

## PERCEPTION PREDICATES

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A non-transformational account of Psych Movement phenomena is presented in which the notions of 'base' and 'profile' are invoked. The notion of 'profile-shift' is introduced as part of the description of single morphemes and extended to the description of constructions, in particular resultative constructions and the 'patient-subject' constructions. The discussion of resultatives leads naturally into a discussion of constructions with perception predicates and seem/appear. Alternative uses of perception predicates are thereby accounted for in terms of a profile-shift in the semantic base associated with these predicates, rather than a transformational rule converting one syntactic structure into another. The account presented here thus rests on a principle which is motivated for areas of grammar other than syntax and would appear to permeate language in an extensive way.

### 1. Psych Movement

A transformational account which makes use of Psych Movement captures the relation between the two uses of a perception predicate like taste, illustrated in (1) and (2), since the structure underlying (1) forms part of the structure underlying (2).<sup>1</sup>

- (1) I tasted the apple.
- (2) The apple tasted bad to me.

Lakoff(1968:38-43) and Postal(1974:290) propose that seem, like taste, also triggers Psych Movement (obligatorily). In this view, (3a) is converted into (3b) by application of Subject-to-Object Raising (and to be Deletion) and Psych Movement converts (3b) into (3c):

- (3a)  $\Delta$  seem s[this apple be bad].
- (3b)  $\Delta$  seem [this apple] [bad].
- (3c) This apple seems bad.

By analyzing seem as a trigger of Subject-to-Object Raising rather than Subject-to-Subject Raising, one is able to treat perception predicates and seem in a unified way.<sup>2</sup> I believe it is correct to seek a unified account of these predicates, but I claim that the behavior of perception predicates and seem can be adequately accounted for without recourse to the transformation called Psych Movement. Instead, I will offer an account which appeals to a notion of far-reaching significance in language, namely the notion of profile-shift. In this paper I will propose an alternative way of relating sentences such as (1) and (2) and an alternative way of construing seem sentences without relying on a transformation such as Psych Movement.

## 2. Profile-shift

I will use the terms profile and base as in Langacker (1979). 'Base' refers to a conceptual complex which groups together objects and relations which interact in ways which are significant to the society and culture. 'Profile' refers to the particular portions of the base that the symbol designates. To characterize the meaning of child, for example, one must recognize a conceptual complex of some significance in our society, namely the existence of male and female sexes and that the union of a male and female can produce offspring. This conceptual complex is the base within which particular entities can be profiled, e.g. child, parent. Semantically, the difference between child and parent is one of a profile-shift - the base against which these entities are defined remains the same. The child/parent example is but one of many cases which lend themselves to description in terms of base and profile. Many of the examples of 'word-fields' could be similarly treated (e.g. color terms, kinship terms, body-parts, instrument and associated process, etc.).

In the child/parent case we find distinct lexical items designating the different profile choices. It can happen, however, that the one lexical item may have more than one profiling possibility. An illustration of this would be finger. In one use, this word refers to any one of the ten digits on our hands, as in Most people are born with ten fingers and ten toes. There is another use, however, whereby the word refers to the digits on the hands excluding the thumbs. In the first sense, finger includes thumb, in the second sense it is contrasted with thumb. Here one can speak of finger as having alternative profiling possibilities, the base consisting of the same body parts in both cases. Some other terms for body-parts show a similar profile-shifting at various times in the history of English. Brow, now taken to mean 'forehead', was used to refer to either the forehead or an eye-brow up until the present



century, according to the O.E.D. This same source notes that bone in the fifteenth and sixteenth centuries could refer not only to any part of the skeletal structure, but was used also to refer to a finger, as in the asservation Martin sweares by his ten bones (1589). Teat formerly applied either to the whole breast or to the nipple. In each of these cases, the alternative meanings can be seen as alternative profiles within a base.

