The Development of Language and Language Researchers: *Essays in Honor of Roger Brown*

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14 Why Bilinguals?

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As a Sophomore at Harvard College in the fall of 1972, I was certain of my goal in life, but uncertain as to how to achieve it. I had just returned to school after a year off, which I spent performing odd jobs in Japan. Mostly, I spent the year taking advantage of my bilingual skills in English and Japanese. The goal that I envisioned for myself on completion of my Bachelor's degree was to go back to Japan and to go into the English-teaching business, of the Berlitz type. It was (and still is) a lucrative business in Japan. Having grown up in an entrepreneurial family environment, the conditions appeared right, both in terms of market demands and in terms of my skills and dispositions.

It was less clear to me how to build the necessary credentials to start a successful English-teaching enterprise in Japan. I tossed the idea around with my undergraduate advisor, John Marquand, who immediately convinced me that I should begin by unbinding ties with my previously declared major in government. Through mental routes that I cannot reconstruct any more, I wound up with the decision that the best "sales route" for an English-teaching program in Japan would be to claim that it is based on research on how children learn their native language. John Marquand suggested that I look into linguistics and into psychology and social relations as possible majors. He mentioned that a professor named Roger Brown worked in language. I also distinctly recall him trying to remember the name of a professor at MIT, who wrote books about the Vietnam war but who also worked on language. I felt that through the combined study of psychology and linguistics I would find out how children learned language, and that I would be able to dovetail this knowledge into my business career in Japan.

The first course I took in the area of language development was taught by

Donald Olivier. There I was exposed to, among other things, a preprint of Roger Brown's *A First Language*. As an impressionable undergraduate, the feeling of privilege in getting a sneak preview to a yet-to-be-published book (by a Harvard professor) was overwhelming. I read every word carefully, and, as I later found out is true of almost everything that Roger has written, I felt that I had learned not just the information contents of the study described, but a style of thinking and writing as well. In my mind, I reenacted (many times over) the course of the study and the analyses that he and his students had performed.

An opportunity to apply what I had learned from the preprint arrived shortly. For my course project for Don Olivier, I collected spontaneous speech samples from my very own subject. My subject, like Adam, Eve, and Sarah, had the same task ahead of her, namely to learn English. However, unlike Roger's prototypes, my subject (named Uguisu) was 5 years old and was a native speaker of Japanese (the daughter of a visiting scholar family from Japan). I wrote a brief paper for the course, describing the first few samples of her English.

With the school year coming to a close and with Uguisu's English rapidly progressing, I approached Don Olivier for suggestions about how to continue collecting data from my second-language learner. As a student with no money to buy tapes, I wondered whether the department had resources to lend me some tapes. To my amazement, he offered to introduce me to Roger Brown, who might be able to help. I was a bit intimidated by the suggestion because he only existed in my mind as a preprint, which was a comfortable distance. A few days later I received a phone call from a man identifying himself as Roger Brown. He sounded like what I had expected from the preprint. I made an appointment to see him.

On the day of the appointment, I was nervous. His secretary, the unforgettable (late) Esther Sorocka, must have sensed this in me, and she managed to calm me down. By the time I was introduced to Roger Brown, I was ready with my demands. I wanted some cassette tapes and possibly the use of a good quality tape recorder. To my surprise one of the first things he offered was to pay me as a research assistant to continue collecting the data. I had not expected this as within the realm of possibilities. I was stunned but recovered in time to accept the kind offer (but not sufficiently recovered to demand my tapes). After the appointment, I immediately proceeded to resign from my two part-time jobs as a gardener and as a restaurant bus boy. This was the launching of my career in developmental psycholinguistic research. The heat of the excitement of research masked all vestiges of my original goal, of starting an English school in Japan.

The remainder of my undergraduate career was spent following Uguisu and writing up the findings under Roger's guidance (in addition to the support provided by my other mentor, Jill de Villiers, who was then a graduate student). I was tutored through his legendary longhand comments on my papers, comments that addressed not just content but issues of expository style as well. I remember

particularly well his advice on how to add dramatic flair, even to the most bland results I obtained.

