Chapter 10 – Learning and Using a Second Language

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Learning and Using a Second Language

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Remember trying to learn a second language and all of the frustrations of an endless list of conjugations, proper spellings, pronunciations, and intonations! The essays in this section have focused on the process of language acquisition, the developmental stages involved in acquiring language, and the possibility of universal characteristics in the acquisition process of children and adults alike. In this selection, Jeannine Heny, professor of English at Indiana University of Pennsylvania, offers a detailed look at the process of learning a second language and discusses the reasons for the frustrations we experience when we attempt to do so. She discusses the differences between the acquisition processes of first and second languages with regard to the "descriptivist" and "native language interference" theories. Heny also examines Chomsky's theory of "universal grammar" in the context of newer theories that investigate topics such as "competition models" and "creative construction" in the process of acquiring a second language. Heny's study presents a clear illustration of the important and somewhat controversial impact bilingualism is making on the world of modern linguistics and education.

INTRODUCTION

English is taking over the globe. A newsmagazine recently reported that nearly one of every seven people in the world claims some knowledge of English, a required subject in just over 100 countries.[1] Obviously, this leads to some comical situations: imagine the puzzled native speaker abroad who finds "half-fresh grapefruit," "raped carrots," or "frightened eggs" on her breakfast menu.[2] A small and popular pamphlet available in airports documents the problem of international English usage through simple pictures of signs. A Belgian tailor proudly proclaims "Come in and have a fit." An Athens hotel displays a carefully adorned sign at its

[1] McBee (1985).

[2] Cited from Nigel Rees, "Quote . . . Unquote" in Duff (1981), introduction.

main desk: "If you consider our help impolite, you should see the manager!" A baker's shop in Bombay insists, "We are number one loafers."[3]

If these anecdotes seem funny to speakers of English, they are nevertheless an uncomfortable reminder of how difficult it is to master the intricacies of a foreign language. Many a reader will recall the experience of trying to use a phrase she has carefully drilled for years in the classroom, only to see her hopes of communication crushed as her hearer's eyes fill with confusion or bemusement.

Why is it so easy to learn a first language, but so difficult to learn a second? Why can a mere infant achieve with ease a task that remains beyond the reach of many a mature, sophisticated, college-educated twenty-year-old, even after years of hard work? The widespread idea that children learn languages more readily than adults is not new: Quintillian argued for the teaching of Greek to young boys in ancient Rome. But only in the past two decades have the causes of this disparity been so intensely debated.

The three sections that follow each focus on one of three complex domains where answers to this elusive question have emerged:

1. Native language interference
2. The adult mind: biological and cognitive issues
3. Social factors

Each area raises special theoretical problems of interest to language learners and teachers alike, while offering some possible clues to adult-child learning differences, which we adopt as a guiding theme. Finally, the conclusion examines briefly some popular beliefs and recent scholarly opinions about the advantages and disadvantages of having a second language in childhood.

NATIVE LANGUAGE INTERFERENCE

In the forties and fifties, the *descriptivist* thinking that dominated linguistics viewed language acquisition in children as a matter of "habit formation," much like other kinds of learning. Heavily influenced by learning theories then current in psychology, linguists assumed that children learn language much as they learn, say, the names of the planets, or the "Star-Spangled Banner." Parents provide model sentences, children repeat them; children make mistakes, parents correct; children practice, parents repeat again. The end result, after a few years, is articulate human beings armed with all of the linguistic patterns needed to communicate.

Under this descriptivist view, there was no reason to distinguish first-

[3] Lo Bello (1986).

and second-language learning: both were thought to consist largely of memorization, repetition, and drill. Presumably, if older learners had more trouble doing the job, it was because they were less motivated, had less time, or because their first set of habits was so firmly entrenched that it "interfered" with their ability to properly master a second set.

In learning anything new, one draws on prior knowledge. Often, this helps: since I learned to type on a conventional typewriter, I was able to "transfer" my typing skills directly to the computer keyboard being used to write this article. But transfer can also hinder learning: had my computer's manufacturer decided to put all the letters in unfamiliar places, I would have been at a considerable disadvantage, as anyone with experience with two different keyboards knows: inevitably, knowledge of one system will get in the way when the typist is trying to master another.

Extending this commonsense reasoning to language, linguists and educators assumed that firmly established habits from people's native language would carry over to any new language they tried to learn. If your first language has verbs at the end of the sentence, it was thought that you would put them there in your second language (or L2). If this turned out to be undesirable, as in English, you would need to practice hard to "unlearn" the familiar native language (or L1) pattern and internalize the correct one. Many who accepted this view felt that the learner's most important task was to overcome transfer. They advocated extensive comparative study of language pairs, called *contrastive analysis*, to determine the points of difference between languages. The results were considered useful for teachers, who could identify learner errors beforehand, and thus prevent them. The examples below suggest how diverse the phenomena are that have been attributed to transfer in the few decades since contrastive analysis became popular.

Most obvious are patterns that never occur in English, but look like word-for-word translations from the native language—for instance, when a German or Dutch speaker says one of the following:

*Speak you English?

*Yesterday have I the letter not written.

*When learned you German?[4]

Equally easy to see are transfers of sound patterns. Many readers will recognize the stereotypical English speaker's rendition of French *parlay-voo Fransay?*, in which virtually every sound is an English one substituting for its rather different French equivalent. The spelling *ay*, for example, stands here for a double vowel sound where the tongue glides from one position to another, as in English *play* or *stay*. While such *diphthongs* are common in English, they are rare in French: this one, *ay*, does not occur at all in French.

[4] The asterisks here and later indicate ungrammatical sentences or forms.

More commonly, transfer takes place at a more abstract level. For instance, a word's grammatical category might be assigned to its translated counterpart. Hakuta (1987, p. 42) reports that the five-year-old Japanese girl Uguisu said things like **I just mustake* (sic) and **You're mustaking* in English, assuming that English *mistake*, like its Japanese counterpart, is a verb. Swan and Smith (1987, p. 23) report that Scandinavian speakers typically say things like **She spoke to me quite polite*. Since Scandinavian languages make no overt distinction between adjectives like *polite* and their corresponding adverbs (here, *politely*), speakers of these languages seem to assume that a single form will suffice in English.

Slightly more subtle, yet still directly reflected in surface patterns, is the case where an L2 category is missing in the native language. Japanese, Thai, and Chinese have no category *article*, and thus have no words analogous to English *the* and *a*. This time, instead of putting similar elements in a different order, the speaker must learn a whole new type of word. This typically causes serious problems; even the most advanced speakers may have difficulty getting articles in all the right places. These examples were spoken by Chinese learners:

*He finished the school last year.

*He smashed the vase in the rage.

*Xiao Ying is a tallest girl in the class.[5]

Consider also a similar case drawn from semantics. In French and Spanish, when referring to parts of the body or very closely associated objects, the correct possessive form is *the*, not *my*, *your*, etc. Thus, one says "He broke *his* pencil," but (roughly) "He broke *the* arm" (meaning English "his arm"). Speakers of first languages where this distinction is not made seem to "transfer" the expectation that it does not exist: hence, they continue to use phrases like *his arm*, ignoring the correct form they hear from native speakers.

