20 Linguistics and Second Language Acquisition: One Person with Two Languages

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Most linguistics concerns people who know, use, or learn a single language. Yet such monolinguals are probably in a minority in the world as a whole. Many people use several languages in the course of a day, whether in multilingual countries such as Pakistan or the Cameroon or in apparently monolingual countries such as England and Kuwait. This chapter looks at some of the questions raised by the fact that people know more than one language. General popular questions include: is learning a second language (L2) like learning a first (L1)? Are children better than adults at L2 learning? Can you speak a second language without an accent? Linguists are more concerned with questions such as: how does L2 learning relate to Universal Grammar? Does the language input the learner hears make a difference? How does one language affect the other? They are all fundamentally concerned with how one person can have two languages.

Any issue in linguistics can potentially be studied in the context of people who know more than one language. This chapter starts with some historical background and then discusses ten interrelated questions that have driven research into SLA (second language acquisition) within the overall context of one person with two or more languages. The aim is to put the reader in touch with some of the issues that have been investigated, touching on areas of linguistics such as phonology and vocabulary as well as syntax. The account represents one person's route through a large maze, trying not to stray down paths less connected with linguistics. Though a comparative newcomer, SLA research is a vast and expanding discipline with its own annual conferences such as EUROSLA (European Second Language Association). A survey by Ellis (1994) is 824 pages long despite barely touching on areas such as vocabulary or phonology.

1   Early Days: Links and Questions

A relationship between linguistics and SLA started to emerge with the influential distinction made by Weinreich (1953) between compound and coordinate bilinguals. A coordinate bilingual has two separate concepts for a word – two concepts, two words. The concept of "book" for example can be shown as 📖, expressed by *book* in the English of English / French bilinguals, or as 📖, expressed by *livre* in French. The two languages are separate in the mind; a coordinate bilingual may be unable to translate from one language to the other. Compound bilinguals on the other hand have a single concept 📖 expressed as two different words *book* and *livre*: the two languages are tied together in their minds via a common concept – one concept, two words. Though individuals were once thought to be either coordinate or compound bilinguals, more recently it is believed that both types of bilingualism are present to varying extents in the same person (de Groot 1993); that is to say, in a given individual, some aspects of the two languages may be linked, others may be separate.

The linguistic and behaviorist theories of learning of the 1950s also contributed the concept of transfer to SLA research. Transfer means carrying over the forms and meanings of one language to the other, resulting in interference – "instances of deviation from the norms of either language which occur in the speech of bilinguals as a result of their familiarity with more than one language" (Weinreich 1953: 1). French users of English fail to distinguish /iː/ and /ɪ/ in *keen* /kiːn/ and *kin* /kɪn/ because the distinction does not exist in French; Japanese learners of English produce spellings such as *adovocated*, *courese*, and *Engilish*, because Japanese consonants are always separated by a vowel. The concept of transfer led to the approach called Contrastive Analysis, which looked for differences between the two languages; these form the main areas of difficulty for learners and automatically lead to "negative" transfer from the L1 (Lado 1957). Though transfer remains an indispensable concept in SLA research, the Contrastive Analysis approach itself has mostly been subsumed within other traditions. One reason was that it was all too easy to carry out large-scale comparisons of languages to predict what learners might do, only to find the predicted errors do not occur but other errors do. It was more economical to start from the errors in actual L2 learners' speech and then to work back to their causes – a methodology that became known as Error Analysis (Corder 1971, James 1998). Bulgarian learners for instance produce sentences such as *The my car broke down* (Toncheva 1988); the probable cause is that possessives and articles can occur together in Bulgarian, i.e. their L1 transfer is established by the post hoc Error Analysis method rather than predicted in advance by Contrastive Analysis.

The overall issue emerging from these beginnings is how multiple languages relate to each other inside the mind of one person, both during the process of acquiring the L2 and while actually using it. This is reflected in the divergence

of definitions for bilingualism itself. At one extreme are "maximal" definitions such as "native-like control of two languages" (Bloomfield 1933), renamed more transparently as "ambilingualism" by Halliday et al. (1964): bilinguals have as extensive control over their second language as over their first. At the other extreme are "minimal" definitions that bilingualism starts at "the point where a speaker can first produce complete meaningful utterances in the other language" (Haugen 1953): any real use of a second language counts as bilingualism, however minimal it may be. Hardly anybody meets the maximal definition since no one commands all the uses of both languages equally well; virtually everybody meets the second definition in that they are capable of using isolated L2 expressions such as *Goodbye*, *Bonjour* or *Konnichiwa* appropriately.

A strong early influence on SLA research came from the overall structuralist and behaviorist paradigm of linguistics laid down by Bloomfield (1933). When mainstream linguistics swung away from structuralist models, SLA research took on board certain Chomskyan tenets. The key concept was that children have independent grammars of their own that are not simply debased versions of the adult grammar. English L1 children who say *Him go shop* are not reproducing something that they have heard from an adult but have invented a rule of their own that *him* can be a subject. This led to the realization that L2 learners also build up grammars of their own that are not part of either the first language or the second but have an independent existence. L2 learners may say *I not get away* even though putting the negative *not* in front of the verb is found in neither their L2 (English) nor their L1 (German); they too have made up a rule. Several terms were coined for the idea that L2 learners had independent grammars with slightly different emphases, such as "approximative system" (Nemser 1971) and "transitional competence" (Corder 1967). The term that found favor was "interlanguage," derived from an eponymous paper by Selinker (1972).

The overall contributions of these early days of SLA research were that the two languages may be separate or closely linked in the mind, that the forms of one language may affect the other, and that L2 learners create a distinct interlanguage with its own rules and properties.

2   What Is the Sequence of L2 Acquisition?

The question that interested many of the first SLA researchers was the order in which people acquire an L2: is there a "natural" sequence through which all L2 learners progress or does it vary from one person to another, say, according to their L1? One research method was to score the presence of certain English "grammatical morphemes" such as continuous "-ing" *going* and plural "s" *books* in the speech of L2 learners. Spanish-speaking children learning English start with plural "s" and progress through continuous "-ing", copula "be" *is*, and so on (Dulay and Burt 1973). Fairly similar orders were found

regardless of whether the learners were in a classroom (Lightbown 1987), whether they were in a country where the language was spoken or not (Makino 1993), and many other factors. Clearly L2 learners of English acquire these grammatical morphemes in a sequence of some kind. However, difficulties emerged with the methodology (was this really the order in which they learnt them or simply the order of difficulty?) and with the grammar (do these grammatical morphemes such as verbs "be," inflections "-s" and prepositions *to* really form a coherent group syntactically?) (Cook 1993).

