

-ING VARIATION IN PRE-NOUN MODIFIERS

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0. Introduction

In English, modifiers are generally preposed to headnouns, contrary to Spanish where modifiers normally follow. This may be seen in *cordless table alarm clock* rendered in Spanish as *despertador de mesa sin cordón*. Speakers of English use this premodification device quite freely, as in *radio talk show*, *big roll bath tissue*, *Subaru factory authorized dealer sale*, and *temporary, federal away-from-reactor waste storage facility*. A certain amount of variation exists in grammatical and derivational markers of modifying elements placed before nouns. At times this variation implies no major change in meaning; for example *printed shirt/print shirt*, *teenaged daughter/teenage daughter/teen daughter*, *consumer's guide/consumer guide*, *McDuff's Electronics/McDuff Electronics*, *fashionable jewelry/fashion jewelry*, *The Marines Corps/The Marine Corps*, *sportswear/sportwear*, *resting day/rest day* and *fishing line/fish line*. There are other times when the presence or the absence of a suffix involves an alteration in the semantics of the phrase; for example *age-groups/aged groups* (of old people), *salt water/salted water* (added artificially), *bread stick/breaded fish* (covered with bread crumbs), *a pigtail* (a hairstyle)/ *a pig's tail*, *a universal inquiry/a universals inquiry* (a linguistic universals inquiry), and *water restrictions/watering restrictions* (restrictions to sprinkling the lawn).

It would be interesting to engage in the analysis of this type of morphological and semantic variability in English. However, for reasons of space, this paper is exclusively devoted to the study of structures such as *resting day/rest day*, *watering restrictions/water restrictions*, in which the premodifier may occur with or without the *-ing* suffix. Although Jespersen (1954, Vol. 6), Adams (1973), and Quirk *et al.* (1985: 1321-1346 and 1567-1578) refer to the topic of compounding and premodification in English, these scholars hardly touch upon the questions raised in this paper. This study focuses on N(ing) + N combinations, even if occasionally combinations are covered in which the first member can be considered an adjective; semantically adjectives tend to suggest a temporary relationship,

as in a barking dog or a working man¹. No distinction is made between compounds and nominal phrases since researchers usually rely on semantic criteria and the nature of the stress pattern as the dividing line, but these criteria are not always well defined. We discuss below several types of N(ing) + N constructions: a) those in which variation does not alter meaning, b) those in which variation implies semantic changes, c) fossilization and idiomaticity, and d) the connection between word or phrase complexity and variation.

1. N(ing) + N constructions

In the discussion of the formation of compounds and their final acceptability, Downing (1977) invokes the interplay of several factors: function in the real world, name-worthiness, semantic coherence of its members, and permanency. It is obvious that **shop center* is not a compound in view of the fact that its possible interpretation (a place where shops are prefabricated or where shops are sold) has no function in the real world. Likewise, *eggbird* is not a name-worthy compound for the simple reason that all birds lay eggs. One could think of a bird that has the habit of eating eggs or of birds that come from test-tubes and oppose *test-tube birds* to *eggbirds*. But all those situations are quite unlikely, hence the lexicalization of *eggbird* (i.e., a historical process which serves to associate with a noun phrase one or a small number of readings) is functionally unnecessary. An **eating stone* is not an acceptable compound under normal circumstances in that stones are not eaten or stones do not eat. Here the selectional restrictions between *eating* and *stone* are violated; in other words, no semantic coherence exists between the members of the compound. Finally, *apple-juice seat* has a deictic, non-permanent role since it would not be used outside a referential context that identifies the meaning of the expression. These types of fortuitous expressions, which are common in English, never find their way into English dictionaries (see Webster's 1981 and 1983). This approach to the formation of compounds will shed some light on our analysis of the N(ing) + N constructions.

Undoubtedly the predilection or tendency of English speakers to use nouns such as *diet* and *dieting* with an almost equivalent meaning, as in *a few days of diet* and *a few days of dieting*, is a reasonable indication that it will not be uncommon in that language to encounter *-ing* variation in premodifiers with no semantic change, as may be noted in *the diet process/the dieting process, the diet cycle/the dieting cycle, the exercise period/the exercising period, the exercise bike/the exercising bike*. However, *-ing* variation in the first member of compounds often involves a difference in meaning. Thus, in *naming process* and *nameplate*, the former refers to the process of giving names to things and the latter suggests

¹ In fact, *working man* may be both an Adj. + Noun (a man is working) and a N + N (a man who works). Several examples provided in this paper could have a temporary Adj. + Noun interpretation. However, we generally focus on the permanent or N + N relationship.

a plate bearing the name of a resident or manufacturer. Similarly, *a travel writer* is one that writes on travels while *a traveling writer* is one who writes while traveling (cf., likewise, *trading company* and *trade school*).

