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THE ACQUISITION OF WORD MEANING: A REEXAMINATION

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Exactly how to characterize a child's first words is a curious puzzle since the meanings of first words rarely coincide with meanings in the adult language. Early words tend to differ in their domain of applicability, covering either a larger or smaller range of particularities. In recent years, linguists and psychologists have focused attention on the acquisition of word meaning and have formulated differing hypotheses as to the nature of this acquisition.[1]

THE "SEMANTIC FEATURE HYPOTHESIS"

The phenomenon of the overextension of meaning, widely reported in diary studies, provided a rich source of data for Eve Clark who formulated the Semantic Feature Hypothesis, which is based on the notion of universal semantic primitives. Such a framework takes as given a set of features or components which are innate and "perceptually" based, with languages differing from each other "principally in the rules of combination used to go from the semantic primitives to the lexical items (1973:70)." Clark's scheme of lexical acquisition is based on the assumption that a child at the threshold of language does not know a word's full adult meaning and has a lexicon in which words have only partial entries. Overextensions are based, then, on these partial entries. As Clark puts it:

> As soon as [the child] has attached some feature(s) of meaning to [a word], it simply has that meaning for him (:72).

The child's use of one or two features criterially becomes the source of the overextension. According to Clark, then, the lexical entry for "doggie" may consist of the feature four-legged and will therefore be the source of the child's use of "doggie" for cows, sheep, zebras, etc. Although Clark refuses to speculate on the absolute nature of the semantic primitives that form the universal set, she does hold that "the first semantic features that the child uses are liable to be derived from the encoding of his percepts (:74)."

"FUNCTIONAL CORE CONCEPTS"

Nelson (1974) has pointed out a number of difficulties with the Semantic Feature Hypothesis, not the least of which is its reliance on analyticity. In place of analytic-type features or components as the basis of the initial concept formation process, Nelson would substitute "Functional Core Concepts" which

develop on the basis of single instances and emerge from the child's interaction with the world independent of "cuing through words (:277)."

In many ways, aspects of Nelson's Functional Core Concepts resemble Clark's Semantic Feature Hypothesis. For example, in Nelson's account, category formation proceeds on the basis of the identification of the important relationships into which objects enter. Not all relations, however, are crucial to the defining of a concept, so development must include the identification of some relations "as irrelevant to the defining functional core (:277)." This formulation sounds very much like the scheme of development which Clark posits:

> at a later stage, as the child learns more about the structure of his language as a whole, he will learn which percept-derived features play a particular linguistic role (e.g., animacy) and which are relatively redundant within a set or combination of features (1973:74).

The theories begin to look alike in an even more important way since, ultimately, Nelson must also rely on the child's analysis of "the whole (concept) into its relevant parts (attributes) (:278)" in order to account for overextension. Nelson claims to differ from Clark in that she posits the primacy of functional, dynamic relations. She sees an important divergence between the componential and functional hypotheses in that a functional analysis does not assume that the child constructs relationships among static objects. For Nelson, perceptual analysis takes place but is "derivative of the functional concept, not a priori essential to it (:284)." This derivation does not take place in real time--"all concept acquisition is assumed to involve both of these processes (:284)."

BOWERMAN'S FORMULATION

Bowerman (1978) puts forth another position largely based on prototype theory (e.g. Rosch, 1973, Rosch and Mervis, 1975). Prototype theory attempts to explain category structure on the basis of analog rather than digital features, with a kind of Wittgensteinian family resemblance holding among members of a category. In this formulation, a category is characterized by a certain internal structure such that each category has a focal member or "best exemplar" and other members which deviate from this prototype, each having more in common with the focal member than it has with other members. Thus, "apple" is a good example of "fruit", "chair", a good example of "furniture", etc.

Bowerman noticed that many of the overextensions

found in child speech could be more readily explained by recourse to prototype theory.[2] For example, her daughter, Eva, used the word "moon" at first in reference to the real moon and then extended various of its "features" to other referents. Bowerman's list of apparently perceptual features include shape(round), color(yellow), the moon's shiny surface, the child's viewing position (although we are hard-pressed to describe this "feature" as a feature of the object and are now conflating internal state with object-centered characteristics, which is actually correct, but not within the framework Bowerman espouses), flatness, and flat expanse as a background for the object in question (backgrounded).

