THE HIERARCHY IN A LEXICON
WITH A SPECIAL REFERENCE TO WORD-DERIVATION IN ENGLISH

Shin Ōshima
(Department of English, Kōchi University)

1. Introduction

This paper is an attempt to support Chomsky's "lexicalist hypothesis" through presenting a plausible proposal about the structure of a lexicon in the framework of the transformational generative grammar. The decision as to the organization of lexical information in each entry in a lexicon presupposes a hypothesis about syntactic, phonological, and semantic components. This paper is confined to the discussion of syntactic structure in English with an emphasis placed on derivatives of verbs.

2. 1. The place of the lexicon in linguistic structure

We assume that the lexicon is an independent component on a par with syntactic component (to be subdivided into base and transformational subcomponent), phonological component, and semantic component, thus departing from the Chomskyan model and
following Kinsuke Hasegawa. Furthering his argument for this revision, we may maintain that the lexicon is a receptacle which stores all idiosyncratic irregularities in a language, though it may have some redundancy rules. In this respect, the lexicon is distinct from the other components, which are by nature extractions of linguistic regularity. These components consult, as it were, the lexicon for their successful functioning.

The above figure represents graphically the interrelationship among the components and subcomponents in the grammar of a language. What is enclosed in the parentheses—Deep Structure, Surface Structure, Phonetic Representation, and Semantic Representation—shows the product of the component or subcomponent indicated by an arrow originating from the latter. A dotted arrow indicates the ‘consultation’ of the lexicon by each component or subcomponent.

2.2 The structure of the lexicon

Let us now turn to the discussion of universal grammar. Universal grammar consists of universal phonetics, universal semantics, universal syntax, and universal lexicon. Universal lexicon defines the conditions that must be met by the lexicons of all human languages just like the rest of universal grammar. Then universal lexicon may be taken to be composed of a set of ‘conventions’ for interpreting the lexicons of particular languages. Universal lexicon contains many kinds of conventions: (i) universal notational conventions expressing redundancy and derivational dependency; (ii) the lexical rule for inserting lexical formatives in preterminal strings, etc. Here in this paper the lexicon of English in particular will be considered. We will see later what some of these conventions are, considering some examples taken from English.

A particular lexicon, for example, that of English, is divided into three: syntactic redundancy rules, derivational rules and an unordered set of lexical entries. While syntactic redundancy rules are regular, derivational rules are more or less irregular in producing ‘occurring forms’. Perhaps an example of the former in English is the rule formalized by \((+\_\varphi \text{ Man}) \rightarrow (+\_\varphi)\). This means that if verbs can take a Manner Adverbal, then they can occur without one. The latter accounts for partial regularity in word-derivation. From lexical entries are omitted the regular redundant features, which will be added to the entries by appropriate redundancy rules. On the other hand, ‘occurring’ derivatives, which are somewhat irregular, are given in the lexicon. The derivational rules, which capture partial regularity in word-derivation, will generate ‘possible’ derivatives, which are composed of ‘occurring’ derivatives and ‘possible but non-occurring’ ones. Those which are excluded by the rules are ‘impossible’ derivatives. We can formulate only such rules as distinguish possible forms from impossible forms in word-derivation.

The reason why we give the occurring derivatives in the lexicon is two-fold: (i) at any rate idiosyncratic meanings must be given for these occurring derivative forms in the lexicon and (ii) it will allow us to distinguish possible and occurring forms from possible but non-occurring forms on a principled basis. Of course, we must seek to refine the derivational rules to narrow the gap between these two types of derivatives. But it is generally known there does exist some gap between them.
3. The organization of lexical entries

Each lexical entry is composed of phonological features, semantic features and syntactic features. We concentrate on syntactic features. The syntactic features consist of strict subcategorization features, selectional features, rule features and structural description features. These features give appropriate syntactic information about a particular lexical entry.