At other times the semantic nuances are less conspicuous or less perceptible, as in *song contest* and *singing context*. It seems that in *song contest* the emphasis is on *song*. One thinks of the *European Song Contest* held every Spring, in which the best song among the countries participating wins. In *singing context* the stress is on the activity rather than on the song itself. For this reason, *singing marathon* is a more normal compound than *song marathon*; the latter enjoys a lesser degree of semantic coherence due to the nature of the second member of the compound. In *singing marathon*, the winner is probably the person or group that will outstrip other people or groups.

1.1. To begin with a set of examples are examined, in which variability in the *-ing* suffix entails no change in meaning or a change which is barely noticeable. In general, the modifying element is a verbal noun referring to an activity, or the corresponding noun suggesting act or process or an instance of such process. Examples are

baking rack	launching pad	starting line
bake rack	launch pad	start line
roasting pan	washing cycle	racing product
roast pan	wash cycle	race product
draining board	skiing motion	working day
drain board	ski motion	work day
walking shorts	swimming trunks	scoring system
walk shorts	swim trunks	score system
shaving cream	curling iron	marathoning marvel
shave cream	curl iron	marathon marvel

In the previous examples, the modifying noun with or without an *-ing* suffix (i.e., *baking* and *bake*) keeps the sense 'act or process'. This description is extensible to the remainder of the data.

Free variation or similarity of meaning is also found in certain sets of doublets where the noun without the suffix does not indicate activity; instead this noun suggests a place or a thing related semantically to the activity as its referent, as in

camping site	fishing net
camp site	fish net
cycling race	filing cabinet
cycle race	file cabinet
flooring cement	drinking cup
floor cement	drink cup

In the first two sets *camping site/camp site* and *cycling race/cycle race*, it is obvious that *camping* and *cycling* involve activity, whereas *camp site* and *cycle race* sug-

gest, respectively, a place used as a camp and a race on a motorcycle, a bicycle or a tricycle. Hence the correctness of combinations such as *camping shirt/camp shirt*, *camping stove/camp stove*, *camping ground/camp ground* and *motorcycle race*, *bicycle race*, *tricycle race*, where the first element is a place or an object rather than an activity. In the doublets *flooring cement/floor cement*, the feature activity is clear in *flooring cement* (i.e., cement for building floors) but is not there in *floor cement*, since *floor* does not mean 'act or process of covering with a floor'. The absence of activity in *floor* explains the grammaticality of *floor lamp* 'a tall lamp that stands on the floor' and the ungrammaticality of **flooring lamp* for lack of semantic coherence among its members. Indeed, in this case only place (not activity) can combine with *lamp*.

1.2. At times the presence or the absence of the *-ing* suffix in the premodifier causes a difference in meaning. This difference is due to certain semantic features in the first element which prevent meaning diffusion or neutralization from operating. In this instance, variability in the use of doublets is not possible. Examples of this type are:

watering restrictions	fishing accessories
water restrictions	fish accessories (?)
bombing incident	sleep center
bomb incident	sleeping center
exercising psychologist	bedding set
exercise psychologist	bed set

It is easily discernible that in *watering restrictions*, the restrictions are limited to the supply of water to the lawn and plants, while *water restrictions* has a broader meaning, say, restrictions of water for home consumption. In *bombing incident* the implication is that the bomb goes off, but in *bomb incident* the bomb does not necessarily explode. An *exercising psychologist* has as one of its senses a psychologist who exercises regularly, whereas an *exercise psychologist* is one that gives advice on exercise. One can justify the grammaticality of *fishing accessories* on the grounds that the accessories are for fishing or catching fish; *fish accessories* is not acceptable in that sense, although *fish accessories* could be possible in the less usual reading of accessories for handling or cooking fish at a gourmet restaurant. As noted before, sometimes there are no restrictions on variation, both modifiers keeping a similar meaning, as in *bicycling race* and *bicycle race*, but at times the nature of the head-noun may impose coherence constraints on the presence of the *-ing* suffix, as in *bicycling magazine* (not **bicycle magazine*), *bicycle maintenance and repair* (not **bicycling maintenance and repair*)². In *sleep center* and *sleeping center*, the meaning content of the first expression is not obvious to the non-native speaker in view of the fact that *sleep center* has undergone a process

² Words such as *condition* and *information* are sufficiently neutral to allow both *race conditions/racing conditions* and *race information/racing information* with considerable meaning overlap (cf. also *race calendar/racing calendar*, *race circuit/racing circuit*).

of lexicalization or of idiomatization. Indeed, *sleep center* could have meant, among other things, a place for one's sleep, a place for the sale of nightclothes, a place for the sale of bedroom furniture. However, *sleep* in *sleep center* is associated with bedroom furniture. In the field of advertising, *sleep center* replaces the more common and usual expression *bedroom furniture store*. *Sleeping center* keeps its normal sense of a place for sleeping (cf. *sleeping porch*). Analogously, in *bedding set* and *bed set* the difference resides in the values of *bedding* and *bed*. *Bedding* refers to *bedclothes* such as sheets and blankets. On the other hand, *bed* is a piece of furniture, consequently *bed* in *bed set* suggests furniture associated with a *bed*, such as *tables*, *lamps* and so forth. In brief, additional knowledge of the language is required for the understanding of the latter set of expressions.

