

LEXICAL DECOMPOSITION,
INCORPORATION AND PARAPHRASE IN ESOL*

JOHN J. STACZEK

Florida International University, Miami

That language permits an idea to be expressed in any of several syntactic patterns is an essential concept in any study of paraphrase. If we understand paraphrase to be a restative process whereby meaning is preserved and reference is made to the same objective situation, we have recourse to the insights of generative and lexical semantics which show that there are semantic, lexical and morphological links between nouns and verbs. In other words, the sentence is considered to be a proposition, the constituent parts of which are a verbal unit and one or more nouns. Each proposition will "describe a state or action — spelled out in a verbal unit — and one or more entities involved in that state or action — spelled out in the nouns" (Clark and Clark 1977: 11—12). This paper discusses the contributions of such generative semanticists as McCawley, Lakoff and Binnick and other semanticists such as Miller and Gruber, who have identified a process in the grammar of language whereby the noun units can be lexicalized into verbal units, a process called incorporation by some, or its converse, lexical decomposition, wherein noun entities might be extracted from verb forms, leaving, what is called for the purposes of this paper, primary lexical matter or verbal lexical primes. That three simple and basic verbs such as *give*, *make* and *put* combine with certain noun forms used as objects or locatives allows a flexibility for paraphrase. An understanding of the periphrastic process requires an analysis of some syntactic underlying changes.

Paraphrase as defined here is a restative process with reference to the same objective situation. It is to be understood that while any two expressions or statements may indeed be synonymous when they refer to the same entity

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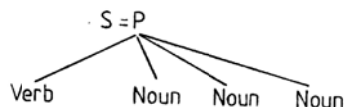
or situation there are cases in which meaning is not preserved. In sentences (1a) and (1b), the native speaker of English would argue, and indeed be correct, that the sentences are not totally synonymous.

- (1a) John put glue on the table.
 (1b) John glued the table.

The research presented here deals only with those decompositions and incorporations in which there is an isomorphism with respect to the meaning or interpretation of the sentences, as in (2a) and (2b)

- (2a) Romeo gave Juliet a kiss.
 (2b) Romeo kissed Juliet.

If we look to such linguistic models of grammar as generative semantics, lexical semantics, case grammar and componential analysis, we find that the notions of surface structure, underlying representation or deep structure, proposition, lexical insertion and paraphrase play a role in speaking and listening and, consequently, in the way the learner interprets the grammar. As the learner comes to an awareness of the structure of a simple proposition with *give*, *make* and *put* (and in his native language this may truly be the only alternative open to him) he may then proceed to become conscious of the process of lexicalization whereby the noun role is incorporated into the primary verbal unit thus producing a new verbal lexical unit that may be in other ways syntactically different from the original. In the work of Charles Fillmore (1968) in case grammar, each sentence is analyzed as consisting of a verb surrounded by a number of roles with specific semantic functions. Those functions are that of deep structure object (or surface direct object) and that of deep structure locative (or surface object of a preposition, such as *in* or *on*). Later in this paper I will deal with incorporations of two other potential primes — *have* and *go* — and some instruments. The sentence as proposition may be represented schematically as in Figure 1.



As the noun, at the lexical level, is inserted into the structure it may remain in its original form as noun or may combine in many instances with *give*, *make* and *put* to produce new verbal lexical items with syntactic properties different from those of the original lexical primes. At times, however, the syntactic properties are the same. As we continue to describe the verbal lexical primes, we will refer to the verbal entity as capable of being a two or three place predicate. In the case of *give*, there is potential for three noun roles, na-

mely, AGENT, EXPERIENCER or BENEFactor and OBJECT (Fillmore 1971a) in the case of *make*, a potential for the same three, although AGENT and OBJECT alone are more common and, in the case of *put*, a potential for AGENT, OBJECT and LOCATIVE. Sentences (3a—b), (4a—b) and (5a—b) illustrate this potential.

- (3a) The highway patrolman gave me a ticket for speeding.
 (3b) The highway patrolman ticketed me for speeding.
 (4a) Elton John made an appearance at the Hollywood Bowl.
 (4b) Elton John appeared at the Hollywood Bowl.
 (5a) John put a saddle on his horse.
 (5b) John saddled his horse.