Here it must be noted that this syntactic information must be hierarchically organized in the lexicon, since the processes of word-derivation are typically linearly ordered and sometimes cyclically ordered. I believe the lexicalist position is correct as far as word-derivation is concerned. In “Remarks” Chomsky gives a convincing argument for this position, rejecting the transformationalist position. The assumptions underlying the lexicalist position are (i) a lexicon contains the idiosyncratic irregularities of the language; (ii) transformations are generally meaning-preserving. Since derivational processes are typically quasi-productive and not exactly meaning-preserving, the transformationalist position is untenable. The kind of partial regularity observable among the derivationally related forms can be easily expressed by the appropriate organization of these related forms in a lexicon and the utilization of a set of conventions.

As an illustration of a lexical entry let us take the citation form *amuse*. We omit phonological and semantic features.

(1) *amuse* 1. (+V) ⇒ (+S___; +___(+Animate); −R(Indefinite Object Deletion)\(^{79}\); ...)
   1.1. [+Adj] ⇒  ____ ⇒ (____, (\(\sim\).to))
   1.2. [+Adj] ⇒  ____ ⇒ (____, (\(\sim\).at))
   1.2.1. [+N] ⇒  ____ ⇒ (____); (+Det____; ...)
   etc.

For the sake of exposition only the relevant syntactic features are given, the rest being replaced by dots in the above entry and all the others that follow. Also omitted from discussion are inflectional endings. Let us examine this lexical entry. *amuse* is a ‘citation form’; the basic form from which ultimately derive all the derivationally related forms, i.e., *amusing, amused, amusement* and so forth. 1. (+V) under *amuse* means that *amuse* is associated with the feature (+V). The double arrow ⇒ signifies a rewriting rule which adds the following symbol(s) to the symbol to be rewritten, not a transformational rule. The single arrow → is reserved for signifying all kinds of symbol-replacing rewriting rules, transformational or otherwise. In lexicon both ‘adding’ and ‘replacing’ rewriting rules appear. Further, among the syntactic redundancy rules in English are such rules as (a) (+V) → (+NP____) and (b) (+___φ Man) → (+___φ). The former, which might be universal, therefore not a syntactic redundancy rule in English, means that all verbs have deep subjects. The latter is already explained above. Now we propose there are one kind of universal conventions, an example of which is the convention saying that only the positively specified lexical category features, e.g., [+N], [+V], [+Adj], etc., will be given in a lexicon, the negatively specified lexical category features being automatically supplied. Thus, (+V) ⇒ (−N; −Adj ...). These redundancy rules and conventions expand the set of features associated with *amuse*. This expanded set of features reflect the
native speaker's judgment on the grammaticality of the following sentences.

(2) (i) That he made such a mistake amused me.
   (ii) His mistake amused me.
   (iii) He amuses me.
   (iv) *His mistake amused the stone.
   (v) *He is an amuse.

The rule feature (-R (Indefinite Object Deletion)) means that *amuse must not undergo the Indefinite Object Deletion Transformation, even if it meets the structural description for it. Thus,

(3) (i) His mistake amused someone.
   (ii) *His mistake amused.

The figure 1.1. indicates this item, i.e., *amusing, is directly derived from the item headed by the figure 1., i.e., amuse. Likewise, 1.2. indicates amused is directly derived from amuse. amusement, numbered 1.2.1., directly derives from amused, numbered 1.2. Thus the item headed by 1.1.1., if any, would be directly derived from the one headed by 1.1., and so would the ones headed by 1.1.2., 1.1.3., 1.1.4. and so on. Then the items which would be directly derived from 1.1.2. would be numbered 1.1.2.1., 1.1.2.2., 1.1.2.3. and so forth. In short, which derivative is directly derived from which stem is indicated by appropriate numbering for subdivision.