The possibility of a profile-shift in the designation of one lexical item represents a common type of historical change, called 'permutation' in Stern(1931:168). A good example of a diachronic profile-shift is provided by bead, the semantic history of which is outlined by Stern(1931:168) as follows:

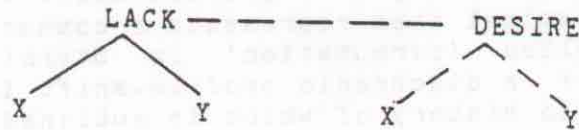
In the phrase he is counting his beads, the last word (M.E. bedes) originally meant 'prayers'. In the Middle Ages, prayers were mostly Pater Noster and Ave Maria, which were said repeatedly, being counted by means of the little balls on a rosary...A person saying he is counting his beads, which meant 'he is counting his prayers', would in reality see the man referred to counting the balls of his rosary. There was thus set up a close association between the word beads, with its primary meaning 'prayers', and the notion of 'balls'...The result is that, finally, the word beads is employed to designate the balls.

In the terms introduced here, there has been a shift in what bead profiles in the base (the base, here, consisting of the conceptual complex entailed by the saying of prayer in the Middle Ages). According to the O.E.D., the profile of brow has shifted from 'eye-lid' (in Old English) to 'eyebrow' and finally to 'forehead' in modern English. Kinship terms may experience similar profile-shifting in the course of history. The O.E.D. documents all the following as meanings of cousin at one point or another since the fourteenth century: a collateral relative, more distant than a brother or sister; nephew or niece; the next of kin, including direct ancestors and descendants more remote than parents and children; the son or daughter of one's uncle or aunt (the modern sense). The notion of a profile-shift is thus seen to have importance in both synchronic and diachronic linguistics.

In the examples discussed so far, the entity profiled has been a person or object in the base. The idea can easily be extended to relations. An example of a profile-shift from one relation to another would be the case of want. In the nineteenth century, want could mean either 'lack' or 'desire'.<sup>3</sup> Now the combination of a person lacking something

and simultaneously desiring that thing is a familiar occurrence and can be taken as a base in which either the 'lacking' part or the 'desiring' part can be profiled. Both senses of want are thus defined with respect to a common base. These two uses of want can be diagrammed as in (4a) and (4b):

(4a)



X wants Y. (= 'X lacks Y')

(4b)



X wants Y. (= 'X desires Y')

In these representations, the broken lines signify the backgrounded, non-profiled base. The horizontal line indicates an integration of the two predicates. In the above cases, the integration is understood as being more or less simultaneous, though a resultative aspect may also be present.

Another example of a profile-shift from one relation to another is German jucken. Jucken means 'to itch' and, in the colloquial language, 'to scratch':

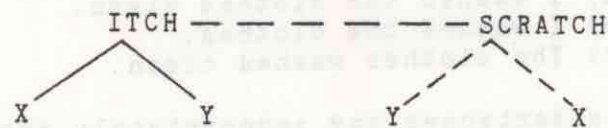
(5a) Meine Hand juckt (mich).  
My hand itches.

(5b) Juck mich mal am Rücken!  
Scratch my back!

An itch is typically accompanied by scratching, and so itching and scratching constitute a base in which jucken profiles either the 'itching' part or the accompanying 'scratching'. These alternative uses of jucken are diagrammed in (6a) and (6b):

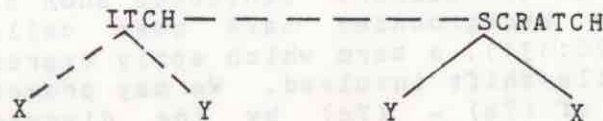


(6a)



X juckt (Y). (= 'X feels itchy to Y')

(6b)



Y juckt X. (= 'Y scratches X')

The horizontal line of integration serves to indicate the close connection between the two predicates, here partly simultaneous and partly resultative. The left-to-right ordering of the branches has been reversed in the characterization of ITCH and SCRATCH, since it would seem that the body part is understood as responsible for the itch whereas the person is responsible for the scratching.

