

## The recent history of second language learning research

### 2.1 Introduction

In order to understand current developments in second language learning research, it is helpful to retrace its recent history. We will see throughout this chapter that the kind of questions researchers are asking today are for the most part firmly rooted in earlier developments in the fields of linguistics, psychology, sociology and pedagogy.

The aim of this chapter is not to provide the reader with an exhaustive description of early approaches, but rather to explore the theoretical foundations of today's thinking. More detailed reviews can be found in other sources, e.g. Dulay *et al.* (1982), Selinker (1992). We will limit ourselves to the post-war period, which has seen the development of theorising about second language learning from an adjunct to language pedagogy, to an autonomous field of research. The period since the 1950s can itself be divided into three main phases.

We will start with the 1950s and 1960s and a short description of how second languages were believed to be learnt at the time. We will then describe the impact of the 'Chomskyan revolution' in linguistics on the field of language acquisition, initially on the study of first language acquisition, and subsequently that of second language acquisition. It had a huge impact on psycholinguistics in the 1970s, and we will see that its influence is still very much felt today.

We will then briefly consider the period from the 1980s onwards, which has witnessed the development of second language acquisition theorising as a relatively autonomous field of enquiry (a 'coming of age', as Sharwood Smith put it: 1994, p. ix). During this period, the impact of Chomskyan linguistics has continued to be profound, but ideas coming from a range of other fields have also become increasingly significant. Research strands initiated in the 1980s will then systematically be reviewed and evaluated in the rest of the

book, as well as some newer trends which have made their appearance in the 1990s, such as connectionism or sociocultural theory.

### 2.2 The 1950s and 1960s

In the 1950s and early 1960s, theorising about second language learning was still very much an adjunct to the practical business of language teaching. However, the idea that language teaching methods had to be justified in terms of an underlying learning theory was well established, since the pedagogic reform movements of the late nineteenth century at least (see Howatt 1984, pp. 169–208 for an account of these). The writings of language teaching experts in the 1950s and 1960s include serious considerations of learning theory, as preliminaries to their practical recommendations (e.g. Lado 1964; Rivers 1964, 1968).

As far as its linguistic content was concerned, 'progressive' 1950s' language pedagogy drew on a version of structuralism developed by the British linguist Palmer in the 1920s, and subsequently by Fries and his Michigan colleagues in the 1940s. Howatt sums up this approach as follows.

- 1 The conviction that language systems consisted of a finite set of 'patterns' or 'structures' which acted as models ... for the production of an infinite number of similarly constructed sentences.
- 2 The belief that repetition and practice resulted in the formation of accurate and fluent foreign language habits.
- 3 A methodology which set out to teach 'the basics' before encouraging learners to communicate their own thoughts and ideas.

(Howatt 1988, pp. 14–15)

Howatt's summary makes it clear that the learning theory to which language teaching experts and reformers were appealing at this time was the general learning theory then dominant in mainstream psychology, *behaviourism*, which we explain more fully in the next section.

#### 2.2.1 Behaviourism

In the behaviourist view (Bloomfield 1933; Skinner 1957; Thorndike 1932; Watson 1924), language learning is seen like any other kind of learning, as the formation of *habits*. It stems from work in psychology which saw the learning of any kind of behaviour as being based on the notions of *stimulus* and *response*. This view sees human beings as being exposed to numerous stimuli in their environment. The response they give to such stimuli will be reinforced if successful, that is if some desired outcome is obtained. Through repeated *reinforcement*, a certain stimulus will elicit the same response time and again, which will then become a habit. The learning of any skill is seen as the formation of habits, that is the creation of stimulus-response pairings

which become stronger with reinforcement. Applied to language learning, a certain situation will call for a certain response, for example meeting someone will call for some kind of greeting, and the response will be reinforced if the desired outcome is obtained, that is if the greeting is understood; in the case of communication breakdown, the particular response will not be reinforced and the learner will abandon it in favour of a response which will hopefully be successful, and therefore reinforced.