Now to return to the present example. [+Adj]:ing under 1.1. indicates that this derivative is associated with the feature [+Adj] and takes ing for its derivational suffix. The underlined blank in the brackets following an arrow means that the set of features later added to the stem (i.e., amuse) by the rewriting rule (i.e., [+S___; +___(+Animate); -R (Indefinite Object Deletion); ...]) and by relevant conventions and syntactic redundancy rules (i.e., [+NP___; ...]) except those lexical-category features (i.e., [+V; -N; -Adj; ...]) fill the blank. In other words, the syntactic features of the stem except the lexical-category features will be carried to the derivative in toto unless otherwise specified. This is an expression of the similarity in syntactic behavior between the stem and its derivative. The fact that an appropriate organization of the lexical entries makes it possible to express the syntactic similarity of this sort is a support for the 'lexicist hypothesis' for word-derivation. The preposition inserted in the parentheses within the outer brackets (in this case, to) is what introduces the prepositional phrase, if any. In this connection, it must be mentioned that all nouns and adjectives that take Object NP's may occur without these NP's with some exceptions. These exceptions, e.g., fond (of NP), equivalent (to NP), cognizant (of NP), desirous (of NP), will be appropriately specified in the lexicon. Then this wide-spread property of nouns and adjectives is the basis for a syntactic redundancy rule in English, which says that nouns and adjectives derived from the verbs which take Object NP's may freely occur without the objects, even if these verbs have the feature (-R(Indefinite Object Deletion)). In essence, this redundancy rule is roughly as follows:

(4) \([-R(\text{Indefinite Pronoun Deletion})] \rightarrow (\pm R(\text{Indefinite Pronoun Deletion}))\)
Thus, amusing has as syntactic features \(+\text{Adj}\); \(+\text{NP}\); \(+\text{S}\); \(+\text{animate}\); \(-\text{R(Indefinite Object Deletion)}\); \ldots\). The above redundancy rule will convert those syntactic features to \(+\text{Adj}\); \(+\text{NP}\); \(+\text{S}\); \(+\text{animate}\); \(\pm\text{R(Indefinite Object Deletion)}\); \ldots\). These syntactic features reflect the native speaker’s judgement on the grammaticality of the following sentences.

(5) (i) That he made such a mistake was amusing to me.
    (ii) His mistake was amusing to me.
    (iii) He is amusing to me.
    (iv) His mistake must be amusing to someone.
    (v) His mistake must be amusing.
    (vi) *His mistake is amusing to the stone.

Next let us proceed to 1.2. \([+\text{Adj}] \cap \text{ed} \cap (\_\_\_\_, \langle \text{at} \rangle)\). There is another syntactic redundancy rule in English, which is relevant to this derivative, amused:

\[
\begin{align*}
(6) & \quad \{ [+\text{X}] \to [+\text{X}] \}^* \\
& \quad \{ [+\text{Y}] \to [+\text{Y}] \}
\end{align*}
\]

where (i) \([\text{X} = \\{ \text{NP} \} + \text{S} \{ \langle +\text{N} \rangle + \text{F} \} \])

(ii) \([+\text{X}; +\text{Y}] \) is associated with \([+\text{V}; +\text{NP}]\)

(iii) \([+\text{X}; +\text{Y}] \) is associated with \([(+\text{V}; +\text{NP}) \cap \{ \text{ed} \} \text{Adj} \)

(iv) with \([+\text{V}; +\text{NP}] \cap \text{able} \), \text{X} must be restricted to \(\neg\text{Definite}\).

The rule features and structural description features of the transitive verb will be carried to these derived adjectives. Thus amused will be associated with \([+\text{Adj}; +\text{NP}; +\text{S}; +\text{animate}; \neg\text{R(Indefinite Object Deletion)}]; \ldots \langle \text{at} \rangle\). The above-mentioned redundancy rule in (4) will convert \(\neg\text{R(Indefinite Object Deletion)}\) to \(\pm\text{R (Indefinite Object Deletion)}\). See the following sentences.