The use of the term 'profile' here is comparable to Fillmore's 'foreground' or 'perspective', as in the following quotes:

Whenever we pick up a word or phrase, we automatically drag along with it the larger context or framework in terms of which the word or phrase we have chosen has an interpretation. It is as if descriptions of the meanings of elements must identify simultaneously 'figure' and 'ground'. (Fillmore 1977:74)

We recognize scenes or situations and the functions of various participants in these scenes and situations. We foreground or bring into perspective some possibly quite small portions of such a scene. (Fillmore 1977:80)

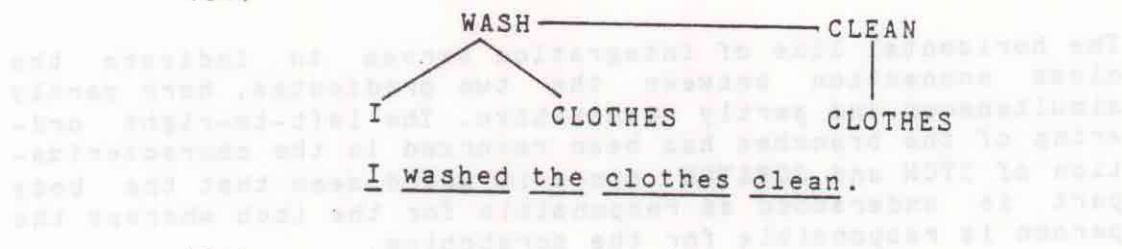
### 3. Profile-shift in Resultatives

Consider now the sentences in (7):

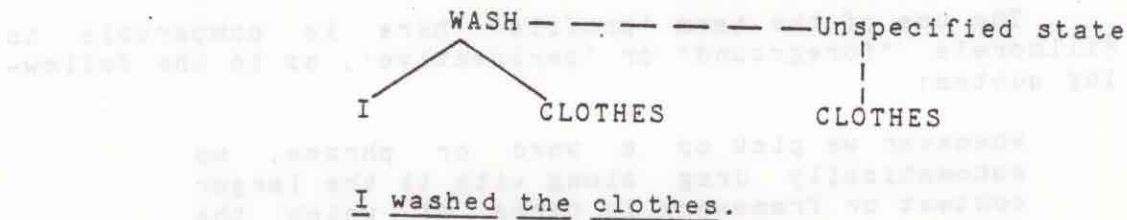
- (7a) I washed the clothes clean.  
 (7b) I washed the clothes.  
 (7c) The clothes washed clean.

All three sentences may appropriately describe one and the same event, but they do so by profiling different parts of the scenario. While (7a) profiles both the action of washing and the resulting state, (7b) profiles only the washing (though the resulting clean state will typically be present) and (7c) profiles the emergence of the state and backgrounds the role of the washer. Sentences such as (7c) in which the actor is backgrounded have been called 'deactivates' by Chafe(1970:131), a term which aptly expresses the nature of the profile-shift involved. We may proceed to represent the meanings of (7a) - (7c) by the diagrams in (8a) - (8c) respectively, in which it is clearly shown that the meanings share a common base but differ in profile.

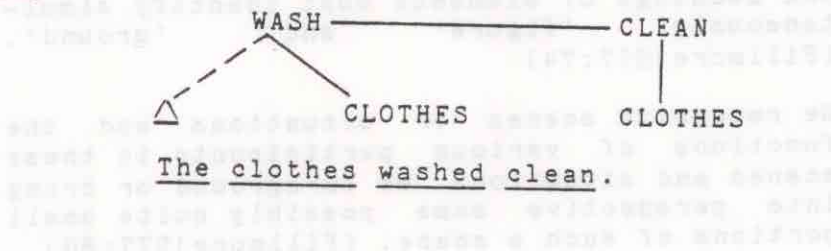
(8a)



(8b)



(8c)



In these representations, the horizontal line of integration abbreviates a resultative relation, in which the predication on the right-hand side is understood as the result of the predication on the left-hand side.