Unfortunately, most cases are not so clear-cut, even where first-language influence is undeniable. Consider, for instance, a recent study of English pronunciation by Brazilian Portuguese speakers. Roy Major (1987), puzzled by the extent to which the words *phonetics* and *fanatics* sounded alike in his students' speech, set out to examine the development of the vowel sounds in the words *bed* and *bad*, respectively. As the study progressed, Major found a puzzling fact: as students' pronunciation improved overall, their mastery of the sound [ɛ], as in English *bed* or *set*, became dramatically *worse*. This phenomenon was quite systematic, and unexpected, especially given that a very similar vowel sound exists in Portuguese. After careful study, Major concluded that a very subtle type

[5] Swan & Smith (1987), p. 231.

of error was being made early in the learning process. English has two vowels, [ɛ] as in *set* and [æ] as in *cat* or *sat*. Portuguese has only one vowel in the same range, pronounced more like the sound in English *set*. Confronted with this new complexity, the early learner concludes that a single phoneme, or sound, exists in English, just as in Portuguese. Furthermore, the sound adopted is the Portuguese vowel, which makes both of the above words sound rather like *set*. With intensive classroom practice on the new, "difficult" sound [æ], the student begins to improve. However, influenced by her original unconscious hypothesis that only one sound is involved, she begins to say words like *said* and *head* as if they were *sad* and *had*.

Hungarian college students provide another example of complex transfer.[6] These non-native English speakers tend to produce words like **cruelism*, **deconcentrate*, and **ignoration* (substituting for correct *cruelty*, *dilute*, and *ignorance*). Again, the explanation is abstract. Hungarian cannot be said to have a direct equivalent for the deviant English words; nor could any Hungarian word-formation rules be equated to the ones underlying the English errors. But Hungarian *does* have many *affixes* which, like *-ism*, *de-*, and *-tion*, join to the beginning or end of an existing word to form a new one. In English this kind of affix attaches to only a small set of words: it is easier to find a bad formation with *-ism* than a good one (e.g., **stupidism*, **redism*, and **intelligentism* versus *radicalism*). But in Hungarian, the situation is very different. Such affixes are highly productive: that is, they attach to just about any word of the right category, giving a new word with a predictably related meaning. Hungarian speakers seem to be transferring not a pattern, or even a rule, of their native language. They are transferring something even less tangible: the *expectation* that if you have an affix like *-tion*, you can add it to any eligible word.

To summarize, there are a great number of ways to define what a learner may "transfer": these include sounds, word order patterns (or more likely the rules that underlie them), abstract facts about individual words, plus a wide range of expectations about how language works and about what elements it includes.

But this fascinating diversity points to one of two major problems with the notion of "transfer": it is practically impossible to define. As originally conceived, transfer seemed to operate on actual sounds or strings of words. But even the limited list of examples above range far beyond that simple level. Is it principles a speaker transfers? Or word-patterns? Sounds, or "expectations"?

The second problem involves predicting transfer: in principle, interference from L1 to L2 should be equally likely at every point where the two languages differ. Unfortunately, it is not. In the early seventies, one

[6] Cited by Hatch (1983, p. 42), from work by Nemser.

study after another intending to document transfer by counting student errors yielded the same discouraging result: at best, only about half of the errors made by actual language students could be explained by interference from their native language. Most studies reported figures lower than that, one reporting numbers as low as five percent![7] Despite its intuitive appeal, contrastive analysis was a misleading basis for teaching, since it encouraged the idea that *only* first-language influence caused learner errors. To make the notion of transfer useful to teachers as well as to theoretical linguists, there must be some way to predict the places where L1 interference will occur, and where it will not.

Markedness

To see one way this might be done, return for a moment to the typewriter analogy. Suppose you learned to type on a rather idiosyncratic typewriter, where the letter *a* stood at the extreme top right of the keyboard, forcing you to stretch your right hand in an unnatural way every time you typed a word spelled with *a*. This would presumably take you some time to learn. Now, suppose you bought a computer whose keyboard placed *a* somewhere in the middle row, its "normal" position. Common sense suggests that you would adjust very easily to the new configuration. It seems equally obvious that you would find the opposite change (from midkeyboard to extreme top right) difficult to make. In general, one might assume that transfer of learning from an "unnatural" value to a more "natural" one would be expected, rather than transfer in the other direction.

The same commonsense argument applies to language. If very few languages have a given feature, and if children find it difficult to acquire, the feature is assumed to be universally "marked," or less natural, than its easier and more common counterpart(s). One might expect such a feature not to transfer—that is, not to be carried over from L1 to L2. Take, for instance, the French sound spelled *u* in words like *tu* or *plus*. Most English speakers learning French have special difficulty with this sound, using the vowel of English *food* or *moose* instead. The target sound in French involves a far-front tongue position *and* rounding of the lips. As it turns out, this is an unusual combination which gives the sound a "marked" status in comparison with the English sound. A summary look at the world's languages confirms this judgment: relatively few languages contain front, round vowels, whereas French, to the dismay of the potential learner, has three. In contrast, many languages have vowels similar to the offending English one.

Markedness considerations can greatly enrich the predictive power

[7] Study by Dulay and Burt (1974a), cited in Hakuta (1987), p. 38.

of the notion that transfer from L1 affects L2, provided that markedness itself can be defined adequately. Physical factors like tongue position and lip rounding may play a role in determining markedness for sounds; but they cannot be the determining factor elsewhere, such as when dealing with word order.

Some structures may be more natural because they are easier to process and understand. Children may learn a construction faster if it involves a clear one-to-one correspondence between sound units and meaning: thus, if the English progressive is analyzed as broken into two elements, *is* plus *-ing* as in *John is running*, it must be seen as relatively marked, or difficult. Persian, in contrast, has a single prefix, *mi-*, to mark the progressive, meaning ongoing action. However, the Persian form is itself marked on similar grounds, since it carries "progressive" meaning only in the past tense. If an element only *sometimes* signals a given meaning, it is semantically inconsistent, and a potential stumbling block for learners. For another example, compare English and German noun plurals. In English, plurals are almost always formed with the same ending *-s*, as in *books;* German, however, has several different plural forms. Obviously, the German situation must be more marked, since it requires that the learner associate a single "plural" meaning with several different forms, as well as keeping track of which plural type must go with each noun in the language.

One form which might be viewed as semantically consistent, hence easily learnable, is the little particle attached to nouns in some languages to show that the noun is "subject" or "object" of its sentence. In Japanese, for instance, a word can be immediately identified as "object of" the sentence, because it carries the particle *o* attached, as in *hon-o*, which means "book-object." English, in contrast, marks the "object" by its position: *book* in isolation is neither a "subject" nor an "object." Only in the whole sentence *My friend sold the book* can you see, from the position of *book*, that it is the object of the verb *sell*. But, in order to grasp the role of *book*, the English child must keep track of several words at once, whereas the Japanese child need only look at one word. So, as far as processing difficulty is concerned, the English-type object seems to be more marked.

Another example seems to involve rule systems and how they work, rather than processing difficulty. French and English differ in the way they encode direct object pronouns: English uses full pronouns, placed after the verb, while French places a special kind of stressless "clitic" pronoun before the verb, the form *le* below:

French: Je le vois.
I it see

English: I see it.

In principle, if transfer occurred wherever languages differed, we would expect both French and English speakers to make mistakes like those given below:

French learners of English:

*I it see.

English learners of French:

*Je vois le.

