Chapter II

Second Language Acquisition Theory

This chapter summarizes current second language acquisition theory. To do this, it first describes some very important hypotheses. The first three, the acquisition-learning distinction, the natural order hypotheses, and the Monitor hypothesis, are reviewed somewhat briefly, as they have been dealt with a great deal in several other books and professional papers. Enough detail will be provided, however, to give the uninitiated reader a good idea of the hypotheses and the sort of evidence that exists to support them. The fourth hypothesis, the input hypothesis, may be the single most important concept in second language acquisition theory today. It is important because it attempts to answer the crucial theoretical question of how we acquire language. It is also important because it may hold the answer to many of our everyday problems in second language instruction at all levels. Following the discussion of the input hypothesis, we turn to the concept of the affective filter, a hypothesis as to how affective variables relate to the process of second language acquisition.

The second portion of this chapter reviews a variety of factors that have been thought to be related to second language acquisition success, including instruction, different measures of exposure to the second language, and the age of the acquirer. These factors, it will be claimed, are not really causative factors. While they seem to relate to success or failure to acquire second languages, the true causative variables in second language acquisition derive from the input hypothesis and the affective filter—the amount of comprehensible input the acquirer receives and understands, and the strength of the affective filter, or the degree to which the acquirer is "open" to the input.

A. Five Hypotheses About Second Language Acquisition

1. THE ACQUISITION-LEARNING DISTINCTION

The acquisition-learning distinction is perhaps the most fundamental of all the hypotheses to be presented here. It states that adults have two distinct and independent ways of developing competence in a second language.

The first way is language acquisition, a process similar, if not identical, to the way children develop ability in their first language. Language acquisition is a subconscious process; language acquirers are not usually aware of the fact that they are acquiring language, but are only aware of the fact that they are using the language for communication. The result of language acquisition, acquired competence, is also subconscious. We are generally not consciously aware of the rules of the languages we have acquired. Instead, we have a "feel" for correctness. Grammatical sentences "sound" right, or "feel" right, and errors feel wrong, even if we do not consciously know what rule was violated.

Other ways of describing acquisition include implicit learning, informal learning, and natural learning. In non-technical language, acquisition is "picking-up" a language.
The second way to develop competence in a second language is by language *learning*. We will use the term "learning" henceforth to refer to conscious knowledge of a second language, knowing the rules, being aware of them, and being able to talk about them. In non-technical terms, learning is "knowing about" a language, known to most people as "grammar", or "rules". Some synonyms include formal knowledge of a language, or explicit learning.

Some second language theorists have assumed that children acquire, while adults can only learn. The acquisition-learning hypothesis claims, however, that adults also acquire, that the ability to "pick-up" languages does not disappear at puberty. This does not mean that adults will always be able to achieve native-like levels in a second language. It does mean that adults can access the same natural "language acquisition device" that children use. As we shall see later, acquisition is a very powerful process in the adult.

Error correction has little or no effect on subconscious acquisition, but is thought to be useful for conscious learning. Error correction supposedly helps the learner to induce or "figure out" the right form of a rule. If, for example, a student of English as a second language says "I goes to school every day", and the teacher corrects him or her by repeating the utterance correctly, the learner is supposed to realize that the /s/ ending goes with the third person and not the first person, and alter his or her conscious mental representation of the rule. This appears reasonable, but it is not clear whether error correction has this impact in actual practice (Fanselow, 1977; Long, 1977).

Evidence from child language acquisition confirms that error correction does not influence acquisition to any great extent. Brown and his colleagues have shown that parents actually correct only a small portion of the child's language (occasional pronunciation problems, certain verbs, and dirty words!). They conclude from their research that parents attend far more to the truth value of what the child is saying rather than to the form. For example, Brown, Cazden, and Bellugi (1973) report that a sentence such as:

*Her curl my hair*

"was approved, because the mother was, in fact, curling Eve's hair" (p. 330). On the other hand,

*Walt Disney comes on on Tuesday*

was corrected, despite its syntactic correctness, since Walt Disney actually came on television on Wednesday. Brown *et al.* conclude that it seems to be "truth value rather than syntactic well-formedness that chiefly governs explicit verbal reinforcement by parents--which renders mildly paradoxical the fact that the usual product of such a training schedule is an adult whose speech is highly grammatical but not notably truthful" (p. 330).

The acquisition-learning distinction may not be unique to second language acquisition. We certainly "learn" small parts of our first language in school (e.g. for most people, the who/whom distinction), and similar distinctions have been made in other domains (see, for example, Reber, 1976; Hall, 1959; and the review in d'Anglejan, 1978).
2. THE NATURAL ORDER HYPOTHESIS

One of the most exciting discoveries in language acquisition research in recent years has been the finding that the acquisition of grammatical structures proceeds in a predictable order. Acquirers of a given language tend to acquire certain grammatical structures early, and others later. The agreement among individual acquirers is not always 100%, but there are clear, statistically significant, similarities.

English is perhaps the most studied language as far as the natural order hypothesis is concerned, and of all structures of English, morphology is the most studied. Brown (1973) reported that children acquiring English as a first language tended to acquire certain grammatical morphemes, or functions words, earlier than others. For example, the progressive marker *ing* (as in "He is playing baseball") and the plural marker */s/ ("two dog s") were among the first morphemes acquired, while the third person singular marker */s/ (as in "He lives in New York") and the possessive */s/ ("John's hat") were typically acquired much later, coming anywhere from six months to one year later. de Villiers and de Villiers (1973) confirmed Brown's longitudinal results cross-sectionally, showing that items that Brown found to be acquired earliest in time were also the ones that children tended to get right more often. In other words, for those morphemes studied, the difficulty order was similar to the acquisition order.

Shortly after Brown's results were published, Dulay and Burt (1974, 1975) reported that children acquiring English as a second language also show a "natural order" for grammatical morphemes, regardless of their first language. The child second language order of acquisition was different from the first language order, but different groups of second language acquirers showed striking similarities. Dulay and Burt's results have been confirmed by a number of investigators (Kessler and Idar, 1977; Fabris, 1978; Makino, 1980). Dulay and Burt used a subset of the 14 morphemes Brown originally investigated. Fathman (1975) confirmed the reality of the natural order in child second language acquisition with her test of oral production, the SLOPE test, which probed 20 different structures.

Following Dulay and Burt's work, Bailey, Madden, and Krashen (1974) reported a natural order for adult subjects, an order quite similar to that seen in child second language acquisition. As we shall see later, this natural order appears only under certain conditions (or rather, it disappears only under certain conditions!). Some of the studies confirming the natural order in adults for grammatical morphemes include Andersen (1976), who used composition, Krashen, Houck, Giunchi, Bode, Birnbaum, and Strei (1977), using free speech, and Christison (1979), also using free speech. Adult research using the SLOPE test also confirms the natural order and widens the data base. Krashen, Sferlazza, Feldman, and Fathman (1976) found an order similar to Fathman's (1975) child second language order, and Kayfetz-Fuller (1978) also reported a natural order using the SLOPE test.

As noted above, the order of acquisition for second language is not the same as the order of acquisition for first language, but there are some similarities. Table 2.1, from Krashen (1977), presents an average order for second language, and shows how the first language order differs. This average order is the result of a comparison of many empirical studies of grammatical morpheme acquisition.
While English is the best studied language, it is not the only one studied. Research in order of acquisition for other language is beginning to emerge. As yet unpublished papers by Bruce (1979), dealing with Russian as a foreign language, and van Naerssen (1981), for Spanish as a foreign language, confirm the validity of the natural order hypothesis for other languages.

We will deal with the pedagogical implications of the natural order hypothesis later, I should point out here, however, that the implication of the natural order hypothesis is not that our syllabi should be based on the order found in the studies discussed here, that is, I do not recommend teaching ing early and the third person singular /s/ late. We will, in fact, find reason to reject grammatical sequencing in all cases where our goal is language acquisition. We will deal with this later, however, after we have finished laying the theoretical groundwork.

(a) Transitional forms

Studies supporting the natural order hypothesis show only the order in which mature, or well-formed structures emerge. Other studies reveal the path acquirers take en route to mastery. (For a review, see Dulay, Burt, and Krashen, in press. Ravem, 1974; Milon, 1974; Gillis and Weber, 1976; Cancino, Rosansky, and Schumann, 1974; Wode, 1978 and Nelson, 1980 are some second language studies in this area.) There is surprising uniformity here as well--acquirers make very similar errors, termed developmental errors, while they are acquiring. For example, in acquiring English negation, many first and second language acquirers pass through a stage in which they place the negative marker outside the sentence, as in:

*No Mom sharpen it.* (from Klima and Bellugi's (1966) study of child L1 acquisition)

and *Not like it now.* (from Ravem's (1974) study of child L2 acquisition)

A typical later stage is to place the negative marker between the subject and the verb, as in:

*I no like this one.* (Cancino et al. (1975) study of child L2 acquisition)

and *This no have calendar.* (from Schumann's (1978a) study of adult L2 acquisition)

before reaching the correct form.

Predictable stages in the acquisition of wh- questions in English include an early stage in which the wh- word appears before the rest of the sentence, which is otherwise left in its normal uninveted form, as in:

*How he can be a doctor?* (Klima and Bellugi, 1966, child L1 acquisition)

and *What she is doing?* (Ravem, 1974, child L2 acquisition)

Only later do acquirers begin to invert the subject and verb of the sentence. (A detailed review can be found in Dulay et al., in press.)
Transitional forms have been described for other languages and for other structures. The stages for a given target language appear to be strikingly similar despite the first language of the acquirer (although particular first languages may influence the duration of certain stages; see Schumann, 1979). This uniformity is thought to reflect the operation of the natural language acquisition process that is part of all of us. (For a discussion of some of the current issues and controversies concerning the natural order hypothesis, see Krashen, 1981.)

**TABLE 2.1. "Average" order of acquisition of grammatical morphemes for English as a second language (children and adults)**

<table>
<thead>
<tr>
<th>Morpheme</th>
</tr>
</thead>
<tbody>
<tr>
<td>ING (progressive)</td>
</tr>
<tr>
<td>PLURAL</td>
</tr>
<tr>
<td>COPULA (&quot;to be&quot;)</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>AUXILIARY (progressive, as in &quot;he is going&quot;)</td>
</tr>
<tr>
<td>ARTICLE (a, the)</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>IRREGULAR PAST</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>REGULAR PAST</td>
</tr>
<tr>
<td>III SINGULAR -s</td>
</tr>
<tr>
<td>POSSESSIVE -s</td>
</tr>
</tbody>
</table>

**Notes:**

1. This order is derived from an analysis of empirical studies of second language acquisition (Krashen, 1977). Most studies show significant correlatons with the average order.