Sometimes the structure without the *-ing* suffix is either ungrammatical or has an unrelated or unusual meaning. For example:

cooling unit	lacing system ³
*cool unit	lace system (unrelated meaning)
cutting board	training shoes
*cut board	train shoes (unrelated meaning)
finishing sander	bowling club
*finish sander	bowl club (unusual meaning)

The starred expressions **cool unit*, **cut board* and **finish sander* are not acceptable for the simple reason that *cool*, *cut* and *finish*⁴ do not convey the idea of action and process; instead these words imply the result or product of a process. In *lace system*, *train shoes* and *bowl club*, *lace*, *train* and *bowl* refer, respectively, to figured fabric used for household coverings and garments, a connected line of railway cars, and a concave vessel for holding liquids. Accordingly, *lace system*, *train shoes*, and *bowl club* are unrelated to *lacing system*, *training shoes*, and *bowling club*. *Lace system* suggests a pattern of openwork for a dress. *Train shoes* may be considered a deictic or non-permanent compound, which could mean shoes for wearing on trains, as would be the case for a railway employee or any person with a special pair of shoes for trains. *Bowl club* is possible as the name of a club founded for the purpose of, say, collecting bowls. *Lacing*⁵, *training* and *bowling* indicate activity while *lace*, *train* and *bowl* signify things. For this reason, combinations such as *lace socks*, *train-man*, *train-signal*, *bowl cabinet*, *bowl collection*, in which *lace*, *train* and *bowl* occur with reference to an object are readily acceptable.

³ An additional example is *coaching offers* (for coaching a person or a team) and *coach offers* (for coach class when traveling by air).

⁴ Cf., however, *finishing line* and *finish line* where each member of the pair is acceptable inasmuch as here *finish* does not suggest the product of a process, but the last stage in a process. In *starting line* and *start line*, *start* refers to the beginning of the process.

⁵ Examples with *lacing* found in *Runner's World* are *a lacing system with stretch panels that allows the shoe to expand* and *a lacing pattern that distributes lace pressure evenly*. A jogger could interpret *lace system* in the sense of *lacing system*.

A parallel group of compounds exists in which the premodifier may or may not have an *-ing* suffix. This suffix alternation entails a semantic change from activity to non-activity. In this instance, the grammaticality of expressions can only be maintained if the change in content of the preposed element is accompanied by the replacement of the head-noun. Here we cover cases in which a suffixless modifier produces an unacceptable compound for lack of coherence between the head and the modifier. Indeed, such a combination has no function in the real world, but the compound becomes meaningful when a coherent head is added.

scratching post	*scratch post	scratch paper
shopping center	*shop center	shopkeeper
gardening practices	*garden practices	garden wall garden center
coloring book	*color book	color photography
trading company	*trade company	trade school
dressing room	*dress room	dress rehearsal ⁶

In the first set, the head-nouns *post*, *center*, *practices*, *book*, *company* and *room* combine quite appropriately with modifiers indicating act or process. Hence the correctness of the expressions in that set and the ungrammaticality of the starred examples. In the third set, the replacement of the heads by *paper*, *keeper*, *wall*, *photography*, *school* and *rehearsal*, which take a non-activity modifier account for the acceptability of those expressions.

1.3. A group of compounds can be identified whose acceptance depends on local usage or particular idiolects. This may be illustrated with combinations, in which premodifier *fish* appears with or without the *-ing* suffix:

fishing hook	fishing line	fishing pole
fish hook	fish line	fish pole

As noted earlier, **fish accessories* cannot be employed in the sense of *fishing accessories*. Oftentimes the ungrammaticality of one doublet is the result of semantic selectional restrictions, as in *bicycle parts* versus **bicycling parts*, but occasionally it is a matter of group or individualized usage. Indeed, several native speakers were interviewed on the above doublets. One of the informants accepted all of them. Another rejected (**)fishing hook* in favor of *fish hook*. This same informant claimed that he had never heard *fish line* and *fish pole* and considered the latter expressions odd despite the fact that these are recorded in dictionaries (see *Diccionario Moderno* 1976). Consequently, here acceptability is based on local usage, idiosyncrasies in the various dialects or individualized speech. Analogously, in *Runner's World* (January-May 1989 issues), the form *exercise* is preferred over *exercising* as the first member of compounds. The following are a few examples taken from this monthly magazine: *exercise period*, *exercise bike*, *exercise shorts* *exercise program*, *exercise is also relaxing*, *his schedule emphasizes exercise* and *speaking*

⁶ In *dress pants* and *dress shirt*, *dress* has a somewhat idiomatic value, implying an article of clothing used for a formal occasion, especially with a tie. See following sections for idiomatic expressions.

about running, exercise and taking care of oneself. In this case the contributing writers or the style editor of the magazine have or has shown a predilection for the suffixless form, say, *exercise period* over the likewise acceptable compound *exercising period*. This type of alternation involving local or social groups is generally called variation in space (cf. Bolinger 1981: 191-230).