As any French teacher will verify, the English learner makes the predicted error all too often. But, interestingly, it seems that the French learner does not. How can this be explained?

In terms of pronunciation, Romance clitics seem to act as if they were one with the verb they attach to: this combination of two words into one may in itself be marked. In addition, the clitic complicates the grammar of languages like French, at least on the surface, since it violates normal French sentence order (compare the sentence above with *Je vois le chat*, "I see the cat," where the object *le chat* comes after the verb). Thus, the French structure comes out as more marked on at least two counts. It is no wonder if transfer operates only in one direction here. We should expect the unmarked subject-verb-object of English *I see it* to transfer, but not its marked French counterpart.

A more subtle example comes from a Japanese learner of English:

> In Japan, industrial product is cheap. Because we have an economic growth. But vegetable is so expensive. Because we Japanese have a few lands.

The speaker used words and phrases like *industrial product* and *vegetable*, which require an overt plural ending *-s* in English. However, in Japanese, if plurality is clear from context, the plural need not be marked with the Japanese equivalent of the *-s* ending. If languages in general avoid redundant, or extra, markings, it is easy to see why Japanese speakers transfer this aspect of their language to English: one would expect English speakers to master the corresponding Japanese rule with relative ease.

Thus, markedness may result from physical difficulty, processing complexity, facts about the grammars of particular languages, or even universal features of human language. Linguists working in this area continue to search for a single, rigorous definition for this intuitively appealing notion.

Linguistic Distance

Whatever its ultimate definition, markedness clearly involves some inherent property of linguistic elements. We turn next to a rather different idea: that the relationship between L1 and L2, or more specifically the

learner's perception of closeness between them, influences the likelihood of transfer.

Some believe that interference is more likely if the elements involved are perceived as similar in L1 and L2. For instance, consider the German sound normally spelled *ch*,[8] roughly like the sound you make when gargling (for a more precise description, see Callary's article in this volume). English speakers tend to substitute the English *k*. This results in the name *Bach*, which contains the unfamiliar sound, being pronounced something like English *Back*. However, when learning Bantu clicks, which clearly do not resemble any English sound, English speakers make a series of noises that (unfortunately) do not occur in either English or Bantu languages. The point is that they do not transfer the English sound. Major (1987) notes this, and attributes it to the closeness speakers perceive between */ch/* and */k/*.

To this he adds another surprising observation, again related to closeness. Recall that the French front, round vowel *u* (phonetically [y]) is difficult to pronounce for English speakers, who usually substitute the sound of English *food* instead. Amazingly enough, many an advanced English learner gives the impression of having an "accent" in French, not because of the difficult sound of French *tu*, but because of the relatively *easier* sound found in French words like *tout* and *fou*. Why? Learners sense from the start that the unfamiliar front, round vowel will be difficult. The totally new sound has one factor going in its favor: there is no native-language equivalent, almost but not quite identical, to provide a lasting source of interference. But with the easier sound, precisely the opposite is true. English [u] (as in *food*) is close enough to its French equivalent to pass as acceptable in the early stages when other major difficulties claim the beginner's attention. Later, lulled into thinking her version of that sound is correct, the learner never goes back to rectify it. Instead, she retains the English equivalent — which, as it turns out, differs subtly from the French target sound.

A similar observation comes from data by Jacqueline Schachter (1974), who recorded the use of relative clauses by speakers of four languages: Arabic, Persian, Japanese, and Chinese. The Arabic and Persian relative clause structure resembles, but is not identical to, the English pattern. For instance, where the English speaker says *the man that I talked to*, the Persian speaker simply inserts an extra pronoun, i.e., *the man that I talked to him*. In contrast, the Chinese and Japanese forms are radically different: the above phrase in Japanese corresponds roughly to *I talk man*.

Which group produces worse English relative clauses? As one might expect, the Japanese and Chinese speakers produce far fewer relative clauses than the other two groups, suggesting that they are uncomfortable

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[8] A velar fricative, phonetically [x].

using the English form. But, interestingly, the ones they do form are *better* than those produced by Persian or Arabic speakers. Again, the same plausible explanation is at hand: the very closeness that should help learning actually hinders it: the Persian and Arabic structures look so similar to the English one that the learner is "tricked," as it were, into transfer. In contrast, the Japanese speaker perceives at the outset that his pattern is radically different, and avoids interference.

Roger Andersen [1983] has proposed yet another, possibly related condition that could help predict transfer. Called "transfer-to-somewhere," this principle claims that transfer will occur only if something the learner hears in the second language encourages it—if, in other words, some pattern in the second language looks enough like an L1 structure to trick the learner into transferring from L1 to L2. Of course, the problem here is: How do you identify a plausible "somewhere"? What does the learner have to hear in the second language to encourage L1 transfer?

In some cases, it may be no more than a similarity in sound between words in the two languages. One kind of interference that virtually never occurs by mistake is the borrowing of actual words. When one thinks of the phenomenal task of keeping two or more rather extensive mental *lexicons*, or word lists, separate, this is quite amazing, and has been a subject of wonder for psycholinguists. Such inadvertent word borrowing seems to be facilitated only when the two languages contain some identical or nearly identical word, as when the author's husband, accustomed to using Dutch, proclaimed that he had been recently *spitting* in his garden (the Dutch verb *spit* means "dig").

THE NATURE OF THE ADULT MIND

So far, it has become clear that a refined notion of first-language interference gives one answer to our original question: Why do people learn their first language so much better than any other? To set the stage for a second answer, which will involve biological and cognitive issues, it is important to look carefully at some central assumptions about language.

Language as Biological Endowment

First note that, in suggesting constraints on the possibility of transfer, we have implicitly assumed that human languages can be compared, or measured against one another by some kind of universal standard. It would make no sense to talk about concepts like "markedness" and "closeness" unless there were some valid way to define such notions — some way that, by definition, must be independent of any particular language. Without explicitly saying so, we have been gradually taking

on ideas about language that were not part of the earlier descriptivist view, under which the concept of "transfer" arose.

Noam Chomsky's development of generative grammar in the sixties provided a new framework, better able to handle these ideas. Chomsky challenged the central assumptions of the descriptivist framework, casting serious doubts on the prevailing view of language. The most fundamental property of language, Chomsky pointed out, is *creativity*, not repetition. We are capable of uttering an infinite range of sentences we could never have heard or practiced. Thus, underlying language, there must be a system of rules and principles, *not* a list of habitually linked word patterns memorized by persistent drill.

In fact, Chomsky claims, humans could never learn systems as complex as natural language by simply hearing sentences. This he relates to what he called "Plato's problem": how do we know so much about things we never consciously study? In learning a language, a child comes to "know" much more than is available to him in the sentences he hears. The principles that have governed human language for thousands of years are so abstract and difficult that they have not yet been fully spelled out by linguists. Since no one consciously *knows* them, no one could deliberately learn them.[9] Yet, amazingly, children appear to absorb this complex maze of linguistic facts with no visible effort—and at a stage when their cognitive systems would be nowhere near mature enough to consciously grasp the system's underlying principles, even if they *were* understood by linguists or grammarians.

According to Chomsky, children can achieve this apparent miracle because, as a species, we have a biologically determined specialization for language. Current theory makes a very strong claim about the biological underpinnings of language: that the most central principles of language are available to us innately, as an automatic result of being human. A child need only grow, and have exposure to some language, to gain access to them. These are the principles of UG, or *universal grammar*.