More convincing sequences of L2 acquisition emerged from the ZISA project (Meisel et al. 1981). This studied the development of L2 German by migrant workers with various L1s over a period of time. It was mostly concerned with German word order, which differs from English in that the verb normally comes second in the sentence. Sometimes this yields a Subject Verb Object order, as in *Ich liebe dich* (I love you), but often it leads to an Adverb Verb Subject order, *Immer liebe ich dich* (Always love I you), and to other combinations in which the verb comes second. L2 learners of German start by putting subjects in front of verbs as in *Die Kinder essen Apfel* (The children eat apple) before they learnt how to get other verb second orders by moving elements around in the sentence, for example Adverb Verb *Da Kinder spielen* (There children play). The sequence of acquisition depends on first acquiring a typical word order and then learning how to move elements about. The essentials of this sequence were duplicated with L2 learners of English in Australia by Pienemann and Johnston (1987): the stage of Subject-Verb-Object *I like apples*, preceded the sentences with movement *Apples I like very much*. Learners differ from each other according to how much they simplify sentences, say, omitting items such as the copula verb *Ich Mädchen* (I girl) even if they are at the same developmental stage. This is called the "variation" dimension and complements the "development" dimension, leading to the name the Multidimensional Model, later known as Processability theory (Pienemann 1993).

The concept of sequence was taken further within the large-scale ESF (European Science Foundation) project, which looked at the learning of five L2s by young adult speakers of six L1s (Klein and Perdue 1992, 1997). It found that learners start with sentences without verbs, go on to use verbs without inflection *Its pinch some bread*, and finally have sentences with verbs with inflections *Man is coming in*. Regardless of which language they are learning, the learners arrive at a common basic L2 grammar, which has three main rules: a sentence may consist of:

1   a Noun Phrase followed by a verb followed by an optional Noun Phrase *Mädchen nehme Brot* (girl take bread);
2   a Noun Phrase followed by a Copula verb followed by a Noun Phrase, Adjective, or Prepositional Phrase *it's bread*;
3   a Verb followed by a Noun Phrase *pinching its*.

Progress beyond this basic grammar consists largely of fleshing out the different verbal forms. The stages of acquisition derive from communication and

pragmatic principles: L2 learners "organise their utterances and texts according to elementary principles of their human language capacity" (Klein and Perdue 1997: 343).

The ESF project is thus a practical demonstration of the interlanguage hypothesis since it shows a common interlanguage independent of either L1 or L2. The project's aim was indeed to see "whether a learner variety is based on recognisable organisational principles, how these principles interact, and whether they also apply to fully-fledged languages" (Klein and Perdue 1992: 1).

Stages of development are not interesting unless they lead to insights into learning. The study of sequences of acquisition thus shades into explanation. For example Wieden and Nemser (1991) looked at phonological sequences in the acquisition of English by German-speaking children and found three distinct stages: pre-systemic (knowing the sounds only in individual words), transfer (systematically using the L1 categories in the L2) and approximative (restructuring the L2 sounds into a new system). Wolfe Quintero (1992) found that the stages of acquisition of English relative clauses by Japanese learners could be seen as an interaction of six learning strategies. Similarly Schwartz and Sprouse (1996) looked at the stages in which one Turkish learner acquired the verb position in German to determine whether the starting point is the Turkish SOV order.

The answer to the question is that there are indeed sequences of L2 acquisition common to learners in different areas of language and with different first languages. The stages through which L2 learners progress have much in common, thus reducing the role of L1 transfer.

3   What Are the Similarities between L2 Learning and L1 Acquisition?

A continuing theme has been whether people acquire a second language in the same way as a first. If the L2 stages outlined above are also followed by L1 children, both groups are probably using the same learning process. The L2 sequence for English grammatical morphemes was similar, though not identical, to that found in L1 acquisition by Brown (1972), the greatest differences being the irregular past tense (*broke*), articles (*the*), copula, and auxiliaries (Dulay et al. 1982). Other similar sequences of syntactic acquisition have been found in L1 and L2 learning. L2 learners, like L1 learners, start by believing that *John* is the subject of *please* in both *John is easy to please* and *John is eager to please* and only go on to discover it is the object in *John is easy to please* after some time (Cook 1973, d'Anglejan and Tucker 1975). L2 learners, like L1 children, at first put negative elements at the beginning of the sentence *No the sun shining* and then progress to negation within the sentence *That's no ready* (Wode 1981).

A sub-theme underlying several of the questions discussed here is that L1 acquisition is completely successful, L2 learning is not. Take two representative

quotations: "Very few L2 learners appear to be fully successful in the way that native speakers are" (Towell and Hawkins 1994: 14); "Unfortunately, language mastery is not often the outcome of SLA" (Larsen-Freeman and Long 1991: 153). The evidence for this deficiency is held to be the lack of completeness of L2 grammars (Schachter 1988) or the fossilization in L2 learning where the learner cannot progress beyond some particular stage (Selinker 1992), both familiar "facts" in some sense. Part of the interest in SLA research is explaining why L2 learners are usually unsuccessful. However, this alleged failure depends upon how success is measured, as we shall see.

The answer to the question is far from settled. While there are many similarities between L1 and L2 learning, the variation in situation and other factors also produces many differences. One difficulty is filtering out differences that are accidental rather than inevitable. L1 children mostly acquire language in different settings with different exposure to language than L2 learners and they are at different stages of mental and social maturity (Cook 1969). It may be inherently impossible to compare equivalent L1 and L2 learners. A more precise version of this question asks whether adults still have access to Universal Grammar in the mind, to be discussed below.

4   Does Age Affect L2 Learning?

Following on from the last question, while everybody learns their first language with equal ease, there are vast differences between L2 learners, some acquiring a high level of fluency, others a few stumbling words. Such individual differences may reveal crucial aspects of L2 acquisition; the learners' motivation, their cognitive style, their personality and other individual factors may make a crucial difference. In general Lambert (1990) made a broad distinction between "additive" L2 learning which adds new skills and experiences to the L2 users' lives and "subtractive" L2 learning which detracts from their present state by, say, making them ashamed of their first language. More detailed investigations into differences between L2 learners belong more to psychology than linguistics and are covered in for example Skehan (1989) and Cook (1996).

The individual factor that has been thought to affect L2 learning most has, however, been the learner's age. There is a universal folk belief, shared by many linguists, that children are better at learning second languages. The starting point was Lenneberg's critical period hypothesis (CPH) which claimed language may be learnt only within a particular window of opportunity between 2 months and 13 years of age (Lenneberg 1967), though Lenneberg himself did not extend the CPH directly to L2 learning. A survey of the CPH can be found in Harley and Wang (1997). The classic case showing the failure of late L2 acquisition is Joseph Conrad, who wrote his novels in English though born in Poland (Lieberman 1984). Yet, according to Bertrand Russell, he spoke English

with "a very strong foreign accent." There are, however, problems with this example: Conrad's level of writing in English is clearly exceptional; English was his third language and French, his second which he learnt after the age of 17, was spoken with "elegance" and "no trace of an accent" (Page 1986).