It should be observed that the three lexical primes do not all have the same combinatory potential, that is, that *give* and *make* appear to lexicalize objects, whereas *put*, however, will combine with objects and locatives. In examples (6—9), the process of lexicalization or incorporation can be observed:

- (6a) Pete gave me an answer to my question.
 (6b) Pete answered my question.
 (7a) William made a payment on VISA and Master Charge.
 (7b) William paid VISA and Master Charge.
 (8a) The intruder put a gag on his victim.
 (8b) The intruder gagged his victim.
 (9a) The carryout put the groceries in bags.
 (9b) The carryout bagged the groceries.

A comparison of (6a) and (6b) should reveal that as paraphrases, (6b) may indeed preserve the meaning of (6a). As the listener looks at the constituents of the sentences, they both seem to fit the semantic requirements of the verbal units. There is no question that under a different set of circumstances, (6a—b) might not be synonymous. In (7a) and (7b), there also appears to be synonymy, as is the case in (8a—b) and (9a—b). In sentences (6a—b), it should be observed that as an object is lexicalized into the lexical prime, the resulting newly lexicalized root is also transitive. In (7b), on the other hand, the new surface object derives from a former deep structure locative. The consequences of lexicalization or incorporation, it will be shown, are varied and complex. As speakers of L_1 creatively incorporate or delexicalize, they are aware of the unconscious processes which require necessary syntactic changes in the resulting paraphrase.

Within the *give* — class of verbal lexical primes, the decomposed verbal units exhibit several characteristics, namely: (1) that *give* is a three place predicate of the type *give* (x, y, z); (2) that, upon lexicalization of the noun root, the surface structure continues to be that of a transitive verb; and (3)

that several newly lexicalized verbal roots require surface objects that are sentence embeddings. Sentences (10—14a—b) illustrate the above characteristics:

- (10a) Mom gave me permission to go to the movies.
- (10b) Mom permitted me to go to the movies.
- (11a) The Chamber of Commerce gave him an award of a gold watch for his long years of service.
- (11b) The Chamber of Commerce awarded him a gold watch for his long years of service.

In the case of (11a—b), the object of the preposition *of*, gold watch, becomes a direct object after lexicalization.

- (12a) The bank president gave him authorization for the withdrawal.
- (12b) The bank president authorized the withdrawal for him.

The bitransitive *authorize* in (12b) is allowed only with the above word order.

- (13a) The young man gave the woman a quick glance.
- (13b) The young man glanced quickly at the woman.

Sentences (13a—b) illustrate a change from adjectival modifier to that of verbal adverbial modifier, as does (14a—b)

- (14a) Sara gave a loud sigh.
- (14b) Sara sighed loudly.

Sentence (14b), although exhibiting the characteristics of (13b) deletes two of the three predicates. The following sentences show more or less common qualities of the lexicalization process with *give*.

- (15a) I gave my son a spanking.
- (15b) I spanked my son.
- (16a) My wife gave me a hug.
- (16b) My wife hugged me.
- (17a) He gave me a loan of \$500.
- (17b) He loaned me \$500.
- (18a) The young mother gave the infant a bath.
- (18b) The young mother bathed the infant.
- (19a) When Dracula walked in, he gave me a scare.
- (19b) When Dracula walked in, he scared me.

Other syntactic consequences of the lexicalization require the sentence embedding in the object, as in sentences (20a—b)

- (20a) He gave me a recommendation to leave.
- (20b) He recommended that I leave.

Until now, no mention has been made of prohibitive lexicalization, that is, that the lexicalization process, for some reason, is not allowed to occur, either because the speakers have not found the need for the new root or because, morphologically, the process cannot occur.

- (21a) The sheik gave his youngest son a gift.
- (21b) *The sheik gifted his son.

The lexical item *gifted* does indeed occur but not as a verbal unit. One other explanation is that the newly lexicalized form may have taken an another meaning in the language. Sentence (22a—b) is similar:

- (22a) Jason gave me a lift to the movies.
- (22b) *Jason lifted me to the movies.

Although *give a lift* might be interpreted as an idiom in (22a—b), some idioms allow the lexicalized process to occur, as in sentence (23a—b)

- (23a) Eric gave me a ride to class on his bicycle.
- (23b) Eric rode me to class on his bicycle.

or even

- (23b) Eric bicycled me to class.

Later, in the discussion of *go* lexicalizations, it will be shown that instrumentals are potentially lexicalizable. In the case of (23), however, the lexicalization derives from a different verbal prime and also involves an animate object.

(A partial list of sample primes and potential lexicalizable elements is attached).