One must recognize that there are constraints on when such profile-shifting is possible. The sentences in (9) -

(22) reflect my own judgments on a number of resultative constructions.

(9a) I scrubbed the floor clean.

(9b) The floor scrubbed clean.

(10a) I wiped the floor clean.

(10b) The floor wiped clean.

(11a) I rubbed the stone smooth.

(11b) ?The stone rubbed smooth.

(12a) I hammered the metal flat.

(12b) ?The metal hammered flat.

(13a) I rolled the dough flat.

(13b) ?The dough rolled flat..

(14a) I pulled the door shut.

(14b) ?The door pulled shut.

(15a) I squeezed the lemon dry.

(15b) \*The lemon squeezed dry.

(16a) I scratched my skin raw.

(16b) \*My skin scratched raw.

(17a) I licked my plate clean.

(17b) \*My plate licked clean.

(18a) I patted the baby dry.

(18b) \*The baby patted dry.

(19a) I shot her dead.

(19b) \*She shot dead.

(20a) The baby sucked the breast dry.

(20b) \*The breast sucked dry.

(21a) I stripped the tree bare.

(21b) \*The tree stripped bare.

(22a) I kicked the cripple senseless.

(22b) \*The cripple kicked senseless.

It has been suggested by van Oosten(1977) that the notion of responsibility is a crucial factor in determining the acceptability of the (b) sentences above. While I do not deny that such a notion may be relevant in helping to establish particular profiling, the notion need not always be present for the required profile shift to take place and in fact counter-examples to the claim are presented by van Oosten(1977:470). In The floor scrubbed clean, for example, it is by no means necessary that I am imparting responsibility



for the success of the scrubbing to the floor. It could simply be a report about what I did to the floor but with my involvement backgrounded.

Ultimately, we must recognize that some types of profiling have become conventionalized (for whatever reason). Nevertheless, through subtle modifications, one can enhance the role of certain participants in a conceptual complex so that a profile-shift is possible. Thus, I find that some, but not all, of the questionable or unacceptable (b) sentences above are improved if a verbal predicate such as (just) wouldn't or (simply) refused is added:

- (11b) ?The stone rubbed smooth.
- (11c) The stone just wouldn't rub smooth.

- (12b) ?The metal hammered flat.
- (12c) The metal just wouldn't hammer flat.

- (13b) ?The dough rolled flat.
- (13c) The dough just wouldn't roll flat.

- (14b) ?The door pulled shut.
- (14c) The door just wouldn't pull shut.

- (15b) \*The lemon squeezed dry.
- (15c) ?The lemon just wouldn't squeeze dry.

- (16b) \*My skin scratched raw.
- (16c) ?My skin just wouldn't scratch raw.

- (17b) \*My plate licked clean.
- (17c) ?My plate just wouldn't lick clean.

- (18b) \*The baby patted dry.
- (18c) ?The baby just wouldn't pat dry.

- (19b) \*She shot dead.
- (19c) \*She wouldn't shoot dead.

- (20b) \*The breast sucked dry.
- (20c) \*The breast just wouldn't suck dry.

- (21b) \*The tree stripped bare.
- (21c) \*The tree just wouldn't strip bare.

- (22b) \*The cripple kicked senseless.
- (22c) \*The cripple just wouldn't kick senseless.

The effect of just wouldn't in these sentences is to suggest more control over the process on the part of the affected person or object and in some cases this allows a profile-shift which would otherwise be prohibited.



Apparently, the kind of profile-shift found with resultative predicate adjunct constructions is not as frequent with simultative predicate adjunct constructions:

- (23a) Britons drink stout warm.
- (23b) ?Stout drinks warm.
- (24a) I eat meat raw.
- (24b) \*Meat eats raw.
- (25a) I buy cars new.
- (25b) \*Cars buy new.
- (26a) The natives cook missionaries alive.
- (26b) \*Missionaries cook alive.
- (27a) The natives skin missionaries alive.
- (27b) \*Missionaries skin alive.