2. No claims are made about ordering relations for morphemes in the same box.

3. Many of the relationships posited here also hold for child first language acquisition, but some do not: In general, the *bound* morphemes have the same relative order for first and second language acquisition (ING, PLURAL, IR. PAST, REG. PAST, III SINGULAR, and POSSESSIVE) while AUXILIARY and COPULA tend to be acquired relatively later in first language acquisition than in second language acquisition.

**3. THE MONITOR HYPOTHESIS**

While the acquisition-learning distinction claims that two separate processes coexist in the adult, it does not state how they are used in second language performance. The Monitor hypothesis posits that acquisition and learning are used in very specific ways. Normally, acquisition
"initiates" our utterances in a second language and is responsible for our fluency. Learning has only one function, and that is as a Monitor, or editor. Learning comes into play only to make changes in the form of our utterance, after is has been "produced" by the acquired system. This can happen before we speak or write, or after (self-correction). Figure 2.1 models this process.

![Image of a diagram]

Fig. 2.1. Acquisition and learning in second language production.

Conscious learning is available only as a "Monitor", which can alter the output of the acquired system before or after the utterance is actually spoken or written. It is the acquired system which initiates normal, fluent speech utterances.

The Monitor hypothesis implies that formal rules, or conscious learning, play only a limited role in second language performance. These limitations have become even clearer as research has proceeded in the last few years. This research, reviewed in Chapter IV, strongly suggests that second language performers can use conscious rules only when three conditions are met. These conditions are necessary and not sufficient, that is, a performer may not fully utilize his conscious grammar even when all three conditions are met. I list these conditions here, with a brief description. We will discuss them in greater detail in Chapter IV:

(i) **Time.** In order to think about and use conscious rules effectively, a second language performer needs to have sufficient time. For most people, normal conversation does not allow enough time to think about and use rules. The over-use of rules in conversation can lead to trouble, i.e. a hesitant style of talking and inattention to what the conversational partner is saying.

(ii) **Focus on form.** To use the Monitor effectively, time is not enough. The performer must also be focussed on form, or thinking about correctness (Dulay and Burt, 1978). Even when we have time, we may be so involved in what we are saying that we do not attend to how we are saying it.

(iii) **Know the rule.** This is a very formidable requirement. Linguistics has taught us that the structure of language is extremely complex, and they claim to have described only a fragment of the best known languages. We can be sure that our students are exposed only to a small part of the total grammar of the language, and we know that even the best students do not learn every rule they are exposed to.

The evidence for the production schema shown in Fig. 2.1 comes originally from the natural order studies. (Confirming evidence has been also produced from other sources, see, for example, Bialystok and Frohlich, 1977, 1978a, 1978b.) These studies are consistent with this generalization: we see the natural order for grammatical morphemes, that is, the child's (second language) difficulty order (similar to the order of acquisition; Krashen, 1977), when we test subjects in situations that appear to be "Monitor-free", where they are focused on communication.
and not form. When we give our adult subjects tests that meet the three conditions, i.e. a pencil and paper "grammar"-type test, we see "unnatural" orders, orders unlike the child L2 order of acquisition or difficulty order. The interpretation of this result is that the natural order reflects the operation of the acquired system alone, without the intrusion of the conscious grammar, since adult second language acquisition is posited to be similar to child (second) language acquisition. When we put people in situations where the three conditions are met, when they have time, are focused on form, and know the rule, the error pattern changes, reflecting the contribution of the conscious grammar.

It appears to be the case that unnatural orders are the result of a rise in rank of certain morphemes, the late-acquired, more "learnable" items. In English as a second language, when performers are put in situations where they can and do Monitor, we see a rise in rank of the third person singular morpheme and the regular past, both late-acquired, low on the list in Table 2.1, and both relatively straightforward, both syntactically and semantically. (See studies by Larsen-Freeman, 1975, described in Chapter IV, Table 4.1; and Brown, described in Note 4, Chapter IV.)

Use of the conscious Monitor thus has the effect of allowing performers to supply items that are not yet acquired. As we shall see in Chapter IV, however, only certain items can be supplied by most Monitor users; the Monitor does a better job with some parts of grammar than with others. Specifically, it seems to do better with rules that can be characterized as "simple" in two different ways. First, rules that do not require elaborate movements or permutations; rules that are syntactically simple. Easy rules in this sense include bound morphology, such as the third person singular in English, or the de + le = du contraction in French. Difficult rules in this sense include the English wh-question rule, which requires moving the questioned word to the front of the sentence, a subject-auxiliary inversion, and in some cases the insertion of do in the right place. Rules can also be easy and difficult due to their semantic properties. The English article system is easy to describe formally—-one simply inserts the or a or sometimes nothing before the noun. But its semantics are very difficult to describe (see, for example, Hawkins, 1978).

To summarize thus far, Monitor use results in the rise in rank of items that are "late-acquired" in the natural order, items that the performer has learned but has not acquired. Only certain items can rise in rank, however, When Monitor use is heavy, this rise in rank is enough to disturb the natural order. (As discussed in Chapter IV, it is possible to see small changes in certain late-acquired morphemes that are not enough to disturb the natural order; this may be termed light Monitor use. See especially Note 5, Chapter IV.

As we shall see in Chapter IV, it is not easy to encourage noticeable Monitor use. Experimentation has shown that anything less than a real grammar test will not bring out the conscious grammar in any force. Keyfetz (1978) found natural orders for both oral and written versions on the SLOPE test, showing that simply using the written modality is not enough to cause an unnatural order. Houck, Robertson and Krashen (1978a) had adult subjects (university level international students) correct their own written output, and still found a natural order for the corrected version. Krashen, Butler, Birnbaum, and Robertson (1978) found that even when ESL students write compositions with plenty of time and under instructions to be very "careful", the effect of Monitor use was surprisingly light. The best hypothesis now is that for most people,
even university students, it takes a real discrete-point grammar-type test to meet all three conditions for Monitor use and encourage significant use of the conscious grammar.

(a) Individual variation in Monitor use

Some of the individual variation we see in adult second language acquisition and performance can be accounted for in terms of differential use of the conscious Monitor. Studies of case histories suggest that there may be three basic types of performer (Krashen, 1978; Stafford and Covitt, 1978; Kounin and Krashen, 1978).

(i) Monitor Over-users. These are people who attempt to Monitor all the time, performers who are constantly checking their output with their conscious knowledge of the second language. As a result, such performers may speak hesitantly, often self-correct in the middle of utterances, and are so concerned with correctness that they cannot speak with any real fluency.

There may be two different causes for over-use of the grammar. Over-use may first of all derive from the performer's history of exposure to the second language. Many people, victims of grammar-only type of instruction, have simply not had the chance to acquire much of the second language, and may have no choice but to be dependent on learning. Another type may be related to personality. These overusers have had a chance to acquire, and may actually have acquired a great deal of the second language. They simply do not trust this acquired competence and only feel secure when they refer to their Monitor "just to be sure".

(ii) Monitor under-users. These are performers who have not learned, or if they have learned, prefer not to use their conscious knowledge, even when conditions allow it. Under-users are typically uninfluenced by error correction, can self-correct only by using a "feel" for correctness (e.g. "it sounds right"), and rely completely on the acquired system.

Stafford and Covitt (1978) note that some under-users pay "lip service" to the value of conscious grammar. Their subject "I" felt that people need conscious rules to speak "correctly", and that "grammar is the key to every language". "I" himself, however, hardly used conscious rules at all, in speech or writing.

(iii) The optimal Monitor user. Our pedagogical goal is to produce optimal users, performers who use the Monitor when it is appropriate and when it does not interfere with communication. Many optimal users will not use grammar in ordinary conversation, where it might interfere. (Some very skilled performers, such as some professional linguists and language teachers, might be able to get away with using considerable amounts of conscious knowledge in conversation, e.g. Rivers, 1979, but this is very unusual. We might consider these people "super Monitor users", after Yorio, 1978.) In writing, and in planned speech, however, when there is time, optimal users will typically make whatever corrections they can to raise the accuracy of their output (see, for example, Krashen and Pon, 1975).

Optimal Monitor users can therefore use their learned competence as a supplement to their acquired competence. Some optimal users who have not completely acquired their second language, who make small and occasional errors in speech, can use their conscious grammar so
successfully that they can often produce the illusion of being native in their writing. (This does not imply that conscious learning can entirely make up for incomplete acquisition. Some unacquired rules will be learnable and others not. The optimal user is able to fill part of the gap with conscious learning, but not all of it.

4. THE INPUT HYPOTHESIS

We will take much more time with this hypothesis than we did with the others for two reasons. First, much of this material is relatively new, while the other hypotheses have been described and discussed already in several published books and articles. The second reason is its importance, both theoretical and practical. The input hypothesis attempts to answer what is perhaps the most important question in our field, and gives an answer that has a potential impact on all areas of language teaching.

The important question is: How do we acquire language? If the Monitor hypothesis is correct, that acquisition is central and learning more peripheral, then the goal of our pedagogy should be to encourage acquisition. The question of how we acquire then becomes crucial.

This section is organized as follows: I will first present the input hypothesis before giving any supporting evidence. Following this is a description of the evidence from research in first and second language acquisition. We will then briefly cover evidence from applied linguistics research, which is discussed in more detail in Chapter V.

(a) Statement of the hypothesis

Let us first restate the question of how we acquire: given the correctness of the natural order hypothesis, how do we move from one stage to another? If an acquirer is at "stage 4", how can he progress to "stage 5"? More generally, how do we move from stage $i$, where $i$ represents current competence, to $i + 1$, the next level? The input hypothesis makes the following claim: a necessary (but not sufficient) condition to move from stage $i$ to stage $i + 1$ is that the acquirer understand input that contains $i + 1$, where "understand" means that the acquirer is focussed on the meaning and not the form of the message.

We acquire, in other words, only when we understand language that contains structure that is "a little beyond" where we are now. How is this possible? How can we understand language that contains structures that we have not yet acquired? The answer to this apparent paradox is that we use more than our linguistic competence to help us understand. We also use context, our knowledge of the world, our extra-linguistic information to help us understand language directed at us.

The input hypothesis runs counter to our usual pedagogical approach in second and foreign language teaching. As Hatch (1978a) has pointed out, our assumption has been that we first learn structures, then practice using them in communication, and this is how fluency develops. The input hypothesis says the opposite. It says we acquire by "going for meaning" first, and as a result, we acquire structure! (For discussion of first language acquisition, see MacNamara, 1972.)
We may thus state parts (1) and (2) of the input hypothesis as follows:

(1) The input hypothesis relates to acquisition, not learning.

(2) We acquire by understanding language that contains structure a bit beyond our current level of competence ($i + 1$). This is done with the help of context or extra-linguistic information.