For graduate school I chose the path of least resistance and remained in the lively, nurturant, safe environment created by Roger at Harvard. I collaborated on some work on first-language acquisition of English with Jill de Villiers and Helen Tager-Flusberg. Although I enjoyed every minute of my work with Jill and Helen, I must admit that working on English L1 acquisition left me unfulfilled in the sense that I was not realizing the full potential of my knowledge of two languages. For example, we were struggling with some hypotheses about English relative clauses (de Villiers, Tager-Flusberg, Hakuta, & Cohen, 1979; Sheldon, 1974), but it was apparent that the competing hypotheses were confounded in English. It occurred to me that Japanese would nicely disentangle such problems. Much of my original research during graduate school thus took me down the road of Japanese L1 acquisition (Hakuta, 1981, 1982a), an effort that Roger categorically applauded. This move did have its drawbacks, such as the fact that I found myself spending a lot of time in graduate school explaining the structure of Japanese to my colleagues and teachers. I succeeded in putting practically the entire faculty to sleep during my dissertation oral examinations. In the United States, there is a certain advantage to the line, "Take any language, say, English. . . ."

For me personally, the legacy of Roger Brown is best captured by his infinitely expansive mind. From his prototypes, Adam, Eve, and Sarah, I created variants: second-language learners and learners of Japanese. He welcomed both of these with open arms (in a way that I suspect he would not have encouraged the cloning of Adam, Eve, and Sarah). As his student, I do not feel constrained to stay within the boundaries of a methodology or area of research in order to obtain his approval. Roger's own research and writings reflect this freedom. To paraphrase, everything from the albino mouse to the American soldier is fair game, as long as it is interesting and informative.

My major change in research emphasis since obtaining my doctorate and taking a job at Yale might be summarized in the following way. The content has shifted, from a specific behavior (language) varying over subjects, to a specific class of subjects (bilinguals) varying over a range of behaviors. I have become interested in creating an integrated picture of bilinguals that is not limited to their linguistic capabilities. How is bilingualism used as a label for political status? What is the cognitive state of a bilingual? What are the social conditions that are overlayed with bilingualism? I am trying to make a case for the problem of bilingualism as an agenda for psychological research; where better a place than in a volume that celebrates the career of a renaissance psychologist?

The importance of understanding the bilingual for society (I hereafter refer both to individuals in the process of becoming bilingual and to those who have achieved some degree of stability in their bilingualism collectively as "bilingual"; "sec-

ond-language learner" is used for the first group where the distinction is important) is apparent from some simple demographic figures. One estimate in the United States finds that there were 1,723,000 children between the ages of 5 and 14 enrolled in various instructional programs who were classified as having "Limited English Proficiency" in 1978 (O'Malley, 1978). If you add to this number the children who are proficient in English but who nevertheless speak another language at home, the total grows to 3,097,000. Long-term forecasts suggest substantial increases in these numbers in the future (Oxford et al., 1980). Children aside, the number of adult immigrants to the United States is expected to increase. All these men, women, and children can be considered at risk of unfair treatment by a generally monolingual American society through, for example, inadequate educational or employment opportunities.

Bilingualism is hardly a recent phenomenon in the United States (Kloss, 1977), but it has become a prominent issue in the past 20 years through the combined emergence of ethnic pride and of growing concern that children who did not speak English at home were lagging behind in school. Various remedies to the latter problem included "bilingual education" (a misnomer in the sense that almost all such programs in the United States aim not at maintaining the child's native language, but rather at assisting in the transition to instruction conducted solely in English), about which there are more myths and beliefs than reliable facts. We lack such basic information as how children actually learn English in these programs, what determines whether they maintain or lose their first language, and how effective the programs actually are. The extreme tentativeness of our knowledge is revealed in the vulnerability of bilingual education policy to arguments by critics whose primary merit appears to be a gift for rhetoric (Epstein, 1977; Rodriguez, 1982). I say this not as an advocate of bilingual education (which I am), but rather as a research psychologist frustrated by the lack of a knowledge base from which to address the issues that the debate over bilingualism raises.

Bilingualism as an issue is of course not restricted to the United States. The "guestworker" situation in Europe has reached explosive proportions. There are currently an estimated 14 to 15 million such immigrants in Western Europe (Rist, 1979). In West Germany and France, more than 10% of the labor force consists of foreign workers, mostly from countries in the Mediterranean region. Contrary to popular belief, primarily for economic reasons these workers have little prospect of returning to their native country. They often bring their families with them, and the educational problems of their children are a major concern. There are now 5 million immigrant children in the industrialized Western European countries (Skutnabb-Kangas, 1978). An estimate for UNESCO by Skutnabb-Kangas (1978) suggests that "a third of the young European population in the year 2000 is going to have immigrant background" (p. 228).