Some research has challenged the superiority of children. If all differences between children and adults are discounted other than age, adults often appear to do better than children. To take an example of a naturalistic learning situation, Snow and Hoefnagel-Höhle (1978) studied how English-speaking people of different ages developed Dutch during their first year in The Netherlands. Adults and 12–15-year-olds outshone younger children aged 3–10 during the first few months; by the end of the year the most successful learners were those between 8 and 10 and the least successful the 3–5-year-olds. Thus, while there seem some advantages for children, adults also have some short-lived assets. This appears also in the classroom situation. Asher and Price (1967) taught Russian through the total physical response method for six weeks to adults and children aged 8, 10, and 14; the adults learnt best, the youngest children worst. Yet there is also ample evidence that younger L2 immigrants achieve a higher level in a second language than adults on many tasks, whether accent (Oyama 1976) or communicative abilities (Patkowski 1980).

The accepted wisdom on age has become the view summarized in Krashen et al. (1982) and approved in the massive survey in Singleton (1989): adults acquire second languages better over the short term, children over the long term; adults are overtaken by the end of the first year. In other words, the eventual attainment of children is better even if they start off more slowly. Nevertheless there are problems with the methodology (Cook 1986). The learners are often drawn from a limited range of L1s acquiring English in the USA, untypical of the majority of L2 learners in the world. Age is usually defined in terms, not of when the person started learning the L2, but of when they immigrated to a country. One problem for example is that older immigrants tend to be better educated (Khanna et al. 1998).

The research has little to say directly about acquisition of second languages by children in countries where the second language is not spoken. That is to say, it contributes little to the perennial education debate on the best age to start *teaching* a second language. Ekstrand (1978) looked at two thousand L2 children learning Swedish in schools after their first year and found that the older children were better. Harley (1986) compared older and younger English-speaking children in immersion programs where over half the school day takes place in French; the older children had certain syntactic advantages with verb forms but were overall little different. But neither of these situations are typical of the secondary school teaching of modern languages in most of the world where the child learners are not immigrants and are not immersed in the L2. The early British experience suggested that teaching French in the primary school was not of great help in developing French in the secondary school (Burstall et al. 1974) but this may have more to do with the inability of secondary schools in England to handle children who have already studied French.

The controversy over age still continues. Johnson and Newport (1989) studied L2 learners who had gone to the USA aged between 3 and 39; given the same length of stay, the older the learners the better they were at grammaticality judgments. However, 7 to 9-year-olds did not have the expected advantage over 10 to 12-year-olds during the first three years after arrival (Slavoff and Johnson 1996). Possibly the more advanced structures that give older learners problems are encountered only after three years of acquisition.

The view that older L2 users cannot avoid a non-native accent has been progressively challenged. Neufeld (1977) showed controversially that the pronunciation of some adult L2 learners of Japanese could not be distinguished from natives after only eighteen hours of teaching. Bongaerts et al. (1995) elicited speech samples from adult native speakers of English and from two adult groups of Dutch L2 learners, one group of 10 people believed to be native-like, the other of 12 who were not. Judges put the top Dutch group within the range of the native speakers, with 4 Dutch people exceeding them. They argue that "there appear to be cases of 'late' second language learners who can pass for native speakers phonologically," contrary to the belief that a native accent is never attained. Bongaerts, van Summeren et al. (1995) redid the same experiment with tighter controls but still found a proportion of L2 users who were within the bounds of the native group. If an L2 user can pass as a native speaker for a brief period of time, there cannot be any difference between them, just as in the Turing test a computer that cannot be distinguished from a human being has to be credited with intelligence. This research covers accent rather than other aspects of language, or indeed any more rigorous view of phonology, and it is based on one highly gifted group of learners from a particular L1 learning a particular L2, whose behavior may be no more typical of L2 learners than Olympic runners are typical of human beings. But this line of research disproves the absolute claim that nobody learns a second language to native level when starting as an adult, at least so far as accent is concerned.

But accent is only a single aspect of language – does Conrad's foreign accent really outweigh his exceptional command of written English? Research has furthermore relied mostly on the comparison with the accent of the native speaker. In every language accent is used as a way of identifying speakers in terms of status, region, age, sex, and so on. Even L2 learners rapidly learn the appropriate pronunciations for their own gender, for instance that English-speaking men tend to pronounce the "-ing" ending of the continuous form *going* as /ɪn/ but women tend to use /ɪŋ/ (Adamson and Regan 1991). In a sense no one objects to people from Edinburgh sounding as if they come from Scotland but everyone believes that a Frenchman speaking English should not sound as if they come from Paris; native speakers may give away their origins but foreigners mustn't. Non-native speakers have every right to agree with a French wine-maker, "My English is not good but my French accent is perfect." Accent may be a misleading attribute for age effects. Vocabulary research that studied English learners of French older or younger than 12 for instance found no differences in the acquisition of vocabulary (Singleton 1995).

Again the main interest lies, not so much in the data, as in the explanations. Age manifests itself as change in the user or the user's environment in some way; the question is which of these changes affects L2 learning. Diverse explanations are offered ranging from changes in brain chemistry (Pulvermüller and Schumann 1994) to a shift in speech processing towards categorization at about the age of 7 (Flege 1992) to a lack of availability of Universal Grammar, to be discussed below. Age does seem to have effects on L2 learning but their exact nature is unclear and their causes are mostly speculative. If you care about having a good accent, start learning an L2 while still young; if you want to learn a basic ability quickly, start old.

5   Do L2 Learners Attain the Same Level of Language as Native Speakers?

The question of the end-point of L2 acquisition was already implicit in the question about age but has been raised more explicitly in recent years: what is the final state that L2 users can reach in the knowledge of a second language? Despite the interlanguage assumption that L2 learners have independent grammars, the final state of the L2 learner has frequently been seen in terms of whether L2 learners can achieve the same competence as a native, often called "ultimate attainment."

The starting point was a study by Coppieters (1987) who gave grammaticality judgments to near-native and native speakers of French on nine syntactic structures. Though the near-natives hardly deviated from the native speakers on some structures, on others they differed more, for example, tense contrasts. Even these advanced L2 users could therefore still be distinguished from native speakers. Their ultimate attainment differed from that of the native speaker.

Birdsong (1992) criticized the Coppieters research on a number of counts and essentially redid the experiment with near-native speakers of French with English as L1 and native speakers. He found that, while it was true that the near-natives differed from the natives as a group, when treated as individuals 15 of the 20 near-natives were within the native speaker range, while in the Coppieters study none were. That is to say, in effect five people should not have formed part of the near-native group. The L2 attainment of these speakers did not differ from that of native speakers.

White and Genesee (1996) continued this approach by comparing native speakers of English and L2 learners, divided into near-native and non-native groups, who were given a timed grammaticality judgments test of questions such as *Which one are you reading a book about?* and *Who did you meet Tom after you saw?* There were no differences between the natives and near-natives in accuracy and speed, with the exception of sentences such as *Which movies do the children want to rent?* The conclusion is that "Ultimate attainment in an L2 can indeed be native-like in the UG domain" (White and Genesee 1996: 258).