In overextending "moon", Eva used it for the peel side of a half grapefruit viewed from below. The features shared with the prototype are circular, yellow, viewing position. In the use of "moon" to refer to the chrome dial on a dishwasher, the shared features are: circular, shiny, viewing position, flat, backgrounded. When extended to a magnetic letter D on the refrigerator, the features in common are: half-moon, viewing position, backgrounded.

According to Bowerman, the similarities that led to overextension were perceptual and not functional, with the child often overlooking "known" functional differences in favor of perceptual similarities. But let us see whether this is a correct interpretation of the state of affairs she describes.

"FEATURES" AND THE SUBJECT-OBJECT DISTINCTION

Bowerman's designation of the source of overextension as "perceptual"[3] is largely a misnomer in view of the "features" she identifies. Take, for example, "viewing position," identified as a feature of "moon" for her subject. We have pointed out that this "feature" is not an attribute of the referent. Moreover, the child is not a passive observer of her own viewing position. In fact, the term "viewing position" forces us to treat a dynamic orientation as though it were static. The state of affairs designated "viewing position" is rather a postural schema (cf. Werner and Kaplan, 1963), and, as such, represents the child's orientation toward the object.[4] Overextensions based on the state of the subject are direct evidence against the subject-object distinction of traditional philosophy which underlies much of the developmental literature and is the tacit assumption of the three studies we have examined. Briefly stated, the subject-object distinction posits a sharp division between the

thinking mind and the object thought about.[5]

Bowerman's other analyses also betray this prejudice. For example, the word "giddiup", which Eva first used while bouncing on a spring horse, was overextended to a number of activities in which the child was motor involved in the same way as she would be on the hobby horse. Bowerman identifies the "features": horse, bouncing motion, sitting on a toy, especially astraddle. In another instance of overextension, the word "bump" was first used when Eva hit her head with accompanying pain. In this usage, the bodily comportment seems to be absolutely primary. It was overextended to instances when her toy piano fell over and when she bumped any part of her body, whether pain was involved or not. Raindrops on her head and immersing her finger in hot water followed by immediate withdrawal also elicited the word "bump." The features Bowerman lists are 1) the abrupt contact between any two objects, one of which is usually a body part, preferably the head, and 2) pain.

What are we to make of these "features": are they functional or perceptual or something we have not yet considered? A key lies in Bowerman's identification of another important source of overextensions: internal experience, affective or otherwise. She points out that words like "there!", "too tight", "too heavy", and "aha!" were used in situations that could only be described in terms of the child's subjectivity. "There!", for example, was used at the completion of any project, "too tight", in situations of physical restriction, "aha", in situations involving the experience of discovery or surprise.

Can't we, in fact, identify an element of affectivity in all the overextensions thus far described, and yet, isn't there an element of perceptually-based overextensions and even--if we use Nelson's definition--of function-based overextensions? How can we possibly describe the child's category structure (if, indeed, "category" is an appropriate term) without resorting to having some categories based on percepts, some on affect, some on function, etc.? Such a multiplicity of category bases seems intuitively unsatisfactory, although each of the positions we have thus far examined has something important to say about early words.

AN ALTERNATIVE APPROACH

An interesting solution to the purported dilemma may be derived from Merleau-Ponty's (1962) Phenomenology of Perception which asserts the primacy of perception in

the development of rationality while discarding the traditional view of perception as a sum of sense impressions. In contrast, the phenomenological view regards perception as an intersensorial gestalt and one's entire presence at the moment, which includes all the senses traditionally seen as separable and also one's affectivity, a side of behavior generally overlooked in the cognitively-based developmental studies.