To these we must add the mass emigrations produced by war and political upheaval in Southeast Asia and the widely established norms of societal multilingualism in much of the world. In much of East Africa, for example, Swahili is the common language that permits communication and some degree of political unity among speakers of a large number of local languages, whereas the colonial language (English) is still used for many official government purposes, such as high court proceedings (Harries, 1976; O'Barr & O'Barr, 1976, pp. 31–136; Polome & Hill, 1980).

The facts just cited serve two purposes. First, they show concretely that bilingualism is a significant social issue. Second, they show that the phenomenon of bilingualism engages a substantial proportion of the population of humans to whom we as psychologists should address our theory and research.

Rather than belabor the question of social relevance, I make the case that the very process of conducting research on bilingualism can shed light on basic issues in psychology. Moreover, this process can lead researchers to an appreciation of the breadth and variety of human behavior, thus helping remedy the prevailing specialization and narrowness in psychology.

The first section that follows provides a brief historical account of the status of research with bilingual subjects in American psychology. In the second section, I focus on trends in developmental psycholinguistics and speculate on the theoretical status of second-language learners in that context. In the third section, evidence is presented to suggest that second-language acquisition in both adults and children is strikingly similar to first-language acquisition. In the fourth section, I suggest some ways in which various specialties might benefit from the inclusion of bilingual subjects in their research. I conclude by arguing that research focused on bilingualism can lead to a more integrated social science.

THE POLITICAL STATUS OF THE BILINGUAL SUBJECT

Tracy Kendler (1950) discusses a statute in Hawaii, passed in 1943, prohibiting the teaching of "foreign" languages (i.e., languages other than English) to children under the age of 10. The statute was based on the belief that "the study and persistent use of foreign languages by children of average intelligence in their early . . . years definitely detract from their ability to understand and assimilate their normal studies in the English language [and] may and do, in many cases, cause serious emotional disturbances, conflicts and maladjustments" (p. 505).

Indeed, many American studies in the early 1900s did obtain results that, on their face, suggested that bilingualism had evil consequences. Typically, such studies compared a group of "bilingual" children with a group of "monolingual" children on some psychometric tests of intelligence. The failure of these studies to control for such obvious variables as socioeconomic level and the true

"bilinguality" of the children (one study used the child's last name as an indicator of bilingualism!) has made these results difficult to interpret (see Diaz, 1983, for a thorough review). Furthermore, most of the tests were administered in English and were designed for testing monolingual, English-speaking Americans, whereas most of the "bilingual" subjects were children of recent immigrants. Although most current researchers consider these early studies unusable, the findings were consonant enough with prevailing beliefs for their implications to be synthesized and discussed in other social sciences, such as sociology (Shibutani & Kwan, 1965, p. 529).

As these studies suggest, for American psychologists bilingualism has been an issue only in relation to lower socioeconomic groups with educational problems, and so the study of bilingualism was (and by and large still is) associated with remedial efforts. By contrast, the Canadian approach to the study of bilingual children is striking and instructive. Whereas in the United States the problem was to educate minority-language children in the majority language (English), the Canadian problem was to help children of the majority culture (English) achieve functional skills in an increasingly powerful minority language (French). From the conflict perspective in sociology, one can interpret the Canadian situation as an attempt by the majority group to maintain its status in a politically explosive situation by learning the language of the minority (Bratt-Paulston, 1980).

The Canadian work in bilingual education is relatively well known (although frequently misinterpreted) in this country. The Canadian findings, unlike their American analogues, paint a bright and optimistic picture of bilingualism, and in general these findings are supported by recent research conducted with higher scientific standards than the early American efforts (Lambert & Tucker, 1972). One study (Peal & Lambert, 1962) concluded that bilingualism did not interfere with intellectual development but, to the contrary, seemed to be positively related to a general "cognitive flexibility," reflected in a variety of verbal and nonverbal tests that require mental manipulation of a stimulus field. Study of bilingualism has been a respectable and theoretically profitable enterprise in Canadian psychological circles.

Quite frequently, I hear comments like the following: "The Canadian researchers have taken a strong interest in bilingualism because they are faced with the problem." True, Canada has an official policy of bilingualism, but that alone does not explain the research interest. Rather, most researchers in both the United States and Canada are of middle- and upper class origin, and Canadian researchers are tuned in to bilingualism, in my opinion, because it is a problem for their *own* social class. Canadian researchers are confronted with the problem even in their own homes, as their children attempt to struggle with bilingualism (see Lambert, 1967, p. 93, for a point he makes using his daughter as an example). For American researchers, bilingualism is the problem of a social class for whom they have little understanding.