The balance of the research to date suggests that a small proportion of L2 learners can acquire the same knowledge of a language as native speakers, just as a small group seem able to acquire a native-like accent. But the question remains whether closeness to the native speaker is an appropriate yardstick to measure them by. Birdsong (1993: 717) construes "ultimate attainment in L2A [second language acquisition] in terms of whether non-natives can display evidence of possessing native linguistic norms." But bilinguals use languages for different purposes than monolinguals and have a total language system of far greater complexity in their minds; why should L2 users be measured against the knowledge of a person with only one language? As Sridhar and Sridhar (1986) point out, "Paradoxical as it may seem, Second Language Acquisition researchers seem to have neglected the fact that the goal of SLA is bilingualism." Indeed it is evident that L2 users can become more proficient than average L1 users, as we saw with Conrad's writing. L2 users for instance make fewer spelling mistakes in English than 15-year-old native children (Cook 1997d). Relating L2 ultimate state to native speakers may be convenient but does an injustice to the overwhelming majority of L2 users, who are thereby seen as failures for not achieving something which is, by definition, not an achievable target. The unique status of the two languages of the L2 user has been abandoned in favor of seeing whether the L2 is a defective version of the L1.

6   How Important Is Transfer to L2 Learning?

Transfer from the first to the second language involves both use and acquisition, i.e. it may affect both the processes of speaking in the short term and the processes of learning over a period of time. The influence of the first language on the second is obvious from our everyday experience; most native speakers of English can tell whether an L2 user comes from Japan, Germany, France, or Spain.

Some early research, however, attempted to minimize the role of L1 influence. Grammatical morphemes research, for example, suggested that people with different L1s had similar acquisition sequences (Dulay et al. 1982). Dulay and Burt (1974) tried to quantify transfer mistakes *vis-à-vis* developmental mistakes, claiming that only 24 out of 513 mistakes by Spanish learners of English could be ascribed to their L1.

In the days when linguists considered all languages varied from each other in arbitrary ways, each pair of languages had to be compared from scratch through contrastive analysis. Now that most linguists are concerned with overall relationships between languages, transfer can be seen to utilize overall systematic relationships between languages. Take the example of writing systems. These are mostly held to fall into two groups: meaning-based systems as in Chinese characters and sound-based systems as in the alphabetic system used for English (Paap et al. 1992). L1 transfer involves carrying the characteristics

of the L1 writing system over to the L2. Chinese L1 speakers acquiring the Japanese syllabic writing system (kana) rely more on visual strategies, English users on phonological strategies (Chikamatsu 1996); Chinese L1 students have difficulty processing non-words in English, showing their phonological processing is under-developed (Holm and Dodd 1996). Speakers with meaning-based L1 writing systems are better at visual reading tasks in English than those with sound-based L1s (Brown and Haynes 1985). As in other areas, L1 transfer can be a help as well as a hindrance.

Other writing system research has looked at L1 transfer in spelling. Adult Spanish learners of English show characteristic Spanish transfer mistakes involving the double letters <rr> and <ll> and transpositions involving <l> or <r> (Bebout 1985). Some 38.5 percent of English spelling mistakes made by 10-year-old Welsh / English bilingual children can be attributed to interference from Welsh, whether from phonological interference in the L2 pronunciation, orthographic interference from Welsh sound / letter rules, or transfer of cognate words (James et al. 1993). Different L1s produce characteristic spelling mistakes in English; Japanese learners of English frequently confuse <l> and <r> as in *walmer*, *grobal* and *sarary* (Cook in press), perhaps because of their well-known pronunciation difficulties with the sounds /l/ and /r/, perhaps partly because of the way that English loan words are spelled in the kana syllabic system in Japanese.

Research into phonological transfer has also progressed from lists of phonemes to more general aspects. In the acquisition of English stress assignment by speakers of Polish and Hungarian, 95 percent of the mistakes consisted of transfer of L1 metrical settings (Archibald 1993). English syllables are made to conform to the structure of the L1 by adding epenthetic syllables – [filoor] (Egyptian *floor*), [piliz] (Hindi *please*), and [iskul] (Bengali *school*) (Broselow 1992). The role of transfer may change during L2 development. Major (1990, 1994) claims that phonological transfer decreases over time while developmental factors first increase, then decrease.

The transfer of pragmatic speech functions from L1 to L2 has mostly been seen negatively. German learners of English produce requests that are too direct (Kasper 1981); L2 learners of English thank people in ways that are more formal than native speakers, *Thank you very much* rather than *Thanks* (Cook 1985b). Again research has gone from unique features of languages to universal schemes. There is an overall pattern to apologizing in any language consisting of explicit apology, explanations, denial of responsibility, and so on varying in weight and emphasis from one language to another (Kasper 1996, Bergman and Kasper 1993). An inappropriate linguistic form may be transferred; a learner may use the conventional Japanese way of refusing by making a statement of principle *I never yield to temptations* (Beebe et al. 1990), with odd effects in English.

Transfer has been looked at within the Competition Model (MacWhinney 1987). This claims that all languages make use of four cues for the subject of the sentence – word order, agreement, case, and animacy – but these are

weighted differently across languages. Thus German speakers should rely on the agreement between verb and subject *the horse hits the cow*; Italian speakers on the subject coming first *THE LAMB a dog pats*; and Japanese on the subject being animate *The eraser THE COW kisses*. L2 users indeed tend to carry over the weightings from the first language and only gradually lose them over time, whether Japanese animacy affecting English (Harrington 1987), or Dutch agreement affecting English (Kilborn and Cooreman 1987); Issidorides and Hulstijn (1992), however, showed that animacy may be an overriding factor with both English and Turkish learners of Dutch. Transfer here is carrying over the L1 weightings for processing the sentence to the L2.

The interpretation of transfer within the Universal Grammar (UG) theory has taken the most general point of view. If both L1 and L2 represent different choices from the same possibilities laid down by UG, the question of transfer is whether the L1 choices carry over into the L2 knowledge. The UG model has the great advantage of providing an overall descriptive syntactic model within which the two languages can be compared, even if UG theory changes constantly. It will be discussed in the next question.

In general, transfer has become a less overt concern in SLA research and has been subsumed within other issues concerned with the relationship between the two languages. Weinreich's original definition indeed allowed transfer to go in both directions: "Those instances of deviation from the norms of either language which occur in the speech of bilinguals as a result of their familiarity with more than one language" (Weinreich 1953). The L2 may also have an effect on the user's L1. In phonology this has been a popular subject of investigation. For example, Voice Onset Time (VOT) is the moment when the voicing of a stop consonant starts relative to the release of the consonant (Liberman et al. 1967). In the English /g/ in *got* the voicing starts before the tongue release, to be precise an average VOT of –50 milliseconds; in the /k/ of *cot* it starts after the release, a VOT of +80 milliseconds. Even though two languages seem to have the same phoneme, this may disguise differences in VOT. For example Spanish /g/ is –108 milliseconds, Spanish /k/ +29 milliseconds, both different from the typical values in English. L2 research has shown that French learners of English have a longer VOT for the voiceless /t/ sound in their L1 French than monolingual speakers (Flege 1987). Similarly L1 meanings for words may be influenced by the L2; a monolingual speaker of Korean uses *paran sekj* (blue) to mean something greener and less purple than a Korean who also knows English (Caskey-Sirmons and Hickerson 1977). Even language functions transfer from L2 to L1 (Kasper 1996); Locastro (1987) for example found English speakers of Japanese using *aizuchi* (nodding for agreement) when talking English.