Note that this does *not* mean that a baby can use innate linguistic principles to speak or understand language. Many biologically based behaviors do not show up at birth, even though they are part of our genetic code; although babies do not walk, we assume that they are genetically programmed to do so when the time comes. No one would deny that sexual traits and behavior are genetically determined, even though they do not show up for ten years or more after birth. As unfamiliar as the idea of genetically encoded knowledge may seem, it is not at all unrealistic.

Adults, Children, and UG

Of course, a theory that says that children have access to a special biologically based program for language acquisition provides an especially

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[9] For discussion of the principles known thus far, see the article by F. Heny, this volume; also, for more detail, see Radford (1981).

neat answer to our original question: adults learn languages badly because they *are* adults, and not children. Thus, they have lost access to the principles of UG available to them in infancy.

Many believe that there is a "critical period," up to about adolescence, during which one's first language must be learned if it is to be learned at all. Once this critical period for language has passed, the brain's tissue loses its plasticity, and its capacity for acquiring language. Indeed, there is good evidence that a person with little exposure to language before puberty will suffer serious linguistic deficits.[10] Excited by the "critical period" concept, many have tried to extend it to second languages, to explain why adults virtually always learn a new language with some degree of foreign "accent." Proponents are quick to point out that, beyond the critical period, learning even a second language is much more difficult.

Unfortunately (or fortunately for those of us past adolescence), the evidence is not one-sided. Adults often learn the grammar and vocabulary of a language well, even faster than children, despite their tendency to speak with a foreign accent. So common is the phenomenon that it has been given its own name, dubbed the "Joseph Conrad" syndrome, after the famous novelist. Conrad always spoke English with a very heavy accent, despite the acclaimed mastery of his writing. At best, this suggests that the "critical period" strongly affects only the sound system of language: other aspects *can* be acquired effectively, even quite late in life. If they, too, are subject to a critical period in L2, it must occur much later than adolescence.

Still, adults do seem to find language learning much more painful than children, who often surpass adult learners after a few months of language study. All too often, the parents in an immigrant family in this country may continue for years to use a minimal version of English, while their children pass as native speakers within a few years. If a direct biological account does not explain this, perhaps a cognitive explanation is needed. The adult mind, of course, works in fundamentally different ways from that of a child. For one thing, the mature mind has higher-level cognitive abilities of the kind needed to learn science and math. Perhaps as these develop, the brain's special automatic capacity for processing language weakens. Or possibly these other processes simply overshadow its operation. We will now look a bit closer at this last possibility.

The Competition Model

The adult brain differs from the child's in the number and complexity of its abilities. Adults can, in principle, perform any number of tasks not possible for a child under five, such as solving complex mathematics problems, reading a map, and playing chess. These activities involve cognitive abilities that are relatively inactive in children. The very complex-

[10] Fromkin et al. (1974).

ity this implies may stand in the way of language acquisition for adults. In other words, the innate language faculty may still be present, intact in adults, but there may be so much other activity going on inside the older brain that the language faculty cannot function undisturbed, as it did in early childhood.

Such an idea can best be made plausible by looking at error types. If adult learning patterns differ in important ways from those of children, it suggests that the adult's mind may use different methods in learning language from those automatically available to children.

If Klein (1986) is right, adult learners *are* very different in some respects from children. Young children very seldom make errors in word categories: that is, they never act as though a verb were a noun, etc., as in **Daddy give goes*. In contrast, Klein cites as a typical L2 learner a Spanish migrant worker in Germany who used a single word *abai* to mean "job," "worker," and "(I) work." For this speaker, there seems to be no clear distinction between major word types like noun and verb. In fact, Klein is not alone in claiming that, in the early stages, it is virtually impossible to assign clear "structure" to the sentences of foreign speakers he has interviewed. At times, it almost looks as though, to communicate, the beginning adult learner is content to string out nouns in roughly the right semantic groupings, not worrying about form at all, as follows (these examples are translated from German, but they sound similar in both languages):

*This country, three year.

*But me study everybody more time, no?

*The schedule, the school, everybody more long, no?[11]

Sascha Felix, working in Germany and relying on evidence like this, suggests that the beginning adult learner unwittingly uses a mental faculty rather different from the child's UG-based principles in learning a second language. Felix claims that, in childhood, the brain's language-specific capacity can operate freely, since other major cognitive systems are not yet active. However, once we reach adulthood, the story is very different. We have, by that time, a highly developed "problem-solving" ability, which is so dominant that it "competes" with the mind's normal UG component, taking over some of the task of language learning—for which, unfortunately, it is not adequately suited. From this idea comes the name Felix coined for his theory: the "competition model."

Potential evidence for this model comes from a recent study of word order in adult learners of German (Clahsen and Muysken, 1986). In a careful comparison of child L1 learners versus adult L2 learners the re-

[11] Felix (1985), p. 60.

searchers found a number of subtle differences. These suggest that the adult learner's mind reacts to data in a way that can be fully explained neither by appealing to first-language interference nor to universal grammar. The authors conclude that the adult must indeed be using a mental faculty that is *not* the same as the one available to the child. Their claim awaits the test of further study.

Creative Construction

Notice that Felix's conception of second-language learning denies the "critical period" any direct importance as a reason for adult language-learning difficulties. Other linguists made similar claims over a decade ago, arguing that no major, biological change comes along at puberty to "turn off" the child's innate language capacity. But unlike Felix, these other researchers stressed the possibility that adults *can*, in principle, still use the innate mechanisms available to children. In fact, in the early seventies, as generative theory gained in popularity, it was natural to wonder whether one should emphasize not the *differences*, but instead the *similarities*, between first- and second-language acquisition.

If such a view is right, one should be able to see some trace of L1-like acquisition happening in adults. Trying to test this idea, several researchers working independently[12] made an interesting discovery. A famous study done at Harvard had shown that English-speaking children acquire elements like *-ing* (e.g., in *I am running*), past tense *-ed*, and about a dozen other forms in a definite order. All children follow roughly the same order, though they may start earlier or later. Many linguists agreed that this "natural order" of acquisition must reflect the operation of the child's innate linguistic capacity. If second-language learners showed a similar pattern, they reasoned, this could be taken as evidence that the same innate mechanisms mediate both first- *and* second-language acquisition.

The results were intriguing: it turned out that, even with first languages as different as Chinese and Spanish, learners of English seemed to progress through a fixed pattern of development, mastering forms like *-ed*, *-ing*, etc. in nearly the same order. At the same time it was found that foreign speakers often make the same mistakes in their English as monolingual English infants make, rather than the errors one would expect from looking at their native language patterns. For instance, Japanese and Norwegian both require that negative elements like *not* follow verbs. Given this, if transfer were to play a role, one would expect errors like the following in both groups:

[12] For instance, Dulay and Burt cited in Hatch [1983], Ch. 3.

Norwegian/Japanese transfer (predicted):

*He likes it not

*She likes not the dinner

In fact, these kinds of errors virtually never occur; instead, Japanese or Norwegian speakers use the same *developmental* pattern as English children, producing strings like those below, which have no possible source in Japanese or Norwegian:

*John no go here

*We not like this

This set of observations led to a new theory, called *creative construction*, or, informally, the "L2-equals-L1" hypothesis. As the second name suggests, the new theory claimed that second-language learners start from square one, just as do children. Creative construction seemed a refreshing new way to view foreign-language learning. When Dulay and Burt published a collection of learner errors called the *Gooficon* in 1974, they thought it unnecessary to mention the native languages of learners: facts about the first language seemed simply irrelevant to the process of acquiring a second.