A third part of the input hypothesis says that input must contain $i + 1$ to be useful for language acquisition, but it need not contain only $i + 1$. It says that if the acquirer understands the input, and there is enough of it, $i + 1$ will automatically be provided. In other words, if communication is successful, $i + 1$ is provided. As we will discuss later, this implies that the best input should not even attempt to deliberately aim at $i + 1$. We are all familiar with syllabi that try to deliberately cover $i + 1$. There is a “structure of the day”, and usually both teacher and student feel that the aim of the lesson is to teach or practice a specific grammatical item or structure. Once this structure is “mastered”, the syllabus proceeds to the next one. This part of the input hypothesis implies that such a deliberate attempt to provide $i + 1$ is not necessary. As we shall see later, there are reasons to suspect that it may even be harmful.

Thus, part (3) of the input hypothesis is:

(3) When communication is successful, when the input is understood and there is enough of it, $i + 1$ will be provided automatically.

The final part of the input hypothesis states that speaking fluency cannot be taught directly. Rather, it "emerges" over time, on its own. The best way, and perhaps the only way, to teach speaking, according to this view, is simply to provide comprehensible input. Early speech will come when the acquirer feels "ready"; this state of readiness arrives at somewhat different times for different people, however. Early speech, moreover, is typically not grammatically accurate. Accuracy develops over time as the acquirer hears and understands more input. Part (4) of the input hypothesis is thus:

(4) Production ability emerges. It is not taught directly.

(b) Evidence supporting the hypothesis

(i) First language acquisition in children. The input hypothesis is very consistent with what is known about "caretaker speech", the modifications that parents and others make when talking to young children. The most interesting and perhaps the most important characteristic of caretaker speech for us is that it is not a deliberate attempt to teach language. Rather, as Clark and Clark (1977) point out, caretaker speech is modified in order to aid comprehension. Caretakers talk "simpler" in an effort to make themselves understood by the child.
A second characteristic of interest to us here is the finding that caretaker speech, while it is syntactically simpler than adult-adult speech, is "roughly-tuned" to the child's current level of linguistic competence, not "finely-tuned". In other words, caretaker speech is not precisely adjusted to the level of each child, but tends to get more complex as the child progresses. Very good evidence for rough-tuning comes from the research of Cross (1977) and Newport, Gleitman, and Gleitman (1977), who report that correlations between input complexity and measures of the child's linguistic maturity, while positive and often significant, are not usually very large. An interpretation of this finding is that caretakers are not taking aim exactly at \( i + 1 \). The input they provide for children includes \( i + 1 \), but also includes many structures that have already been acquired, plus some that have not (\( i + 2, i + 3 \), etc.) and that the child may not be ready for yet. In other words, caretakers do not provide a grammatically based syllabus! (For a more complete review of rough-tuning, see Krashen 1980, 1981.)

A third characteristic of caretaker speech that concerns us is known as the "here and now" principle. It is well established that caretakers talk mostly about what the child can perceive, what is in the immediate environment. Discourse with children is far more likely to deal with what is in the room and happening now ("See the ball?") than what is not in the room and not current ("What will we do upstairs tomorrow?"). As Newport et al. (1977) points out, this is a topical constraint--the "here and now" principle reflects the common interests of the caretaker and child.

While there is no direct evidence showing that caretaker speech is indeed more effective than unmodified input, the input hypothesis predicts that caretaker speech will be very useful for the child. First, it is, or aims to be, comprehensible. The "here and now" feature provides extra-linguistic support (context) that helps the child understand the utterances containing \( i + 1 \). As MacNamara (1972) pointed out, the child does not acquire grammar first and then use it in understanding. The child understands first, and this helps him acquire language.

As discussed earlier, roughly-tuned caretaker speech covers the child's \( i + 1 \), but does not focus on \( i + 1 \) exclusively. Part (3) of the input hypothesis claims that this is optimal. Rough-tuning has the following advantages in child first language acquisition:

1. It ensures that \( i + 1 \) is covered, with no guesswork as to just what \( i + 1 \) is for each child. On the other hand, deliberate aim at \( i + 1 \) might miss!

2. Roughly-tuned input will provide \( i + 1 \) for more than one child at a time, as long as they understand what is said. Finely-tuned input, even if accurate (i.e. even if it "hits" \( i + 1 \)), will only benefit the child whose \( i + 1 \) is exactly the same as what is emphasized in the input.

3. Roughly-tuned input provides built-in review. We need not be concerned with whether a child has "mastered" a structure, whether the child was paying attention to the input that day, or whether we provided enough. With natural, roughly-tuned input, \( i + 1 \) will occur and reoccur.
In other words, if part (3) is correct, if it is the case that with enough natural communication and understanding that \( i + 1 \) is always provided, the caretaker need not worry about consciously programming structure.

This must be a good thing! Adding the responsibility of grammatical sequencing to parenthood would make parent-child communication much less spontaneous and far more difficult.

(ii) Evidence from second language acquisition: simple codes. The input hypothesis also holds for second language acquisition. First, as presented earlier, the second language acquirer, child or adult, is also an "acquirer", just like the child acquiring first language. Also, according to hypothesis (2), there is a natural order of acquisition for second language as well as first language, so we can talk about the second language acquirers' \( i + 1 \) as well. Third, second language acquirers can also receive the kind of modified input that children get.

This modified input is of three sorts. Foreigner-talk results from the modifications native speakers make with less than fully competent speakers of their language (see, for example, Hatch, Shapira, and Gough, 1978 for some good examples). Teacher-talk is foreigner-talk in the classroom, the language of classroom management and explanation, when it is in the second language. A third simple code is interlanguage talk, the speech of other second language acquirers.

While there are some differences between these simple codes and caretaker speech (Long, 1980; Freed, 1980), there are important similarities. As is the case with caretaker speech, modifications made in foreigner-talk and teacher-talk are not made for the purpose of language teaching, but are made for the purpose of communication, to help the second language acquirer understand what is being said. Second, the available research indicates that foreigner-talk and teacher-talk are roughly-tuned to the level of the acquirer, and not finely-tuned (Freed, 1980; Gaies, 1977; for a review, see Krashen, 1980); more advanced second language performers tend to get more complex input, but the correlation between proficiency and input complexity is less than perfect.

Foreigner-talk and teacher-talk may not always be in the "here and now", but helpful native speakers and teachers find other ways to make input comprehensible. In addition to linguistic alterations, they take advantage of the acquirer's knowledge of the world, which is, of course, greater than that of the child acquiring a first language. Teachers, in addition, use pedagogical aids, such as pictures and realia (see discussion in Chapter III).

The input hypothesis predicts that these simplified codes will be very useful for the second language acquirer, just as caretaker speech is posited to be useful for the child. (For some preliminary case history data supporting this hypothesis, see Krashen, 1980, 1981.) The input hypothesis also predicts that natural, communicative, roughly-tuned, comprehensible input has some real advantages over finely-tuned input that aims directly at \( i + 1 \), in other words, classroom exercises that aim to teach the structure of the day.

The case against the grammatical syllabus is presented in fuller detail in Chapter III, but here is a brief summary. The arguments are very similar to those presented against giving the child finely-tuned input:
(1) All students may not be at the same stage. The "structure of the day" may not be $i + 1$ for many of the students. With natural communicative input, on the other hand, some $i + 1$ or other will be provided for everyone.

(2) With a grammatical syllabus, each structure is presented only once. If a student misses it, is absent, is not paying attention, or if there simply has not been enough practice (input), the student may have to wait until next year, when all structures are reviewed! On the other hand, roughly-tuned comprehensible input allows for natural review.

(3) A grammatical syllabus assumes we know the order of acquisition. No such assumption is necessary when we rely on comprehensible input, on roughly-tuned natural communication.

(4) Finally, a grammatical syllabus, and the resulting grammatical focus, places serious constraints on what can be discussed. Too often, it is difficult, if not impossible, to discuss or read anything of real interest if our underlying motive is to practice a particular structure. In other words, a grammatical focus will usually prevent real communication using the second language.

If these arguments are correct, they mean that we should not attempt to teach along the natural order, or any other order, when our goal is acquisition. (This is not necessarily true when the goal is conscious learning; see Chapter IV.)

(iii) Evidence from second language acquisition: the silent period and L1 influence. The input hypothesis is also consistent with other findings and hypotheses in second language acquisition. One of these can be termed the "silent period", a phenomenon that is most noticeable in child second language acquisition.

It has often been noted that children acquiring a second language in a natural, informal linguistic environment may say very little for several months following their first exposure to the second language. What output there is consists usually of memorized language, whole sentences learned as if they were one word. Hatch (1972), for example, reported that Paul, a five-year-old Chinese speaker acquiring English as a second language, did not really use "creative" language for his first few months in the United States. His only output was memorized sentences, such as

*Get out of here.*

*It's time to eat and drink.*

He had clearly learned these as whole utterances without a real understanding of their components (e.g. he probably would not understand the word "out" or "time" if it were used in another sentence). Such memorized sentences were probably very useful for Paul, both in the classroom and playground. When "real" language did start to emerge, it looked very much like first language development, with short, simple sentences such as

*This kite.*
The explanation of the silent period in terms of the input hypothesis is straight-forward—the child is building up competence in the second language via listening, by understanding the language around him. In accordance with the input hypothesis, speaking ability emerges on its own after enough competence has been developed by listening and understanding. We should note that case histories dealing with children acquiring second languages (see also Hakuta, 1974; Ervin-Tripp, 1974) agree that several months may elapse until they start talking, and that the speech that emerges is not error-free. This finding has important pedagogical considerations, as we shall see in Chapter III.

Adults, and children in formal language classes, are usually not allowed a silent period. They are often asked to produce very early in a second language, before they have acquired enough syntactic competence to express their ideas. According to a hypothesis first proposed by Newmark (1966), performers who are asked to produce before they are "ready" will fall back on first language rules, that is, they will use syntactic rules of their first language while speaking the second language.

Stated more formally, an acquirer will substitute some L1 rule for $i + 1$, a rule of the second language, if the acquirer needs $i + 1$ to express himself but has not yet acquired it. The L1 rule used may be quite similar to the L2 $i + 1$, but may also differ in certain ways. When the L1 and L2 rules are different, the resulting error is referred to often as "interference". But according to Newmark, it is not interference at all; it is not the result of the L1 interfering with second language performance, but the result of ignorance—the lack of acquisition of an L2 rule that is needed in performance.

(iv) Advantages and disadvantages of L2 rule use. The substitution of some L1 rule for some $i + 1$ has both advantages and disadvantages. The advantages are short term, however, while the disadvantages appear to be quite serious.

One obvious advantage is that the use of an L1 rule allows the performer to "outperform his competence", to meet a practical need in L2 communication before he has acquired the relevant $i + 1$ rule. When the L1 rule used is identical to a rule in the L2 ("positive transfer"), the performer seems to have got something for free. Even if the L1 rule is not the same as the L2 rule, one could argue that the performer still comes out ahead, as, quite often, he can still communicate his point despite the incorrect form.

Another advantage is that the early production allowed by the use of L1 rules also helps to invite input—it allows the performer to participate more in conversation, and this could mean more comprehensible input and thus more second language acquisition.