When learning a first language, the process is simple: all we have to do is learn a set of new habits as we learn to respond to stimuli in our environment. When learning a second language, however, we run into problems: we already have a set of well-established responses in our mother tongue. The second language learning process therefore involves replacing those habits by a set of new ones. The complication is that the old L1 habits interfere with this process, either helping or inhibiting it. If structures in the L2 are similar to those of the L1, then learning will take place easily. If, however, structures are realized differently in the L1 and the L2, then learning will be difficult. As Lado put it at the time:

We know from the observation of many cases that the grammatical structure of the native language tends to be transferred to the foreign language... we have here the major source of difficulty or ease in learning the foreign language... Those structures that are different will be difficult.

(Lado 1957, pp. 58-9, cited in Dulay *et al.* 1982, p. 99)

Take the example of an English learner learning French as a second language and wanting to say *I am twelve years old*, which in French is realized as *J'ai douze ans* (= I have twelve years), and now consider the same learner learning the same structure in German, which is realized as *Ich bin zwölf Jahre alt* (= I am twelve years old). According to a behaviourist view of learning, the German structure would be much easier and quicker to learn, and the French one more difficult, the English structure acting as a facilitator in one instance, and an inhibitor in the other. Indeed, it may well be the case that English learners have more difficulty with the French structure than the German one, as many French teachers would testify after hearing their pupils repeatedly saying *\*Je suis douze* ('I am twelve'), but more about that later.

From a teaching point of view, the implications of this approach were twofold. First, it was strongly believed that practice makes perfect; in other words, learning would take place by imitating and repeating the same structures time after time.

Second, teachers needed to focus their teaching on structures which were believed to be difficult, and as we saw above, difficult structures would be those that were different in the L1 and the L2, as was the case for the English/French pair cited above. The teacher of French, in our example, would need to engage the pupils in many drilling exercises in order for them to produce the French structure correctly.

The logical outcome of such beliefs about the learning process was that effective teaching would concentrate on areas of difference, and that the best

pedagogical tool for foreign language teachers was therefore a sound knowledge of those areas. Researchers embarked on the huge task of comparing pairs of languages in order to pinpoint areas of difference, therefore of difficulty. This was termed *Contrastive Analysis* (or CA for short) and can be traced back to Fries, who wrote in the introduction to his book *Teaching and Learning English as a Foreign Language*: 'The most effective materials are those that are based upon a scientific description of the language to be learned, carefully compared with a parallel description of the native language of the learner' (Fries 1945, p. 9, cited in Dulay *et al.* 1982, p. 98). Work in this tradition has some continuing influence on second/foreign language pedagogy (Howatt 1988, p. 25), in spite of the many criticisms it has suffered which we will now discuss.

### 2.2.2 Behaviourism under attack

Starting in the 1950s and continuing in the 1960s, both the fields of linguistics and of psychology witnessed major developments. Linguistics saw a shift from structural linguistics, which was based on the description of the surface structure of a large corpus of language, to generative linguistics which emphasized the rule-governed and creative nature of human language. This shift had been initiated by the publication in 1957 of *Syntactic Structures*, the first of many influential books by Noam Chomsky.

In the field of psychology, the pre-eminent role for the environment which was argued by Skinner in shaping the child's learning and behaviour was losing ground in favour of more developmentalist views of learning, such as Piaget's cognitive developmental theory, in which inner forces drive the child, in interaction with the environment (Piaget 1970; Piaget and Inhelder 1966; Piarelli-Palmarini 1980).

The clash of views about the way in which we learn language came to a head at the end of the 1950s with two publications. These were Skinner's *Verbal Behavior* in 1957 which outlined in detail his behaviourist view of learning as applied to language, and Chomsky's review of Skinner's book, published in 1959, which was a fierce critique of Skinner's views.

Chomsky's criticisms centred on a number of issues.