There were of course some differences between "natural orders" in infants and later learners: but these were thought to come from differences in cognitive skills between younger and more mature learners. For instance, young children learn present tense before past tense [*he plays* before *he played*] because it is easier to talk about the here and now, rather than distant, past events. There is no reason for the second-language learner to do the same; her more advanced state of general knowledge should assure that past situations can be easily discussed. Likewise, children learn *in* before *between*, presumably because infants are naturally fascinated with containers, and because *in* encodes a simpler concept [note that *between* involves keeping track of the position of three objects at once]. Again, adults who have mastered the concept once need not do so again.

Transfer or Development?

Clearly, the claims of creative construction clash with the approach of those who favor contrastive analysis and emphasize the importance of first-language transfer. One approach says that the first language is the *only* source of learner errors; the other says it *never* causes error. It is difficult to imagine that two views needing the opposite empirical evidence could both have been accepted and taken seriously. But one must remember that each theory arose from its own assumptions about the nature of language: for those who believed language learning was habit formation, transfer made undeniable, intuitive sense. But if innate mecha-

nisms cause us to acquire our native language, it seems difficult to imagine that these mechanisms simply "turn off" once their job is done for the native language.

Besides, looking at learner data is often tricky: many errors are ambiguous, easily tossed under either "development" or "transfer," depending on which theory you are trying to support. For example, it is well known that German speakers produce unvoiced consonants like [p], [t], and [k] at the ends of English words that should end in voiced [b], [d], and [g]. This makes the word *bag*, for instance, sound like *back*. Since German has a rule of "devoicing," which ensures this pattern for these speakers in their own language, it is natural to assume that transfer has occurred: the learners are simply using a rule from L1 (inappropriately) in L2. However, a quick visit to an English-speaking two-year-old is likely to cause doubts: children learning English as a native language typically go through a stage in which they, too, devoice final consonants, pronouncing words like *bag* as *back*. Are German L2 learners transferring the German rule? Or are they returning to the language-learning process with a "clean slate" as it were, which just happens to lead them to produce words which sound like the output of the German rule? It is impossible to say for sure.

This kind of problem arises repeatedly. For instance, children learning a first language tend to simplify syllable structure, at the earliest stages even to a simple sequence of consonant plus vowel. At the age of two, the author's daughter had three uses for *ba*, one meaning "blanket," one meaning "banana," and the third meaning "baby"; later, "blanket" became *baba*. It has been assumed that children tend to simplify toward such a CVCV pattern, pronouncing all syllables as sequences of consonant-plus-vowel, the simplest possible form.

But what of a Polynesian speaker who produces the holiday greeting *meli kalisimasu* (to decipher this one, you need to remember that this speaker's first language makes no distinction between *l* and *r*). What of Japanese speakers, who have borrowed the English phrase for a woman one dates as *garu-firendu*? They too happen to speak a native language that tends naturally toward the *same* CV pattern as is typical in child speech. Again, is the error developmental, or a case of transfer? In such cases, it is impossible to separate the two, and in fact, both may play a role.

It seems sensible to think that in general, both transfer and development (i.e., first-language-like processes) contribute to language learning. And one important new trend in theoretical work has tried to reconcile insights from both earlier theories. We will look briefly at this research in the next section.

The Parametric Approach

Until now, we have not tried to specify how universal grammar is supposed to help a child learn language. To do so, we need to introduce

the notion of *parameter*, common in recent theoretical work. A parameter is basically some linguistic value that can be assigned in one of several ways. It can be imagined, using Chomsky's analogy, as a kind of "switch" in the child's head, which has a small number of possible settings. To take just one example, languages tend to place verbs and prepositions in similar positions in their phrases: either consistently before, or after, their objects. In English, both prepositions like *to* and verbs like *want* precede their objects: *to the store, (I) want a new car*. In Japanese, just the reverse is true: both kinds of words come after the nouns they relate to. If this is seen as the result of some parametric setting, it will be predictable that verbs and prepositions behave in the same way. And from the child's point of view, the learning process is automatic: he simply sees the right data, sets the relevant parameter, and gets the major word-order facts of his language virtually free.

At this point, the reader may begin to see a possible connection between the notion of "markedness" discussed earlier, and the concept of universal grammar. If universal grammar refers to the total set of general principles shared by all natural languages, it might well provide a language-independent means for spelling out what is marked and what is not. One hopeful point of contact is just this notion of *parameter*.

By definition, a child must be born with any given parametric "switch" pointing somewhere, say to setting A. If the child happens to be learning type B language data instead of type A, the switch will automatically reset when he hears the crucial sentences and becomes (unconsciously) "convinced" that setting B is needed. A language requiring the basic "default" setting, of course (i.e., the setting the child is born with), could be argued to be the most natural one for a given parameter: the child has this setting available at birth, and need not take the trouble to "reset" it in the course of acquiring language. Although the use of parameters in L2 research is new, it is viewed as highly promising by some. Hence, it is worth taking a look at one example in detail.

One widely studied parameter determines *binding*, which, for now, we can define as a principle that tells a speaker how to interpret reflexive pronouns like *himself, herself*, and *themselves*. At one end is the English setting, which basically requires a reflexive pronoun to refer to the nearest subject noun phrase, as *Mary* in this sentence:

Joan said that Mary likes herself.

At the other extreme are Japanese and Korean, which would allow *herself* to refer to either *Mary* or *Joan*. No language goes farther than that option, allowing such an element to refer *outside* the sentence in which it occurs, say to someone just mentioned by another speaker.

For binding, the child is thought to begin with the English setting, and the switch simply automatically kicks into position for Japanese when the child hears Japanese sentences equivalent to the one that follows, which could not possibly make sense unless the reflexive pronoun

can mean the same as *Dad* (for simplicity, an English analog is given instead of the Japanese sentence):

Dad wants to know if Mom will shave himself.

To summarize, there are two ways that a child learner can "set" or acquire parametric values: first, he could simply keep the one he is born with: in this case, the English one. Or, he could go through the natural resetting process that occurs when his brain has taken in the crucial *triggering* data (in this case, the Japanese equivalent of the sentence above). In neither case does the child have to puzzle out the principle, even subconsciously. Nor does he have to memorize anything. These are a special set of linguistic features that simply come packaged into our genetic makeup as human beings.

Now, if all this is true, then it is possible that these switches play some important role in second-language learning as well. Suppose the L1 position for a switch has been set, and L2 data come along requiring a changed setting. This may result in problems, especially when the native language uses setting A, the original or initial unmarked setting. If, on the other hand, L1 has chosen the *more marked* setting, it might be relatively easy for a speaker to "go back" to the initial state. One line of research in fact suggests that the latter is a possibility. Ellen Broselow and Dan Finer (1985) used cartoonlike pictures to test Korean students of English on their interpretation of reflexives in various patterns. In one such picture a person thinks of two possible interpretations of the sentence, "Mr. Short expects Mr. Tall to paint himself (him)." Two images of the sentence appear in a bubble above the person's head. One image is Mr. Tall brushing paint across Mr. Short's stomach. The other is Mr. Tall brushing paint across his own stomach. As mentioned above, Korean is like Japanese, in that the "long-distance" option, assumed to be more marked, operates. Since reflexive interpretation is too unconscious and obscure a feature to have been consciously taught in language classes, one might expect these learners of English to transfer their Korean long-distance pattern. Interestingly enough, they did not. Korean speakers assumed neither the English, highly restricted, initial setting, nor the broad Korean one. They chose instead a setting somewhere in between, less restrictive than English but more so than Korean. Broselow and Finer interpreted this as a move *toward*, if not *to*, the initial unmarked setting.