(7) (i) I was amused that he made such a mistake.
    (ii) I was amused at his mistake.
    (iii) I was amused at him.
    (iv) I was amused at something.
    (v) I was amused.
    (vi) *The stone was amused at his mistake.

Some discussion of this analysis of amusing and amused as adjectives is in order. We consider all past participle forms and present participle forms as verbs, not adjectives, with some exceptions like amusing and amused, which do cooccur with such formatives as very, while most participle forms do not. Also, these exceptions alone occur in the adjectival slot in more...than and as...as.\textsuperscript{109} Thus, most participle forms are distinct from the adjectives with the same ed-form, despite the fact that both of them undergo the Preposing Rule.\textsuperscript{110} So we reject Peterson’s analysis.\textsuperscript{111} Furthermore, we reject Chomsky’s analysis of the verb amuse as derived from the adjective amused through the Causative Transformation.\textsuperscript{112} The reason is that the similarity in syntactic behavior between amuse
and *amused* can be expressed by the lexicon as we have shown above. This possibility presents itself as its lexicalist position is pursued to its logical conclusion. Accordingly, *amuse* is a transitive verb, so described in the lexicon. Therefore, a passive sentence with this verb is possible.

(8) I was amused by his mistake.

Compare this sentence with the sentence (7) (ii), in which adjectival *amused* occurs. There is a subtle difference in meaning between these two sentences. This analysis explains the grammaticality of the following sentences.

(9) (i) I amused myself.
   
   (ii) I was amused at myself. (adjectival *amused*)
   
   (iii) I was amused by the situation.
   
   (iv) *Myself* was amused by me.
   
   (v) *I* was amused by myself. (verbal *amused*)
   
   (vi) *John* was amused by himself.
   
   (vii) *Himself* was amused by John.

The reason why the sentences (9) (iv), (v), (vi), (vii), are ungrammatical is that reflexivization and passivization transformations are mutually exclusive.

Next we proceed to 1.2.1. [+N]:ment. This derivative derives from 1.2. [+Adj]:ed. In other words, *amusement* is interpreted to directly derive from *amused*, not from *amuse*. The grounds for this view are that *amusement* and *amused* share syntactic features and the 'passive' sense, even if *amusement* is morphologically *amuse* plus *ment*. A further support for deriving *amusement* from *amused*, not from *amuse*, is the ungrammaticality of the sentence. *His mistake's amusement of me...*, corresponding to (7) (ii) above; whereas *The enemy's destruction of the city ended the war* is grammatical, corresponding to *The enemy destroyed the city*. So we take care of this morphological irregularity by assuming a phonological rule which deletes the ed part from the stem *amused* in the derivation of the noun *amusement*. The fact that *amusement* takes *at* as a preposition is automatically provided for through its inheritance of syntactic features of the stem *amused*. The second group of syntactic features given in the second brackets, i.e., [+Det___; ...] are those features that are not shared by the stem *amused*. These inherent features of the derivative will be combined with the inherited features. The existence of inherent features is the indication that lexical formatives are irregular to some extent. Lexicon is by nature the depository of individual irregularities, as you recall. In this connection we shall assume the following base rules for English, following Chomsky.

(10) (i) NP → Det N Comp
   
   (ii) Det → (Prearticle of ) Article (Postarticle)
   
   (iii) Article → [± Definite (NP)]

Now *amusement* will be associated with [+N; ± Det; [+Animate___; +___NP; +___S; ±R(Indefinite Object Deletion); ... (at)]]. Thus,

(11) (i) My amusement that he made such a mistake lingered on.
   
   (ii) I was surprised at my own amusement at his mistake.
(iii) I was surprised at my own amusement at him.
(iv) I was surprised at my own amusement at something very sad.
(v) I was surprised at my own amusement.
(vi) *The stone's amusement at his mistake....
(vii) *The amusement of the stone at his mistake....

