Rules and their Actualizations
in Second Language Learning

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Studies in L2 (second language) acquisition give a heavy emphasis to the development of grammatical structures and rules in the learner as a characterization of learning--with interest shown in the possible functionings of Universal Grammar (rf. Hilles 1986 and White 1985) under an influence cast by Chomsky's work (e.g. Chomsky 1981); invoking also for L2 the 'logical problem' of acquisition, where degenerate and underdeterminate 'input' is seen in terms of grammar (rf. White 1985); while discussions on 'intake' and 'integration' center very much on grammatical structures as well (rf. Chaundron 1985, Zobl 1985, and Gass 1988). On the other hand, the role in acquisition of comprehension (understanding the meaning and content of L2 heard) is widely discussed (rf. especially Krashen 1980, 1981, 1982, 1985; and reactions to him, for example, Gregg 1984 and White 1987).

I would like to consider an area which falls naturally between understanding the content of L2 heard or read and acquisition of grammar: content vocabulary. A suggestion will be made towards seeing its role in acquisition of L2 structures and rules, with some implications mentioned for L2 acquisition studies and instruction. The thesis here is that learning vocabulary is a necessary preliminary to learning grammar, and that content vocabulary, specifically, provides a <u>context</u> for perceiving grammatical features in utterances heard--somewhat

parallel to the accepted view that nonlinguistic information provides the context that facilitates comprehension of sentence meaning.

As a framework for the various concepts involved, that of Gass (1988) is relayed briefly and commented on in terms of a distinction between abstract knowledge of L2 grammar and concrete familiarity with the actualizations of grammar in utterances.

Gass's Model

Gass (1988) offers a model of second language processing in terms of: 'ambient speech', 'apperceived input', 'comprehended input', 'intake', 'integration', 'output'; where five levels are depicted in which L2 heard (ambient speech) leads to L2 use in speaking.

Apperceived input: Some of the language data from ambient speech is 'apperceived' (i.e. noted and 'related to past experiences'--close to the notion of 'perception' as described in Sell 1988a). Language apperceived is analyzed by a parsing mechanism for identification of meaningful units. Factors influencing what is noticed or apperceived include, for example, (1) frequency (high frequency and--an interesting insight--very low frequency, which may enhance unexpected forms); (2) affect; (3) prior knowledge (implied by the definition of 'apperception'), including linguistic knowledge; and (4) attention to language heard. It is pointed out that factors such as these may influence each other.

Comprehended Input, distinguished from comprehensible input, is learner-controlled and more easily related to intake and

allows for levels of comprehension (from semantics to structural analysis). Comprehended input is separated from intake--the former refers to comprehension at the time of hearing; and the latter means learning, i.e. integrating new linguistic information into what was already known.

Intake is 'assimilating linguistic material,' defined also as 'a process of mental activity which mediates between input and grammars,' by which only a part of the language heard is actually taken in for immediate or subsequent integration.

Integration is a result of intake by which certain aspects of utterances heard may contribute to the development of the learner's grammar, while other aspects may be 'put into storage' pending clarification of how these could be integrated into the grammar. Boulouffe (1986) is also referred to, who sees an extensive role for this stored or pending information. Integration is seen as dynamic, whereas knowledge of L2 is cumulative (it is the learner's grammar thusfar).

Output contributes to acquisition as is seen, for example, in Swain(1985, p.252), who is referred to. At the same time it is noted that, according to various studies, output will not reflect competence sufficiently.

Knowledge and Familiarity

In Sell (forthcoming) it is hypothesized that, in creating new sentences, L2 students tend to deal in vocabulary and familiar phrasings, first of all; and with rules only insofar as necessary. It is pointed out that multiple-word sequences are often learned and used prior to a clear knowledge of rules

applying therein (as in the case of L1, according to various authors); that these can be modified to some extent (e.g. by replacing content vocabulary) on the basis of common sense or knowledge of the world rather than L2 rules; that students tend to operate with ad hoc rules in their speaking, staying close to the familiar word sequences already learned; and that therefore speaking cannot be taken as a clear indication of knowledge of rules, much less as an indication of the level of abstractness or generality of rules apparently used (see Rumelhart and McClelland 1987 on the case of L1). It is also emphasized that learning words and word sequences, and the concrete "expressions" or actualizations of grammar in words and their linear arrangement in utterances, is prerequisite to learning the abstract rules themselves (e.g., no, not, n't, never, nor, non-, un-, in-, etc., and their distribution, express the operation of rules of negation). As the learner progresses, we expect that generalizations are made, and that these develop in abstractness to cover more of the data being heard--generating expectations which, as satisfied, will mean a confirmation and accumulation of abstract knowledge as well (in the sense of Gass 1988, p.208), but accompanied by, and always associated with, the concrete expressions also remembered.

It will be convenient to distinguish in terminology, then, between abstract knowledge of L2 rules and concrete knowledge of, or familiarity with, expressions of rules in utterances. Concrete knowledge extends, besides, to all expressions familiar as such: bound and free morphemes, and word sequences, all of which are

familiar and available for call-up to the extent that, for example, each has been identified, understood, used, and remembered.