This area is complex, difficult, and very new; we obviously cannot do it full justice given the scope of this article. However, it should be clear that the parametric status of a feature might help explain the possibility that it will transfer from L1 to L2. For instance, why do speakers seem to switch so easily from one major word order to another, as happens when English speakers learn Japanese? If word order results, as many believe, from the setting of some parameter, this new approach could ultimately offer the needed explanation.

Conscious versus Unconscious Learning

Both creative construction and the later parametric approach embody the expectation that first- and second-language acquisition share important properties. Yet the context in which the two take place is radically different. One has only to spend one period in a typical college foreign-language classroom to see that a language student's experience has little in common with the child's first linguistic encounters. This might well lead us to yet another answer to our vexing problem: adults do not learn languages well because they are not taught in the right way. The formal, classroom situation is ill-equipped to duplicate the supportive, playful mood of parent-child interaction at its best.

Is there some way to make second-language teaching as "natural" as possible? Above all, should we not avoid teaching grammar rules, concentrating, just as mothers do, on *what* is being said, not *how* to say it? At least one outspoken scholar, Stephen Krashen, responds with a clear "yes." Influenced by the Chomskian framework, Krashen makes a distinction between "learning" and "acquisition." For him, "learning" occurs when we consciously memorize grammar rules. It is basically like the activity that goes on when one learns geographical or historical facts. "Acquisition," in contrast, is the result of innate processes, and happens naturally when a child, unconsciously and without concerted effort, mysteriously absorbs the principles of her native tongue. For Krashen, "learning" provides a speaker with a *monitor*, or a set of formal, consciously available grammatical rules. But, he claims, the monitor is of very little use: since it works at a speed much slower than normal speech, it can at best be used in written forms like essays or letters. Some learners seem to be aware of this rather clumsy apparatus while speaking a second language: they are aware of their mistakes, they "hear" them. But they cannot correct them and maintain reasonable fluency. Consciously memorized grammatical rules, for Krashen, play virtually no role in producing correct sentences. Some adults tend to feel that grammatical rules help them, but, for Krashen's followers, catering to this feeling would be misguided. Real mastery of a second language has its basis in acquisition, not learning. And to promote acquisition, the teacher must simply provide "comprehensible input": that is, sentences a learner can understand. The learner herself will do the rest.

Suspicion of conscious grammar rules as a teaching tool goes back as far as language teaching itself: St. Augustine favored an educational policy that generally allowed pupils to discover principles on their own. Applied to language teaching, this emphasized using a language, rather than memorizing the rules of its grammar.[13] But by the Middle Ages, this

[13] Kelly (1969), p. 35.

commonsense notion had lost ground, and the accepted method was to teach the rules of classical Latin and Greek. Still, some teachers resisted. In the sixteenth century, Georgius Haloinus Cominius drew a firm reproach from his famous mentor Erasmus when he advocated the complete abandonment of grammar in teaching, saying "The authority of a grammarian is, in itself, worth nothing."[14] Erasmus himself was suspicious of depending too heavily on grammar rules alone; but he advocated a middle course between using the language and teaching about it.

Though controversial, the revolt against formal grammar again became quite popular in the Renaissance: one particularly vocal opponent called it a "monstrous absurdity" to "bid [the students] give an account why they speake Latine right, before they can in any wise speake properly."[15] Grammar was seen by many as a boring complication to the real task of teaching language. This trend toward "inductive" language teaching could only be reinforced in the next century with the very important work of the educator Comenius, and with the need to teach modern languages, for which adequate grammars were not available. A French tutor of Mary Tudor expressed his frustration at this last problem: "I have nat neverthelesse founde rules infalibles, because it is nat possible to finde any suche."[16]

Gradually, this inductive idea grew into a "naturalistic" approach to language teaching, which tried to teach a second language in essentially the way a child learns his native language: by imitation and practice. The early nineteenth-century educator Lemare, heavily influenced by Rousseau's ideas, espoused this approach: no mother ever explains a grammatical rule or assigns a vocabulary list, reasoned Lemare. So why should the language teacher do so? Attractive and modern as this early "naturalistic" approach seems, its proponents still assumed that imitation and repetition are the basic ingredients of successful language learning. In the modern Chomskian era, naturalistic teaching approaches are again gaining ground, but within a greatly changed framework.

Interestingly enough, some quite recent trends almost seem to go against current naturalistic methods, encouraging teachers to explain principles on the grounds that consciously learned information can be made automatic, or subconscious in the way that linguistic knowledge must be.[17] This time, however, the emphasis is on other aspects of the learning process, not on grammatical rules. Some believe that it is helpful to point out cognates [words that are alike or nearly alike] in L1 and L2. Others claim that teachers could train students to use one learning strategy rather than another, as suggested later in section 3. This is, of course,

[14] Kelly (1969), p. 36.
[15] Kelly (1969), p. 37.
[16] Kelly (1969), p. 39.
[17] See the comments in Rubin (1987), p. 16, and the sources cited there.

a very different type of "conscious" control over the language process, and one worth pursuing, though it is too new to report on in detail here.

SOCIAL FACTORS

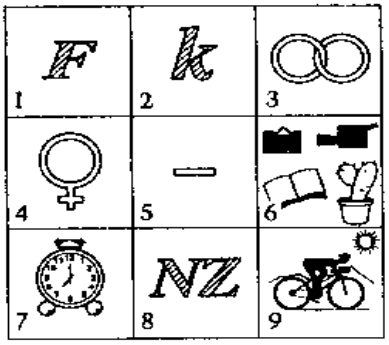
While looking so closely at the cognitive, biological, and pedagogical problems in L2 learning, we risk missing a crucial fact: in order to learn anything, you must *want* to learn. Children usually begin to talk in the nurturing warmth of parental care, and at a stage when their emotional needs are simple, if strong. Compare this with the situation an adult often faces. An adult who is learning among strangers, conscious of the fear of failure, embarrassed about making new and unfamiliar sounds, and suspicious about the unfamiliar customs and dress of a foreign culture may feel too threatened or uncomfortable to succeed. Thus, even if all other things were equal, emotional and social factors might often cause adults to learn language less perfectly than children. This is especially important in light of the fact that proper phrasing and sentence patterns do not in themselves make an effective speaker. The discussion that follows looks briefly at why this is so.

Communicative Competence

In 1972 Dell Hymes coined the term "communicative competence" to refer especially to those dimensions of language that are *beyond* formal grammar. Mastery of a language must ultimately be measured not by structures, but by one's ability to *use* those structures effectively in day-to-day situations: to get information, tease, tell jokes, persuade, suggest, or criticize. A recent, very strong trend in language teaching emphasizes this communicative competence as a central part of what must be called *proficiency* in a foreign language (see Figure 10.1). There are thousands of situations where a non-native speaker runs into trouble communicating effectively, but where grammar *per se* is irrelevant.