There are real disadvantages to falling back on the L1, however. First, the L1 rule may not be the same as an L2 rule, as noted above, and errors can result. The conscious Monitor can note and repair these errors in some cases, but not all, since, as we have seen the constraints on Monitor use are severe. Thus, use of L1 rules requires constant vigilance on the part of the Monitor, and is an awkward way to produce formally correct sentences in a second language. (Note that
Monitor correction of such errors will not, according to the theory, produce acquisition, or permanent change. It will not eradicate the L1 rule, even if done effectively over long periods of time. Real acquisition comes only from comprehensible input.)

There may be another serious disadvantage to the use of L1 rules in second language performance. Even if the L1 rule is similar to an actual L2 rule or transitional form, it is not clear that these rules will help the acquirer progress—they may not take the place of "true" L2 rules in the developmental sequence. In Krashen (1982) I discuss the hypothesis that acquisition requires a comparison between \( i \) and \( i + 1 \) (Clark and Andersen, 1980; Lamendella, 1979). It may be the case that the "distance" between \( i \) and \( i + 1 \) cannot be too great—\( i \) and \( i + 1 \) can only differ in small ways. Transitional forms, I hypothesize, may be useful in that they can temporarily serve as \( i \), helping to decrease the amount of distance between \( i \) and \( i + 1 \).

If, for example, the target rule in English is the negative (\( i + 1 \), presented to the system by input), the intermediate form no + \( v \) (provided by the creative construction system internally) may be closer to the mature negative form. The acquirer may thus use no + \( v \) at \( i \), rather than a more primitive form of the negative (e.g. no + \( S \)).

If transitional forms can temporarily serve as \( i \), the next question is whether L1 rules, even when they happen to be similar to L2 rules or transitional forms, can perform this function. The answer may be "no". For example, Spanish speakers often have a long period in their acquisition of English in which they produce no + \( v \) for the English negative, a structure that is similar to a transitional form in English as a first and second language (Schumann, 1979). It may be the case that earlier no + \( v \) performance is the use of the L1 rule, while later no + \( v \) performance is the true intermediate form. It may be the case that only the latter can help the system "move forward".

To summarize, use of L1 rules is hypothesized to be the result of falling back on first language knowledge when a second language rule is needed in production but is not available. It may temporarily enhance production, but may not be real progress in the second language. The real cure for "interference", according to Newmark, is not drill at the points of contrast between the two languages (Newmark and Reibel, 1973, p. 239). Drill will, at best, produce learning, and, as we have seen, this is only a short term cure. The real cure "is simply the cure for ignorance" (Newmark, 1966, p. 81): real language acquisition. This can happen only when the acquirer obtains comprehensible input.

(v) Applied linguistics research. The input hypothesis is also consistent with the results of what can be called "method comparison" experiments. Several scholars and groups of scholars have attempted to determine directly which teaching methods are best by simple comparison. Groups of students studying second and foreign languages using two different methods are compared, both in long-term and short-term studies. We will have a detailed look at this research in Chapter V, but I will state my own conclusions in advance. My reading of studies comparing the more commonly used methods (audio-lingual as compared to grammar-translation or cognitive-code) is as follows:
(1) "Deductive" methods (rule first, then practice, e.g. grammar-translation and cognitive-code) are slightly more efficient than audio-lingual teaching for adults. The differences are often statistically significant, but are not huge. Students clearly make some progress using any of these approaches.

(2) For adolescents, there is no measurable difference.

I interpret this failure to find large differences in this way: none of the methods compared in these studies provides much in the way of comprehensible input! The input hypothesis predicts, moreover, that an approach that provides substantial quantities of comprehensible input will do much better than any of the older approaches.

There are several newer methods that do this, such as Asher's Total Physical Response Method (Asher, 1966, 1969) and Terrell's Natural Approach (Terrell, 1977). In these methods, class time is devoted to providing comprehensible input, where the focus is on the message and not the form, and students are not expected to produce in the second language until they themselves decide they are "ready". Reports confirming the superiority of such "input methods" have been appearing in the professional literature over the last ten years (e.g. Asher, 1972; Gary, 1975; Postovsky, 1974; more detail is provided in Chapter V). (The focus on comprehensible input is not the only reason for the success of the newer methods, however; see discussion below of affect, and Chapters III and V.)

Since the bulk of this book is intended to deal with implications of second language acquisition theory (Chapters III, IV, and V), this section should really be delayed until later. I cannot resist, however, briefly stating one implication here, since, in my opinion, the implications of the input hypothesis are truly exciting for all of us interested in language acquisition. Most important, the input hypothesis predicts that the classroom may be an excellent place for second language acquisition, at least up to the "intermediate" level. For beginners, the classroom can be much better than the outside world, since the outside usually provides the beginner with very little comprehensible input, especially for older acquirers (Wagner-Gough and Hatch, 1975). In the classroom, we can provide an hour a day of comprehensible input, which is probably much better than the outside can do for the beginner. We will elaborate on this a bit more after discussion of the Affective Filter.

5. THE AFFECTIVE FILTER HYPOTHESIS

The Affective Filter hypothesis states how affective factors relate to the second language acquisition process. The concept of an Affective Filter was proposed by Dulay and Burt (1977), and is consistent with the theoretical work done in the area of affective variables and second language acquisition, as well as the hypotheses previously covered in this chapter.

Research over the last decade has confirmed that a variety of affective variables relate to success in second language acquisition (reviewed in Krashen, 1981). Most of those studied can be placed into one of these three categories:
(1) **Motivation.** Performers with high motivation generally do better in second language acquisition (usually, but not always, "integrative")

(2) **Self-confidence.** Performers with self-confidence and a good self-image tend to do better in second language acquisition.

(3) **Anxiety.** Low anxiety appears to be conducive to second language acquisition, whether measured as personal or classroom anxiety.

In several places I have hypothesized that these attitudinal factors relate directly to acquisition and not learning, since they tend to show stronger relationships to second language achievement when communicative-type tests are used, tests that tap the acquired rather than the learned system, and when the students taking the test have used the language in "acquisition-rich" situations, situations where comprehensible input was plentiful.

The Affective Filter hypothesis captures the relationship between affective variables and the process of second language acquisition by positing that acquirers vary with respect to the strength or level of their Affective Filters. Those whose attitudes are not optimal for second language acquisition will not only tend to seek less input, but they will also have a high or strong Affective Filter--even if they understand the message, the input will not reach the part of the brain responsible for language acquisition, or the language acquisition device. Those with attitudes more conducive to second language acquisition will not only seek and obtain more input, they will also have a lower or weaker filter. They will be more open to the input, and it will strike "deeper" (Stevick, 1976).

The Affective Filter hypothesis, represented in Fig. 2.2, claims that the effect of affect is "outside" the language acquisition device proper. It still maintains that input is the primary causative variable in second language acquisition, affective variables acting to impede or facilitate the delivery of input to the language acquisition device.

The filter hypothesis explains why it is possible for an acquirer to obtain a great deal of comprehensible input, and yet stop short (and sometimes well short) of the native speaker level (or "fossilize"; Selinker, 1972). When this occurs, it is due to the affective filter.

![Fig 2.2. Operation of the "affective filter".](image)

The "affective filter", posited by Dulay and Burt (1977), acts to prevent input from being used for language acquisition. Acquirers with optimal attitudes (see text) are hypothesized to have
"low" affective filters. Classrooms that encourage low filters are those that promote low anxiety among students, that keep students "off the defensive" (Stevick, 1976).

This picture does not diminish, in any way, the importance of affective variables in pedagogy. The Affective Filter hypothesis implies that our pedagogical goals should not only include supplying comprehensible input, but also creating a situation that encourages a low filter. As discussed in Chapter V, several methods focus on just this (e.g. Counseling-Learning and Suggestopedia).

The input hypothesis and the concept of the Affective Filter define the language teacher in a new way. The effective language teacher is someone who can provide input and help make it comprehensible in a low anxiety situation. Of course, many teachers have felt this way about their task for years, at least until they were told otherwise by the experts! 14

**B. The Causative Variable in Second Language Acquisition**

**1. THE CAUSATIVE VARIABLES**

Our review of second language acquisition theory thus far can be summarized as follows:

1. **Acquisition is more important than learning.**

2. **In order to acquire, two conditions are necessary.** The first is comprehensible (or even better, comprehend *ed*) input containing *i + 1*, structures a bit beyond the acquirer's current level, and second, a low or weak affective filter to allow the input "in".

This is equivalent to saying that comprehensible input and the strength of the filter are the true causes of second language acquisition. Other variables may relate to second language success, that is, we may see positive correlations between other variables and measures of achievement in second language, but in all cases in which language *acquisition* is attained, analysis will reveal that the relationship can better be explained in terms of comprehensible input plus filter level.

In this section, we will perform such an analysis, looking at several factors that have been shown to relate to success in second language acquisition. We will see that not only can they be re-analyzed, but that the comprehensible input + filter explanation helps to solve some apparent problems and contradictions in the research literature.

We will begin with the effect of language teaching on second language acquisition, then examine variables relating to exposure (length of residence in the country where the language is used and reported use of the second language), and then turn to age. Finally, we will consider Schumann's acculturation hypothesis, to see whether it too can be reanalyzed in this way.

2. **LANGUAGE TEACHING: DOES IT HELP?**
If acquisition is more central, and learning of less use to second language performance, and if comprehensible input and the filter are the essential causative variables for second language acquisition, the classroom should help only to the extent it supplies comprehensible input in an environment conducive to a low filter. This may indeed be, as mentioned earlier, its main function.

It seems reasonable to hypothesize that the classroom should be especially valuable for beginners, those who cannot easily utilize the informal environment for input. It will be of less value to those who can, who have other sources of comprehensible input, and who are linguistically advanced enough to take advantage of it.

The question then becomes not "Does language teaching help?" but "When does language teaching help?". A possible answer is this: language teaching helps when it is the main source of low filter comprehensible input, that is, for beginners and for foreign language students who do not have a chance to get input outside the class. It will be of less help when rich sources of input are available. If the research literature supports these generalizations, it confirms the generalization that language teaching helps second language acquisition when it supplies comprehensible input, which is the true cause of second language acquisition.

(a) When language teaching helps

Brière (1978) investigated the factors that predicted successful acquisition of Spanish as a second language among 920 native Mexican children, ages four through twelve. Among the best predictors of Spanish proficiency was attendance in class in the village school (promotoria). This makes sense in terms of our hypothesis, since the promotoria was the major source of comprehensible input in Spanish, as opportunities to use Spanish outside the classroom were not plentiful. (The two other significant predictors were the father's ability to speak Spanish and the parents' need for Spanish.)