Transfer in the sense of the relationship between the two languages in the same mind is at the heart of second language acquisition. If people simply acquired an L2 in the same way as their L1 there would be no need for a separate discipline of SLA research. A major factor in the different courses of L1 and L2 acquisition must be the developing links between the two languages.

In a sense any investigation of L2 learning or use that does not involve this relationship is not SLA research.

7   Do L2 Learners Have Access to Universal Grammar?

The Universal Grammar (UG) model of language acquisition developed in the 1980s, called principles and parameters theory, claims that the child's mind possesses universal principles that always apply to language and variable parameters that have different settings in different languages (Chomsky 1986). A sentence such as *Is Sam is the cat that black?* is not only impossible in English but is also forbidden in *any* human language because elements in the sentence can only be moved around to form questions according to the structure of the sentence not its linear order (Chomsky 1980); this principle of structure-dependency is built-in to the human mind so that a human language that breaks structure-dependency is literally inconceivable.

Sentences must have subjects in English. *He speaks* not *Speaks*, French *Il parle* and German *Er spricht*, but they are not compulsory in Italian *Parla*, Japanese *Hanasu* or Arabic *Yatakallamu*. This variation is called the pro-drop parameter: a language belongs either to the group of pro-drop languages that permit no subject or to the group of non-pro-drop languages that have compulsory subjects. L1 children do not need to learn the principles of UG because they are invariably true – no language could possibly break structure-dependency. But they do need to set the parameters appropriately for the language they are acquiring, say to pro-drop or non-pro-drop, which means hearing the right language input to set the parameters. And they also need to acquire a vast store of lexical information about how words behave within the structure of the sentence.

SLA research has reinterpreted several earlier questions within the principles and parameters model of UG. The correctness of the UG account of L1 acquisition is taken for granted, contentious as this may be in itself. The main question has been whether L2 learners have access to the UG built in to the human mind or have to manage without it; in other words, is L2 learning like L1 learning? This is often phrased as a choice between direct access to UG, indirect access, and no access (Cook 1985a), see figure 20.1. In direct access, the L2 learner applies the mental faculty of UG to the L2 input without hindrance and acquires a grammar consisting of the same principles, parameter settings and so on, as the L1 speaker: L2 learning is just like L1 acquisition. In indirect access, the L2 learner is able to access UG only via the L1 knowledge in the mind; those parts of UG that have been activated in the first language can be used again, but other parts are not available. In no-access, the L2 learner is effectively cut off from UG; everything has to be learnt using other aspects of the mind.
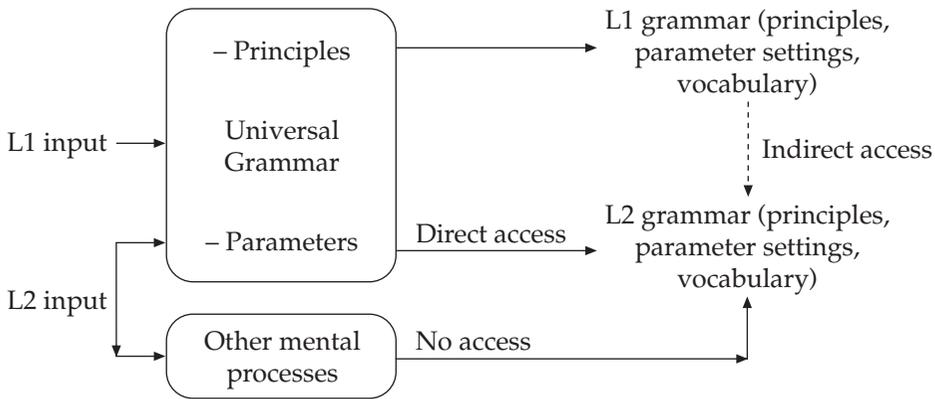
Figure 20.1   Models of access to Universal Grammar in SLA
Source: Cook 1994

The argument for direct access often recapitulates one used in L1 acquisition: if L2 learners know something they could not have learnt from L2 input or from their L1 knowledge, it could only come from the UG in their minds. In L1 acquisition, structure-dependency is part of UG because it could not be acquired from input (Chomsky 1988). However, languages which do not form questions etc. by movement do not need structure-dependency. If speakers of such L1s learn structure-dependency in an L2, this knowledge could derive neither from input nor from their L1 but must come directly from UG itself. Japanese (non-movement) learners of English indeed know structure-dependency according to Otsu and Naoi (1986); a range of L2 learners of English, including Japanese, Chinese, and Finnish L1s, all scored more than 86 percent on a test of structure-dependency (Cook and Newson 1996). So L2 learners clearly have direct access to UG, at least so far as this principle is concerned.

More controversy surrounds the principle of subjacency, which states that elements in the sentence must not be moved too far. A sentence like *What did Sam believe the claim that Mary had bought?* is ungrammatical because *what* has crossed too many barriers in moving to the front of the sentence from its original position at the end. Again some languages do not need subjacency because they have no movement, for example, Korean and Chinese. If L2 learners of such languages know subjacency in the L2, the source cannot be their L1. Korean and Japanese learners of English indeed do not know subjacency to the same extent as native speakers (Bley-Vroman et al. 1988) and older L2 learners are worse than younger learners (Johnson and Newport 1991). This research supports no access rather than direct access, at least for older learners.

The evidence for indirect access to UG is the effects of L1 parameter settings on the L2, i.e. a version of transfer. Japanese and Spanish learners for example

are influenced by the word order preferences of their first language in interpreting English sentences (Flynn 1987). The pro-drop parameter concerning the compulsory presence of subjects in the sentence has been massively studied. French learners of English, with the same non-pro-drop setting in L1 and L2, were much better at saying that *In winter snows a lot in Canada* was ungrammatical than Spanish learners, who have a pro-drop setting in the L1 (White 1986); both English and French learners of Spanish had, however, no problems with acquiring the Spanish pro-drop setting despite their different L1 settings (Liceras 1989). Later research has linked the presence of subjects to verb inflections in the present tense, with confusing results (Lakshmanan 1991, Hilles 1991). Much research with parameters has tended to show effects from the L1; that is to say L2 learners' access to UG is filtered indirectly through their first language.

Recently the test for access has shifted to the presence or absence of verb and noun inflections such as past tense "-ed" (*he likeD*) and agreement (*he likeS*) in L2 learners' speech. L1 work has suggested that these are absent from early child speech (Radford 1990); children's early sentences are strings of lexical phrases without grammatical words or inflectional endings as in *Daddy sleep*; the child's early grammars do not show all aspects of syntax from the very beginning even if they are part of UG. In more technical terms, the child does not initially have "functional phrases" built around grammatical forms, inflections, determiners, etc., but only knows lexical phrases built round lexical forms such as nouns and verbs. If L2 learners show a similar lack of functional phrases at the outset, this could confirm the direct access position. Early SLA research had already in a way made a similar point by demonstrating the absence of grammatical morphemes in L2 learners. More recently, while Meisel and Müller (1992) found these functional phrases in early L2 acquisition of German and Grondin and White (1996) found them in the early ages of L2 acquisition of French, Vainikka and Young-Scholten (1991) suggest that the sentences of early L2 learners of German include only the parts of the Verb Phrase, that is to say they are not really functional phrases after all. They suggest that, despite full access to UG, functional phrases have to develop over time in response to the language input the child hears, as with parameter setting in general. Epstein et al. (1996), however, argue for full access to functional categories in SLA, using evidence from Japanese adults and children learning English. This is also in a sense supported by research with principles in which English learners of Japanese show early use of the Empty Category Principle (ECP) (Kanno 1996).