THE THEORETICAL STATUS OF THE BILINGUAL

Social biases aside, there were other confounding reasons why the bilingual individual was of little interest to the American psychologist. Here, I focus on the issue of language acquisition, a research topic to which second-language (L2) acquisition and bilingualism are very germane. There were two reasons that in turn functioned to dispel interest in looking at the second-language learner to understand the human capacity for language.

The standard history of interest in language acquisition in children goes something like this. Up through Chomsky's (1957) revolution in linguistics, studies of language development in children were of two kinds: studies that were intent on establishing age-norms for various "countable" aspects of language, such as vocabulary; and studies that were somewhat eclectic diaries of children's language development, mostly of the researcher's own child (including one by Charles Darwin published in 1877). American psychology under the heavy influence of behaviorism considered verbal behavior no different than other behaviors, one that could be measured and accounted for by familiar variables like response strength and contiguity.

Because the learning of the first language (L1) consisted of forming a set of "habits," the second-language learner had to overcome the first-language habits. Where the two languages differed (grammatically, phonologically, and so forth), difficulties would be encountered, and this was seen to be the major obstacle for the second-language learner. In this sense, L2 learning was very unlike L1 learning. Although L2 learning would be worthwhile studying in its own right for pedagogical purposes, there was no reason why it should yield insights into the nature of L1 learning.

When Chomsky convincingly rejected the simplistic view of language as something like a Markovian process, claiming that it was innate in human beings (a "mental organ"), things changed. The "habit" reason for excluding L2 learners no longer being tenable, biology came into the picture. Most notably, it appeared in the form of Eric Lenneberg's synthesis (1967), and the biological analogy was adopted into some descriptions of children's language. Brown and Bellugi-Klima (1964) wrote: "the very intricate simultaneous differentiation and integration that constitutes the evolution of the noun phrase (in children) is more reminiscent of the biological development of an embryo than it is of the acquisition of a conditional reflex" (p. 150). If language acquisition is considered a biological process bounded by maturational factors (the upper bound being at puberty), the implication is that L2 acquisition would involve a different process. Lenneberg claimed, for example, that a second language is learned by resorting to the language skills acquired in childhood (p. 176).

For the social reasons outlined in the first section of this chapter and the theoretical considerations (the habit account and the maturational account) mentioned here, the L2 learner elicited little interest among psychologists. Most data

on L2 learning come from research conducted by applied linguists interested in teaching, but their findings suggest that psycholinguists would do well to study the L2 learner, perhaps with improvements in research methodology.

Is the Second-Language Learner So Different?

Roger Brown (1973a) proposed that the errors made by adult L2 learners be compared with those made by child L1 learners. He did so while suggesting that second-language acquisition among adults might be subject to more traditional learning processes than the seemingly "automatic" acquisition of a first language by children.

The answers to his question already existed, but not in a literature traditionally read by psychologists. An active subfield of applied linguistics is "error analysis," in which the systematic deviations from target language norms observed in the learner are classified by their hypothesized source (Corder, 1967, 1971). One robust finding from this area, which spans errors made by adults as well as children, and in both formal and informal learning environments, is that the kinds of errors made by L2 learners are strikingly similar to those reported for L1 children. The most common errors are those of simplification, such as omission of noun and verb inflections, and overregularization, e.g., using the regular past-tense ending in English for irregular verbs (Dulay & Burt, 1973, 1974; Duskova, 1969; Politzer & Ramirez, 1973).

The discovery that the overwhelming majority of errors are shared by L1 and L2 learners led to the abandonment of an almost axiomatic belief of applied linguists, stated by Charles Ferguson, that "one of the major problems in the learning of a second language is the interference caused by the structural differences between the native language of the learner and the second language" (Preface to Stockwell, Bowen, & Martin, 1965; p. v), an approach called *contrastive analysis*. Errors of transfer from the native language, whereas extremely interesting in their own right, turned out to be quite infrequent. Rather, regardless of one's native language, L2 acquisition seemed to proceed in its own systematic way.

This conclusion was supported both by studies pointing to similarities in error types and by studies that compared the overall patterns of development, such as specific structures that were analyzed in detail. In addition, even the dissimilarities did not appear to derive from negative transfer from the native language. For example, a number of studies now exist that look at the "order of acquisition" of grammatical morphemes, generally following the procedures set by Brown (1973b) for L1 learners. The general conclusion of these studies is that the order for L2 learners is different from that of L1 learners, but that it is the same for L2 learners of different native-language backgrounds. In addition, the same order is observed for both child and adult L2 learners. This matrix of

findings suggests that, whereas L2 acquisition may not always recapitulate the exact sequence of L1 acquisition, the process in large part excludes interference from the native language.