Within the *make*-class of verbal lexical primes, the decomposed units exhibit several similar characteristics, though with some modification, namely, (1) that *make* is a potential three place predicate of the type *make(x, y, z)*, although it is more often a two place type, (2) that, upon lexicalization of the noun root, the surface structure continues to be that of a transitive verb effecting no change in the surface structure other than the simple lexicalization and (3) that several newly lexicalized verbal units required surface objects that are sentence embeddings. These characteristics are illustrated in sentences (24—28a—b)

- (24a) He made a comparison of the two drawings.
- (24b) He compared the two drawings.
- (25a) He made a drawing of a still life.
- (25b) He drew a still life.
- (26a) The office staff made a fifty dollar contribution.
- (26b) The office staff contributed fifty dollars.

- (27a) He made a report after his investigation.
 (27b) He reported after his investigation.
 (28a) He made a toast to the newlyweds.
 (28b) He toasted the newlyweds.

In sentences (28a—b), a surface and deep indirect object becomes a surface direct object upon lexicalization of the verbal unit.

Other *make*-class lexicalizations are morphologically complex in that many are of the *-tion* type as noun units which then simplify morphologically upon lexicalization, as in sentences (29—35a—b)

- (29a) James made an assertion that he was now independent.
 (29b) James asserted his independence.
 (30a) The lawyer made a decision that I should go.
 (30b) The lawyer decided that I should go.
 (31a) He made a confession of guilt.
 (31b) He confessed his guilt.
 (32a) He made a presentation of his case.
 (32b) He presented his case.
 (33a) The jury made an assumption that the defendant was guilty.
 (33b) The jury assumed the defendant's guilt.
 (34a) I made an objection to his statement.
 (34b) I objected to his statement.
 (35a) The plaintiff made a false accusation of the defendant.
 (35b) The plaintiff accused the defendant falsely.

Sentence (35a—b) illustrates a similar syntactic consequence to that of the *give*-type with the adjective changing to a verbal unit modifier or adverb. And sentences (36a—b) show at least one sentence embedding in the lexicalization:

- (36a) I made him a promise that I would go.
 (36b) I promised him that I would go.

The *make*-group of verbal lexical primes also appears to inhibit the process of lexicalization, much for the same reasons as with the *give*-group. Sentences (37a—b) and (38a—b) illustrate this kind of lexical gap in the process:

- (37a) We made an appointment with the optometrist.
 (37b) *We appointed with the optometrist.
 (38a) The kids made a hole in the wall.
 (38b) *The kids holed the wall.

One justification for the apparent inability to lexicalize certain noun units with *make* is that with affected objects, those already in existence, the process

occurs but with effected objects, or those that are created, thus a slightly different semantic reading of *make*, the process does not occur. Otherwise the same rationale of historical accident or imperfect morphology or extension of range of meaning applies.

The *put*-class of verbal lexical primes is unique as a single class inasmuch as *put* allows either a noun object or noun locative unit to be lexicalized into the existing prime. The characteristics of the *put*-class are (1) that *put* is inherently, and apparently exclusively, a three place predicate, of the type *put* (*x*, *y*, *z*) where the third argument or noun entity is always locative in nature; (2) syntactically, the noun unit is totally absorbed into the verbal prime thereby reducing the newly formed predicate to two places; and (3) that *put* types of lexicalizations are often more ambiguous than the *give* and *make* types.

The *put* group plus noun object unit yields a variety of new lexicalizations, many of them very common and specialized as will be observed from the following examples.

- (39a) Put a saddle on the horse.
 (39b) Saddle the horse.
 (40a) Put shoes on the horse.
 (40b) Shoe the horse.

Sentence (40a), uttered out of context, would surely be ambiguous and give the listener pause. However, if *horseshoes* were used in place of shoes there would be no objection.

- (41a) I will put frosting on the cake later.
 (41b) I will frost the cake later.

Other noun units that fit this same pattern are **icing**, **salt**, **powder**, **sugar**, and even **pepper** and **spice**. **Cinnamon** and other condiments do not as seen in sentence (42a—b)

- (42a) Don't forget to put cinnamon on the crumb cake.
 (42b) ?Don't forget to cinnamon the crumb cake.

There is every reason to believe that, as the language continues to develop, (42b) and others like it could very well come into existence.

In the case of noun object units such as **wax**, **grease**, **paper** and **tile**, as in sentences (43—46a—b), a certain lack of isomorphism in the paraphrase is noted.

- (43a) Put wax on the floor.
 (43b) Wax the floor.
 (44a) They are putting carpets on the floors.
 (44b) They are carpeting the floors.

(45a) The workmen will put paper on the walls.