I have had to rely on earlier periods of English to find secure examples:

- (28a) If the cakes at tea eat short and crisp.  
(1766, from O.E.D.)
- (28b) It drinks brisk and cool. (1697, from O.E.D.)

Part of the meaning of (28a) is 'cakes should be in a crisp state when they are eaten' and part of the meaning of (28b) is 'the liquid should be in a cool state when it is drunk'. Here, too, the notion of responsibility, suggested by Oosten is not at all a relevant factor.

#### 4. Profile-shift with Perception Predicates

I will now proceed to discuss perception predicates and seem/appear in terms of the profile-shift established in the preceding section.

Consider the following uses of perception predicates:

- (29a) I (can) taste garlic.
- (29b) I (can) smell fumes.
- (29c) I (can) hear voices.
- (29d) I (can) see trees.
- (29e) I (can) feel a lump.

- (30a) The garlic tastes strange.
- (30b) The fumes smell bad.
- (30c) The voices sound distant.
- (30d) The trees look healthy.
- (30e) The lump feels big.

Consider the relationship between the sentences in (29) and their counterparts in (30). The sentences in (29) serve to register sensations. In (29a), for example, the speaker is reporting that he is experiencing a sensation in his mouth and this sensation is associated with garlic. Similarly, in the remaining sentences of (29), sensations are registered along with an identification of the sensation. The sentences in (30), on the other hand, elaborate on the sensation by describing some qualities of the object of sensation. This description is accomplished with an adjectival phrase in (30), which locates the object associated with the sensation on some scale. The description may also take the form of a comparison, as in (31):

- (31) The garlic tastes {like it was home-grown.  
as though it were home-grown.  
as if it were home-grown.

The sentences in both (29) and (30) describe sensations, but they do so in different ways: those in (29) IDENTIFY particular sensations, whereas those in (30) QUALIFY particular sensations.

(29) and (30) both refer to sensations involving particular sense-organs. I propose to view the alternation in (29) and (30) as representing a shift in profile within the same semantic base. Take (29a) and (30a) as an example. In the former case, the identification of garlic is profiled and although there will be an accompanying impression of the garlic, this aspect of the sensation remains unprofiled. In the latter case, it is the impression which the garlic makes which is profiled - ascertaining the presence of the garlic, while an inseparable part of the whole experience, is not profiled.

One might proceed to diagram the alternative profiling of (29) and (30) along the lines done for the resultative constructions in the previous section. Specifically, one might try to represent the semantics of (33) with the same kind of diagrams as were used for (32):

- (32a) I washed the clothes.  
(32b) The clothes washed clean.  
(33a) I (can) taste garlic.  
(33b) The garlic tastes strange (to me).

While I believe the notion of profile-shift underlies the (a)/(b) distinction in both cases, there are some additional complexities with (33).

For one thing, (33b) is not a result of (33a), in the way that (32b) is a result of (32a). In (32a), a process is



described which requires a limited span of time for its completion. (32b) profiles the state the clothes are in upon completion of the act of washing. But consider the relationship between (33a) and (33b). The process described in (33a), as an identification of a sensation, holds over an unbounded period of time without any clear point at which the process can be said to be complete. (33b) does not profile a resulting new state, but rather it elaborates on some quality/qualities associated with the sensation. Thus (33a) and (33b) are related as simultaneous (imperfective) processes, with the former a necessary accompaniment to the latter.

It has been claimed, however, that a causative relation does indeed underlie a sentence like (33b). Rogers (1972) analyzes a sentence like (33b) as a causative in which a 'cognitive' state, as represented by (33a), is the cause of the corresponding 'thinking' state in which a judgment is expressed. The analysis extends to the other perception predicates in (29) and (30). I see no basis for such an analysis of (29) and (30) which, as explained above, differ in that the former identifies or registers a sensation, while the latter qualifies the sensation. As such, the sentences in (29) are related to their counterparts in (30) in the same way that (34a) is related to (34b):

(34a) This is a house.