As we have noted, derivational rules, which are given in order of application in the lexicon, produce all possible forms, including possible but nonoccurring forms. For example, there is a derivational rule in English which produces amusing-type and amused-type adjectives:

\[
(12) \begin{align*}
& \{ +V \\
& \quad +S \quad [ +\text{Animate} ] \} \quad \text{Stem} \\
& \quad \{ +\text{Adj} \\
& \quad \quad +S \quad [ +\text{Animate} ] \} \quad \text{Derivative}
\end{align*}
\]

This derivational rule presupposes the existence of another derivational rule of the more basic type:

\[
(13) \quad \text{Stem} + \text{Affix} \to \text{Derivative}
\]

The class defined by \([ +V; +S; +_\text{Adj} [ +\text{Animate} ] ]\) is self-explanatory: the class of verbs which take a sentential subject and an animate object, e.g., *amuse, please, scare, surprise, terrify*, etc. Thus amusing, amused, pleasing, pleased, scaring, scared, surprising, surprised, terrifying, terrified, etc. are all 'possible' adjectives, since derivational rules produce possible forms only as we have pointed out earlier. The above derivational rule will produce a pair of adjectives amusing and amused, which match the ones entered under *amuse* in the lexicon. Therefore, these adjectives are 'possible and occurring' adjectives. On the other hand, scaring is not to be entered in the lexicon, and it is a 'possible but nonoccurring' adjective, an accidental gap; whereas scared is a 'possible and occurring' one. Now sleeping as in a sleeping child is an 'impossible' adjective, that is, not an adjective, since *sleep* does not meet the structural description for the derivational rule.

Let us take up the second example of word-derivation. We will choose *grow* for its often discussed syntactic problems involved.

\[
(14) \begin{align*}
& \text{grow} \quad 1. \quad \{ +V \} \to \{ +[ +\text{Animate} ] \}; +_\text{Adj}; +_\text{Caus}; +_\text{by} \}\}
\end{align*}
\]

The citation form *grow* comes to have such an additional feature as \((+\text{NP}_\text{____})\) through the application of relevant conventions and syntactic redundancy rules. Next, 1.1. \((+V): +_\text{Caus}; +_\text{by} \}\}

etc.
Let us examine (+Caus). Chomsky, "Remarks", p. 41, suggests that a feature (+Caus) can be assigned to certain intransitive verbs as a lexical property, and that associated with this feature are certain universal conventions, which specify that an intransitive with the feature (+Caus) becomes transitive and that its selectional features are systematically revised so that the subject becomes the object. Formally,

\[(+X__) \rightarrow (+__X)\]

where

(i) \(X \subseteq \{NP, [+N; +F]\}\)

(ii) \(+X__\) is associated with \(+V; +__\) Stem

(iii) \(+__X\) is associated with \(+V; +__; +Caus\) Derivative

Here arises the problem of the way in which (+Caus) and the rest of the inherent syntactic features are combined with the inherited features. There are two alternatives: (i) the amalgamation precedes the application of the conventions associated with the feature (+Caus); (ii) the other way round. There seems to be no reason to choose between the two, as far as this example is concerned. However, when we want to modify the specification of the feature not involved in the causative conventions, e.g., that related to the subject noun of the transitive grow, we cannot choose but adopt the second alternative, which is the only possible way to do so. Therefore, we apply the conventions to the inherited features and (+Caus), and then we combine its result with the rest of the inherent features. The lexical entries are organized accordingly. The result of the application to \(+V; +(+Animate)__; +__; \ldots\) and (+Caus) is \(+V; +__; +Caus\) Derivative. The feature (+__) is interpreted to be negated because of its inconsistence with \(+__(+Animate))\). Then, \(+__(+Animate))\) will be modified by \(+__(~Human))\). This feature restricts the object of the transitive grow to a nonhuman noun, whereas the subject of the intransitive grow can be any animate noun. The feature \(+NP__;\) will be assigned to the transitive grow by a redundancy rule mentioned above.

(16) (i) The olive grows here.
(ii) A boy grows quickly.
(iii) He grows the olive.
(iv) *He grows a boy.