The importance of affectivity in infancy is not a new idea. Vygotsky (1962), writing in the 1930s pointed out that earliest speech is affective-conative. In The Structure of Behavior (1963), Merleau-Ponty describes nascent perception (which, we must remember, is not a sum of sense impressions) as "an emotional contact of the infant with the centers of interest of its milieu much more than [it is] a cognitive and disinterested operation (:176)."

It is important to understand that affectivity is not to be interpreted as an additional meaning component added on to words, since it is clear that emotions are rather an orientation toward the world and are an intrinsic part of the child's understanding of the meaning of that world. Viewing affectivity as a necessary element both of subjectivity and of understanding forces the breakdown of the subject-object distinction. Sartre makes this point most succinctly:

> emotional consciousness is, at first, unreflective [and] is, at first, consciousness of the world ... [T]he affected subject and the affective object are bound in an indissoluble synthesis. Emotion is a certain way of apprehending the world (1948:51-52).

We must remember, too, that it is a myth to believe that we are ever truly emotionless. In his discussion of "mood" or "state-of-mind", Heidegger underscores the error of believing that we are ever without mood:

> The fact that moods can deteriorate and change over means simply that in every case Dasein always has some mood. The pallid, evenly balanced lack of mood, which is often persistent and which is not to be mistaken for a bad mood, is far from nothing at all (1962:173).

How do these considerations help us understand the facts of word acquisition? Looking back over the examples Bowerman provides, we find that not only in the use of the words "aha!" and "there!" does the child express an attitude, but does so in every utterance. Can we believe the child moodless as she utters "giddiup" while riding a hobby horse?

Let us, however, not make the mistake of assuming

that affectivity accounts for acquisition in toto. It is only through asserting the primacy of perception properly understood that we can resolve the apparent diversity in word acquisition.

EXAMPLES ILLUSTRATING THE PHENOMENOLOGICAL APPROACH

Let us look at examples provided by another child who was observed between 17.5 and 19.5 months of age. Mel was barely at the one-word stage of development and used few words. Those words she did use, however, are highly illustrative and indicate the primacy of perception in the child's acquisition of language.

On one occasion, Mel was given a small, short, green toy snake. Her five-year-old sister teased her with it, poking her while saying, "sss." Mel immediately and gleefully took the snake and poked her sister with it, saying, "sss." It is important to note here that the snake was only about sixteen inches long and one and one-half inches in diameter, and therefore an object Mel could easily manipulate. The next day, Mel was playing with a Fisher-Price toy bumble bee which has a stiff, thin, white tubular plastic pull cord. In the middle of playing with it, Mel stopped and held the string, very much in the same manner that she had held the snake the night before, and said "sss."

What do the two objects have in common? If one were doing a semantic feature analysis, one might say that the child was overextending on the basis of shape. Such an analysis presupposes an abstract ability on the part of the child, since the objects in question are similar only with respect to the ratio of length to width, and then, only poorly so. The important similarity, however, lies in the manner in which the child held the two objects and in the context in which she interacted with them, viz., play. It was not her interaction alone that determined her use of the word, but the manner of that interaction, which included affective and postural elements. The shape cannot be excluded, of course: it seems doubtful that a square block would have elicited "sss;" on the other hand, a square block could not be held in the same manner as the cord. Shape, therefore, is only apprehended within a given postural schema and a particular orientation toward the object.[6] It is also important to note that other objects of similar shape that were also in horizontal position in the room did not elicit the word.

Another example further elucidates our point. Mel has begun to use the word "mine" in numerous situations. It seems probable that Mel first encountered the word when it was used by her sister in the process

of asserting property rights. Mel accompanies the word with a simultaneous pulling-away motion and a certain reluctance to part with any forbidden object she might have. Having an object in her possession is not necessary for the use of the word, however, since Mel also said "mine" when told to get away from a cabinet containing household cleansers which she was about to ransack. But even the assertion of territoriality is not a necessary part of the word's use, since Mel also says "mine" when she doesn't feel like heeding the order "come here." The bodily pulling-away always accompanies the utterance. Clearly, "mine" represents a postural, affective stance toward the world--possibly best captured by the word "defiance."