Some adult studies report fairly large positive correlations between the amount of classroom exposure to the second language and proficiency. In each case, however, it can be argued that the class was the primary source of comprehensible input. Krashen, Zelinski, Jones, and Usprich (1978) tested students in an extension (evening and weekend) program in English as a second language at Queens College in New York, and reported robust correlations between reported years of formal study and performance on a variety of ESL tests, i.e.:

<table>
<thead>
<tr>
<th>Test</th>
<th>Correlation with years of formal study</th>
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<tbody>
<tr>
<td>Michigan (Lado)</td>
<td>$r = 0.50$</td>
</tr>
<tr>
<td>Composition</td>
<td>$r = 0.34$</td>
</tr>
<tr>
<td>Close</td>
<td>$r = 0.47$</td>
</tr>
<tr>
<td>SLOPE</td>
<td>$r = 0.42$ (reported in Krashen, 1976)</td>
</tr>
</tbody>
</table>

All correlations were very significant ($p < 0.01$ or better).
Despite the fact that these students were in the United States and technically in a second language and not a foreign language environment, it is likely that, in many cases, they did not have a rich input source available to them outside the class. First, some had not been in the country for a long time, their primary exposure to English having been in a foreign language situation. Second, since these were extension and not regular day-time university students, there was the strong possibility that many of them were not utilizing English very much in their daily lives, even though they were living in New York. This is confirmed below, when we note the lack of a strong relationship found for these same students between length of residence in the United States and proficiency, and when we examine the effect of instruction on regular university students who do have a rich source of input outside the classroom. (See Krashen, Seliger, and Hartnett, 1974 and Krashen and Seliger, 1976, for similar results.)

Chihara and Oller (1978) also report substantial correlations between length of formal study and second language proficiency, finding a correlation of $r = 0.45$ for performance on a cloze test and similar results for other measures. Their subjects were Japanese studying English as a foreign language in Japan, a clear foreign language situation in which the classroom was the main, if not only, source of comprehensible input.

(b) When language teaching does not help

Not all the research literature concludes that language teaching is good for second language acquisition! (I must admit that I am astounded to see that so few studies have investigated such a crucial issue! What is presented in this section is practically the entire literature on this question.) There are generalizations that can be made about studies that seem to decide against second language teaching, however. In all cases, students had a rich source of comprehensible input outside the classroom, and were competent enough in the second language to be able to take advantage of it, i.e. understand.

Two studies deal with child second language acquisition and both with English as a second language. Fathman (1975) found no significant differences in English proficiency between children who had ESL instruction and children who did not. All children in her study, however, were enrolled in English-medium public schools in Washington, D.C. and all had been in the United States from one to three years. It can be hypothesized that they were getting comprehensible input from the school and playground, and the extra input from the ESL class did not make a difference (nor did grammar and drill!).

Hale and Budar (1970) studied immigrant adolescents in Hawaiian junior high schools. In their paper (titled "Are TESOL classes the only answer?"), they noted that the subjects formed a natural division. One group was composed of students who spoke less common languages. These students did not have the "benefit" of a formal ESL program and were isolated from speakers of their own language. The second group consisted of students who had the chance to associate with other students who spoke their own first language. These students did attend ESL classes. Hale and Budar report that the first group actually made better progress in English, a finding that seems to question the value of ESL classes. The first group, however, may have had more comprehensible input, possibly through having to associate more with English speakers and with other non-native speakers using English as a lingua franca. This study also fits our
generalization and confirms that the issue is not plus or minus ESL or language teaching but plus or minus low filter comprehensible input.

Two adult studies also appear to decide against the classroom. Upshur (1968) studied three groups of ten foreign students studying law at a special summer session at the University of Michigan. All students took seminars and classes that used English as the medium of instruction. In addition, they took formal ESL classes, each group taking a different amount, depending on placement scores. Upshur's analysis of their progress in English over the summer revealed no significant effects attributable to the amount of instruction they received; those with more ESL did not necessarily acquire more than those with less over the course of the summer. Mason (1971), in a study done at the University of Hawaii, simply allowed a small group of intermediate [15] level international students to postpone a required ESL class for a semester. Their progress in ESL was compared to students who actually took the course. Mason reported no significant differences between the two groups.

The two adult studies are consistent with the hypothesis. In both cases, students had a rich source of comprehensible input outside the classroom, and in both cases they were advanced enough to be able to utilize it.

I conclude from this that language teaching certainly can help. Its primary function is to supply comprehensible input for those who can not get it elsewhere, those constrained by their situation (i.e. foreign language students who do not have input sources outside the class) or by their competence (those unable to understand the language of the outside world). While it is less useful for those who have other sources of input, there still are things the competent classroom can contribute to the intermediate student. It can supply conscious learning for optimal Monitor use (see Chapter IV), and give tools to help the acquirer utilize the outside environment more fully for further acquisition (Chapter III). Table 2.2 summarizes studies discussed in this section.

3. EXPOSURE VARIABLES

Several exposure variables have been investigated with respect to second language acquisition. Some studies show a clear relationship between the amount of exposure and proficiency and some do not. We shall see again that the hypothesis that comprehensible input plus low filter are the true causative variables predicts quite well when exposure variables relate to second language acquisition and when they do not. Thus, exposure variable are also indirect and not in themselves causative.

Several studies have examined length of residence (LOR) in the second language environment. For those studies of child second language acquisition, it can be plausibly argued that LOR may reflect simply the amount of comprehensible input the child obtains. (This is of course not always the case in child second language acquisition; all too often children living in a country do not get comprehensible input, either in or out of school.) We thus see, in these studies, a clear relationship between LOR and second language proficiency.
Fathman (1975) was discussed above. In addition to her finding on the non-effects of formal instruction on ESL achievement, Fathman also reported that LOR did predict proficiency for her sample of children (ages 6-14, enrolled in public school in Washington, D.C.).

Table 2.2. Formal instruction and second language acquisition

<table>
<thead>
<tr>
<th>Study</th>
<th>Level</th>
<th>Other sources of comprehensibly input available?</th>
<th>Study that claim instruction does not help</th>
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<tbody>
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<td>Beginning to intermediate</td>
<td>Studies that claim instruction does not help</td>
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<tr>
<td>Kramer et al. (1978)</td>
<td>Native English students</td>
<td>Beginning to intermediate</td>
<td>Studies that claim instruction does not help</td>
</tr>
<tr>
<td>Chubak and Oller (1979)</td>
<td>EFL in Japan</td>
<td>Beginning to intermediate</td>
<td>Studies that claim instruction does not help</td>
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<tr>
<td>Fathman (1979)</td>
<td>Children</td>
<td>Beginning to intermediate</td>
<td>Studies that claim instruction does not help</td>
</tr>
<tr>
<td>Fathman (1979)</td>
<td>Adolescents</td>
<td>Beginning to intermediate</td>
<td>Studies that claim instruction does not help</td>
</tr>
<tr>
<td>Zang (1979)</td>
<td>Adult ESL in university</td>
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<td>Studies that claim instruction does not help</td>
</tr>
</tbody>
</table>

a. All subjects had been in the U.S. at least one year.

Those who had been in the United States for three years did better on the SLOPE test than those who had been in the United States for two years, and this group, in turn, outperformed those who had been in the United States for only one year.
Walberg, Hase, and Rasher (1978) studied Japanese-speaking children who had been in the United States a range of zero to 12 years, with most reporting a LOR of three to four years. Self-report and report of teachers were used as estimates of the children's proficiency in English. Walberg et al. did find a significant relationship between LOR and proficiency in English as a second language, but noted that even higher correlations were found with a "diminishing returns" model: "For children of all ages in the sample, acquisition proceeds at a fast rate initially, but the amounts of gain diminish with time" (p. 436). Specifically, "it may be estimated that equal... units are gained in the first two months, the next five months, the following one year, the next two years, and the next eight years" (p.436).

Ekstrand (1976), however, found no relationship between LOR and child second language proficiency in his study of immigrant children in Sweden. The median LOR in his study was only 10.5 months, and it may be the case that LOR effects are not seen unless the children have been in the country for some minimum length of time (one year?). This condition is satisfied in the Fathman and Walberg et al. studies, and may be due to the fact that approximately one year is necessary to offset the advantage the older children have in rate of acquisition in early stages (Krashen, Long, and Scarcella, 1979; see also discussion below on age).

Walberg et al.'s diminishing returns hypothesis predicts that there is also a maximum LOR, beyond which we see no relationship between LOR and second language acquisition. Data from some other studies confirm this. Seliger, Krashen and Ladefoged (1974), Oyama (1976, 1978), and Patkowski (1980) all report no relationship between LOR and proficiency in English as a second language using a variety of measures for groups of subjects who had arrived in the United States at different ages, some arriving as children and some as adults. In all cases, however, very long LORs were involved, the minimum being five years with most being much longer.

Two other studies that bear on the issue of LOR and child second language acquisition will be covered in a subsequent section (Ramsey and Wright, 1974; Minoura, 1979).

Adult studies of the relationship between LOR and second language proficiency show, in my view, that LOR "counts" when there is evidence that it reflects high interaction and therefore comprehensible input. Because of the variability in filter level in adults, however, we might expect lower correlations for adults in general, as compared to children (see discussion of age below).

International university students fully involved in the academic environment should give us significant correlations between LOR and proficiency in the second language, provided a large enough range of LOR is examined, since students should have access to large amounts of comprehensible input, both in and out of class. Two studies utilized international students. Murakami (1980) studied 30 Japanese-speaking students at Southern Illinois University and found a significant correlation between performance on a dictation test of ESL and LOR ($r = 0.68$), and a positive but not significant correlation using a cloze test ($r = 0.29$). These results are nearly identical to those of Oller, Perkins, and Murakami (1980), who examined a group of 182 students, also at SIU (which did not include the 30 students Murakami studied alone). They also report a significant correlation between LOR and dictation ($r = 0.46$) but no significant correlation for cloze (correlation not reported).
LOR and proficiency was also probed in our study of extension students at Queens College (cited above; Krashen et al., 1978). Correlations were occasionally significant (due to the large sample size) but were quite modest.

<table>
<thead>
<tr>
<th>Correlation</th>
<th>Measure</th>
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<tbody>
<tr>
<td>0.18</td>
<td>Michigan test (Lado)</td>
</tr>
<tr>
<td>0.22</td>
<td>Composition</td>
</tr>
<tr>
<td>0.24</td>
<td>Cloze</td>
</tr>
<tr>
<td>0.014</td>
<td>SLOPE test (Krashen, 1976)</td>
</tr>
</tbody>
</table>

These results are predictable. We would expect extension students to have variable, and often very low, contact with English as compared to full-time students. Some may have lived in the United States many years without much comprehensible input. (Similar results are reported in Krashen, Seliger, and Hartnett, 1974, and Krashen and Seliger, 1976.)