- 1 The creativity of language: children do not learn and reproduce a large set of sentences, but they routinely create new sentences that they have never learnt before. This is only possible because they internalize rules rather than strings of words; extremely common examples of utterances such as *it broke* or *Mummy goed* show clearly that children are not copying the language around them but applying rules. Chomsky was incensed by the idea that you could compare the behaviour of rats in a laboratory, learning to perform simple tasks, to the behaviour of children learning language

without direct teaching, a fundamentally different task because of its sheer complexity and abstractness.

- Given the complexity and abstractness of linguistic rules (for example, the rules underlying the formation of questions in many languages, or the rules underlying the use of reflexive pronouns in English, discussed in Chapter 3), it is amazing that children are able to master them so quickly and efficiently, especially given the limited input they receive. This has been termed 'Plato's problem' (Chomsky 1987), and refers specifically to the fact that some of the structural properties of language, given their complexity, could not possibly be expected to be learned on the basis of the samples of language around them. Furthermore, children have been shown not to be usually corrected on the form of their utterances but rather on their truth values. When correction does take place, it seems to have very little effect on the development of language structure.

For the above reasons, Chomsky claimed that children have an innate faculty which guides them in their learning of language. Given a body of speech, children are programmed to discover its rules, and are guided in doing that by an innate knowledge of what the rules should look like. We will leave fuller discussion of Chomsky's ideas until Chapter 3. Suffice to say for now that this revolutionary approach to the study of language gave a great stimulus to the field of psycholinguistics, and especially to the study of language acquisition. The next section reviews work that took place in the 1970s, which was heavily influenced by these new ideas.

## 2.3 The 1970s

### 2.3.1 First language acquisition

The work outlined above was a great stimulus to investigations of the acquisition of language in young children, by researchers such as Klima and Bellugi (1966), Dan Slobin (1970) or Roger Brown (1973). They found striking similarities in the language learning behaviour of young children, whatever the language they were learning. It seems that children all over the world go through similar stages, use similar constructions in order to express similar meanings, and make the same kinds of errors. The stages can be summarized as follows (Aitchison 1989, p. 75).

Language stage	Beginning age <sup>2</sup>
Crying	Birth
Cooing	6 weeks
Babbling	6 months
Intonation patterns	8 months
One-word utterances	1 year
Two-word utterances	18 months
Word inflections	2 years

Questions, negatives	2 years 3 months
Rare or complex constructions	5 years
Mature speech	10 years

These stages are not language-specific, although their actual realization obviously is.

Similarly, when studying the emergence of a number of structures in English, a consistent *order of acquisition* was found. Roger Brown's so-called 'morpheme study' is probably the best-known L1 study of that time, and was to be very influential for second language acquisition research. In an in-depth study of three children of different backgrounds, he compared the development of fourteen grammatical morphemes in English. He found that although the rate at which children learnt these morphemes varied, the order in which they acquired them remained the same for all children, as listed below in a simplified form.

Present progressive	boy singing
Prepositions	dolly in car
Plural	sweeties
Past irregular	broke
Possessive	baby's biscuit
Articles	a car
Past regular	wanted
3rd person singular	eats
Auxiliary be	he is running.

What is striking is that, not only do children acquire a number of grammatical morphemes in a fixed order, but they also follow fairly rigid stages during the acquisition of a given area of grammar. For example, children all over the world not only acquire negatives around the same age, but they also mark the negative in similar ways in all languages, by initially attaching some negative marker to the outside of the sentence: *no go to bed*, *pas faut boire* (= not need drinking) etc., and gradually moving the negative marker inside the sentence, following the stages exemplified below for English (Ellis 1994, p. 78, based on Klima and Bellugi 1966 and Cazden 1972).

Stage 1: Negative utterances consist of a 'nucleus' (i.e. the positive proposition) either preceded or followed by a negator.

*wear mittens no*  
*not a teddy bear*

Stage 2: Negators are now incorporated into affirmative clauses. Negators at this stage include *don't* and *can't*, used as unitary items. Negative commands appear.

*there no squirrels*  
*you can't dance*  
*don't bite me yet*

Stage 3: Negators are now always incorporated into affirmative clauses. The 'Auxiliary + not' rule has been acquired, as *don't*, *can't*, etc. are now analysed. But some mistakes still occur (e.g. copula *be* is omitted from negative utterances and double negatives occur).