Frequency of usage may convert one of a set of two parallel constructions into a type of fossilized lexical item, preventing the other from becoming acceptable. This process may be exemplified with combinations where *swim/swimming* and *wash/washing* are the modifying elements:

swimming trunks	swimming wear	swimming area
swim trunks	swim wear	swim area
swimming school	swimming ring	swimming pool
swim school	swim ring	*swim pool
washing cycle	washing system	
wash cycle	wash system	
washing speed	washing machine	
wash speed	*wash machine	

The pairs *swimming/washing* and *swim/wash* indicate act or process of swimming or an instance of such activity, thus *swimming/washing* and *swim/wash* are acceptable in most combinations. Exceptions are the compounds **swim pool* and **wash machine*, which are not acceptable due to the fact that frequency of usage has fossilized their counterparts *swimming pool* and *washing machine* into what could be considered a single lexical item or an invariant word. Frequency of usage has somehow won over the principle of analogy, which in the long run would have brought **swim pool* and **wash machine* into the language. Sometimes language users opt for the lexicalization of an expression over another. For example, *copy center*, *photocopy room*, *garden center*, *spray gun* and *xeroxing room* enjoy wide currency. However, *copying center* and *photocopying room*, which are not heard in American English, could be possible expressions, especially if one did the duplicating oneself, as in the usual British expression *photocopying room*. *Gardening center* is possible, but **spraying gun* does not exist. *Xerox room* exists for some speakers in the sense of a room where the xerox machines are kept, while other speakers accept *xerox room* as the equivalent of *xeroxing room*. As the reader may note, here we again enter the field of individualized or local usage and deictic or non-well-established compounds.

1.4. Examples with *work* and *working* as the first element of the compound are worth discussing in that these reveal the semantic specialization of *work* and *working* beyond the usual confines of activity. At this point we surpass the domain of free variation of items (*launching pad/launch pad*), lexicalization or semantic specialization (*sleep center*) as well as fossilization (*swimming pool*) and enter the field of figurative meaning or lexicalization involving meanings removed from the literal sense. Indeed, *work* is not only used with the value of sustained physical

or mental effort, but often this word suggests hard or manual labor. Thus, in *working people* the expression may refer to individuals employed in an area, region, or country, while *work people* implies individuals who work at manual or industrial labor.

Similarly, in *work house* and *work gang*, *work* conveys the idea of painful or manual labor. A *work horse* is a horse used for labor as distinguished from a horse used for driving, riding, or racing. The previous explanation accounts for the ungrammaticality of **work journalist* (cf. *working journalist*) since manual labor cannot be associated with the activity of a journalist. In *work-box*, *work-bench*, *work-room*, *work-clothes*, the heads⁷ *box*, *bench*, *room*, and *clothes* refer to objects or places associated with physical or manual labor. Accordingly, one expects *work* to be the normal modifier, although *study* replaces *work* if mental activity takes place, as in *study-room*. In a similar vein, the compound *work-clothes* (for laborers) becomes *working clothes* if one refers to clothes for any type of employment⁸.

The semantics of *work* is more figurative or metaphorical in *work camp* and *work house*. Indeed, *work camp* is not only a house of corrections for persons guilty of minor law violations, but in Britain a *work house* is also a *poorhouse*, a place where originally poor people with no jobs worked. Finally, in *working paper* and *working language*⁹, *working* has acquired the metaphorical sense 'adopted to facilitate further work'. Consequently, *working paper* refers to a research paper, which is still in need of further elaboration, and *working language* means 'language adopted at an international meeting for discussion of issues'.

1.5. Another property of these constructions is that at times the degree of variability allowed in the *-ing* suffix is proportionate to the commonness of the expression in the language. This point is somewhat related to the issue of idiomatity and fossilization mentioned earlier. If only one of the parallel expressions is frequently utilized, the unusual doublet is perceived as ungrammatical while the frequently used expression becomes a collocation or fixed sequence preventing variation from operating. Let us examine a few examples:

*dine-room	dine-center	*sleep pill	sleep aid
dining-room	dining-center	sleeping pill	sleeping aid
	*wrap paper	giftwrap paper ¹⁰	
	wrapping paper	giftwrapping paper	

⁷ Occasionally it is possible for these parallel expressions to become synonymous, as in *working gang/work gang* and *working man/work man*. Here the second member of the compounds *gang* and *man* connotes the idea of physical labor, which contributes to the neutralization of the special features of *working* and *work*.

⁸ *Workshop* has extended its normal meaning to encompass the idea of a brief intense educational program for a small group of people (cf. also *workbook*).