To assert the similarities between L1 and L2 acquisition is not to claim they are identical. Nor do I mean to imply that there is no transfer from the native language. Transfer errors, when found, are extremely interesting and useful for theory building (Hakuta & Cancino, 1977). So are some apparent differences in L1 and L2 learners, such as the fact that L2 learners in their initial stages of learning use a large number of "prefabricated" or "formulaic" utterances that have no internal structure but are used in social interaction (Hakuta, 1974; Wong-Fillmore, 1979). A simple example of this is a tourist's memorizing a sentence from a phrase book ("Can you tell me where the station is?") without understanding what the individual words mean. These prefabrications are also used by L1 learners (Clark, 1974), but less extensively than by L2 learners. This difference suggests that there are social-context differences in the two processes, which may prove to be important. Nevertheless, the end products are the same. Both sets of learners must crack the linguistic code of their target language (Macnamara, 1976).

Lenneberg's (1967) somewhat offhand remark, that "automatic acquisition from mere exposure to a given language seems to disappear (after puberty)" (p. 176) must be rejected. At present, the evidence is overwhelming that there are no *categorical* changes in the capacity for L2 learning at puberty, which would be predicted by a maturational argument. Rather, although there appears to be a gradual decline in ultimate attainment with increasing age, the decline appears to be linear (Oyama, 1976, 1978; Patkowski, 1980). In addition, there is some evidence indicating that older children and adults learn a second language at a faster rate, with the possible exception of accent, than younger children (Snow & Hoefnagel-Hohle, 1978; Krashen, Long, & Scarcella, 1979), although the evidence is inevitably confounded with age-related changes in test-taking ability (see Hakuta, 1983). Also, the critical-period hypothesis leaves unexplained the similarities, such as in the kinds of errors made, that are in fact found between prepubescent and postpubescent second-language learners.

Taken together, recent findings suggest that there are many parallels between L1 and L2 acquisition, and that the best working hypothesis is that the two processes are similar in most respects, a view espoused by a number of researchers (Dulay & Burt, 1974; Ervin-Tripp, 1974; Macnamara, 1976). This is a remarkable conclusion if one believes (as most people do) that the cognitive systems of children and adults are different. It is not as surprising if one believes that language acquisition is relatively autonomous from the general conceptual system. In any event, the study of the second-language learner will highlight important issues in developmental psycholinguistics.

In the remainder of this chapter, I discuss some implications that including the L2 learner in the pool of legitimate subjects for psychological research will have

for various domains of the general discipline. These suggestions are intended only to open various lines of inquiry, not to exhaust them.

DEVELOPMENTAL PSYCHOLOGY

A major endeavor of developmental psychology is to arrive at age-independent descriptions of change in particular domains of mind and behavior; that is, one hopes to characterize development not in terms of a particular child's age, but rather in terms of the kinds of changes in different processes that take place over time. Piaget's description of the development of symbolic activities into logicomathematical structures is a good example.

One problem in achieving such descriptions without regard to age is that, in the developing child, many of the relevant variables are correlated with age. There are age-related changes in memory, perception, conceptual structure, social cognition, and language, to mention but a few. When it comes time for explanation, it is easy to attribute the observed changes in a particular domain to any of these variables. I have in mind such controversies as the debate between Chomskyan and Piagetian views on the nature of the relationship between language and general cognitive development (Piatelli-Palmarini, 1980). Within developmental psycholinguistics, this controversy is reflected in the numerous attempts in the 1970s to explain away language acquisition on the basis of cognitive development (Beilin, 1976; Cromer, 1974; Macnamara, 1972; Slobin, 1973).

An advantage of looking at second-language learners is that one can look at language acquisition apart from cognitive development. If we find in the cognitively mature L2 learner the same kinds of things we find in L1 learners, it becomes difficult to attribute the findings to cognitive development alone. At the same time, we will probably find dissimilarities in the L2 data that support the cognitive development hypothesis. As examples of the first possibility, there is evidence suggesting that L2 learners process passives (Ervin-Tripp, 1974), interrogatives (Ravem, 1968), relative clauses (Gass & Ard, 1980), and complex complementizer structures (d'Anglejan & Tucker, 1975) in much the same way as L1 children. In Ervin-Tripp's study, subjects were English-speaking children learning French in France. Ravem's was a case study of his 5-year-old Norwegian-speaking son learning English. Gass and Ard's study involved adults of various native-language backgrounds enrolled in English-language courses at the University of Michigan. D'Anglejan and Tucker looked at Francophone military personnel attending an English language course at an army base. In my opinion, these are widely different groups from which a consistent pattern of results has emerged.

