

Some Problems of Derivational Morphology*

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The ability of a fluent speaker of English includes his mastery of derivationally related forms. What he knows about derivational morphology must be part of the grammar of English, but it is not clear just how the various aspects of this knowledge should be accounted for.

It is clear that the things we know about our language must either be regularities of structure, such as how questions are formed, which are accounted for by rules in the grammar, either universal or language-particular, or they must be idiosyncratic facts, such as what the plural of child is, which are represented as information accompanying an item in the lexicon.

In the case of our ability to use derivationally related forms, not only is the formal account of what we know sometimes difficult to arrive at, but it is not altogether obvious just what it is that we know.

The following is an attempt to demonstrate that this is the case.

Some affixes are, generally and intuitively speaking, productive, e.g., -able as in washable, which is so productive that we can make up new forms like doable. However, there are certain (classes of?) forms for which the addition of -able is not possible, e.g., verbs which take resultative objects like build. This affix cannot be applied to two-word verbs, or to verb + preposition combinations: *pickable up, * pick upable, *talkable to, *talk toable. However, listenable does appear, although listen requires to: *He listened the singer, She's a very listenable singer. We can imagine the creation of a word *talkable, as in

*He's very talkable

meaning, He's easy to talk to, though it does not actually appear. Listenable may have resulted in this way, from an attempt to put -able on a verb + preposition combination. This seems to be a

fairly clear-cut example of a syntactic rule which allows the derivation of a sentence like

This coat is washable
from the structure underlying
One can wash this coat.

We simply do not know yet exactly what the environments are for the application of this rule.

The speaker is capable of recognizing the structure of derived words, as ungentlemanliness. By assigning two different structures, we can represent the ambiguity of a word like untieable. Also, the speaker can recognize the structure in, and in this way understand the meaning of, complex words which do not seem to conform to the usual derivational processes, such as unthinkable and perishable, to say nothing of listenable, thus disallowing the possibility of listing such words as monomorphemic in the lexicon. The other alternative, though, for deriving these forms is by means of the general rule by which -able is added to certain verbs, but this rule obviously does not apply generally to intransitive or two-word verbs like perish or think (about). But, how are we to predict their semantic interpretation, since it cannot come from the usual rules, and how exactly are we to represent the fact that they should not exist at all?

This question has implications beyond the scope of derivational morphology alone. Consider, for example, the usual treatment of irregular plurals in a transformational grammar, accomplished by using the notion of rule-ordering. The rule ox + Plural → oxen is given, along with other such rules, before the rule for the formation of regular plurals. Thus, we know that the plural of ox is oxen. But how do we represent the intuition that the plural of ox OUGHT TO BE oxes? The received conception of ordered rules is one in which earlier rules take no account of later rules. The rules for plurals in English are composed of a group of irregular rules followed by a single general rule.

But there is no way at present to distinguish this situation from that in a language in which there is no such thing as a regular plural. That is to say, given a set of rules such as the plural rule for ox, there is no way to express the fact that they are followed by a regular rule, which should apply to the words in this set.

There is further the question of our ability to recognize the structure of words with learned affixes, such as -ology, etc., and of words such as loquacious and loquacity, where the "stem" does not exist. We cannot list these last two, for example, separately in the lexicon, since this would not indicate the obvious relationship between them, but the verb *loq, "to speak frequently," is scarcely as credible a back-formation as, say, *agress. (Such non-occurring base forms are discussed by George Lakoff in On the nature of syntactic irregularity, Computation Laboratory, Harvard University, Report No. NSF-16, Cambridge, 1965.)

In most cases where there is more than one affix with the same meaning, as dishonest but unhappy, a given word will take only one: *unhonest, *dishappy. But in unmeasurable and immeasurable, we find two different forms of the negative affix on the same word, giving two semantically distinct forms.

The size of a virus is unmeasurable without an electron microscope.

The mind boggles at the contemplation of the immeasurable depths of interstellar space.

How can we represent the derivation of these words formally? It is at least initially plausible to say that they both have the deep structure NEG + measurable, but what we have is two different "shades" of not measurable. Furthermore, we have such sets as unassembled, disassembled; displace, misplace; unmoral, amoral, immoral.

The general problem of acceptable vs. unacceptable back- and "front-" formations should be considered. Why is *agress

believable from aggressive, aggressor, etc., but not *ten, from tenacious and tenacity, as in the triple rape, rapacious, rapacity? Why do *wetten and *hotten, in the pattern of moisten, sound better than *stickyen and *thinnen on the same pattern? Since these are intuitions we have about forms never heard before, they must be based on certain rules. But what rules? Does this constitute evidence for considering the addition of the -en causative suffix to be a rule, even though no common feature has so far been found which could characterize as a class the forms with which it is found?

Nominalizations may perhaps be said to be inherently abstract, but certain of them are "concretizable," while others are not. Resignation is commonly used in both ways, whereas agitation and knowledge can only be abstract.

My resignation took only a few minutes.

My secretary typed my resignation for me.

*This is my knowledge of flying ants. (said of a piece of paper on which you have written all you know of flying ants.)

The word proliferation, on the third hand, while commonly used only as abstract, can be imagined as a concrete noun.

?Look at that proliferation of flying ants.

But,

*Look at that agitation of people.

If nominalizations are formed by the operation of certain regular syntactic rules, (and there is abundant evidence for considering that they are), then how can this arbitrary information be associated with the newly created form?

A similar problem is encountered in the case of a derived form which has a meaning which could not be predicted from the meanings of the stem and the affix. E.g., neither ignorant nor the phrase ignorant of have meanings that could be gleaned by simply knowing that they are adjective forms of the verb ignore; considerate is not an attribute of one who considers.

There are cases in which we do not even have the evidence of new formations which seem intuitively correct to determine whether or not there are rules operating. Consider our knowledge of which words take an -ist agentive suffix. Cyclist and typist seem to be examples of phonological exceptions to the rule which adds -er to verbs. But -ist seems to be the unmarked agentive suffix for players of musical instruments: flutist, pianist, with trumpeter as an exception. If questioned as to what to call someone who plays a sackbutt, however, at least the authors find themselves with no intuitions on the preferability of either sackbutter or sackbuttist. Then is the addition of -ist to the names of musical instruments an example of a rule?

These paradoxes illustrate cases in which neither lexical lists or syntactic rules, which are the only two available means, provide a satisfactory account of certain aspects of a fluent speaker's ability to use his language. The important consideration in arriving at a solution to this problem is an account of how we arrive at the knowledge that we exhibit of these forms and the relationships among them. It is obvious that the forms of the grammar must be constrained by learning-theoretical considerations. Otherwise, we would have no grounds for objecting to any conceivable rule mechanism, including mirror-image sentences and the like.

All of this indicates that the solutions made available by the present form of the grammar are not sufficient.