Two studies examine "time abroad" to foreign language students, but differ somewhat in environment and also in results. Carroll (1967) reported that foreign language majors in American universities who were able to spend their junior years abroad in the country where the language was spoken performed better on the FSI rest of listening comprehension than those who had only spent a summer abroad. The summer travelers, in turn, outperformed those who had never been abroad. These clear results probably reflect the fact that such students, most likely, sought out interaction, and thus comprehensible input in the second language while they were abroad.

In Chihara and Oller (1978), students of English as a foreign language in Japan were studied. No relationship was found, however, between the amount of time spent abroad and tests of English \( r = 0.04 \) for cloze, with other measures producing similar results; Chihara and Oller report higher correlations between time abroad and self-report of English proficiency; \( r = 0.24 \) for speaking and \( r = 0.23 \) for listening comprehension). In contrast to Carroll's American foreign language majors study, in which acquirers were in daily contact with the target language, time abroad in this case need not have a direct relationship with amount of comprehensible input. Table 2.3 summarizes LOR studies.

A second exposure variable that has been studied is reported use of the second language. Several studies (but surprisingly few) have asked whether those who say they use the second language more actually acquire more. We would expect a significant relationship between "use" and acquisition, since use nearly always entails comprehensible input. Of the three studies I know of that explore this variable, two do in fact show a clear relationship with second language proficiency. (Failure to find a clear relationship in every case may be due to the unreliability of self-report; see Oller and Perkins, 1978.)

All studies examining reported use involve adult subjects. Johnson and Krug (1980) studied 72 international students at Southern Illinois University and found a modest but significant 0.34 correlation between proficiency in English (as measured by accuracy of grammatical morphemes
in obligatory occasions in an interview situation) and subjects' report of the amount of leisure time they spent speaking and listening to English. Oller, Perkins, and Murakami (1980), however, examining a similar sample, found no relationship between a report of "time spent with English speakers" and second language proficiency, as measured by dictation and a cloze-type grammar test.

The Heidelberg project, as cited in Schumann (1978b), examined factors predicting proficiency in German as a second language for guest-workers (Italian and Spanish speakers) in Germany. They reported a correlation of 0.64 between German syntactic proficiency and "leisure contact" with Germans and one of 0.53 between German proficiency and "work contact". Both leisure and work contact can plausibly be interpreted as indicating comprehensible input.
<table>
<thead>
<tr>
<th>Study</th>
<th>Subjects</th>
<th>Duration of LOR</th>
<th>Linguistic environment; does LOR = CI?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Studies claiming LOR relates to SLA:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fathman (1975)</td>
<td>Children</td>
<td>1-3 years</td>
<td>Public school/playground; yes</td>
</tr>
<tr>
<td>Waldberg et al. (1970)</td>
<td>Children</td>
<td>0-12 years(^b)</td>
<td>Public school/playground; yes</td>
</tr>
<tr>
<td>Murakami (1980)</td>
<td>Adults</td>
<td>Not reported</td>
<td>Full-time university; yes</td>
</tr>
<tr>
<td>Oller et al. (1980)</td>
<td>Adults</td>
<td>Not reported</td>
<td>Full-time university; yes</td>
</tr>
<tr>
<td>Carroll (1967)</td>
<td>Adults</td>
<td>1 yr/summer</td>
<td>&quot;Junior year abroad&quot;; yes</td>
</tr>
<tr>
<td><strong>Studies showing weak or no relationship between LOR and SLA:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ekström (1976)</td>
<td>Children</td>
<td>Medium - 10.5 months</td>
<td>Public school/playground; yes(^c)</td>
</tr>
<tr>
<td>Krashen et al. (1978)</td>
<td>Adults</td>
<td>Mean - 4 years</td>
<td>Variable, including some with very little; not necessarily</td>
</tr>
<tr>
<td>Chihara and Oller (1978)</td>
<td>Adults</td>
<td>Not reported</td>
<td>&quot;Travel abroad&quot;; not necessarily</td>
</tr>
</tbody>
</table>

\(^a\) CI = comprehensible input.
\(^b\) Average LOR = 3-4 years.
\(^c\) No relationship between LOR and SLA presumably due here to relatively short LOR.
4. AGE

It has been popularly assumed that age itself is a predictor of second language proficiency, that younger acquirers are better at second language acquisition than older acquirers. It can be argued, however, that age is not in itself a predictor of second language rate or attainment, and that here too everything reduces down to the quantity of comprehensible input and the level of the affective filter.

Krashen, Long, and Scarcella (1979) reviewed the available empirical research on the effect of age and second language acquisition and concluded that all published studies were consistent with these three generalization:

1. Adults proceed through the early stages of second language development faster than children do (where time and exposure are held constant).

2. Older children acquire faster than younger children, time and exposure held constant.

3. Acquirers who begin natural exposure to second languages during childhood generally achieve higher second language proficiency than those beginning as adults.

Thus, it is not simply the case that "younger is better": children are superior to adults only in the long run.

The explanations for these observed differences that seem most plausible to me involve input and the level or strength of the affective filter. First, let us consider the older acquirer's rate superiority (generalizations (1) and (2) above). Scarcella and Higa (forthcoming) found that younger acquirers actually received "simpler" input in a block building task, a result that confirms observations made by Wagner-Gough and Hatch (1975), and that seems to predict greater speed for younger, and not older acquirers. Scarcella and Higa noted that the older acquirers (adolescents) were better able to regulate both the quantity and quality of their input. They were better at encouraging speech and at getting the native speaker to modify it for greater comprehensibility. They could, for example, ask for help, change the topic, and direct the conversation better. They had, in other words, more "conversational competence". Thus, despite the simpler input directed at the younger children, it is likely that older acquirers actually get more comprehensible input, and this may be a key factor in their faster initial progress.

There may be other reasons for the older acquirers' superiority in rate of acquisition. Adults have means of producing language earlier, of "beating the Silent Period", means that have nothing to do with natural language acquisition but that may nevertheless help them participate in conversation and hence obtain comprehensible input.

I have hypothesized in earlier papers (see, for example, Krashen, 1981) that significant Monitor use is only possible after the acquirer has undergone formal operations, a stage in cognitive development that generally occurs at about puberty (Inhelder and Piaget, 1958). The availability of the conscious grammar, the Monitor, allows adults to produce formally acceptable utterances
using first language rules repaired by the Monitor, as discussed earlier in this chapter. While the use of this mode does not require comprehensible input, it helps the acquirer to talk early, to participate in conversations, and thereby obtain input, at least some of which will be comprehensible.

Both explanations for the older acquirers' rate superiority reduce to the greater ability of the adult and older child to obtain comprehensibly input. Thus, comprehensible input again is hypothesized to be the causative variable, and not age per se.

The child's superiority in ultimate attainment has been hypothesized to be due to the strengthening of the affective filter at about puberty, an event that may also be related to formal operations (Krashen, 1981). As argued elsewhere, this hypothesis has several advantages. First, it claims that child-adult differences in attainment are not due to any change in the "language acquisition device" (LAD) but are due to the filter, a factor that is, in a sense, external to the LAD. Second, it is consistent with the claim that adults are still "acquirers", that they retain the natural language acquisition capacity children have. It also allows for the possibility that some adults can achieve extremely high levels of competence in a second language and may even be taken for native; it predicts that such "Good Language Learners" will be, above all, good acquirers, with the ability to obtain a great deal of comprehensible input with a low affective filter. In many cases, the filter prevents the adult only from going the last few inches. 17

5. ACCULTURATION

A similar argument can be made concerning Schumann's Acculturation Hypothesis. Schumann (1978b) has hypothesized that acculturation is the "major casual variable in second language acquisition" (p. 29). Schumann maintains that "Second language acquisition is just one aspect of acculturation, and the degree to which the learner acculturates to the target language group will control the degree to which he acquires the target language" (p. 34).

While the Acculturation Hypothesis seems to account for second language acquisition data in extended sojourn situations, it is easily expressible in terms of comprehensible input and low filter level. Acculturation can be viewed as a means of gaining comprehensible input and lowering the filter. Moreover, the comprehensible input hypothesis accounts for second language acquisition in situations that acculturation does not attempt to deal with.

Schumann defines two types of acculturation:

"In type one acculturation, the learner is socially integrated with the TL group and, as a result, develops sufficient contact with TL speakers to enable him to acquire the TL. In addition, he is psychologically open to the TL such that input to which he is exposed becomes intake. Type two acculturation has all the characteristics of type one, but in this case the learner regards the TL speakers as a reference group whose life styles and values he consciously or unconsciously desires to adopt. Both types of acculturation are sufficient to cause acquisition of the TL, but the distinction is made to stress that social and psychological contact with the TL group is the essential component in acculturation (as it relates to SLA) that that adoption of the life style and
values of the TL group (characteristics traditionally associated with the notion of acculturation) is not necessary for successful acquisition of the TL" (p.29).

Type one acculturation is thus "weaker" than type two in that it does not involve adoption of the new life style. Since Schumann hypothesizes that type one is all that is necessary for successful second language acquisition, we restrict our discussion to type one acculturation.

Type one acculturation is easily restatable in terms of the framework presented in this chapter: social integration with resulting contacts leads to comprehensible input, while the open psychological state Schumann refers to is equivalent to a low filter. The evidence Schumann presents in support of the Acculturatio

The Heidelberg project, mentioned earlier, studied variables correlating with successful acquisition of German by foreign workers. Reported amounts of leisure contact with speakers of German correlated with syntactic performance (r = 0.64) as did amount of work contact (r = 0.55). Apparently, either form of interaction was effective in encouraging second language acquisition. (Schumann notes that "among the best speakers, those who had little leisure contact with Germans all had considerable work contact" (p. 39); thus, some guest-workers who acquired German did so without much leisure contact.) This confirms that it is interaction, and the resulting comprehensible input, that "causes" second language acquisition, a view consistent with both the comprehensible input plus low filter view as well as the Acculturation Hypothesis.

Schumann, in reporting the Heidelberg research, also notes that "learners whose work required communication with co-workers did better in German than workers who provided services (hairdressers, kitchen help, etc.)" Also, "learners who worked in an environment that was noisy or which constrained movement were at a disadvantage".

These results also suggest that those who were able to interact more in the target language acquired more German, all of which means more input meeting the requirements of the input hypothesis.