The second possibility, that we can attribute many L1 findings to cognitive development, is illustrated by Lightbown's (1977) analysis of the semantic relations expressed in the early stages of L2 acquisition in children. She found that they were not limited to the kinds of relations reported in L1 children (outlined by Bloom, 1970, and summarized in Brown, 1973b, including meanings such as agent–action, attribute–entity, and possessor–possessed), which suggests that L1 children are limited by their cognitive repertoire. In addition, there are good indications that the emergence of sentence coordination (propositions joined by conjunctions such as *and, because,* and *if*) in L1 children is constrained by conceptual or processing-capacity limitations (Bloom, Lahey, Hood, Lifter, & Fiess, 1980): Such structures appear in the earliest stages of L2 acquisition (Hakuta, 1982b).

The number of studies is still quite limited (see Hatch, 1978, for a collection of major studies), but they suffice to indicate that studying the L2 learner will help us separate the respective roles of cognitive developmental factors and linguistically unique factors in the acquisition of language.

A stirring of interest in bilingualism might also enliven some new areas in the emerging study of developmental psychology from the life-span perspective. Carol Ryff (personal communication) points out that many of the older subjects she has interviewed in her own studies are bilingual. Because of the successive waves of immigration to the United States, the same would probably be true of most samples of elderly Americans, yet Ryff notes that bilingualism is a term unfamiliar to life-span psychologists. Because changes in the linguistic circumstances of an individual are related in many cases to other major life changes, some problems addressed by life-span psychologists might be productively articulated in terms of language acquisition as an anchor point in a life history; this would of course be more relevant in some populations than in others. Correlations of language with life change may involve immigration to a culture speaking a different language, marriage to a spouse whose native language is different (see Sorenson, 1967 for an anthropological account of a culture where this is the norm), and offspring who bring home a second language, as in the case of Hispanic children in the United States who bring home English as they become more dominant in that language through schools. These instances would sharply delineate issues such as adjustment to changes primarily beyond one's control, shared values with one's intimates, and the intrusion by society into family dynamics. Because language is symbolic of an individual's identity (Guiora, Brannon, & Dull, 1972; Nida, 1971), there are rather broad implications for the study of humans from the life-course perspective. Conversely, the study of second-language acquisition can gain perspective from typological frameworks being developed by life-span psychologists for life events, where events are classified by properties such as the degree of correlation with age and the expected probability of their occurrence (Brim & Ryff, 1980).

COGNITIVE PSYCHOLOGY

The current trend in cognitive psychology, unlikely to diminish for some time, is information representation and information processing. Recent theories suggest a useful distinction between automatic and controlled processing in attentional and perceptual learning mechanisms (Schneider & Shiffrin, 1977; Shiffrin & Schneider, 1977), which fits well with intuitions about second-language acquisition (McLaughlin, Rossman, & McLeod, 1983); that is, certain tasks and abilities in processing a second language can be seen as involving differential levels of automaticity. In addition, more advanced levels of proficiency in the language should be associated with increased automaticity in processing. For example, McLaughlin et al. report a study by Hatch, Polin, and Part (1970) in which native and non-native speakers of English (all university-level students) were asked to cross out specific letters in a text. As expected, there were differences in the detection of the letters in function and content words among the native speakers, with more errors in the (relatively automatic) function words. However, there were no differences in the two classes of words for non-native speakers. McLaughlin et al. also refer to unpublished studies in which *greater* proficiency in a second language is associated with *lesser* ability to detect changes in the form (but not the meaning) of the sentences (Rossman, 1981; Wolfe, 1981).

These results suggest interesting studies that might be conducted with L2 learners, mapping out the covariation between proficiency in the second language and areas of language showing automaticity. The information that can be obtained from such research is analogous to what might be obtained were such research possible with young children acquiring their native language; namely, one hopes to uncover the bedrock of linguistic components that can predict language comprehension and production. The advantage here is that adults are much better subjects for the kinds of tasks that cognitive psychologists require than are children who have weaker motivation, a shorter attention span, and so forth.