(34b) This house is small.

(34a) identifies an object as a house; (34b) describes the house. In uttering (34b), a speaker must also accept the truth of (34a), but one would not say that (34a) in any way 'causes' (34b). Similarly, in uttering (33b), a speaker must accept the truth of (33a), but the former does not 'cause' the latter.

There is a further use of taste which can be distinguished. I refer here to the use of taste to describe a volitional physical act, as in (35):

(35a) Taste the fish!

(35b) Would you like to taste this cake?

(35c) I want to taste Mary's soup.

(35d) The judges are now tasting the wine.

In such sentences, taste indicates a (perfective) process which can have a point of completion. Here, then, one might look for a resulting change of state at the end of the process. In particular, the sentences in (33) might be taken as effects of a volitional act of tasting garlic. But even in this case, the connection between the volitional act and the following sensation is not as strong as the connection between the wash sentences in (32). While (32b) has to come about as a result of someone washing clothes, (33b) does not

have to arise as a result of someone volitionally tasting garlic.

Apart from the differences in the relationship between the (a) and (b) sentences in (32) and (33), (33) also differs from (32) with respect to the semantic domain. In (32), the washing of the clothes and the resulting clean state pertain to a interaction and a state which are easily observable. The sentences in (33), on the other hand, describe processes internal to a person and are not observable by anyone except the experiencer himself.

In the light of the differences between (32) and (33), it would be simplistic to carry over the representations of (32) to (33). While additional notation could be invented to more adequately capture the meaning of the sentences in (33), introducing such notation would not serve any larger purpose in the present study and I will not explore the representational problem further.

Remarks similar to those made concerning taste can be made about the other perception verbs in (29) and (30). It should be noted that in some cases, distinct lexical items may be utilized to express the (volitional) perfective and (non-volitional) imperfective processes, e.g. I listened to the music vs. the music sounded pleasant. This reflects the different conventionalizations of profiling with different lexical items, as noted with resultative constructions in the previous section.

The preceding discussion of perception predicates suggest a way of viewing seem/appear sentences. Take seem, for example. This predicate can be construed as a kind of perception predicate, where the basis for the impression is not restricted to any one mode of perception. Even with the perception predicates proper, one finds secondary uses to describe an impression based on more than one of the senses. Consider (36):

(36a) The fighting in the Middle East sounds serious.

(36b) The present government looks precarious.

In (36a), the impression of the fighting may be based entirely on what one has read in the newspapers, or what one has heard on the radio, or perhaps a combination of both. In any case, there is no implication that the speaker must have actually heard the fighting in the Middle East. In (36b), the impression may be gained from comments made by the government and may have nothing to do with what has actually been seen with one's eyes. The secondary use of perception predicates illustrated in (36) is comparable to the primary use of seem. Consider (37):



- (37a) The fighting in the Middle East seems serious.  
(37b) The present government seems precarious.

(37a) describes an impression, the basis of which is even vaguer than was the case with (36a). One could, for example, say (37a) after watching a film of the fighting which lacked commentary altogether, whereas (36a) would not be appropriate in such a case. Similarly, the impression in (37b) is not tied to any particular mode of perception. Thus, seem behaves like a generalized perception predicate. Appear is amenable to a similar analysis.<sup>4</sup>

One difference between seem/appear and some perception predicates can be seen in the following comparison:

- (33a) I (can) taste garlic.  
(33b) The garlic tastes strange (to me).  
  
(39a) \*I (can) seem the situation.  
(39b) The situation seems serious (to me).