*I don't have a book  
Paul can't have one  
I not crying  
no one didn't come*

These stages are not unlike the stages followed by second language learners as outlined in Chapter 1 (1.4.4). Similar phenomena can be observed for the acquisition of interrogatives and other structures.

Another important characteristic of child language which started to receive attention is that it is rule-governed, even if initially the rules children create do not correspond to adult ones. As early as the two-word stage, children express relationships between elements in a sentence, such as possession, negation or location, in a consistent way. Also, it has been demonstrated convincingly that when children produce an adult-like form which is the result of the application of a rule, such as for example adding *-s* to *dog* in order to produce the plural form *dogs*, they are not merely imitating and repeating parrot-fashion the adult language around them. Two kinds of evidence prove that very clearly. First, children commonly produce forms such as *sheeps* or *breads*, which they have never heard before and are therefore not imitating. Second, some ingenious and now famous experiments were carried out with very young children back in the 1950s (Berko 1958) in which children were shown a picture of a strange bird-like creature and told e.g. *this is a wing*; they were then shown a picture of two of those creatures and told *Now there's another one. There are two of them. There are two ... ?* Children invariably replied *wings* (91 per cent of them), showing that they do not merely learn plurals by remembering each plural form they hear, but that they extract a plural rule from the language they hear, and then apply that rule to their own productions. This experiment did not only contain a series of nonsense nouns, but also nonsense verbs; for example, children were shown a picture of a person doing some strange action and told *This person knows how to gling. He is glinging. Yesterday, he did the same thing. Yesterday, he ... ?* Children consistently answered *glinged* (77 per cent of them), again showing that they had created a rule for forming the past tense. In fact, children go through a stage initially of correctly supplying irregular past tense forms such as *took* or *went*, on the basis of having learnt these forms individually,<sup>3</sup> before having created the past tense rule. When they do so, they start producing forms such as *taked* and *goed* which can persist a very long time in spite of any attempts at correction by worried parents who might think their child is regressing. It is only much later that children will be able to take on board exceptions to rules.

The fact that children do not seem to correct their 'errors' on the basis of adult overt or implied correction of children's utterances is well documented in the first language acquisition literature. The following dialogue is typical of the uselessness of such attempts (quoted in Pinker 1994, p. 281). The psychologist Martin Braine once tried for several weeks to stamp out one of his daughter's grammatical errors. Here is the result:

CHILD: Want other one spoon, Daddy  
FATHER: You mean, you want THE OTHER SPOON  
CHILD: Yes, I want other one spoon, please, Daddy  
FATHER: Can you say 'the other spoon'?  
CHILD: Other ... one ... spoon  
FATHER: Say ... 'other'  
CHILD: Other  
FATHER: 'Spoon'  
CHILD: Spoon  
FATHER: 'Other ... spoon'  
CHILD: Other ... spoon. Now give me other one spoon?

This famous example is typical of such attempts, and this child is neither slow in her development, nor particularly stubborn; it is as if she cannot make the alternative proposed by her father fit within her current grammar. From this necessarily brief and oversimplified account of 1970s' first language acquisition research, the following characteristics emerge.

- 1 Children go through stages.
- 2 These stages are very similar across children for a given language, although the rate at which individual children progress through them is highly variable.
- 3 These stages are similar across languages.
- 4 Child language is rule-governed and systematic, and the rules created by the child do not necessarily correspond to adult ones.
- 5 Children are resistant to correction.
- 6 Children's processing capacity limits the number of rules they can apply at any one time, and they will revert to earlier hypotheses when two or more rules compete.

These findings seemed to support Chomsky's claims that children followed some kind of pre-programmed, internal route in acquiring language.