Now 1.1.1. \(+Adj; \sim\) able \(\Leftrightarrow\) \(\sim\) , \(\sim\) by). The redundancy rules given above will assign to growable the features \(+Adj; +NP__; +(+Animate)__; +(~Human)__; +__NP__; +__ (~Definite); \ldots\). Incidentally, growable is also a 'possible and occurring' form by definition. able adjectives will be given a semantic feature \(+Generic\).\(^{16}\)

(17) (i) The olive is growable by anyone.
(ii) The olive is growable.
(iii) *The olive is growable by Harry.
(iv) *The boy is growable.

And then 1.1.2. \(+N; \sim\) ing \(\Leftrightarrow\) \(\sim\); \(+Det__; \ldots\), which is self-explanatory.

(18) (i) his growing of the olive
(ii) the growing of the olive
(iii) *his growing of the boy

growth under 1.2. is a derivative from the intransitive verb grow, in contrast with
growing, derived from the transitive counterpart. Thus,

(19) (i) the growth of the olive (derived from the olive’s growth)
(ii) the boy’s growth
(iii) the growth of the boy [derived from (19) (ii)]

The third example is break.

(20) break 1. [+V] \(\leftrightarrow [+__; \ldots]
   \begin{align*}
   1.1. [+V]: &\phi \leftrightarrow [_____]; [+\text{Caus}; \ldots] \\
   1.1.1. [+\text{Adj}]: &\text{able} \leftrightarrow [_____], (~\text{by}) \\
   1.1.1.1. [+\text{Adj}]: &\text{un}\neg \leftrightarrow [_____] \\
   &\{1.1.1.1.1. [+N]: &\text{ity} \leftrightarrow [_____]; [+\text{Det}____; \ldots] \\
   1.1.2. [+N]: &\text{ing} \leftrightarrow [_____]; [+\text{Det}; ___; \ldots] \\
   1.2. [+N]: &\text{ing} \leftrightarrow [_____]; [+\text{Det}; ___; \ldots]
   \end{align*}

This analysis of break and its derivatives is free from Chapin’s difficulty with his postula-
tion of the deep structure for Glass is breakable. The postulated deep structure is roughly:
Glass is able [Glass be en break by \(\Delta\)] _S_. 17 As he observes, able requires a human subject.

(21) (i) He is able to come.
(ii) *The glass is able to come.

But he could not but postulate an ungrammatical sentence Glass is able as part of the
deep structure for Glass is breakable. Also our treatment will account for the fact that
regular -able adjectives become the stems for -ity nouns. Thus, breakable becomes the
stem for breakability.

Our fourth example is sell.

(22) sell 1. [+V] \(\leftrightarrow [+\text{Human}____]; [+___NP; \ldots] \\
   \begin{align*}
   1.1. [+V]: &\phi \leftrightarrow [_____]; [+___\neg\text{Human}; +\text{pseudo-reflexive}; \ldots] \\
   \end{align*}

etc.

Here a new syntactic feature (+pseudo-reflexive) is postulated. First, see the following
pairs of sentences.

(23) (i) (a) The man killed the girl.
    (b) The man killed himself.
(ii) (a) The man sold the book.
    (b) The man sold himself into slavery.
(iii) (a) *The book sold a pen.
    (b) The book sold itself.

The sentences (23) (i) (b) and (ii) (b) may be called ‘regular’ reflexive sentences. We
notice that the book, which can be the object of the verb sell, can be its subject only
when the object also is the same NP, the book. We may account for this fact by postulating
the feature (+Pseudo-reflexive), assigning it to such a verb as sell and setting up a
convention associated with this feature which will replace the subcategorization feature of
the subject by that of the object.

(24) The Pseudo-reflexive Convention

(i) \([+_V] \rightarrow [+_Y] \)

Conditions (a) The verb in question must have \([+_X] ; +_Y ; +_{\text{Pseudo-reflexive}} \)

(b) \([+_X] \) is distinct from \([+_Y] \).

