a. **?I used to get up earlier earlier.*
 b. *Earlier I used to get up earlier.*

The juxtaposition of the two tokens of *earlier* in (167a) renders the sentence extremely difficult to immediately process and comprehend. We may overcome this problem by changing the word order, as in (167b), thereby putting some distance between the two (potentially problematic) tokens of *earlier*.

An essentially identical account is applicable to the following paraphrase sentence pair.

- (168) a. *?Who he *is is* a mystery.
 b. Who he *is, is* a mystery.

Note that a comma is inserted in (168b) as a means of putting some distance between the two tokens of *is*. Note further that this means *is* is resorted to here so as to overcome the problem of low processibility and comprehensibility caused by the two juxtaposed tokens of *is* in (168a).

Instead of resorting to the means of putting distance between two or more juxtaposed tokens of an identical element, we often simply replace one of the two tokens with a different element, lexical or otherwise. The following paraphrase sentence pairs are intended to show how this replacement, be it lexical or otherwise, can help circumvent the problem of low processibility and comprehensibility that can arise from two juxtaposed tokens of an identical element.

- (169) a. ??They *can can* all the peaches.
 b. They *may can* all the peaches.
 (170) a. ??She *will will* the sun to come out.
 b. She *is going to will* the sun to come out.
 (171) a. *?That is *not not* important.
 b. That is *not unimportant*.
 (172) a. *?He could *not not* stay home.
 b. He could *not but* stay home.

Our discussion here also casts a great deal of light on the *raison d'être* of pronominalization of various sorts. Let us take, for example, the pronouns in the following paraphrase pairs of sentences.

- (173) a. *John* hurt *John*.
 b. *John* hurt *himself*.
 (174) a. *John* said that *John* would consider the proposal.
 b. *John* said that *he* would consider the proposal.
 (175) a. *John* thinks I like *John*.
 b. *John* thinks I like *him*.

In the first sentence of each pair here, the two tokens of *John* refer to one and the same person. In the second sentence of the same pair, *John* and the third person masculine singular pronoun also refer to one and the same per-

son. Thus we can see that the second token of *John* in the first sentence of each pair here is replaced in the second sentence of the same pair by a third person masculine singular pronoun.

Note that the first sentence here with two tokens of the same word *John* is far less immediately processible and comprehensible than the second sentence in which one of the two tokens of *John* is replaced by a pronoun. Note also that the second sentence is quite plausibly derived from the first. Thus the pronominalization here is arguably a means of raising the immediate processibility and comprehensibility of the original sentence that is encumbered with two juxtaposed tokens of *John*. All instances of pronominalization are, in fact, arguably designed to render the sentence in question more readily processible and comprehensible.

The preceding discussion makes it quite clear that we normally avoid juxtaposing identical elements because it poses a problem by drastically impeding the immediate processing of the expression in question. There is indeed a fairly widespread constraint on the proximate repetition of identical elements. Let us take the following paraphrase sentence pairs, for example.

- (176) a. *?We all love *that that* is true, good, and beautiful.
 b. We all love *that which* is true, good, and beautiful.
- (177) a. *?*Watch-watches* are not good employees.
 b. *Clock-watches* are not good employees.
- (178) a. *?He directed the movie *remarkably skillfully*.
 b. He directed the movie *with remarkable skill*.

The first sentence in each pair here is encumbered with a juxtaposition of two identical elements, which impedes its immediate processing quite drastically. That is the main reason this first sentence is less than (maximally) acceptable or natural. The second sentence in the same pair resolves this problem by steering clear of the problematic juxtaposition by means of one kind of replacement or another.

This constraint on proximate repetition is quite widely applicable to (morpho)phonology. Let's take the following paraphrase sentence pairs, for example.

- (179) a. ??He acted *cowardlily*.
 b. He acted *in a cowardly manner*.

- (180) a. *The whole text was *inintelligible*.
 b. The whole text was *unintelligible*.
- (181) a. *It was *lightninging* long before we got home.
 b. It was *lightning* long before we got home.

The first sentence in each pair here is avoided because it contains a clumsy juxtaposition of two identical or nearly identical (morpho)phonological elements. The second sentence in the same pair, which steers clear of this problematic juxtaposition, on the other hand, is perfectly natural.

Let us now examine the following data for the environment in which we use the adjective suffix *-ar*, which is in allomorphic alternation with its more widely used cousin *-al*.

- (182) a. *circular* / **circulal*
 b. *popular* / **populal*
 c. *regular* / **regulal*
 d. *particular* / **particulal*
 e. *singular* / **singulal*
- (183) a. *comical* / **comicar*
 b. *mental* / **mentar*
 c. *global* / **globar*
 d. *frugal* / **frugar*
 e. *eternal* / **eternar*

Since every stem in (182) ends in /l/, the use of the *-al* allomorph here would result in two tokens of /l/ getting (nearly) juxtaposed, which is why this allomorph is not used here. Thus the /l/ of the *-al* allomorph apparently gets replaced by /r/ in (182) above, so as to avoid this problematic (near) juxtaposition of /l/. In (183), on the other hand, the suffixation of the *-al* allomorph does not give rise to this juxtaposition problem, so that there is no justification for its replacement by the *-ar* allomorph. Parenthetically, we are assuming here that *-al* is the basic allomorph which gives rise to the *-ar* allomorph.

Incidentally, the constraint on proximate repetition appears to cast light on all known instances of dissimilation and haplology. It also apparently throws an abundance of light on all types of linguistic rhythm, including strong-weak stress alternation and consonant-vowel alternation. Note that

dissimilation, haplogy, and rhythm all serve to prevent identical or nearly identical elements from getting juxtaposed or at the very least to reduce such awkward juxtapositions to a bare minimum.

The constraint on proximate repetition is also operative in orthography, as can be observed from the following paraphrase pairs.

(184) a. *Did he say, "How are you?"?

b. Did he say, "How are you?"

(185) a. *Her mother is an M.D..

b. Her mother is an M.D.

Note that the first and second question marks in (184a) go with the higher and lower (constituent) clauses of the sentence respectively. Note also that the first and second periods in (185a) are the *M.D.*-final and sentence-final periods respectively. Underlyingly justified as they may be, the second question mark in (184a) and the second period in (185a) have to be deleted so as to render the surface punctuation here compliant with the constraint on proximate repetition.

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