### 2.3.2 Second language learning: the birth of Error Analysis

The findings reported above soon came to the attention of researchers and teachers interested in second language acquisition. This was the case, not only because of their intrinsic interest, but also because the predictions made by Contrastive Analysis did not seem to be borne out in practice. Teachers were finding out in the classroom that constructions that were different in pairs of languages were not necessarily difficult, and that constructions that were similar in two languages were not necessarily easy either. Moreover, difficulty sometimes occurred in one direction but not the other. For example, the placement of unstressed object pronouns in English and French differs: whereas English says *I like them*, French says *Je les aime* (*I them like*). Contrastive Analysis would therefore predict that object pronoun placement

would be difficult for both English learners of French and French learners of English. This is not the case, however; whereas English learners of French do have problems with this construction and produce errors such as \**J'aime les* in initial stages, French learners of English do not produce errors of the type *I them like*, as would be predicted by CA. The task of comparing pairs of languages in order to design efficient language teaching programmes now seemed to be disproportionately huge in relation to its predictive powers: if it could not adequately predict areas of difficulty, then the whole enterprise would be pointless.

These two factors combined – developments in first language acquisition and disillusionment with CA – meant that researchers and teachers became increasingly interested in the language produced by learners, rather than the target language or the mother tongue. This was the origin of *Error Analysis*, the systematic investigation of second language learners' errors. The language produced by learners began to be seen as a linguistic system in its own right, worthy of description. Corder (1967) was the first to focus attention on the importance of studying learners' errors, as it became evident that they did not all originate in the first language by any means. The predictions of Contrastive Analysis, that all errors would be due to interference from the L1, were shown to be unfounded, as many studies showed convincingly that the majority of errors could not be traced to the L1, and also that areas where the L1 should have prevented errors were not always error-free. For example, Hernández-Chávez (1972) showed that, although the plural is realized in almost exactly the same way in Spanish and in English, Spanish children learning English still went through a phase of omitting plural marking. Such studies became commonplace, and a book-length treatment of the topic appeared in 1974 (Richards' *Error Analysis: Perspectives on Second Language Learning*).

In a review of studies looking at the proportion of errors that can be traced back to the first language, Ellis (1985) found that there was considerable variation in the findings, with results ranging from 3 per cent of errors attributed to the L1 (Dulay and Burt 1973), to 51 per cent (Tran-Chi-Chau 1975), with a majority of studies finding around a third of all errors traceable to the L1. Error Analysis thus showed clearly that the majority of the errors made by second language learners do not come from their first language.

The next question therefore was: where do such errors come from? They are not target-like, and they are not L1-like; they must be learner-internal in origin. Researchers started trying to classify these errors in order to understand them, and to compare them with errors made by children learning their mother tongue. This was happening at the same time as the developments in first language acquisition which we mentioned above, whereby child language was now seen as an object of study in its own right, rather than as an approximation of adult language. In second language learning research, coupled with the interest in understanding learner-internal errors, interest in the overall character of the L2 system was also growing.

The term *interlanguage* was coined in 1972 by Selinker to refer to the language produced by learners, both as a system which can be described at any one point in time as resulting from systematic rules, and as the series of interlocking systems that characterize learner progression. In other words, the notion of interlanguage puts the emphasis on two fundamental notions: the language produced by the learner is a *system* in its own right, obeying its own rules, and it is a *dynamic* system, evolving over time. Interlanguage studies thus moved one step beyond Error Analysis, by focusing on the learner system as a whole, rather than only on what can go wrong with it.

### 2.3.3 Morpheme studies and second language learning

As far as second language acquisition research is concerned, the most important empirical findings of this period were probably the results of the so-called *morpheme studies*, and at a conceptual level, Krashen's *Monitor Model*, which was a logical theoretical development arising from such studies.

The L2 morpheme studies were inspired by the work of Roger Brown (1973) in L1 acquisition which we briefly mentioned above. Brown had found a consistent order of emergence of 14 grammatical morphemes in English in his longitudinal study. The same order was confirmed by other researchers, e.g. by de Villiers and de Villiers (1973) in their cross-sectional<sup>4</sup> study of 20 children acquiring English as a first language.