"Mama" is another word that Mel overextends[7] when striving toward an adult caretaker whom she has experienced as fulfilling various needs for food, attention, changing, etc. "Mama" has an intrinsic affective base. The question arises as to whether a child will overextend a word like "Mama" in comprehension as well. Evidence provided by Thomson and Chapman (1975) indicates not. These researchers presented children with pictures of items to which certain words had been previously overextended. Their subjects did not confuse the image of their mothers with the images of other women, an unsurprising finding in view of the perspective we are taking. In the absence of direct need, the child can choose a picture of his mother, since the visual image of his mother <u>also</u> constitutes his word usage and carries with it great emotional interest. By maintaining the importance of the affective-postural aspects and the primacy of perception in the phenomenological framework, the gap between comprehension and production becomes less of an enigma, at least at the word level.

The acquisition literature has recently contained references to two types of language learners, expressive and referential. The former operates via "gestalts", "speech acts", or emotional language, while the latter apparently goes around naming things (cf. Peters, 1977). Lest we be too anxious to give the wrong interpretation to this phenomenon, we must keep in mind that, for all children, language is an emotional relation. The notions presented here indicate that the expressive child is not an abnormality--he has his own style of doing what the referential child also does.

In conclusion, it is necessary to mention that children develop from subjective understandings of the world to more cultural and shared understandings. This development must proceed through a dialectic of the

personal, subjective realm and the cultural, intersubjective realm.

NOTES

[1] It is important to understand that even in adult language, a word used in discourse is not equal to an isolated word in citation form. That is, a sentence is not equal to the sum of "concepts" represented by each word in isolation. In the same way, at the outset of acquisition, children's one word utterances--often called holophrases--are not rigid unchanging entities like dictionary entries. Researchers are agreed on this point. Brown (1973) points out that single-word utterances are "expressive of semantic intentions of greater complexity than the naming of referents (:154)." Nevertheless, much research in the area of the acquisition of word meaning has proceeded as though words could be redacted from context and treated as evidence for category formation.

[2] Bowerman refers to these kind of categories as "complexive" after Vygotsky's (1962) associative complexes in which instances B,C,D are similar to instance A but not necessarily similar to each other.

[3] Bowerman's use of "perceptual" implies the traditional view, not the phenomenological view advocated in this paper.

[4] Dynamic orientation is more similar to Nelson's functional hypothesis, which views concepts as emerging from the child's interactions with people and objects, than it is to the relatively static "perceptually" based features which Bowerman proposes.

[5] Descartes is perhaps the most celebrated of those philosophers who attempted to understand man's relation to the universe in this way. Rabil puts it thusly: "Descartes carried Galileo's analysis one fateful step further. He recognized that, if nature were universally mathematized, the psychical must be separated from physical reality, since the construction of a mathematical nature was accomplished in the first place by abstraction of objects from consciousness. Descartes attempted to restore subjectivity to a naturalistically objectivized universe ... Descartes ..., following Galileo, regarded the "I" as a psychological reality which remains when mathematical nature is subtracted from it ... The result was that the soul was placed in the body as a reality distinct from it

...(1967:56)."

[6] At 22 months, later than the data reported in the main body of this paper, Mel made an interesting overextension apparently in the domain of shape. While looking at a coloring book containing relatively schematic drawings of animals, Mel pointed to a picture of a bird, identifying it as a "wae?wae?", her word for "bird". In this instance the bird's body was in horizontal position with wings spread as in flying, and its beak was open. On the next page of the book, the same picture appeared, this time with the open-beaked bird in vertical position. Mel identified this picture as "babbit", her word for "rabbit". Such occurrences would seem to indicate, if not a predilection for shape per se, then at least a preference for basing concepts on a closely related phenomenon, horizontal or vertical orientation (the vertically opened beak was similar to a pair of rabbit ears). But the context of the overextension is crucial in this case. We are dealing here with schematic two-dimensional objects. In a two-dimensional world, shape is all there is. It is the only basis for overextension. Needless to say, Mel never confuses birds and rabbits in the real world.

[7] I suspect this is a word many children overextend--perhaps all, if given the appropriate context.

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