Let us examine this convention. The verb sell in (23) (iii) (b) is taken to be a derivative
from its stem sell in (23) (ii) (a). The derivative sell has among its inherent features a
feature \([+_\neg \text{Human}] \), which combines with \([+_\text{NP}] \), one of its inherited features.
Then both of the conditions for this convention are met. After the application of Step (i)
the derivative sell will have a set of syntactic features \([+_\neg \text{Human}] \)

(ii) \([+_\text{Pseudo-reflexive}] \) . This set of features will allow the generation
of the deep structure not only for (23) (iii) (b), but also for:

(25) *The book sells the pen.

Step (ii) will exclude (25) and its like by adding a syntactic feature \([+_\text{SD(Reflexivization)}] \). This added feature means that the derivative verb sell must meet the structural
description for the Reflexivization Transformation. Thus the identity of the subject and
the object will be ensured. Semantically our analysis seems satisfactory, since the postulated
deep structure \([\text{the book NP sellers the book VP}] \) is plausible. The action of the subject
the book is reflexive, but we know that the book does not perform the action denoted by
sell, so we conclude that it seems as if the book sold itself. This reasoning will constitute
part of semantic interpretation. The other derivatives from sell are straightforward and
omitted.

It might be added that we cannot derive the sentence The door opened from the structure
underlying The door opened itself through the 'Reflexive Pronoun Deletion Transformation',
which might be held to be applicable to a few verbs like wash, dress, etc. The reason
is that these two sentences are not exactly the same in meaning and that a transformation
is generally meaning-preserving. There are few verbs which permit deletion of the reflexive
pronoun without any change in meaning. Furthermore, The book sells itself would not be
transformed into *The book sells. This bit of evidence strengthens our preceding analysis
that such a verb as grow, break, open, etc. is intransitive as well as transitive and that
the intransitive counterpart is not derived from the transitive by the Reflexive Pronoun
Deletion Transformation.

Finally, let me add that this lexicalist approach makes it possible to express the fact
that suggestion as well as suggest requires Subjunctive Mood for the main verb in the
following clause.

(26) (i) I suggested that he go out.

(ii) I made the suggestion that he go out.
This is true of demand (V), demand (N); insist, insistence; propose, proposal; etc. This generality was not captured in my previous treatment. 22)

4. The conclusion

The above hypothesis for lexicon is tentative and requires further refinement. In principle, however, it will allow the lexicon to express partial regularity and irregularity observable among the derivationally related forms. I believe the same sort of treatment will be applicable to the semantic and phonological features. In particular, idiosyncratic semantic features of derivationally related lexical formatives, which have forced us to adopt the lexicalist approach to word-derivation, can be taken care of nicely in this treatment.

Notes


3. As already mentioned, we consider the question of how to enter only syntactic information of individual lexical items into the lexicon, disregarding semantic and phonological ones.


7. (+R(X)), (−R(X)), (±R(X)) mean obligatory application, obligatory nonapplication, and optional application, of the transformation X, respectively.


9. We assume that there is a transformation called the Preposition Insertion Transformation, which inserts a preposition immediately before the NP or S, if a noun or adjective takes a following NP or S. The preposition is of unless otherwise specified in the lexicon.


11. See a further refined treatment of this Preposing Rule in Doherty & Schwartz, "The syntax of the compared adjective in English", Lg., XLIII, 903-936.


15. For the sake of exposition we disregard the use of grow with its inanimate subject
in the sense of ‘(something) increases’. The incorporation of this use will require some revision. The justification for taking intransitive grow to be a stem and transitive grow its derivative is that in Japanese, where the same fact is observable, the transitive form incorporating (+Caus) is morphologically the intransitive form plus a suffix, thus being distinct from the intransitive alone and that the intransitive must be taken to be the stem. See, e.g., Matsuo Soga, "Derivational Morphology and the Lexicon in a Generative Grammar", *Studies in English Literature*, XLIV (1968), 236–237.