Researchers in second language acquisition set about investigating the acquisition of the same grammatical morphemes in L2 learners. Dulay and Burt (1973, 1974c, 1975) were the first to undertake such studies, reporting first of all on the accuracy of production of eight of Brown's morphemes in Spanish-speaking children acquiring English as an L2 (1973). Their study was cross-sectional, and was based on the speech of three groups of Spanish-speaking children of different abilities (in terms of their length of exposure to English as immigrants in the United States).

There were 151 children in the study, and the method used for eliciting speech was the Bilingual Syntax Measure, a structured conversation elicitation technique based on cartoons and designed to elicit certain grammatical constructions. They found that 'the acquisition sequences obtained from the three groups of children were strikingly similar. This was so even though each group on the whole was at a different level of English proficiency' (Dulay *et al.* 1982, p. 204). Dulay and Burt (1974c) then carried out a similar study, but this time using children from different L1s, namely Chinese and Spanish. They found very similar acquisition orders for these structures for both Spanish and Chinese children for 11 of Brown's grammatical morphemes. Encouraged by these results, Dulay and Burt (1975) extended their study to include 536 Spanish- and Chinese-speaking children of varying levels of proficiency in English as a second language, and they investigated 13 of Brown's

original morphemes. They found a clear hierarchy for the acquisition of these morphemes, with four different groups of morphemes being acquired in a set order, no matter the L1, as shown in Figure 2.1 (from Dulay, Burt and Krashen 1982, p. 208). They conclude: 'It is highly probable that children of different language backgrounds learning English in a variety of host country environments acquire eleven grammatical morphemes in a similar order' (Dulay *et al.* 1982, pp. 207-9). If the results seem clear as far as child L2 learners are concerned, it does not necessarily follow that adults would also exhibit

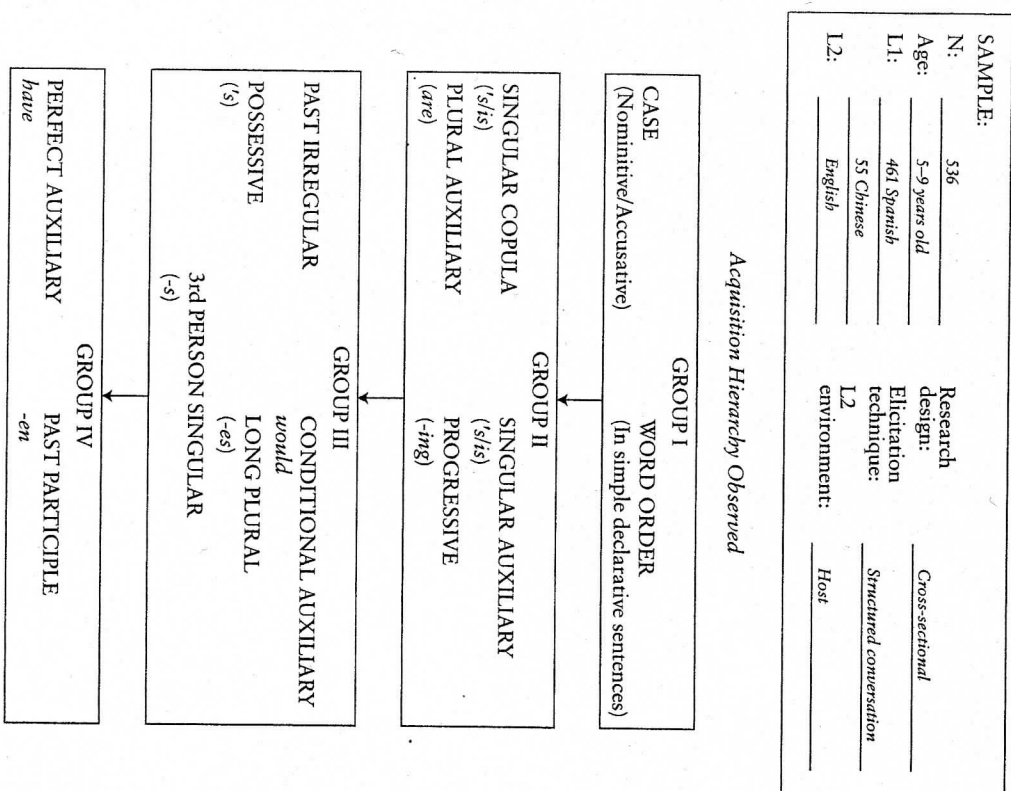


Fig. 2.1 Acquisition hierarchy for 13 English grammatical morphemes for Spanish-speaking and Cantonese-speaking children