⁹ Cf., likewise, *working knowledge*, *working hypothesis* and *working draft*.

¹⁰ The word *giftwrap* is generally recorded in dictionaries as a transitive verb, not as a noun. One informant considered *giftwrap paper* incorrect.

The structure *dine center* is quite surprising because *dine* is not normally recorded as a noun in dictionaries, thus it should generally be excluded from the construction N(ing) + N under consideration. In most instances, for the compound to be correct the first element must be a noun or a verbal noun (i.e., N or N + ing) with the semantic values indicated earlier. *Dine center* appeared in the commercial section of a United States newspaper¹¹ and meant a dining area larger than a dining-room. Probably the urge to innovate and to shock in advertising brought about this expression which borders on ungrammaticality. *Dine center* (in contrast to **dine-room*) is acceptable due to the fact that *center* is less frequent, less idiomatic than *room* in that collocation. Hence *center*, the less common form, allows for more flexibility in the combining of elements.

A similar analysis is extensible to *sleep aid* versus **sleep pill* and *giftwrap paper* versus **wrap paper*. **Sleep pill* is rejected because the regular collocation is *sleeping pill*. Yet, if *pill* is replaced by *aid*, a less common word, then the construction with *sleep* is acceptable, as in the newspaper line *night time sleep aid*. In *giftwrap paper*, the uncommonness of the first member or its complexity (see below) allows for the grammaticality of this combination. However, **wrap paper*, which involves the modification of the usual structure *wrapping paper*, is not acceptable.

This softening of restrictions in grammatical and vocabulary items resulting from the relative rarity of one member in the combination is also extensible to cases in which these combinations occur within more complex syntactic structures. There is a type of sporting activity called *ski-jumping*. When this compound is used as a modifier before *standings*, both the *-ing* form and the suffixless form are acceptable, as in *the ski-jumping standings* and *the ski-jump standings*. *Ski-jump* means a single jump, but in the previous phrases *ski-jumping* and *ski-jump* have a similar value. This deletion may be considered a type of derivational haplology¹²; haplology is the absence of an affix when this affix is homophonous with a neighboring form or with part of an adjacent stem. Examples of grammatical haplology in Spanish are the plurals *los lunes* (not **luneses*), *los Matías* (not **Matiasés*). In English we find the plurals *series/serieses* (optional), *species* (not **specieses*), the possessives *Socrates' ideas/Socrates's ideas* (optional) 'boys' *bikes* (not **boys's bikes*), the present participle *it is lightening* (not **lightninging*), and instances of derivational haplology as in *a friendly person/this person acts friendly*, where both the adjective and the adverb share the same form (see Stem-berger 1981 and cf. Bronstein 1960: 216).

Haplology is the main reason for a tendency not to duplicate the *-ing* suffix in premodifiers and head-nouns concurrently. Thus, the absence of *-ing* in *race*

¹¹ The advertising data was taken from several newspapers: *The Boulder Daily Camera* in Colorado as well as *The Clearwater Sun*, *The Saint Petersburg Times*, and *The Tampa Tribune and Tampa Times* in Florida.

¹² Examples such as *the ski-jumping championship* and *the ski-jump championship* show that deletion of *-ing* in *ski-jumping* involves broader issues than simple haplology. These broader issues are touched upon in section 1.6.

makes *Road Race Rankings* acceptable as opposed to *Road Racing Rankings*¹³, which sounds odd (cf. also *exercise training* and **exercising training*, where haplology is obligatory). The absence of *-ing* in the head-noun makes *conditioning exercises* grammatical versus **conditioning exercising* and *running and racing schedule* versus *running and racing scheduling* (??) which has a much lower degree of acceptability¹⁴.

1.6. Sometimes deletion of *-ing* goes beyond the haplology principle. Indeed, deletion of premodifier suffixes are permissible under certain conditions, i.e., when they appear in complex syntactic structures. Examples are:

dry paper towel	} different meaning	high-dry paper towel	} same meaning
drying paper towel		high-drying paper towel	
car-bomb		car-bomb attack	
car-bombing		car-bombing attack	
*melt glue	melt glue sticks (?)	4'' hot melt glue sticks	
melting glue	melting glue sticks	4'' hot melting glue sticks	
*our air-condition costs		our air-condition operating costs	
our air-conditioning costs		our air-conditioning operating costs	

One could follow Lees (1960 and 1970) and attempt to characterize compounds and nominal phrases in terms of derivations from underlying syntactic structures. For instance, *dry paper towel* and *drying paper towel* would be derived, respectively, from *the towel is made of paper which is dry* and *the towel is made of paper which is drying*. Likewise, *high-dry paper towel* and *high-drying paper towel* could be derived from the theoretical construct *the towel is made of paper which dries highly*. However, since our analysis focuses on language variation, which is by its quantitative and fuzzy nature a pragmatic or surface structure phenomenon, we are mainly concerned with the selection of a basic surface form when variation exists and with finding an explanation for this variation. Roughly speaking the criteria for choosing one of the expressions as basic are commonness, syntactic coherence, and meaning.