16. See Chapin, pp. 102–106. shootable, killable, etc. will be prevented from being generated by the derivational rule by refining it so that verbs like shoot, kill, etc. will be appropriately given a certain feature and that this postulated feature will prevent the derivational rule.

17. Chapin, pp. 95 ff.

18. We disregard the use of sell with an inanimate abstract noun as its subject, as is found in *Their quality sells our goods, not the low prices.*

19. In German and French the same fact can be observed. In German besides the regular reflexive construction as in *Sein Vater liebt sich*, there exists the pseudo-reflexive construction, too, as in *Unser Wunsch wird sich bald erüllen*. In French this pseudo-reflexive construction is used with ‘Verbes pronominaux passifs’. This may be illustrated by *Cet article se vend partout*. Of course, there is some difference in meaning among this construction in English, its German version and its French version. *The book sells itself* in English is not passive in sense but suggestive of ‘spontaneity of action’, whereas the above-mentioned sentences in German and French are passive in sense. Moreover, the pseudo-reflexive construction is not so common in English.

20. The feature (+____ NP) is tantamount to (+____ (+N)). (+N) subsumes under it (+Human) and (−Human) among other features. The former (+Human) is not distinct from the feature of the subject, (+Human). Thus NP is not distinct from (+Human). This is the way in which the distinctness requirement should be understood.

21. The so-called ‘activo-passive’ use of such a verb as sell is best regarded as the result of the Passive Transformation. That is, sell in *The book sells well* is not a derivative of sell in *He sold the book*. This analysis requires a revision of the usual formulation of the Passive Transformation. The justification for this analysis lies in the fact that the rule which derives the activo-passive use of these verbs is meaning-preserving and productive. There arises another question related to this analysis. There is some similarity in syntactic behavior between the *grow*-type verbs (e.g., open, break, move, brighten, etc.), to which the feature (+Caus) has been assigned, and the *sell*-type verbs (e.g., read, disturb, wash, write, etc.), which can be used in the ‘activo-passive’ use. See the following pairs of sentences:

(1) (i) (a) The plant grew slowly.
   (b) He grew the plant.

(ii) (a) The book sells well.
   (b) He sold the book.
However, there is some syntactic difference as well, as is seen in the following sentences:

(2) (i) The plant grew.
(ii) *The book sells.

That is, the grow-type verbs may occur without a Manner Adverbial, while the sell-type verbs may not, unless they are used in a negative sentence. Coupled with this fact is the existence of some semantic difference. The former may be used in the 'nongeneric' sense, as in (1) (i) (a), as well as in the generic sense, as in This plant grows slowly; whereas the latter may be used only in the 'generic sense', as in (1) (ii) (a). Further, the latter type of verbs are passive in sense when used in this activo-passive use, while the former are not. In (1) (ii) (a) the verb sell describes an activity of an unspecified agent realizing the inherent potentialities of something, but the activity is not represented as taking place actually, as pointed out by A. G. Hatcher ("Mr. Howard amuses easy", Modern Language Notes, LVIII (1943), 8–17). There is another syntactic difference. With the nouns derived from the former type of verbs, the one derived from the intransitive counterpart is 'intransitive', as in the growth of the plant, and the one derived from the transitive is 'transitive', as in the growing of the plant. On the other hand, the nouns derived from the latter type are always transitive, as in the selling of the book, which is understood in the same way as Someone sold the book, not as The book sells well. Incidentally, the transitive verb amuse can be used in the activo-passive construction: The man amused easily. This use of amuse is transformationally derived and therefore not given in the lexicon.

We might formulate the Passive Transformation so that it may derive 'activo-passive' sentences as well as regular passive sentences. The deep structure for an activo-passive sentence will contain an unspecified subject, which is to be deleted later, and an obligatory Manner Adverbial in the affirmative sentence.