the same order of acquisition. After all, children might approach the task of second language learning more like the learning of an L1 than adults do.

Bailey *et al.* (1974) conducted a similar study with adults. They used the same elicitation method (Bilingual Syntax Measure) in order to investigate the accuracy of production of the eight morphemes studied in Dulay and Burt (1973), in 73 adult learners of English from twelve different L1 backgrounds. Their results were very similar to those reported in the case of children by Dulay and Burt (1973, 1974c), as shown in Figure 2.2, taken from Dulay and Burt 1982, p. 210.

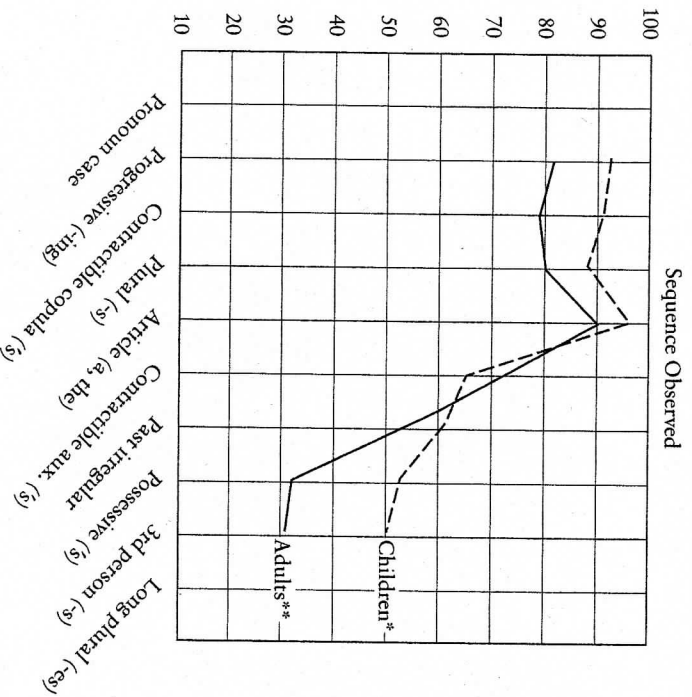
These morpheme acquisition studies attracted criticism, both at the time and subsequently; this critique is reviewed for example by Gass and Selinker (1994, pp. 84-7). (The criticisms are mainly about the elicitation technique used in these early studies which was thought to bias the results, and also about the assumption that relative accuracy of production reflects acquisition sequences.)<sup>5</sup> However, the basic argument that both child and adult learners of English as an L2 developed accuracy in a number of grammatical morphemes in a set order, no matter what the context of learning (classroom, naturalistic, mixed), survived the critique. The fact that this set order did not match the order found by Brown or de Villiers and de Villiers for first language acquisition is neither here nor there. The existence of such an order suggested that L2 learners are guided by internal principles which are largely independent of their first language; this was a strong blow for any proponents of Contrastive Analysis.

Moreover, soon after, a number of studies were reported which strongly suggested that systematic staged development could be found in a number of syntactic domains as well. For example, the acquisition of negative structures in English L2 was shown to occur in well-defined stages, by several early studies (cited in Adams 1978; Butterworth and Hatch 1978; Cazden *et al.* 1975; Ellis 1994, p. 99; Milton 1974; Raven 1968; Wode 1978, 1981). Similar stages were also noted in the acquisition of negatives in German as a second language (Clahsen 1982; Felix 1978; Lange 1979; Plenemann 1981). In summary: 'Despite the differences in the final states towards which learners of English and German are targeted, marked similarities in the sequence of acquisition of negatives in the two languages can be seen' (Ellis 1994, p. 101). Moreover, the acquisition of negatives in English by L2 learners is not dissimilar to that of children acquiring English as their L1 (see Section 2.2.1).