(45b) The workmen will paper the walls.

In the case of (45a—b), **wallpaper** would help the paraphrase.

(46a) The workmen put tile on the floors.

(46b) The workmen tiled the floors

In the case of (46a—b), there are obviously other contexts that would disambiguate the paraphrase, such as (47a—b).

(47a) We had the contractor put tile on the floors.

(47b) We had the contractor tile the floors.

Another noun unit, **wire**, for example, in the lexicalization is unusual or anomalous as in (48a—48b)

(48a) I put wire in the house for the stereo.

(48b) I wired the house for stereo.

One other minor characteristic regarding the *put* verbal prime should be mentioned, namely that certain noun units, once lexicalized, are morphologically simpler as in (49—51a—b):

(49a) We put new upholstery on the sofa.

(49b) We reupholstered the sofa.

(50a) I am planning to put new roofing on the house.

(50b) I am planning to roof the house.

The second class of *put* verbal lexical primes incorporates a noun locative into the existing prime. This is a departure from the previous lexicalizations which have been noun objects in nature. In all cases the lexicalized noun locative unit is morphologically identical to the newly formed verbal unit, as seen in (51—60a—b)

(51a) In Vermont they don't put maple syrup in bottles, they put it in cans.

(51b) In Vermont they don't bottle maple syrup, they can it.

Bottle and **can** as verbal units are exclusive in nature which means that although the grammar might produce a sentence such as (52a) it is quite illogical semantically

(52a) *Hunt's catsup is now bottled in cans.

(52b) We'll have to put the engine in a

| | |
|-----------------------------------|-----------------|
| box crate carton package | } for shipment. |
|-----------------------------------|-----------------|

(52c) We'll have to

| | |
|------------------------------------|----------------------------|
| box crate *carton package | } the engine for shipment. |
|------------------------------------|----------------------------|

Carton carries an asterisk because it is as yet unattested but certainly quite possible as a new verbal lexical unit.

(53a) Please do not put the books back on the shelves.

(53b) Please do not reshelve the books.

(54a) Where shall we put the car? In the garage?

(54b) Shall we garage the car?

(55a) I'll put the picture in a frame later.

(55b) I'll frame the picture later.

(56a) He put the \$10 he found in his pocket.

(56b) He pocketed the \$10 he found.

Other morphological dissimilarities would include (57a—b) and (58a—b)

(57a) For best results, do not put the cheese in the refrigerator.

(57b) For best results, do not refrigerate the cheese.

(58a) Eric, don't put the beer in the freezer.

(58b) Eric, don't freeze the beer.

The set of anomalous paraphrases might include sentences like (59a—b) and (60a—b)

(59a) We'll have to put the students in a house in the dormitory.

(59b) We'll have to house the students in the dormitory.

In (59a—b), **in the dormitory** appears to narrow the specification or semantic reading of **in the house** or **house**.

(60a) Don't forget to put the receipts in the drawer.

(60b) *Don't forget to drawer the receipts.

Anomalous though (60b) is, it is nonetheless possible.

There are also some *put*-class verbal units that are morphologically complex for different reasons, namely, that the new root takes on a remnant of the lexicalized noun locative in the form of the prefix **en-**which surfaces as a bound prefix attached to the verbal roots as, for example, in the following list of incorporated verb forms:

| | |
|----------|-------------|
| encase | enfranchise |
| *enchant | *enlace |
| encipher | *enregister |
| encircle | enlist |

| | |
|----------|-----------|
| *enclasp | ensconce |
| encode | *entrench |
| encrust | envelop |
| entrust | enclose |

Those forms marked with an asterisk seemingly do not appear in modern English as decomposed verbal units with *put*. Several of the more common which do appear are found in the sentences (61a—b) and (62a—b):

(61a) The enemy put the message in code.

(61b) The enemy encoded the message.

Encode and **encipher**, it is interesting to note, lose the morphological prepositional remnant **in-** in their negative paraphrases of decode and decipher, a fact that is not the case with **circle** or encircle.

(62a) You must put a circle around your choice.

(62b) You must circle (encircle) your choice.

At this point it is worth mentioning several other examples of *put* lexicalizations which, because of their existence, are somewhat unusual. **Relamp**, for example, has no attested decomposition, that is, there is a gap at the primary lexical level of *'put a lamp'. The example is taken from the RITTER lamp often found in a dentist's office; it is illustrated in (63a—c).

(63a) *Put a lamp in the RITTER.

(63b) *Lamp the device.