If you look carefully, you will see that two of the examples in this article's opening paragraph have nothing to do with rules: they are simply cases where a non-native speaker unknowingly used a phrase that happens to convey idiomatic meaning *(have a fit* and *if you think . . . you should see . . . !)* From the same source comes another sign with the same problem, this time from a Moscow hotel: "If this is your first visit to the U.S.S.R., you are welcome to it."

Almost every foreign-language learner will remember some embarrassing moment when she simply did not know the "right" thing to say, but where the problem was one of social patterning, not grammar. How does one greet a friend, begin a conversation, or get a stranger's attention in a new language? Should one make a request directly ("Please give me



1. first name
2. surname
3. marital status
4. children
5. pets
6. hobbies
7. pet hates
8. favorite country
9. Where would you like to be now?

FIGURE 10.1. Communicative Competence. A recent collection on classroom activities suggests the following game instead of traditional question-and-answer drills on a student's name and background. Each student draws a "mystery name tag" like the one shown here, encoding the personal information listed here. The cards are then put into a group. Each participant must draw one tag and find its owner by asking questions of the others present (from Klippel 1987, p. 15).

a brownie"), or chance an indirect hint ("Those brownies look great!"). What about accepting or refusing an offer? The English phrase *thank you* implies acceptance of something offered, while its French translation, *merci*, means just the opposite ("No, thank you"). In every linguistic situation there lurks the possibility of being misunderstood because of the social conventions a culture attaches to language use. These conventions are often quite unconscious. Have you ever stopped to think, for instance, that the sentence "We *must* have lunch together sometime soon" rarely leads to an actual lunch date? Or that "I'm home most evenings, just come anytime" is *not* to be automatically interpreted as an invitation in American culture?

The pitfalls of effective communication in L2 range from obvious to almost imperceptible. Before reading on, look at the two English questions below. On the surface, of course, they mean the same thing. But would you use them in the same situations?

Are you going to Baltimore next week?

You're going to Baltimore next week, are you?

Most speakers agree that the second question expects a positive answer, while the first is neutral. And, a speaker using the second form is subtly claiming a closer relationship with the hearer than the first, by asserting knowledge of the hearer's plans, and by the use of the familiar "tag question" *are you?* It is hard to imagine how a non-native speaker could "pick up" such nuances without extensive daily contact with English-speaking culture.

Even more difficult to become aware of are things we communicate

by the rate or pitch of our voice. A recent study found that advanced Finnish learners of English speak more slowly than less advanced Swedish-speaking learners.[18] Does this mean that Finnish speakers are sluggish language learners? It certainly means that they risk being perceived as slow, unfriendly, or inarticulate by native English speakers. In fact, these speakers seem to be simply transferring the average *rate* of speech from their native languages.

This is a common phenomenon: German learners of English, and French learners of German, have been shown to follow the pause pattern of their native language when speaking their second language. This is neither surprising, nor is it an isolated, unimportant, fact. Perhaps the most "sticky" kinds of interference from L1 are those we never think about: intonation, pauses, hesitations, etc. Many an English-speaking learner of French hesitates by using the standard English *um* instead of repeating a word or producing the French filler-sound *euuu*, thus marking himself clearly as a non-native speaker. I vividly recall the baffled reaction of a native French speaker during an international telephone conversation several years ago: I had been speaking quite fluent French for some ten minutes, but inadvertently using Dutch "fillers" like *ja, ja*, instead of the expected French pause-noises cited above.

Second-language speakers are constantly faced with the danger of not "fitting in" socially: a woman from India working in a cafeteria is baffled to hear that she has been labeled "rude" by her customers. A friend tells you that she cannot deal with her Hispanic classmates, because they seem so obsequious. In each case, a perfectly fluent, but non-native, speaker of English has somehow given the wrong impression. Many Indian speakers of English tend to use higher pitches and faster rates of speech than Americans: this is often mistaken for a haranguing or irritable tone. Spanish speakers tend to apologize nearly twice as often as Americans in their own language, and in situations where an apology seems unnecessary to an English speaker. If they unconsciously carry this habit over into English, misconceptions may occur, and they may seem dishonest or obsequious.

Advocates of communicative competence as a basis for language testing sometimes claim that it is the *only* goal of second-language teaching, and hence that we can dispense with grammar altogether in teaching language. Perhaps the more common position, and the one closest to Hymes's original idea, is expressed by Jack Richards, when he defines grammar as "necessary, but not sufficient" for language proficiency.[19]

Teacher and Learner Strategies

The growing concern with communicative competence, coupled with the emphasis on creativity in generative grammar, has had a profound

[18] Cited in Faerch and Kasper (1983), p. 219.
[19] Richards (1985), p. 76.

impact on language teaching. Pedagogical experts are increasingly advocating the abandonment of the old-style, repetitious drill:

PATTERN: I'm holding a book.
CUE: Magazine
RESPONSE: I'm holding a magazine.
CUE: Banana
RESPONSE: I'm holding a banana.[20]

Disappearing, too, is the stylized question-answer format: "Where did you go last night?" "Last night I went to my home." Native speakers in real situations simply don't talk like that, the argument goes. Why should we teach the unfortunate learner to do so? Replacing traditional classroom dialogue is a wide range of activities from games to playacting. A recent collection of teaching activities, for example, suggests the following game, called "Lie Detector," for a small group of students: the group asks a series of questions of one student, who is instructed to lie on just one answer. Each student then tries to guess which answer was untrue, giving reasons for their suppositions.[21] For the beginner, there are guessing games centered on names; for the more advanced student, role-playing in tricky social situations ("You just remembered today is your best friend's birthday, but you have only one dollar to spend. What do you do?").

Studying the Learner

Again spurred by concern with communication in the broad sense, many educators are looking more closely at learner characteristics as well as teaching methods. What kind of person makes the best language learner? One goal has been to correlate character traits with successful language learning, and a commonsense profile has emerged of a good learner: willing to risk seeming foolish, positively disposed toward the language and identified with its speakers, and a user of multiple *strategies* that help the learner fully master linguistic input, rather that simply respond to it passively.

One might wonder whether this research, too, has some pedagogical implications. It may be difficult to change deep personality traits, like the extent to which a learner feels willing to appear foolish. But the strategies, or methods, a student uses may be relatively susceptible to molding by a good teacher. With this in mind, close analysis of learner behavior is being done, in the hope of better understanding the strategies and behaviors of language learners.

For instance, what does a person do when she doesn't know a word?

[20] Rivers (1983), p. 45.
[21] Klippel (1987), p. 35.

Elaine Tarone et al. (1983) identify a number of common behavior patterns. One important alternative is avoidance: if you don't know the word "election," don't discuss the presidential race; if you don't know how to phrase counterfactual conditionals, don't bother telling your native-speaking friend that you "would have gone with him if you could." If you can't pronounce, spell, or conjugate one French word, use another. Blum-Kulka et al. (1983) in Faerch and Kasper (1983) suggest that avoidance is a common phenomenon, extending farther than one might at first think: for instance, they claim that learners tend to avoid words for which no precise equivalent exists in their mother tongue. They cite Hebrew *silbec*, "to insert in a suitable place," which learners avoid in favor of *hixnis*, "insert," or *sim*, "place." Extensive avoidance behavior on the part of a learner on the level of sounds, words, and constructions probably exerts an important effect on the outcome of language teaching, and is thus a matter for serious concern.