Inclusion of the second-language learner in the company of legitimate subjects might illuminate another area of cognitive psychology (leaning more toward the "cognitive science" end of the spectrum), which is the application of learnability theory (e.g., Wexler & Culicover, 1980) to language acquisition (Pinker, 1979, in press). This approach is rather theory heavy, attempting to formally derive the properties of language (typically English) and relate these to the properties that would be required on the part of the learner in order for the language to be learnable. Many of the critical tests of the theories are based on supposed linguistic constraints that are for all practical purposes untestable with children (see attempts to look for evidence of formal linguistic constraints using children as subjects in Tavakolian, 1981). Such testing can be done with L2-learning adults, and on the basis of reasonable assumptions about the similarity of subject populations, results can be related to L1 acquisition.

Partly in response to Neisser's (1976) call for ecological validity, cognitive psychology has in recent years begun a quest for relevance, as shown by the publicly expressed interests in such applied issues as memory processes in the aged by mainstream researchers (e.g., Craik, 1977, 1983). As can be seen in Craik's work, such interests may even lead to "mainstream" insights, such as support for the notion that one should look at memory not as a sequential series of processes, but rather as the differential recruitment of various capacities that depend quite heavily on situational demands. Cognitive psychology would do well to consider the benefits of studying the second-language learner, the more so because "language" as a complex skill is relatively well defined and certainly more ecologically valid than random digits, consonants, and dot patterns.

SOCIAL AND PERSONALITY PSYCHOLOGY

Owing much to Kurt Lewin, American social psychology has been responsive to the values of society, as reflected in studies of ethnocentrism, stereotyping, race relations, and even international conflict resolution. Investigation of personality and social psychological variables in second-language learning would be of great importance, especially in controverting the misguided belief in a biologically based critical period for second-language acquisition (with the possible exception of accent). It is in these variables, not biological maturation, that we will find the most useful explanations of the differential capacity for second-language acquisition.

One exciting area that can be explored in the second-language learner is the relationship among personality, attitudes, and behavior. In Canada, much interesting work has been done by Robert Gardner and Wallace Lambert (1972) to assess the relationship between attitudes of English-speaking high school students toward speakers of the target language (French) and the extent to which they learn the second language. They have shown in a series of studies, with some replications in the United States with English-speaking high school students, that there is a low but stable correlation (usually somewhere between .30 and .40) between responses on attitudinal scales and performance in measures of various aspects of the second language.

Moreover, in most cases the correlation between second-language learning and attitude is statistically independent of the correlation (around .40) found between second-language performance and measures of language aptitude, such as the Modern Language Aptitude Test (Carroll & Sapon, 1959), which correlates highly with standard tests of general verbal intelligence. Other individual difference variables, such as those studied by personality psychologists, have received limited attention although the results that have been reported look promising. For example, Naiman, Frohlich, and Stern (1975) report significant correlations between cognitive style variables and differential ability in foreign-

language learning in high school students. It may turn out that second-language learners provide an ideal laboratory population in which to study the relative contributions of social and personality variables as predictors of behavior.

One reason for this is the robustness of the behavior in question, namely language. William Labov (1966) showed a number of years ago how strong a social marker language is. One can practically reconstruct the social stratification of a city from language data alone. The point of relevance here is that degree of second-language acquisition (and there is considerable variation across individuals) is easily and reliably measured and reflects and varies predictably with a rather broad range of social interactional contexts. Sociolinguistic research (see Fishman, Cooper, & Ma, 1971) has uncovered differential language use by functional social domains, such as home, work, and religion. Such sociological categories might be useful to the social psychologist.

CROSS-CULTURAL PSYCHOLOGY

Many would not consider "cross-cultural psychology" to be a traditional area of study, but I include it to underscore what is perhaps the most important contribution the study of second-language learners would make to psychology: It will of necessity force on us a cross-cultural psychology.

The obvious reason is that second-language learners are necessarily becoming bicultural (to varying extents), and an account of their repertoire of behavior will include how they handle and manage two cultural "systems." As a psycholinguist, I can testify that American psycholinguists act almost as if English were the only language in existence. Properties about "language" are posited on the basis of the study of English speakers alone. Similar arguments can be made for other areas of psychology; my only point here is that the second-language learner, by virtue of forcing a consideration of cross-cultural issues, will keep us honest in limiting our generalizations to the appropriate population.

INTERDISCIPLINARY PROSPECTS

The research activities of social scientists might be broadly classified as either "theory-driven" or "subject-driven" work. This simpleminded distinction is meant to point up the ways research topics are chosen, with the choice depending on whether the researcher's main emphasis is on theory testing and elaboration or on understanding a population that is of special interest for practical or personal reasons. The choice of subjects in theory-driven research is largely determined by a convenience criterion, be it control of extraneous factors (pure genetic strains in laboratory animals), easy availability (college sophomores in an introductory psychology course), or the performance of "critical tests" of specific

hypotheses (using an established experimental paradigm with abnormal subjects, such as aphasics). This is in contrast to subject-driven research, where one tries to relate a specific subject population to whatever relevant theories are available to provide insightful accounts of interesting subject characteristics. Research on the second-language learner and bilingual falls in the latter category.