Schumann draws a parallel between natural ("free" or informal) second language acquisition and the pidginization-decreolization continuum, suggesting that early second language acquisition is similar to pidginization (secondary hybridization) and that late second language acquisition is similar to the mesolect and acrolect stages of decreolization. As evidence, he describes the case of Alberto, a Spanish-speaking adult living in the United States who appeared to be at a considerable psychological and social distance from English speakers, and whose speech showed marked signs of pidginization, i.e. lack of several grammatical morphemes, little use of inversion in questions, and use of more primitive transitional forms in negation (Schumann, 1978a provides details). Alberto thus fits the Acculturation Hypothesis, since he showed little second language acquisition and little acculturation, defined as the degree of social and psychological distance. Albert is also quite consistent with the theoretical framework presented here and the hypothesis that comprehensible input and filter level are primary determinants of second language acquisition. Alberto, it can be claimed, received little comprehensible input in English (he worked nights, did not own a TV set, did not attend ESL classes, and made little
effort to get to know English speakers., according to Schumann, 1978a), and probably had a strong affective filter as well. 20

Stauble's subjects, reported in Stauble (1978) are also considered to be evidence for the Acculturation Hypothesis. All three were Spanish speakers who had been in the United States for many years, and who had apparently "fossilized" at different levels in their development of negation. Stauble attempted to relate their progress in second language acquisition, as reflected by the transitional forms they used for negation, and acculturation, measured by an informal questionnaire probing social and psychological distance from speakers of English. The subject Xavier showed the least progress in English negation, but also showed the least social distance. Stauble's questionnaire revealed that his psychological distance, however, was greater than that of the others, which is consistent with the Acculturation Hypothesis. Paz, the most advanced speaker, had the greatest social distance, but, along with Maria, the other subject, had relatively low psychological distance. Stauble's interpretation of these findings is that psychological distance may be a more important determinant of acculturation, and hence language acquisition, than social distance.

Stauble's data can also be analyzed in terms of our theoretical framework. Since all three subjects had been in the United States for many years, all three had had considerable comprehensible input (recall our earlier generalization that LOR, when over a long period of time, does not predict SLA, a hypothesis consistent with Walberg et al. 's diminishing returns hypothesis), enough to allow a "zero filter" acquirer to reach native-speaker levels. We can then simply hypothesize that it was Paz's lower filter, reflected by the lower psychological score, that allowed this acquirer to make more progress. 21

Finally, it can be claimed that the comprehensible input plus filter position is more general. The acculturation hypothesis predicts second language acquisition only in immigration and extended sojourn situations. (Indeed, it is unfair to ask it to account for other situations, since Schumann has made it very clear in his writings that the acculturation hypothesis is designed to account for second language acquisition only in this situation.) The theory of SLA presented in this chapter can not only account for extended sojourn and immigrant SLA but also predicts success in the classroom, as detailed in Chapters III, IV, and V, and is claimed to be applicable to all language acquisition.

The Acculturation Hypothesis has considerable merit. It may be the case that acculturation is the most effective way of lowering the affective filter and getting input for immigrants and long-term visitors. Figure 2.3 attempts to capture the parallel between second language acquisition and the effect of acculturation. "Free" second language acquisition and the continuum are similar in that acculturation may be the "motivating force" behind both. 22 Creole speakers gradually acquire closer versions of the standard as they are acculturated into the target culture. This acculturation brings them into contact with speakers of the standard, and makes them more "open" to the input (lowers the filter). Also, acculturation may "motivate" second language acquisition. As the individual acquirer acculturates into a culture, he obtains more input via more interaction, and is more "open" to it. The difference is that acculturation is the necessary motivating force for movement along the decreolization continuum, while it is only one way to bring the filter down and obtain comprehensible input. Input can be obtained with acculturation,
and there are many techniques for bringing down the filter that have nothing to do with acculturation.

Fig. 2.3. Acculturation, pidginization-decreolization, and second language acquisition.

Second language acquisition and the pidginization - decreolization continuum are similar in that both progress via comprehensible input supplied in a low filter situation (area inside the box).
**a Enculturation** = "the process by which an individual assimilates to his own culture or to some segment of it", i.e. the case of European elite professionals who acquire English in their own countries, (For discussion, see Schumann (1978b), pp. 47-48).

**Notes**

1 The acquisition-learning distinction is not new with me. Several other scholars have found it useful to posit similar kinds of differences. Bialystock and Frohlich (1972) distinguish "implicit" and "explicit" learning, and Lawler and Selinker (1971) discuss mechanisms that guide "automatic" performance and mechanisms that guide "puzzle and problem solving performance" (p. 35). Also, Corder (1967) and Widdowson (1977) suggest similar ideas.

2 Those of us who have studied languages with a great deal of inflectional morphology in school, using methods that focus on grammatical accuracy, often have first-hand experience with this phenomenon. Consider what happens just before a grammar test in a language such as German; students carefully review the inflectional system (der-das-die; den-das-die; plus the list of prepositions that take different cases) on the way to the exam. As soon as they sit down in class to take the test, they immediately scribble what they can remember of the inflectional system on the side of the page, so that when they need the correct marker, they can find it and use it. At the end of the exam, before handing in the paper, they erase their notes. The morphology on the side of the page is, most likely, late-acquired, and unavailable in rapid conversation for most people. The notes on the side, then, act like a conscious Monitor, raising the accuracy of the output in situations where the student has time, is focused on form, and can access the rule; grammar tests fill these conditions nicely. Students thus do much better in terms of grammatical accuracy on such tests than they would in free conversation, the late-acquired, or not-yet-acquired, items that are learnable rising in rank.

3 An interesting parallel hypothesis is that we will see greater numbers of transitional forms in Monitor-free conditions. The literature is consistent with this hypothesis, since the transitional forms noted for adult acquirers have all been found in subjects who appear to be non-users, or under-users of the conscious Monitor, for example, Schumann's Alberto (Schumann, 1978); Nelson's McGill university janitors (Nelson, 1980), and Hanania and Gradman's Fatmah (Hanania and Gradman, 1977). This is predictable, since transitional forms are hypothesized to reflect the operation of the acquired system.

4 To be more precise, speaking skills that depend on acquired competence emerge over time as a result of comprehensible input. There appear to be, however, at least two ways of beating the system, at least over the short run. We can produce using memorized language, or routines and patterns (Krashen and Scarcella, 1978), and we can also produce by using the first language surface structure plus conscious grammar (L1 plus Monitor Mode). As we shall see later, both of these methods of performing without acquired competence have drawbacks and limitations.
5 Interlanguage talk, the speech of second language acquirers to each other, may or may not be useful for acquisition. This is an important question that, to my knowledge, has not been directly dealt with in the professional literature. Arguments in favor of its utility for language acquisition are these: it satisfies the input hypothesis in that it is meant for communication and might contain input at some acquirers' $i + 1$. On the other hand, there is the question of whether the ungrammaticality of much interlanguage talk outweighs these factors. Also, much interlanguage talk input might be too simple and may not contain $i + 1$ for the more advanced acquirer. See Krashen (1980, 1981) for a discussion of some of the empirical evidence that might shed light on this issue.

6 In a recent study, M. Long (1980) reported that foreigner talk discourse did not contain significantly more verbs marked for present tense than native speaker-native speaker discourse. It is thus not more in the "now" of the "here and now", to paraphrase Long.

7 A look at some of the memorized sentences and phrases children pick up during the silent period confirms their utility in a variety of social situations. Quite often, however, the children do not always acquire the knowledge of exactly when and how to use them. A particularly vivid example is the child, who had been in the United States approximately two months, who greeted an acquaintance of mine with "I kick you ass."

8 Conscious Monitoring need not always result in the full repair of an L1 influenced error. If the repair job appears to be too complex for the Monitor to deal with, the performer may simply abort the entire sentence and try to express the idea in a simpler way. This may be the cause of the avoidance phenomena, first reported by Schachter (1974). In Schachter's study, it was shown that Chinese and Japanese speakers produced fewer relative clauses in English as a second language than did Farsi and Arabic speakers, but were more accurate. Schachter relates this result to L1-L2 differences: Chinese and Japanese relative clauses are constructed to the left of the head noun, while Farsi and Arabic, like English, have relative clauses to the right of the head noun.

One possible interpretation is that the Chinese and Japanese speakers in Schachter's study consciously knew the correct English relative clause rule but had not acquired it. Also, in their production of English, they utilized their L1 rule. Their Monitor was thus presented with the task of moving relative clauses around a head noun, a very complex operation. In many cases, subjects simply decided that it was not worth the effort! When they did produce relative clauses, however, they were accurate. These were the cases when they went to the trouble of applying a difficult rule.

Avoidance is thus predicted in cases where a rule has been consciously learned but not acquired, and when the L1 and L2 rules are quite different, where repair by the Monitor requires difficult mental gymnastics.

Avoidance is also predicted in cases where the performer consciously knows the rule imperfectly, not well enough to make the necessary chance but well enough to see a mismatch between the L1 rule he has used and the correct target language rule. Since he cannot repair but knows there is an error, he can exercise his option to avoid the structure. Kleinman's avoidance
data (Kleinman, 1977) fits this description. His Arabic-speaking subjects showed evidence of avoiding the passive in English, and his Spanish- and Portuguese-speaking subjects avoided infinitive complements and direct object pronouns in sentences with infinitive complements (e.g. "I told her to leave"). In both cases, according to Kleinman, contrastive analysis predicts difficulties. These subjects, unlike Schachter's, were not unusually accurate with these constructions when they produced them. In this case, it is possible that the subject's knowledge of the rule was not complete enough to effect a perfect repair, so avoidance was the result.

In both cases described above, conscious rules serve a filtering function, telling the performer where his L1 rule differs from the L2 rule. In one case, repair is possible but difficult, and in the other the conscious rule does not permit repair.

9 Based on Hyltenstam's data on the acquisition of negation by adult acquirers of Swedish (Hyltenstam, 1977), Hammarberg (1979) argues that acquirers may begin at different developmental stages depending on their first language. The normal course of development in the acquisition of negation in Swedish consists of the following transitional stages:

(1a) Acquirers place the negative marker before all other parts of the VP, before the auxiliary and the main verb.

(1b) Acquirers place the negative marker after the auxiliary but before the main verb.

(2) Post-verbal negation.

In subsequent stages, acquirers move closer to the Swedish rule of post-verbal negation in main clauses and pre-verbal negation in subordinate clauses.

According to Hammarberg, speakers of languages that have pre-verbal negation (Serbo-Croatian) typically start this developmental sequences at the beginning, at stage 1a. English speakers, however, appear to begin at 1b. We do not see English speakers, in Hyltenstam's data, who produce "neg + aux" structures. Since 1b "is an English-like solution" (p. 10), one can hypothesize that English speakers skipped the (1a) transitional stage.

There are several possibilities here. First, Hammarberg's suggestion may be true. If so, if acquirers can skip a transitional stage $tj$, when their language has a rule identical to $tj + 1$, this implies that $tj$ was not essential--it did not have to serve as $i$. This does not rule out the possibility that $tj$ would have been useful.