Other strategies range from borrowing an L1 word or phrase, paraphrasing (saying "girls and boys" for "children"), or Tarone's (1983) more radical "message abandonment" (the speaker simply stops in midstream, leaving her sentence unfinished). These need little elaboration; readers who have learned a foreign language will invariably recall a distressing experience with at least one of them. It is too early to say how teaching might be improved by a deeper understanding of such strategies, but it is hoped that their study will yield useful suggestions.

A closely related set of strategies, of more immediate practical interest to the teacher, involves "negotiation of meaning": the methods a non-native speaker manages to build understandings and get his message across in the process of conversing. Strategies range here from hesitation and puzzled facial expressions to direct appeal to the native speaker (hinting for the correct word, or asking, "how do you say . . . ?").

Some believe that teachers could maximize their students' effectiveness as communicators if they could see clearly which strategies seem to work and selectively encourage them, even by overtly training students to use one strategy in favor of another. Abraham and Vann (1987), in a comparative case study of two learners, claim that the active use of a wide variety of learning strategies seems to have characterized the more effective learner. The following exchange shows their successful learner Gerardo persistently negotiating to grasp the meaning of a word; the investigator has just asked if Gerardo ever feels helpless in trying to learn English:

> GERARDO: I think I don't understand exactly means of the "helpless."
> INTERVIEWER: "Helpless" means . . .
> GERARDO: No help.
> INTERVIEWER: No help, yeah. You feel like you can't do anything about it.
> GERARDO: All right, yeah. [pause] That is meaning, that I don't need help for example?

INTERVIEWER: No [gives more explanation].
GERARDO: I know "help." I know "less." L-E-S-S. Helpless. Helpless.
INTERVIEWER: Means nobody can help you. You feel like nobody can help you. There is nothing I can do to help you.
GERARDO: Yeah, Yeah.[22]

Behind the authors' discussion lies the question of whether other learners can be persuaded to adopt Gerardo's persistent tactics and use them successfully.

To summarize at this point, the adult faces yet another complex challenge beyond the existence of L1, and beyond biological or cognitive problems: how to master the extensive set of social conventions that will allow him to use the foreign language effectively, and often in a context where direct practice of those conventions is difficult.

THE BILINGUAL MIND

Given all the above, it comes as no surprise that people who begin studying a foreign language after puberty seldom achieve what has been called "balanced bilingualism," or equal fluency in two languages. Typically, even if they seem fluent, such speakers have a dominant, or stronger, language: they make much stronger grammaticality judgments, or fine linguistic distinctions, in their dominant language. They may read at a rate only about 60% or 70% as fast in their weaker language, and some recent research suggests that they may access words rather less efficiently in their nondominant language.[23] These dominance effects have not been studied in detail for children, but we can safely expect that they should be weaker the earlier language learning begins.

Until now, we have said nothing about second-language learning in childhood. But clearly, the maze of problems to which we have devoted this article emerges for the most part only in late childhood or at puberty. Of course, a young child will have a first language, and thus the potential of transfer; but the learning task should be, on every other count, much easier in childhood than later. The lesson to be drawn is clear: if second-language learning is desirable, parents and educators should provide every opportunity for children to learn language in early childhood. But one final worry remains: is second-language learning desirable in the first place?

Intelligence and the Second Language

Psychologists, parents, and educators have traditionally worried about the effect of bilingualism on general mental capacity. Does a person

[22] Abraham and Vann (1987), pp. 89–90.
[23] Segalowitz (1987).

who must keep track of knowledge of two languages necessarily give up mental space destined for some other kind of knowledge? Until quite recently, the generally accepted answer seemed to be "yes." Kenji Hakuta cites a popular psychology textbook from the fifties that associates words like "handicapped" and "retardation" with bilingualism.[24] Indeed, up until a decade after that text appeared, studies seemed invariably to conclude that bilingual children were at a cognitive disadvantage — and hence, bilingualism must be at fault. Of course, this causal link should have seemed suspect: the children being studied were from immigrant families who suffered from social and financial problems. Hence, any learning difficulties they may have had could have been caused by a very complex constellation of factors.

In the sixties the Canadian psychologist Wallace Lambert conducted a series of studies designed to test bilingual cognitive skills. Lambert expected to find learning disadvantages in bilingual children: his goal was not to question this but to yield some insight into the cognitive abilities of bilingual children, to learn how schools could best help them overcome their "handicap." The results came as a great surprise: in test after test, bilingual children came out, not behind or even equal to, but *ahead of* monolingual children on a wide variety of measures, both verbal and nonverbal, including both math and English (their *first* language). Since then, Lambert's positive findings have been replicated in societies as far apart as South Africa, Singapore, and Israel. To cite one result, a controlled study of French-English bilingualism in Montreal showed bilingual eighth graders scored higher on "divergent thinking," in a task asking them, for instance, how many uses they could think of for a paper clip.[25]

How did Lambert manage to turn the tide of scholarly opinion on this issue? In retrospect, the answer is easy. Without consciously trying to do so, he had identified a very different type of bilingual: Canadian middle-class children, who suffered from none of the handicaps of earlier subject populations. Thus, his results were bound to paint a more optimistic picture of the advantages of bilingualism.

In general, it is now believed that bilingual children are two or three years ahead of their monolingual peers in developing conscious linguistic sophistication. For instance, asked to play a game in which the word *moon* must be used for the word *sun* and vice versa, bilinguals perform significantly better than monolinguals. Similar advantages have been claimed for bilinguals in performing spatial tasks, and tasks which involve the separation of linguistic and nonlinguistic thinking.[26]

Thus, provided ongoing research continues to support these results,

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[24] Hakuta (1986), p. 14.

[25] Lambert (1977), p. 17.

[26] For a recent summary, see Cummins (1987).

parents have little cause for worry based on popular fears that bilingual children are somehow deprived. There is no evidence that learning a second language hinders a child's learning in other areas, and one can safely pursue the optimistic hope that it will do just the opposite, at least in some domains.

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FOR DISCUSSION AND REVIEW

1. What does Heny describe as "descriptivist?" Of what significance is it to the study of language acquisition?
2. Briefly describe the phenomena Heny refers to as "native language interference" in the acquisition of second languages.
3. What aspects of a learned L1 may be "transferred" to a learner's L2

during the process of acquiring a second language? Give examples in your discussion.

4. What characterizes "markedness"? Is this helpful to the study of second-language acquisition? Why is this theory not wholly accepted?
5. What does Chomsky mean by a language's fundamental property of creativity? How does this separate human language from other forms of communication?
6. What is universal grammar or UG? What is the "critical period"? According to the supporters of this belief, why is learning a second language more difficult after this critical period? What theories have been proposed to conflict with Chomsky's views? With which theory do you agree? Why?
7. What is Felix's "competition model"?
8. What is the creative construction theory? What observations fostered its development?
9. How does Stephen Krushen distinguish between "learning" and "acquisition"? What do each provide for language learners?
10. What is communicative competence? How might this notion create social expectations for language speakers? How can these expectations prevent the acceptance of second-language speakers in society?
11. What connections have scientists of the past made between bilingualism and intelligence? How have scientists tested this theory? What have been the results of the various studies done? Why must we keep in mind the context in which these studies were conducted?