In *dry paper towel* and *drying paper towel*, the two different senses suggested by *dry* and *drying* are self-evident. In *high-dry paper towel* and *high-drying paper towel*, the equivalence in meaning results from the incorporation of *high-dry* into the head-noun. Incorporation is like a fusion and generally implies a loss of grammatical or derivational agreement. In English one could consider instances of grammatical incorporation when $N(\text{oun}) + N(\text{oun}) \rightarrow N(\text{oun})$ as in *a list of words* \rightarrow a word list and *the calendar of road races* \rightarrow *the road-race calendar*, where the

¹³ Cf. *road race calendar* and *road racing calendar* where both options are possible since the head does not have an *-ing* form.

¹⁴ Other examples are *cycling race/cycle racing/cycle race* (not **cycling racing*); *racing report/race reporting/race report* (not **racing reporting*); *biking tour/bike touring/bike tour* (not **biking touring*).

-s of *words* and *races* is lost¹⁵. Examples of V(erb) + N(oun) → V(erb) are *he is off climbing mountains* → *he is off mountain-climbing* and *he is out picking berries* → *he is out berry-picking*, where the identity of *mountain* and *berry* as nouns is blurred (cf. Mithum 1984: 848-849). It seems that a certain parallelism exists between the workings of grammatical and derivational markers in compounds and complex nominal phrases on the one hand, and the overall character and idiosyncrasies of a language on the other. In English, premodifiers do not normally have agreement markers, therefore the tendency in this language is for premodifiers of compounds and complex phrases to lose traces of grammatical relationships or their individual identity, which is what takes place in the process of incorporation. Our paper shows that in English incorporation extends to derivational markers, although we do not intend to study the constraints on *-ing* incorporation in detail since the pragmatic nature of this phenomenon would take us too far afield. However, it is our belief that these constraints depend on factors such as syntactic complexity, structural patterning, haplology, fossilization, and semantic coherence. In *high-dry paper towel*, *dry* in conjunction with *high* loses its *-ing* suffix as the result of its being incorporated into *paper towel*. The complexity added by *high* helps in the process of incorporation as may be seen in *high-drying towel/high-dry towel*, which have one single reading, as opposed to *drying towel/dry towel* where meaning neutralization is not possible. In the case of incorporation, the presence of grammatical and derivational information is less relevant than the notional value provided by the root¹⁶.

In the next set of examples, *melting glue* is grammatical while **melt glue* is ungrammatical. On the other hand, when another noun is added, as in *melt glue stick* (?), the latter phrase is more acceptable than **melt glue*, although still bordering on ungrammaticality. If the phrase becomes more complex, as in this example 4'' *hot melt glue stick* taken from a newspaper, where *hot* precedes *melt*, then incorporation is possible. This complexity allows for *melt* to lose its grammatical identity in the phrase. The loss of suffixal forms involved in incorporation is related, in subtle ways, to the flexibility enjoyed by uncommon members of *-ing* compounds as was noted earlier in section 1.5.

In **our air-condition costs* and *our air-conditioning costs*, we assume that the first expression is starred because *air-condition* is grammatically a verb, not a noun indicating act or process. Verbs normally do not occur as the first element of the construction under study, which is N(ing) + N (i.e. noun or verbal noun plus headnoun). However, the phrase *our air-condition operating costs*, found in a newspaper, is acceptable due to the fact that the complexity of the phrase permits the loss of formal identity in the constituent *air-condition* (cf. *our July-August air-condition costs*, which has a higher degree of acceptability than **our*

¹⁵ There are cases in which grammatical incorporation is not obligatory, as in *a display of fireworks* → *a fireworks display* or *a firework display*.

¹⁶ Other examples are *high rise tube sox/high rising tube sox*, *cash raise sale/cash raising sale*, *self-stick label/self-sticking label*, *leather-look belt/leather-looking belt*, *tight-fitting lid/tight-fit lid*, and *fry-pan/frying-pan*.

air-condition costs). The above example *our air-condition operating costs* could also be handled through haplology from *our air-conditioning operating costs*, which reveals the presence of some kind of relationship between haplology and incorporation¹⁷. When incorporation takes place the grammatical nature of the form becomes blurred, while its basic notational value remains¹⁸.

Although we have attributed the loss of identity in form to complexity of structure, at times there exist additional reasons for incorporation to apply. For instance, dictionaries record words that appear to have incorporated forms as their origin. Thus, *high-rise*, as in *high-rise tube sox* (newspaper line), had already become an established adjective since 1954 applicable, say, to an apartment, a building or a bicycle handlebar. Still *high-rising*, the seemingly primary expression, could also be utilized in the aforementioned cases. Analogy with an existing structural pattern may create what could be considered an incorporated form directly, i.e., with no previous derivation from a basic form, even if a basic or primary form would generally be acceptable. For example, following the *high-rise* structural pattern, *low-rise* developed as an adjective as early as 1957. Illustrative phrases may be seen in *low-rise classroom building* and in the newspaper line *low-rise cotton briefs*, although *low-rising* could also be used here¹⁹. These alternations, newspaper inventions, and non-dialectal variability are considered examples of variation in time (cf. Bolinger 1981: 231-272).