A second possibility is that $tj$ was present, but escaped the observer's notice. Indeed, it may have been present as $tj$ but never uttered. Adult performers who have consciously learned the target language rule, or who have even learned parts of it, may be able to use the conscious Monitor to detect transitional errors and either avoid them in performance or repair them (see discussion in footnote 7 on avoidance). They may, however, have more of a tendency to accept such transitional forms when they coincide with an L1 rule, even if they are errors (Schachter et al., 1976). This could explain why transitional forms that are unlike L1 rules are less frequently seen in performance. It should be noted, however, that the Serbo-Croatian speakers in Hyltenstam's study did show clear signs of stage 1b, which does not correspond to any rule in Serbo-Croatian.
There are thus at least two possibilities—the English speakers did indeed skip a stage, which implies that the skipped stage may not have been crucial to further development, or the stage was "there" but undetected, due to its short duration and/or its having not been used in the performer's output. Consistent with Schumann's findings (Schumann, 1979), the transitional stage that coincides with the L1 rule was quite evident, both in the case of Serbo-Croatian speakers (stage 1a) and English speakers (stage 1b). As suggested in the text, this stage may have, in each case, been two stages in one, first the L1 rule, and then the "real" transitional stage, with only the latter helping real progress to continue.

10 Several scholars have pointed out that this view of transfer is too strong in that it predicts the occurrence of "transfer" errors that in fact do not occur. This problem can be resolved by positing several constraints on transfer, or conditions that must be met before a performer can substitute a first language rule for some i + l.

Zobl (1980a, b, c) notes that the L1 rule itself must be a productive one. This accounts for the fact that French speakers acquiring English as a second language do not make errors of the kind:

John comes he?

after the French:

Jean vient-il?

The French rule, according to Zobl, is no longer productive in French. Citing Terry (1970), Zobl notes that it is mainly limited to present tense contexts, an indication that the rule is becoming unproductive.

Kellerman (1978) provides another condition on transfer: the performer must perceive the transferred rule to be potentially non-language specific. Kellerman's original experiments in lexical transfer showed that foreign language students were less willing to transfer features of words they considered to be less "core". For example, a Dutch-speaking student of English would be more likely to presume that he could transfer the Dutch verb 'brechen' (break) in an English sentence:

He broke his leg.

than in:

The waves broke on the shore.

A similar constraint exists in syntax. Dutch students of English, Kellerman reports, were not willing to accept a literal translation into English of the Dutch equivalent of:

The book read well.
apparently because the intransitive use of *read* was perceived to be language-specific and infrequent (see also Jordans and Kellerman, 1978).

Another constraint comes from the work of Wode (1978), and accounts for the finding that L1 influenced errors do not seem to occur at all stages of the acquirer's development. Wode states that for an interlinguistic error to occur, the L1 rule and the L2 rule it substitutes for must meet a "crucial similarity measure" (p. 116). In other words, if an L1 rule is to be utilized, it must be preceded by some *i* of the L2 that differs from it only in minimal ways. Wode's example, from child second language acquisition of English by German speakers, illustrates this point nicely. Wode notes that errors such as:

*John go not to school*

occur in which German-like post-verbal negation is used. These errors are not found in beginning acquirers, but occur, according to Wode, only after the acquirer has reached the "aux-negation" stage and already produces sentences such as:

*John can not go.*

The acquirer then overgeneralizes the negative rule from post-auxiliary to post-verbal, and uses the first language rule.

There is another way in which use of the L1 may indirectly help second language acquisition. The existence of cognates will help to make input comprehensible, even if form and meaning are not identical across languages. This factor will increase the rate of acquisition but not alter the order.

The hypothesis that L1 rules cannot contribute to real progress implies that fossilized use of a L1 rule is the "end of the line" for acquisition. Does this mean that a single L1 error, a single prolonged substitution of some *i* halts all acquisition? It only implies this if we accept a strictly linear view of the natural order hypothesis, that there is only one stream of progress that acquirers follow in strict sequence. Clearly, this is not the case. If it were, acquirers would always show us just one transitional error at a time! Of course, individuals show us many error types at once. This indicates that several streams of development are taking place at the same time. These streams appear to be correlated; a performer at a given stage in one stream will usually be at a predictable stage in another stream. Schumann (1980) provides good evidence for this, noting that his subjects who were at the *no* stage in negation produced few relative clauses or relative clauses without relative pronouns. For L1 acquisition, Shipley, Smith and Gleitman (1969) report that verb phrase related items are correlated fairly highly for order of acquisition, and noun phrase related items are correlated, but agreement across the groups is not high (see also Krashen, Madden and Bailey, 1975; and Andersen, 1978, for similar suggestions). Of course, it is quite possible that transitional forms or rules from one stream may help out those in any other by serving as *i*. If say ten parallel streams of development occur at any given time in an acquirer, it may be the case that a given stream will interact with some, but not all, of the others in this way.
"Integrative" motivation refers to the desire to "be like" speakers of the target language. In foreign language situations (e.g. studying French in Anglophone Canada), students with more integrative motivation are usually superior, especially over the long run (Gardner and Lambert, 1972). In situations where there is some urgency in second language acquisition and/or where there is less desire to "integrate", the presence of integrative motivation may not relate to second language achievement. Rather, "instrumental" motivation, the desire to use the language for practical means, may predict success better (Lukmani, 1972; Gardner and Lambert, 1972; Oller, Baca, and Vigil, 1977).

Stevick (1980) provides a poignant example, a story related to him by one of his students:

"Four years ago I was looking for any kind of job I could find. I happened to get one teaching ESL to a class of six women from various parts of the world who spoke no English. I had never heard of ESL before. The salary was poor and I didn't know if I wanted to pursue a teaching career, therefore my approach was very casual and low pressure. My method usually consisted of thinking up a topic to talk about, introducing it, and encouraging each student to express her feelings.

In spite of my casual approach, the teaching job was extremely pleasant. I had a deep empathy for anyone who was facing a language barrier because I had just returned from a trip around the world alone as a monolingual.

They all started speaking English fairly well after the first two weeks of class. I remember a woman from Columbia telling me that she hadn't spoken English before because she was afraid of making mistakes. After being in class for a while, she spoke English and made mistakes and didn't care. I didn't attach much significance to the progress that the women made. I had no idea how long it took people to learn a language.

Gradually I became quite career-oriented, and made a conscious decision to try to be a top-notch ESL teacher. I had guilt feelings about the casual way in which I had taught those first six women, and my teaching evolved into the traditional authoritarian style with the textbook dominant. Over the years, it has gotten to where I feel frustrated if a student takes class time to relate a personal anecdote.

I can look back on these four years and see a gradual decline in the performance of my students. Until recently, I have been assuming that I needed to be more attentive to their mistakes in order to speed their progress. My present style of teaching bypasses the students; feelings and basic needs, and concentrates on method. I never see successes like those first six ladies." (From Stevick, 1980, pp. 4-5).

"Intermediate" here means knowing enough English to be able to take at least a partial academic load, but not being able to "pass out" of the required university English as a second language requirement. The normal situation for the intermediate at the university is to be enrolled in at least one ESL class in addition to one or more subject matter course.
16 The research cited here deals exclusively with the effect of instruction on the acquisition of syntax and morphology. Until recently, little work had been done that examined the effect of instruction on the acquisition of pronunciation. Purcell and Suter (1980) report that acquisition of pronunciation of English as a second language was predicted by the following factors: (1) The acquirer's first language (speakers of Arabic and Farsi were superior to speakers of Japanese and Thai); (2) The amount of interaction with English speakers; (3) Performance on a test of phonetic ability; and (4) The degree of concern the speaker had about his accent. Factor (2) appears to be related to comprehensible input, while (3) and (4) may be related to learning. (1) reflects the consequences of falling back on the first language. The amount of formal classroom training in ESL, however, did not relate to pronunciation ability, even when courses were specifically aimed at teaching pronunciation.

17 Some studies seem to show that age of arrival (AOA) predicts second language attainment for children—that is, that the child who arrives at age six, for example, will attain higher levels of proficiency than the child who arrives at age ten. While AOA does predict ultimate attainment for children as a group as compared to adults as a group, closer examination reveals that AOA per se is not a factor for children considered alone. In cases where AOA seems to be a factor, it can be argued that LOR, and ultimately CI, is really causative. Cummins (1980) has performed such a reanalysis of Ramsey and Wright's data on 1,200 immigrant children in Canada (Ramsey and Wright, 1974), and reaches this conclusion, noting that when AOA is controlled in Ramsey and Wright's data, children with longer LOR's perform better in a variety of tasks. Cummins also found that when LOR is controlled, however, children with younger AOA's are not necessarily better—in many cases, the opposite is true. Minoura (1979) can also be reinterpreted. She studied 44 Japanese children who had been in the United States for a range of one to eight years. While LOR predicted attainment (r = 0.79), so did AOA (r = -0.75)(a sentence imitation test was used). All the children in the sample had arrived in the United States at about the same time, however, so LOR and AOA were highly correlated (r = -0.95). It thus may be argued that LOR and thus comprehensible input, was the true causative factor. (According to my calculations, the correlation between AOA and SLA reduces to r = 0.005 when the effect of LOR is removed!) The Heidelberg project, discussed in the text, also reports a relationship between AOA and SLA, this time among adults taken as a group. This also seems to be a confound, since older subjects seemed to spend less time speaking German (r = -0.32 between AOA and reported leisure time use of German). Partial correlation partialling out the effects of interaction with German speakers reduces the reported correlation of -0.57 between AOA and SLA to r = -0.49. This could (and should) go even lower with a more reliable measure of the amount of comprehensible input subjects actually got.

18 Pidginization "occurs when speakers of different languages come into limited contact and an auxiliary vehicle of communication develops to facilitate interaction among them." (Schumann, 1978b, p. 40). Secondary hybridization is a form of pidginization that occurs if a "standard form" of a target language is available. It persists only if speakers remain at social and psychological distance from speakers of the norm. (From Whinnom, 1971, cited by Schumann, 1978b).

Decreolization occurs when speakers of a creole (a pidgen that has become a native language of a group) "gain varying degrees of contact with the group that speaks the base language of the creole" (Schumann, p. 41). It is the process of moving toward the "standard form" of the
language. Creolists refer to several stages of decreolization, ranging from the creole itself, to the basolect, which is close to the creole, the mesolect, the acrolect, and finally, the standard form.

19 Psychological distance is determined by factors such as motivation, language and culture shock, and other affective variables. Social distance results from social factors, such as the relative dominance of the social group of the acquirer and speakers of the target language, the cohesiveness of the groups, similarity in culture, etc. In Schumann's view factors causing psychological and social distance "put the learner in a situation where he is largely cut off from target language input and/or does not attend to it when it is available" (Schumann, 1977, pp. 266-267).

20 Also of interest is the fact that Alberto's grammatical morpheme difficulty order (one cross-section) correlates significantly with the "natural order" proposed earlier (r = 0.73, p < 0.05; analysis in Krashen, 1977). The data was collected from his spontaneous speech.

21 This is not the only interpretation of this result, as Earl Stevick has pointed out to me. Something else may have caused Paz' superior second language acquisition, and the low psychological distance score may be a result of this and not a cause.

22 Or the "remote cause". See discussion in Schumann (1978b), p. 48.