Finally the no-access position has largely based itself on two propositions. One is that L2 learning could use other mental faculties than UG, such as general problem-solving abilities; this might be plausible enough if concrete suggestions were spelled out rather than simply mentioned. The other is that L2 learners do not acquire the L2 as well as the native speaker (Schachter 1988, Bley-Vroman 1989), summarized earlier. While L2 learners indeed score less than natives on most UG-related syntax tests, they also score less on other tests

of cognitive functioning introduced via the L2, such as Working Memory (Brown and Hulme 1992) – the so-called L2 cognitive deficit (Cook 1997a). Such "deficiencies" may not be part of UG itself but reflect the overall working of their cognitive apparatus.

Deciding whether learners have access to UG is fraught with difficulties. Different research methods and different syntactic analyses come up with conflicting answers with no clear way of reconciling them; indeed the UG theory itself changes so rapidly that principles such as subjacency have a half-life of about five years. Access may not be a real question because it reifies UG as a separate object that learning has access to rather than as the changing state of the mind itself (Cook 1994). The relationship of L2 learning to L1 learning has been left as problematic as ever. There seem strong similarities, but there are also differences, perhaps due to the greater maturity of most L2 learners causing social or cognitive differences not directly part of language learning. The UG approach has often tested out the latest fashionable syntactic analysis on the access question rather than looked at a range of research questions: the question of access may have been a side-track away from investigating how one mind knows two grammars. The crucial question is whether the L2 learner's final state of language knowledge fits UG, not whether it fits native speaker grammars.

8   What Is the Role of Language Input?

Everyone would agree that people do not learn an L2 if they encounter no examples of it. Beyond this, there is little agreement over the role that language input plays, the amount that is necessary and the form that it should take. Perhaps the differences between L1 and L2 learning or between learners of different ages stem only from the different types of language they encounter. If certain types of input are more effective than others, this would have dramatic consequences for language teaching.

The starting point for research was the characteristics of language addressed to children. In many languages, adults use baby-talk to children, not only peculiar words such as *moomoo* in Japanese, *baâ* in Arabic and *moocow* in English (Cook 1997b), but also a higher frequency of commands and questions (Newport 1976). Is there an equivalent foreigner-talk to L2 users? Freed (1981) found that the types of sentence addressed to L2 users were more like that used to native adults than to children, reflecting the different topics adults talk about. Foreigners asking the way on the streets of Wellington, however, were not addressed differently from natives (Stocker-Edel 1977).

The issue then shifted, as it had done in L1 acquisition research, away from the grammatical features of the language input to the interaction between learner and non-learner. For example, while it is true that non-native speakers are addressed differently in places such as travel agencies, this is mostly due to

the information they receive being more low-level, such as *It's a big jet* in response to *What kind of plane is it?* (Arthur et al. 1980). A survey by Long (1981) showed that interactional modification played more of a role than linguistic factors, for instance, by making the topic appear more transparent to the listener. Giving students opportunities to interact improved performance compared with editing or simplifying the language they heard (Pica et al. 1987).

The importance of input for learning came to the fore in the Input Hypothesis theory (Krashen 1985, 1994), perhaps the most widely known and controversial account of L2 acquisition. Its central claim is that language acquisition depends solely on "comprehensible input" – language which is slightly ahead of the learners' current stage but which they can comprehend through means such as situational clues; language is acquired through trying to understand what people are saying. The evidence for this claim comes from the adaptations in speech to language learners, from the initial "silent period" during which many L2 learners prefer not to speak, and from the success of immersion and bilingual classrooms (Krashen 1985). Fierce criticisms were made of Krashen's model (McLaughlin 1987, Cook 1993), in particular that learners need to speak as well as listen (Swain 1986). The model has gone into abeyance rather than being abandoned but it is still extremely attractive to many language teachers, and indeed to many linguistics students, because of the intuitive commonsense of comprehensible input, and because of its brave attempt at an overall model of L2 learning.

In the UG theory, some language input is necessary in acquisition in order to set the parameters and to acquire vocabulary. Everything L1 children need must either come from their minds or be present in the input as "positive evidence" – sentences that they hear – rather than "negative evidence" – parents' supplying corrections or pointing out forms that do not occur. Parameter-setting in L2 as in L1 requires responding to features of the input that the learner can make out. To set the pro-drop parameter for example, it may be necessary to hear all the forms of the present tense (Cook 1993).

A more radical view is that negative evidence is needed in L2 acquisition even if irrelevant to L1 acquisition. Possibly the L1 has put the learner into a position that is irretrievable from positive evidence alone – a highly restrictive version of indirect access. Negative evidence in an L2 context might be the teachers' corrections of students' speech or explanations that give the learners information about the facts of the language (Cook 1985a). French allows an adverb between a verb and a direct object *Jean embrasse souvent Marie* but English does not **John kisses often Mary*. White (1991) successfully taught English learners of French where to place adverbs in the sentence, thus using negative evidence to overcome their L1 parameter setting. Conversely Trahey and White (1993) exposed French-speaking children acquiring English to an input "flood" of English containing adverbs, leading to an increase in pre-verbal adverbs *Anna carefully drives her new car* but not to the decline of the ungrammatical post-verbal adverbs *Anna drives carefully her new car*. Thus negative evidence in

the form of explanation can play an important role in L2 acquisition. Indeed it may be possible to enhance the L2 input to highlight specific points (Sharwood-Smith 1993), as is indeed claimed for phonological clues in speech addressed to L1 children (Morgan 1986).

So, in general, language input seems to play a similar role in L2 learning, apart perhaps from the need for some negative evidence. This may be useful to language teaching whose main influence on students is in a sense controlling their experience of the L2.

9   What Strategies and Processes Do L2 Learners Use?

The term "strategy" has been applied in L2 research to the mental processes, conscious or otherwise, used by L2 learners for learning and communication, often relying on theories from psychology such as the ACT model from Anderson (1983) or Levelt (1989). Much of it concentrates on compiling lists of strategies from observation rather than examining data from recordings or from experiments.

Early research into Good Language Learner strategies tried to isolate the processes used by successful L2 learners. Extensive research in Canada found that good learners tend to adopt the learning style that suits them, to involve themselves in the language learning process, and so on (Naiman et al. 1995), called by McDonough (1995) "wholesome attitudes" rather than strategies.