Obviously, formulation of abstract rules requires prior familiarity with the forms or expressions of the grammar they cover, and therefore there will be cases of concrete knowledge without abstract knowledge of L2--but not vice versa.

Knowledge of L2 is referred to. Regarding the functioning of L1 knowledge, and the possibility of linguistic universals at work, note, parenthetically, that in Sell (1988b) it is suggested that transfer consists of a set of constraints on a learner's hypotheses regarding L2 at two levels, perception and interpretation. A hypothesis is offered which predicts that transfer occurs as a subjective constraint on objective L2 perceptibility and therefore in direct proportion to abstractness. The findings of various authors are reviewed against the hypothesis (cf., for example, Barlet and Guillermo 1983, Corder 1983, Gleitman and Wanner 1982, Kellerman 1983, Roeper 1982, Rutherford 1983, Scarcella 1983, Zobl 1980 and 1983); the hypothesis seems to be borne out in the following:

(1) In the interaction between L1 known and L2 heard, the L2 utterance enjoys a special perceptive salience and presence which acts to minimize the filter effect of L1 and which suggests that the starting point in L2 syntax development lies in L2 words (which are perceptually salient), not L1 syntax nor in a universal syntactic core.

(2) L2 development tends to begin at points of easily perceived L1-L2 similarity.

(3) Errors of "discourse accent" are both most enduring and furthest removed from direct perception.

(4) Avoidance of certain forms in L2 production is rooted in faulty perception of those forms at times of receptive exposure.

(5) Regarding a role for linguistic universals in L2 acquisition, as argued by some authors, it is suggested tentatively that the examples offered may be pre-linguistic universal traits in human cognition. More generally, even given innate universals, and insofar as these are already actualized in the specifics of L1, more influence is expected from an actual L1, than from what originally was a potential L1 knowledge (rf. also Zobl 1985 and Schachter 1988).

As regards L2 knowledge itself, familiarity with expressions naturally precedes learning how to use them. And, having acquired both concrete and abstract sides of a rule, both are apparently associated in some way thereafter in the mind of the learner. (This view parallels the general cognitive framework suggested in Sell 1988a. See also Fromkin 1973 on slips of the L1 where affixes are erroneously used (motionly for motionless, etc., as noted in Hatch 1983, p.42. This would also indicate a concrete knowledge or familiarity with bound morphemes as associated with, while clearly distinct from, the rules dictating their distribution.)

An accumulation of familiar expressions is what enables a first perception of form in new sentences heard on the basis of

past experience. This first perception is the recognition of wording: word form and word sequences. A more developed perception brings the recognition of phonology, morphology, and syntax--also according to familiarity through past experience. First perception (of wording) is concrete; developed perception (of structure) is more abstract. Intake and integration, for their part, may be seen as dependent upon concrete and developed perception, respectively, especially if the "data" of input is not taken to include structures (rf. White 1987, p.98), which, in turn, are 'discovered', 'noted', or 'created' (rf. also Dulay, Burt, and Krashen 1982 on 'creative construction').

Familiarity is intimately associated with 'ease of use,' and the various uses of L2 include listening to it, speaking with it, reading it, and writing in it, each of which is carried out with greater or lesser ease, fluency, and accuracy, creating problems of identifying competence (rf. Sell forthcoming, Tarone 1983, Gass 1979, Schmidt 1980, and discussion in Gass 1988, pp.210-211). Familiarity is an important factor underlying the different abilities in using L2 (rf. Fillmore 1979, p.86, and Sharwood Smith 1986). At the same time, it is reasonable to speak of 'degrees' to knowledge (unless one holds a predilection for Cartesian linguistics wherein knowledge is fully 'triggered' at some provocation; rf. Cook 1985). This should not be controversial. In fact, competence is measured in proficiency even in the generative-grammar school in the use of judgments of grammaticality, which, intended to elicit intuitions, reflect more directly a receptive (usually reading) proficiency with the example sentences used.

In any case, a concrete/abstract distinction in grammatical knowledge may contribute to explaining the nature of knowledge as underlying varying success in performance (Schachter (1988, p.224) points out that 'Communicative capability, although making use of grammatical competence, clearly involves many other capabilities as well.' However, in the reverse direction, accurate and fluent speech is always taken as manifesting competence). For example, I would suggest that, although abstract rules are required for innovative production, a concrete familiarity with expressions of grammar suffices for receptive L2 use (cf. Rice 1984, as noted in Gathercole 1988, and discussion in Gathercole). In support of this idea, it can be noted that conscious attention is apparently focused more on rules and grammaticalness in speaking than in listening. It is an issue in L2 education, in fact, whether learners' attention should be purposely focused on form when hearing the language (rf. Sell 1988a).