Sometimes incorporation is also affected by meaning. In *high-dry paper towel* the reason this nominal phrase is interpreted as **the towel is made of paper which dries highly* rather than *the towel is made of paper which is highly dry* is due to the inherent semantic features of towel, whose function is that of object used for drying. In fact, if the head-noun is *paper* instead of *towel*, the phrase sounds odd (**high-dry paper*; *high-dry towel* is more acceptable), unless an adjective indicat-

¹⁷ In *road-racing officials* and *road-race officials*, the latter example is not a case of incorporation in that both *racing officials* and *race officials* occur with a similar meaning (*officials supervise racing* and *officials supervise races*).

¹⁸ Even if less frequent, the following set of phrases (*stretch waistband*/**stretching waistband*, *stretch elastic waistband*/*stretching elastic waistband*) shows a type of incorporation in which the suffix is added rather than deleted. We still call this incorporation for the simple reason that addition of the suffix does not sharpen or restrict the grammatical value of the form, on the contrary the individual identity of the suffix (active meaning) becomes blurred or lost. In **stretching waistband* versus *stretch waistband*, **stretching waistband* is not acceptable because *stretching* has an active meaning which cannot correctly combine with *waistband* (cf. *stretch jeans*/**stretching jeans*). Yet, when *stretching* appears in a more complex structure, as in *stretching elastic waistband*, the active meaning is diffused or neutralized. Hence the grammaticality of that expression.

¹⁹ Undeniably the nature of headnouns and structure regulate constraints on deletion. In *scattered pillow back sofa*, the *-ed* in *scattered* cannot be deleted because the immediate constituent of that word is *pillow*. Deletion could mistakenly imply that its immediate constituent is the head-noun *sofa*. It is also worth mentioning that certain structural types do not normally take the *-ing* suffix. This occurs with V + Adv or V + O premodifiers in lexicalized expressions, as in *walk-through security device*, *drive-up window*, *lock-up lid*, *a lift-up cook top*, *walk-in closet*, *walk-out lower level*, *sell-out show*, *glide-out shelf*, *drop-leaf table*, *push button speed control*, *pull-top container*, and *pull-chain switch*. The more frequent, established or lexicalized the structures are, the more difficult it is to alter them (cf. *drive-up*, *drive-in*, *sell-out*), while in the case of the infrequent *glide-out*, an informant accepted a *gliding-out shelf*.

ing the properties of the paper in question is added, as in *high-dry absorbent paper*. In a similar vein, even if *car-bomb* and *car-bombing* may have different meanings, these compounds have one single reading when the noun *attack* becomes the head in *car-bomb attack*; indeed *attack* in *car-bomb attack* by the very nature of its semantic features implies that the bomb went off. Lastly, in combinations like *sailing event*, *boating event* and *rowing event*, no deletion is possible (cf. **sail event*, **boat event*, **row event*) in that deletion of *-ing* both alters and blurs the meaning sporting activity involved in the premodifier. This semantic fuzziness prevents incorporation from taking place; this is so even in cases where phrases are syntactically more complex, as in **four-mile sail event*, **four-mile boat event*, and **four-mile row event*. However, when *race* is added to *sail*, *boat* and *row* in order to clarify the meaning sporting activity, then the earlier ungrammatical combinations do not have as low a degree of acceptability, as in *sail-race event* (?), *boat-race event* (??).

In spite of other reasons like structural patterning and meaning, phrase complexity is a determining factor in premodifier incorporation. Thus, **our best-sell gas grill* sounds odd when compared to *our best-selling gas grill*. Nevertheless, with the addition of the item *porcelainized*, the incorporated element *best-sell* seems more acceptable, as in *our best-sell porcelainized gas grill*. In a similar vein, **a long-last product*, which represents a combination with an incorporated form (cf. *a long-lasting product*), is unacceptable, while the more complex phrase *a long-last good quality product* (??) enjoys a slightly higher degree of acceptability than the simpler phrase. In English, when nominal phrases are syntactically complex, grammatical and derivational markers can be overlooked under certain circumstances in favor of the notional value exhibited by roots.