(63c) Relamp with RITTER 604B.

More research needs to be done on this particular type of lexicalizations and others of the **re-** prefix type.

Although, in the introduction to this paper, no mention was made of the following class of lexicalizations, it is important because propositionally and semantically, it is different from the *give*, *make* and *put* classes. This class was described briefly in the work of Binrick (1968) in his discussion of motion verbs, and consists, at this writing, of a single verbal lexical prime, namely, *go*. Its propositional structure is three place, namely, *go* (*x*, *y*, *z*), where *x* is an AGENT, *y* a LOCATION, and *z* a MEANS or INSTRUMENT. The verbal lexical unit is intransitive. All cases listed are modes of conveyance and are illustrated in (64—66a—b):

(64a) The Indians went across the river in a canoe.

(64b) The Indians canoed across the river.

(65a) The kids went to the store on a skateboard.

(65b) The kids skateboarded to the store.

(66a) We'll go to the beach by bicycle.

(66b) We'll bicycle to the beach.

Other modes of conveyance include the following:

| | | |
|--------|---------|-----------|
| punt | canoe | sailboat |
| walk | foot | motorboat |
| skate | glide | surfboard |
| dinghy | scooter | trek |

Computer programmers often speak of **debugging** a program or removing from the program any inappropriate instructions. **Debug**, in the process described in this paper, is a complex lexicalization that also includes negation which is interpreted then as process reversal.

(67a) I inadvertently put two bugs in the program.

(67b) I have to remove the bugs from the program.

(67c) I have to (NOT) (put the bugs) in the program.

(67d) I have to debug the program.

Other verbs of the **de-** prefix type are: **deform**, **decrystallize**, **decentralize**, **debark**, **disembark** and **deplane**. This area, too, is suggestive of further productive research.

There is one other potentially lexicalizable prime that warrants serious investigation, namely, **have**. Although **have** is apparently a two-place stative predicator, usually BENEFACTIVE and OBJECTIVE, its nature in lexicalizations seems to change. In (68a—b) and (69a—b), at least in a particular style of English, that is, "bureaucratese", **have** exists as a former stative verb which, upon lexicalization, takes on the meaning of 'cause'.

(68a) The gasoline shortage will have a profound impact on the economy.

(68b) The gasoline shortage will impact the economy profoundly.

(69a) We no longer have access to that information.

(69b) We no longer can access that information.

It was proposed at the outset of this paper that paraphrase or the restatement of an objective situation in another syntactic form could indeed be shown to have a basis in generative semantics and lexical semantics. The procedures whereby lexicalization and its converse, decomposition, take place, can be employed to restate the objective situation in a meaning preserving or synonymous way and to fill potential gaps in the system. The primes that have been shown as primary verbal lexical units are of high frequency in English and can be used to demonstrate the properties of verb units and noun units which can subsequently be used in simple stylistic restatement. Other languages, besides English, also avail themselves of the process and the set of strategies for searching for constituents and for recombining them in new and sometimes subtle ways.

SAMPLE PRIMES AND POTENTIAL LEXICALIZABLE ELEMENTS

| Give | Make | Put | |
|----------------|----------------|----------|--------------|
| | | object | locative |
| permission | claim | saddle | bottle |
| authorization | assertion | accent | can |
| donation | accusation | nail | box |
| sigh | promise | shoe | package |
| award | contribution | roofing | carton |
| reward | drawing | siding | crate |
| toast | comparison | paper | shelf |
| promise | sacrifice | paint | drawer |
| glance | promise | oil | closet |
| help | wish | wax | house |
| assistance | presentation | grease | garage |
| gift | toast | carpet | storage |
| kiss | bow | board | binding |
| hug | error | wire | pocket |
| advice | agreement | entry | refrigerator |
| recommendation | choice | glue | freezer |
| praise | plan | icing | frame |
| caress | attempt | frosting | |
| bath | demand | salt | encase |
| scare | request | pepper | enchant |
| examination | decision | spice | encipher |
| order | suggestion | line | encode |
| applause | proposal | wrap | encircle |
| punishment | visit | sole | enclasp |
| assignment | journey | heel | encyst |
| | report | trust | enfranchise |
| | confession | shroud | enlace |
| | investigation | powder | enregister |
| | description | | enlist |
| | connection | | ensconce |
| | objection | | entrench |
| | generalization | | envelop |
| | impression | | |
| | assumption | | |
| | prediction | | |
| | discovery | | |
| | gesture | | |
| | purchase | | |
| | payment | | |

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