The research summarized in O'Malley and Chamot (1989) focussed more on learning, dividing strategies into "metacognitive strategies" for managing thinking, such as monitoring one's speech, "cognitive strategies" for thinking itself, such as note-taking, and "social strategies" which involve other people, such as asking for help. When O'Malley and Chamot (1989) asked students to report what they used, a cumulative list of 27 such strategies emerged. Most were non-linguistic in that they could apply equally to the learning of any subject rather than being unique to L2 learning. Such strategies say more about the characteristics of academic students in formal classrooms than about L2 acquisition itself.

A distinct branch of strategy research has concerned vocabulary. Cohen (1990) for instance showed that students remember vocabulary best when they make associations and learn cognates. Often this became linked to the idea of mnemonic strategies used since the ancient Greeks in which vocabulary items are associated with already memorized key words (Paivio and Desrochers 1979) or vivid images tie the new word into existing memories, summarized in Nation (1990). It can be disputed, however, whether vocabulary learnt in this fashion is readily used for everyday language purposes, as opposed to being produced in language tests or exercises of an artificial type.

The area of communication strategies had an easier task since the success of a communication strategy can be more readily gauged. In the L2 literature a communication strategy is needed only when things go wrong – a spare tire for when your car has a puncture rather than the steering wheel you use all the time. Lists of communication strategies were devised using categories such as "approximation" *animal* for *horse* (Tarone 1980) or "literal translation" *green things* for *vegetables* based on Danish (Faerch and Kasper 1983).

However the investigation of communication strategies in actual use by Poulisse (1990, 1996) showed not only that the majority of such strategies reflect a lack of vocabulary rather than of grammar, but also that they are used in the first language when speakers lack the vocabulary to express what they want to say. Hence they are better called "compensatory strategies" since they fill in gaps in vocabulary whether in the first or the second language. Thus the idea of communication strategy became part of normal language use rather than a specifically L2 phenomenon.

The underlying issue is whether strategies are born afresh in an L2 or are carried over from the speaker's existing knowledge. Strategies are a reminder that L2 learners bring more to L2 learning than L1 grammatical competence and that they need to communicate effectively in both languages by whatever means they can.

10   Can Two Languages Be Processed at Once?

To some extent we can ask whether L2 users comprehend and produce speech in similar or different ways compared to L1 users. The L2 user, however, possesses the unique process called codeswitching in which the speaker changes language in midstream, sometimes between sentences but often within the bounds of the same sentence, as in *Suami saya dulu slim and trim tapi sekarang plump like drum* (Before my husband was slim and trim but now he is plump like a drum) produced by a Bahasa Malaysia / English speaker. Grosjean (1989) sees L2 users as having two modes of language use: one is the monolingual mode in which one or other of the two languages is employed; the other is the bilingual mode in which both languages are used at once. Mostly codeswitching research has related to language use in advanced bilinguals, not to how learners codeswitch in the early stages or within the classroom.

Codeswitching within a single sentence can be investigated in terms of the points in the syntactic structure where a switch can take place. Poplack (1980) proposed two constraints. The "free morpheme constraint" is that the speaker may not switch language between a word and its inflection unless the word is pronounced as if it were in the language of the ending; hence it is possible to have an English / Spanish switch *flipeando* (English *flip* + Spanish *ando*), as *flip* is possible in Spanish, but not *runeando* as *run* is impossible. The "equivalence

constraint" is that the switch-point must not violate the grammar of either language; so it is possible to have the English / French switch *J'ai acheté an American car* as it preserves the grammar of both languages but not to have *a car americaine* as this would violate English word order.

Other models of codeswitching have relied on deeper syntactic analysis. The "government" model of codeswitching proposed that the switch cannot come within a maximal phrase (DiSciullo et al. 1986), that is to say a lexical head of a phrase forces the rest of the phrase into the same language; for example, the head *see* governs the object Noun Phrase in *see the book* and so keeps the rest of the phrase *the book* in English. The alternative Matrix Language Framework Model holds that the sentence has a Matrix Language structure into which open class content morphemes are inserted from the Embedded Language (Myers-Scotton 1993); the Matrix Language dictates the grammatical words of the utterance. An example is the Alsatian / French switch *Noch schlimmer, wenne de client recalé wurd am permis weje de panne d'essence* (Even worse, when the learner is failed in the test because of the empty tank). Alsatian is the Matrix language and French is the Embedded Language, so the auxiliary *wurd* follows French Verb *recalé* in the Alsatian word order.

Exceptions have been found to all of these constraints. For example, the word *aunties* is found in Panjabi / English switches both with the English ending /aːntiːz/ and with the Panjabi ending /aːntijãː/ (Gardner-Chloros 1995), despite the free morpheme constraint. Arabic to Dutch codeswitches take place between indirect and direct object *žib li-ya een glas water of zo* (Get for-me a glass of water or so) (Muysken 1995), despite being within the same verb phrase. The constraints seem to be probabilistic rather than determinative.

Codeswitching can be distinguished from other uses of L1 vocabulary in word borrowing or communication strategies by its functions. Overall, codeswitching is used by one speaker when the other participant knows both languages rather than resorted to out of ignorance of some aspect of the L2. It can be used for reasons such as the following (Romaine 1994):

- reported speech, Tok Pisin / English *Lapun man ia cam na tok "oh you poor pussiket"* (The old man came and said "you poor pussycat");
- appropriacy of topic, say "money", *La consulta èra eight dollars*;
- parenthetic remarks;
- directing speech at one of several people present;
- emphasizing the status of one language or the other.

Such lists are open-ended and do not reflect the switching conventions between two given languages in a particular situation. Again the fundamental issue is whether codeswitching involves two languages at once or fits some elements of one language within the framework of another. Investigating how a speaker can use two language systems at once reveals how the two languages relate in the same mind rather than how they work separately.

11   Do L2 Learners Have One Language or Two?

In a sense, the fundamental issue is still whether the knowledge of the two languages in one mind is separate or combined, back to the starting point of Weinreich (1953). The two languages coexist in the same mind: bilinguals do not have two heads. Yet clearly L2 users can separate the two languages, consciously choosing which language to use. At some level the two languages must be distinct.

This choice has often featured in the debate about whether bilingual children have one language system or two. A common talking-point is whether children mix the vocabulary of their two languages. Two children learning Italian and German had a single lexical system which separated at the next stage into two lexicons with one syntax (Taeschner 1983). Early sentences with unequal proportions from the vocabulary of the two languages have also been found such as *Quel couleur your poupée?* (Swain and Wesche 1975). A child learning English and Dutch used only 4.3 percent mixed sentences in speech addressed to Dutch speakers, 3.9 percent to English speakers, and 2.5 percent and 0.9 percent respectively that were balanced between the two languages ("Dutlish") (de Houwer 1990). Genesee et al. (1995) found five children under 26 months could differentiate the two languages, even if they code-mixed.