One outcome of associating knowledge with proficiency is that it becomes difficult to speak of L2 development in terms of Krashen's i+1 (rf. for example Krashen 1981 and 1983) or "next structure" or being "ready for" a specific feature of grammar. Regardless of the exact knowledge of the learner, concrete wording itself will generally have something to teach towards the gradual acquisition of a rule or in its extension to new wordings.

To refer to another study, Sharwood Smith (1986, p.251) offers an idealized model of acquisition-through-input which

includes a procedure in five stages, reproduced here:

1. Compare the semantic representation (derived purely from current competence) with the total meaning representation (semantic representation plus meaning derived via other means like real-world knowledge, including pragmatics, knowledge of gesture, etc.) and note any discrepancy.

2. Adjust semantic representation to fit the facts where a discrepancy is noted. i.e. where current competence has apparently generated a semantic representation that is in violation of the facts of the situation.

3. Generate a surface structure from the adjusted semantic representation according to the rules of the current grammar.

4. Compare the original surface structure with the new surface structure (in 3) and note any discrepancy.

5. Restructure current competence system (grammar) so that the adjusted semantic representation may be derived from the original surface structure, if there was indeed a discrepancy (in 4).

where it is understood that not all discrepancies between input data and current competence bring restructuring of the learner's grammar.

However, the exceptions to this model may be the norm. It seems more typical that grammar is short-circuited (cf. Bowerman 1978a, 1978b) and comprehension arises from content vocabulary and expectations due to surrounding nonlinguistic information;

and that there is a comparison of semantic representation with total meaning representation (stage 1) only insofar as necessary, i.e. only insofar as expectations are countered. And lacking a comparison of this type (stage 1), there is no motivation for an adjustment of the learner's semantic representation (stage 2). Further, even given such an adjustment, comparison and restructuring of grammar (stage 3-5) finds even less motivation if there is already comprehension (stage 2). In other words, one misses in this type of model some representation of limited interpretations of meaning at the concrete level of wording apart from the use of knowledge rules for full or accurate interpretation.

Implications in L2 instruction

The notion that a learner's _first_ perception of utterances is targeted on concrete words (not structures; and not sounds: rf. Sell 1988b) suggests that a role be considered for _vocabulary_ in the acquisition of L2 grammar. Judging, at least, from the normal focus of conscious attention, this is reasonable, for a listener naturally focuses on content, which indicates strongly a focus on content _vocabulary,_ as a general tendency (evidence for which would undoubtedly be found in memory tests after hearing L2, for example). Also, content vocabulary in L2 will tend to parallel that of L1 in given sentence-equivalents, making it a natural approach to wording in general and, subsequently, to L2 grammar.

In the direction of grammar, the _order_ of content vocabulary is already some signal of grammatical function (a noun at the

start may be taken as a likely sentence-subject), plus expectations arising from preceding content, likely outcome, and many intangible factors present, can suggest other viable grammatical functions (direct object, etc.). To the extent that content vocabulary is recognized, the grammar of the sequence comes more exposed and perceptible--in grammatical words and in morphological modifications on familiar vocabulary.

In the case that grammar is consciously noted (rf. Schmidt forthcoming, and Sell 1988a and forthcoming), knowledge of grammar is promoted in two ways: (1) Familiar structures are activated and reinforced in the context of the new vocabulary at hand, providing a new instance of the endless possible applications of the grammatical rules--thereby widening the knowledge of possible sentences permitted within the constraints of the rules. (2) Unfamiliar grammar is noted in its manifestation in the wording of the sentence (in the words used, their order, and their make-up), which is associated with the meaning of the sentence as understood. Each of the rules applying becomes somewhat more familiar in the one example of this sentence. (Progress toward acquisition of the abstract rule itself may depend somewhat on how closely wording is noted and the attention given to trying to see some rule in operation.)

In L2 education, a 'vocabulary first' view of acquisition would of course recommend instruction in a wide vocabulary and, in general, guidance in noting the concrete wording of sentences --also a natural conclusion from the general view that rules are personally arrived at (even if guidance here, too, provides

short-cuts). It is to expected, too, that the comprehensibility of discourses heard and passages read is increased <u>especially</u> by prior familiarity with vocabulary.

Word study need not be restricted to exposure in many contexts, as if this were required to arrive at meaning in all cases. The meaning of many concrete nouns, for example, can be learned with few instances, in some cases only one. (This comes of a common real world shared by speakers of all languages, the basic objectivity of our knowledge, and the human ability to know singular objects for what they are; rf. Sell 1988a.) Artifacts offer the clearest example; what they are essentially is seen in their function or purpose, which is obvious to their users (people of any language background). Still, learners must be confronted with extensive L2 listening and reading material which is <u>new</u> to them so as to exercise inferencing of unfamiliar vocabulary, discovering acceptable uses of words in context, noting grammatical structures, and finding extensive examples of rule application.

It is noteworthy that even students with a fairly developed reading proficiency as regards grammar (e.g. many students of English in Japan) stumble and resort to translation in their reading because of their limited vocabulary. As a case in point, they would likely fare better knowing more words and less grammar: the structures are more open to figuring out than the vocabulary is.

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