Measured in terms of academic prestige, theory-driven research wins. This is because theory-driven research generally is associated with "pure" research, subject-driven with "applied." At this point in the history of the social sciences, however, it seems more important to judge the value of research on the basis of its ability to integrate different areas of work. Compartmentalization and specialization (even within the subdomains of psychology) have led to minitheories explaining phenomena that at best may generalize to situations outside the laboratory, but that have scant hope of proving relevant to other minitheories. Because it is beyond our imagination how a theoretically tight system of the social sciences might be achieved (encompassing emotional and cognitive processes within an individual within multiple levels of social structure within macropolitical structures), a theoretical midwife is needed, which arrives in the form of subject-driven research.

The study of second-language learners, in individual psychological processes and in sociological and political ones (Fishman's seminal works should be consulted here), can be seen as a special case of such subject-driven research. Eclectic attempts to account for the multifaceted aspects of bilingualism may not directly lead to an integrated theoretical perspective (which is why it is a midwife), but it will help set the stage for the dissolution of the artificial boundaries created by the specialization of psychology.

In concluding, I suggest a few integrative questions that could be answered by applying ourselves to second-language learners and bilinguals. References to some relevant (though not necessarily integrative) works are cited.

1. How does bilingualism affect cognitive functioning quantitatively and qualitatively, and does the effect vary with individual difference variables (e.g., age, "intelligence"), and with group variables (e.g., societal values placed on bilingualism; Cummins, 1976; Hakuta & Diaz, in press; Lambert, 1978; Peal & Lambert, 1962)?

2. How are the two languages of the bilingual related to the social-interactional domains in which they are differentially used? How are they integrated within the cognitive system of the individual (Albert & Obler, 1978; Ervin & Osgood, 1954)? On the societal level, how are the two languages influenced by the political processes frequently reflected in language boundaries (Blom & Gumperz, 1972; Fishman, 1978; Hymes, 1972; O'Barr & O'Barr, 1976; Schermerhorn, 1970)?

3. How is the human capacity to acquire language related to adult develop-

ment and aging? Is the change in capacity best seen as the result of gradual cognitive decrements, such as loss of memory capacities, or as the result of affective/social changes in the course of the human life span (Krashen, Scarcella, & Long, 1982; Schumann, 1975)?

4. How do linguistic structures interact in the mind of the bilingual? Can these effects be understood using linguistic models from language typology and universals (e.g., Comrie, 1981; Greenberg, 1978), in such a way that the psychological reality of linguistic parameters can be verified (Hakuta, in press)?

Each set of questions offers a focus for the interaction of different social science domains. The answers will require the recruitment of knowledge and methodology from the areas of psychology mentioned in this chapter, and additionally, from anthropology, sociology, political science, and linguistics. I do not hesitate to make such a bold statement that advocates a form of (subject-)guided eclecticism, in part, because as a role model Roger Brown has shown me that it is the questions you ask that matter, not particular methodologies constrained by such formalities as dean's categories and professional associations. And in the case of bilingualism, you end up having to go all over the place.

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15 Language and the Evolution of Identity and Self-Concept

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> *"In spite of the fact that language acts as a socializing and uniforming force, it is at the same time the most potent known factor for the growth of individuality"*
>
> —Sapir 1951, p. 7.

Social psychologists interested in language and nonverbal communication are increasing as the discipline moves toward integrating these topics into studies of more traditional social psychological areas (e.g., identity formation and change, socialization, group processes, social cognition, and development of the self). My exposure to and fascination with language are due to the influence and careful guidance of Roger Brown. Roger's early scholarly inquiries in social psychology reflect his astute insights about language; his perceptions of how language acts as agent of social stratification, social change, and socialization. His initial work also is indicative of his formal training in social psychology. Although Roger has devoted his recent research to developmental psycholinguistics, his influence on my studies of social psychology has been substantial. In many ways, my goals in studying social psychology and language have been similar to those of most psycholinguists: to understand the relation between language and development.

I have always sensed that there was a connection between who I am and how I express myself. I realized that how people interact with me, the language and topics they select, what they choose to disclose or not disclose, and how they express themselves when interacting with me communicates something to me about who I am and, more specifically, who I am relative to them. I have