In terms of pronunciation, Leopold (1947) reported some confusion in the speech of his daughter between the sounds of the two languages and some carry-over of phonological processes from one language to the other; Fantini (1985) and Burling (1959) described children in whom the phonology of one language is dominant. Oksaar (1970), however, studied a child who kept the pronunciation of the two languages separate. Schnitzer and Krasinski (1997) found a bilingual Spanish / English child formed a single phonological system before separating the phonologies of the two languages. At best these pieces of research provide counter-instances to any absolute claim that *all* bilingual children necessarily have either merged or separate pronunciation systems.

In syntax, research into early bilingualism such as Burling (1959) found few signs of syntactic interference between the two languages. Dutch and English gender are kept distinct in the child studied by de Houwer (1990); bound morphemes such as the plural stay in one language; the child mostly uses the appropriate Object Verb word order in Dutch and Verb Object in English. Swain and Wesche (1975) find some interference between the two languages, such as the occurrence of French structures in English sentences, for example *They open, the windows?* Others have described a stage when children have two lexicons but a single syntactic system (Volterra and Taeschner 1978). Meisel (1990) concludes that "fusion is not necessarily a characteristic of bilingual language development, but mixing may occur until codeswitching is firmly

established as a strategy of bilingual pragmatic competence." Paradis and Genesee (1996) found that bilingual children developed English and French functional categories at the same rate as monolingual children. The consensus seems to be that, after an initial semantically organized phase, children keep the systems of the two languages distinct. This does not of course mean that they are not part of the same system at some level: any native speaker uses a variety of styles and register for different purposes; the system I use for hand-writing is quite different from the one I use for word-processing; there is no way in which I mix them; yet no one would claim that I speak two languages simply because I have two different ways of realizing written English. Indeed it is very hard to decide what would constitute codeswitching in young children, accepted as a normal feature of bilingualism, and what would be code-mixing, apparently undesirable.

This recognition of two distinct systems in young children contrasts to a large extent with research into the phonology of adult L2 users. To go back to the VOT (Voice Onset Time) of stop consonants, bilinguals had about the same VOT whether they were speaking English or Spanish (Williams 1977); English learners of Portuguese lose their L1 VOTs the better they become in the L2 (Major 1990). L2 learners can have a VOT in between the values for the two languages, whichever language they are speaking. L2 users could be thought to have a single system for L1 and L2 phonology, or at least the two systems have influenced each other in both directions at some point in the past. Watson (1991: 44) comes to the conclusion that "the bilingual may have two systems but which differ in some way from those of monolinguals." In reading also, Greeks who know English read Greek differently in some respects, for example being affected by the order of presentation, while monolinguals are not (Chitiri and Willows 1997).

The evidence for one lexicon or two in adult L2 users is fairly mixed. One line of research has tended to show two separate lexicons: Kirsner (1986) claimed language-specific words had separate representations but not cognates. Another approach emphasizes the factors common to the two lexicons, Grosjean (1989) for instance arguing that the L1 cannot be switched off while processing the L2. A third possibility is that an independent semantic store connects two separate lexicons; Kroll (1993) found that similar meanings carry across languages, not similar forms. Overall the question of whether L2 users have one system or two is no more settled than the other questions despite fairly widespread discussion in early childhood bilingualism, phonology, and vocabulary. Only in syntax has the question hardly arisen, perhaps because, even in the UG model, it is taken for granted that the two grammars are distinct, even if they influence each other in processing or in development.

It is hard to see that much progress has been made in resolving this underlying question of SLA research since the days of Weinreich. There is still conflicting evidence about whether the L2 user has two systems or one and how these relate during development.

12   Conclusion

Doubtless many other questions and interpretations could be derived from this large and often contradictory area. The field potentially takes in all areas of linguistics and language acquisition, leading to a range of research techniques, described in Tarone et al. (1994). Many techniques are integral to some sub-field of linguistics, such as the phonologist's VOT used in Flege (1987) or the psychologist's task of counting the sounds in words used in Holm and Dodd (1996). Others are borrowed from the mainstream psychology tradition such as response time measures (White and Genesee 1996, Cook 1990), from descriptive linguistics such as analysis of corpora (Klein and Perdue 1992), or from techniques employed with L1 children such as elicited imitation in which learners repeat sentences (Cook 1973, Epstein et al. 1996). It is hardly surprising that there is a lack of comparability between results and a lack of agreement over conclusions, even when tackling a similar range of issues such as the ten questions seen here. A question such as age may be posed and answered in one way by specialists in phonology such as Flege (1992), in another by specialists in UG such as Bley-Vroman (1989), both of them legitimate in terms of their own fields of reference. One dangerous technique is the grammaticality judgements task (Birdsong 1989). People are asked to judge whether sentences such as *What did the teacher know the fact that Janet liked?* are grammatical. One problem is the difficulty in connecting such judgments with the speaker's normal language use. Another is that L2 users may not treat such tasks in the same way as monolinguals, for example translating the sentence back into their L1 (Goss et al. 1994), particularly because of their heightened awareness of language itself (Galambos and Goldin-Meadow 1990, Bialystok 1993).

   Virtually all the techniques in the research mentioned here involve an overt or covert comparison of L2 learners with native speakers. The native speaker indeed provides a quick measure of comparison. Taken too seriously, however, this yardstick denies the interlanguage assumption by subordinating L2 users to native speakers (Cook 1997c). Useful as it may be to compare apples with pears, apples inevitably seem to make poor pears, just as it is persistently claimed that L2 learners make poor native speakers.

   This account has looked at a selection of the areas where linguistics and SLA research cross paths and has not done justice to many others, for example the sociolinguistic approach described in Regan (1998). It has avowedly taken the prime goal of SLA research to be finding out how people learn and use second languages. Some researchers, however, see SLA research, not as a subject in its own right, but more as a test-bed for theories of linguistics and language acquisition (Cook 1981, Davies 1996, Epstein et al. 1996). While other disciplines may find it useful to have access to this rich source of data, as yet SLA research has hardly raised a ripple in the construction of linguistic theories, unlike L1 acquisition. One reason is the sheer recalcitrance of this complex field where no data collection is simple and no learner is tabula rasa; claims

are too easily rebutted by other methods, other situations and other combinations of L1 and L2. A second reason is the rapid obsolescence of linguistic theory, particularly UG where the advent of the Minimalist Theory (Chomsky 1995) has undermined most of the prior UG-related SLA research. SLA researchers who attempt to contribute to UG theory seldom make stable discoveries about SLA because the theoretical ground has shifted under their feet before their research is out.

The uniqueness of SLA is indeed the relationship of the two languages in one person. Chomsky (1986) proposed that the first aim of linguistics is to answer the question "What constitutes knowledge of language?" Virtually all linguists have answered the question in terms of the knowledge of a monolingual. Is knowledge of a second language indeed a pale reflection of a first, or is it something in its own right – multi-competence (Cook 1991)? Borer (1996: 719) reminded the field that "The first question to be resolved is what is the steady state of L2 acquisition and whether given a constant L1 and a constant L2, this steady state is homogenous across speakers." The questions we have looked at here all circle around this issue and start to provide some inklings of what knowing and using two languages is actually like, something which after all is the everyday state of the majority of human beings.

NOTE