Seem, unlike taste, does not have a use parallel to taste in (33a). With perception predicates, as with the resultative constructions examined in the preceding section, one must recognize the conventionalized nature of the profiling associated with a particular predicate. With resultatives, it was found that some combinations of main predicate and predicate adjunct allowed a 'patient subject' construction while other quite similar combinations did not. With perception predicates, we also find gaps in profiling patterns. Compare, for example, (40) and (41):

- (40a) I (can) hear music.  
(40b) \*The music hears strange.  
  
(41a) \*I (can) sound music.  
(41b) The music sounds strange.

(40a) and (41b) profile different aspects of a semantic base by means of different lexical items. Seem behaves like sound in profiling only the description which elaborates on the impression.

## 5. Concluding Remarks

The foregoing discussion has done little more than to suggest a non-transformational way of viewing the relationship between (1) and (2). The discussion began with some observations about profile-shift in nouns and was then extended to verbs. Resultative constructions in particular

were shown to participate in a profile-shift which gives rise to 'patient subject' constructions. The relationship between (1) and (2) was seen to involve a profile-shift of a more complex sort than was found with resultatives, despite a superficial similarity with the profile-shift in resultatives.

Both the Psych Movement analysis and the analysis proposed here recognize that a simple classification of the intransitive perception predicates as copulatives is far from satisfactory. Both analyses offer more depth by relating the intransitive use of perception predicates to their transitive uses. The Psych Movement approach accomplishes this by a transformational rule which converts one sentential structure into another. The analysis proposed here accounts for the alternative uses in terms of a profile-shift in the semantic base associated with these predicates. My analysis thereby rests on a principle which has a justification outside of syntax and apparently permeates language in an extensive way.

It is surely indefensible to cordon off sentence structure from such a principle when it is so pervasive in the remainder of language. An alternative to my analysis, such as an approach involving Psych Movement, is only defensible to the extent that sentence structure must be protected from otherwise quite general linguistic principles.

In the discussion of Psych Movement phenomena, I did not seriously propose any formal representation of profile-shift. While a more formal expression of these ideas would be a superior achievement, an attempt at a formalism at this stage would be quite premature. Presumably, the appropriate formalism would lend itself to a natural expression of profile-shifts of all possible types. This means one has to first of all identify and informally characterize the multifarious profile-shifts manifested in language. Only AFTER such groundwork has been laid does it make sense to propose a formalism. One can observe the same chronology in phonological research. To determine the appropriate set of distinctive features and formal conventions with which to represent phonological phenomena, one must first have some idea of natural groupings of sounds. A formalism may then be proposed which captures our basic intuitions and which can be subsequently refined. When it comes to the phenomenon of profile-shift, the state of our knowledge is still too limited to venture a formalism. It is true that profile-shift within individual lexical items, chiefly nouns, has been examined as part of the study of metaphor, as in Stern(1931). Results from the study of metaphor at the word level need to be incorporated into any comprehensive discussion of profile-shift. But only when profile-shift at the level of a construction has been more fully researched will it be feasible to make a formal proposal.



FOOTNOTES

I would like to thank Ron Langacker for helpful discussions on a draft of this paper.

1. The transformation is called Subject-Object Inversion in Rosenbaum(1967:98-99) and Flip in Lakoff(1968:38-43).

2. Postal proposes to treat appear, strike and impress in a similar way to seem, all of these triggering Subject-to-Object Raising. Postal's proposal would appear to still allow for some predicates to trigger Subject-to-Subject Raising, e.g. happen, be likely, be certain etc. Perlmutter(1979:308), in which reference is made to work by Postal and Perlmutter carried out after Postal(1974), suggests eliminating Subject-to-Subject Raising altogether by positing Unaccusative strata and Unaccusative Advancement within a relational grammar framework. In this view, all instances of Raising would be handled by Subject-to-Object Raising.

3. The use of want in these senses is not restricted just to the nineteenth century, but it is in this century that both senses are well documented in the O.E.D.

4. Admittedly, there are differences between seem and appear, but the differences are not relevant at this level of analysis. Some of these differences are discussed in Austin(1962:33-43).

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