Examples of incorporation or deletion of grammatical and derivational markers in premodifiers involving other suffixes were already mentioned in the Introduction. Such data suggested that premodifier variation with no major change in meaning was a widespread phenomenon in English. Additional examples of this type are *belt-driven turntable/belt-drive turntable*, *our self-propelled mower/our self-propel mower*, *acid washed denim/acid wash denim* and *machine washable polyester-cotton pants/machine wash polyester-cotton pants*. The tendency to delete suffixes in complex nominal phrases is so prevalent that examples can be found beyond *-ing* structures. A few of our informants opted for obligatory rather than optional incorporation in that type of complex phrases. For instance, these informants used *processed cheese* and *processed cheese food*, but rejected *pasteurized processed cheese food* with two *-ed* forms in favor of *pasteurized process cheese food* with one single *-ed* form. They also felt that either *oriental print*, *patterned*, *solid sweat shirt* or *oriental printed*, *pattern solid sweat shirt* with one single *-ed* form was less obscure than *oriental printed*, *patterned*, *solid sweat shirt* with two *-ed* forms²⁰.

²⁰ Cf. also *colored briefs and shirts* but *solid color briefs and shirts* or *solid color knit shirts* as well as *chrome[d] cooking grid* but *chrome steel cooking grid*, where some speakers prefer deleting the *-ed* suffix in the more complex structures.

One has to bear in mind that we are dealing with variable, and not categorical phenomena, which is necessarily quantitative. We just show generalizations or rather tendencies that cannot be disproven by a few counterexamples. This explains why opinions differ among our informants. A University professor and a school teacher considered *-ing* and *-ed* deletion wrong in most of the complex sentences cited in the previous paragraph, other informants did not object to such deletion, and still others found it less obscure. As a matter of fact, after the content of this paper was discussed with native speakers of different geographical areas, I became aware that Section 1.3 on local usage and idiolects could have been extended further. Indeed, some American and British speakers objected to *roast pan* (?), and *curl iron* (?), even if these expressions were all documented in a Colorado newspaper, while *shave cream*, *swim trunks*, *swim school*, *swim area*, *sleep aid* and *dine-center*, acceptable for American speakers, enjoyed a low degree of acceptability for British speakers. In brief, our analysis offers instances of variables and describes the range of variability and the constraints or factors that influence it in a tentative way (cf. Guy 1980)²¹.

2. Closing remarks

The motivation for writing this paper was to uncover principled statements that would help to account for premodifier suffix deletion in compounds and nominal phrases. The intent of the paper was not to examine variation strictly following a linguistic theoretical model. Variation is primarily a pragmatic phenomenon, which quite often is difficult to explain through broad and general rules in view of the fact that by its very nature the reasons for this phenomenon are manifold, as are its constraints, which result from an interplay of factors. An example of such an interplay of factors is the description Bolinger (1981: 191-272) makes of variation in English and his discussion of variation within the parameters of space and time. As a language analyst or a foreign learner, one wonders with a sense of surprise why English allows for alternations such as *resting day/rest day*, *frying pan/fry pan* and *machine washable polyester-cotton pants/machine wash polyester-cotton*. This type of observations prompted our study, in which an attempt was made to exhibit the scope and the inner workings of *-ing* variability by means of abundant data.

Several types of variation and constraints involving *-ing* constructions were discussed. Free variation of items where no major change in meaning takes place as in *launching pad/launch pad*; lexicalization or semantic specialization, i.e., a member of a pair bears no semantic resemblance to the other as in *sleep center* (a bedroom furniture store) and *sleeping center*; fossilization due to frequency of usage as in *swimming pool* (cf. the ungrammatical alternant **swim pool*); ac-

²¹ See Guy (1980) for variation of final stop deletion in English. For other papers on variation, consult Fasold and Shuy (1975), Labov (1980) and Fasold and Schiffrin (1988).

quisition of figurative meanings as when *work camp* refers to a house for people guilty of minor law violations; relationship between frequency of a collocation and flexibility in the combining of elements, indeed the commonness of *dining-room* explains the unacceptability of **dine-room*, whereas the rarity of *dining-center* accounts for the presence of *dine-center* in a newspaper commercial. Complexity of structure was mentioned as a significant factor in *-ing* deletion, as in *air-condition operating costs* from *air-conditioning operating costs*. In attempting to find constraints on variation, it appeared that analogy with existing structural patterns and semantic coherence between head-nouns and premodifiers also played a role. Two independent linguistic principles (haplology or loss of a homophonous affix as in *exercise training*/not **exercising training* and incorporation or loss of derivational agreement as in *self-stick label* from *self-sticking label*) equally contribute to the description of the phenomenon under scrutiny.

In sum, it seems that a certain parallelism exists between the workings of grammatical and derivational markers in compounds and nominal phrases on the one hand, and the overall character and idiosyncrasies of a language on the other. In English, premodifiers do not normally include agreement markers, therefore there is a tendency in that language for premodifiers in compounds and in nominal phrases to lose any traces of grammatical relationships and their class or part of speech identity. Through the examination of *-ing* constructions this paper reveals that deletion of derivational markers is a simple extension of a related feature in the English grammatical system, which is the lack of markers in pre-noun modifiers. On the contrary, in Spanish, which has obligatory gender and number agreement in post-noun modifiers, one can easily predict that the type of variation analyzed here is less likely to develop.

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