The acquisition of other syntactic structures such as interrogatives, relative clauses, German word order, etc. are also well documented as exhibiting uniform patterns of acquisition, whatever the L1 of the learner (Ellis 1994, pp. 99-105, provides a comprehensive review of early studies). Moreover, the stages followed by L2 learners in the acquisition of these other areas of syntax show corresponding similarities to those followed by children learning their first language.

Thus, the 1970s witnessed a wealth of studies investigating development in L2 learners which seemed to show convincingly that it is systematic, that it is

SAMPLE:	
N:	73
Age:	17-55 years old
L1:	Greek, Persian, Italian, Turkish, Japanese, Chinese, Thai, Afghani, Hebrew, Arabic, Vietnamese
L2:	English
Research design:	Cross-sectional
Elicitation technique:	Structured conversation
L2 environment:	Host



Correlation Coefficients and Significance Levels:

Children	Adults (Spanish Ss) (Spearman)
	$r_{ho} = .976$ ( $p < .01$ )

Fig. 2.2 Comparison of adult and child acquisition sequences

largely independent of the L1 of the learner, and that it presents many similarities with L1 acquisition, even though there are differences. These were major empirical findings which undermined contemporary beliefs about how second languages are acquired.

Before moving on to examine the theoretical proposals advanced to explain such findings, let us pause for an instant on the last point, namely the finding that acquisitional patterns in L1 and L2 learning were both similar and different, as it is still today an issue which is fiercely debated and highly controversial. Remember that the discovery of acquisition sequences in first language acquisition was linked to the theory that children are endowed with a language faculty which guides them in the hypotheses they make about the language around them. Brown's order of acquisition of grammatical morphemes was seen as evidence to support this view. So, what can we make of the finding that L2 learners also follow an order of acquisition, but that this order is different? The fact that they do follow such an order suggests that they are indeed guided by some set of internal principles, as children are. On the other hand, the fact that this order varies from that found for L1 suggests that these internal principles are different, in some respects at least.

A somewhat confused picture therefore emerges from the empirical work characteristic of the 1970s, and the 1980s' research agenda has tried to address some of these issues. But before we turn to the 1980s, we need to consider a highly influential attempt to conceptualize these issues in the first comprehensive model of second language acquisition, Krashen's Monitor Model.

### 2.3.4 Krashen's Monitor Model

Krashen's theory evolved in the late 1970s in a series of articles (1977a, 1977b, 1978), as a result of the findings outlined above. Krashen thereafter refined and expanded his ideas in the early 1980s in a series of books (Krashen 1981, 1983, 1985).<sup>6</sup> Krashen based his general theory on a set of five basic hypotheses:

- 1 the Acquisition-Learning Hypothesis;
- 2 the Monitor Hypothesis;
- 3 the Natural Order Hypothesis;
- 4 the Input Hypothesis;
- 5 the Affective Filter Hypothesis.

We shall briefly outline each of these in turn.

#### 2.3.4.1 THE ACQUISITION-LEARNING HYPOTHESIS

This hypothesis has been highly influential, and, albeit in a different form, still remains the source of much debate today. The basic premise is that language acquisition, on the one hand, and learning on the other, are separate processes. Acquisition refers to the 'subconscious process identical in all important ways to the process children utilize in acquiring their first language' (Krashen 1985, p. 1), and learning refers to the 'conscious process that results in "knowing about" language' (1985, p. 1). In other words, acquisition

is the result of natural interaction with the language via meaningful communication, which sets in motion developmental processes akin to those outlined in first language acquisition, and learning is the result of classroom experience, in which the learner is made to focus on form and to learn about the linguistic rules of the target language.

The contrast between the naturalistic environment and the classroom environment is not the crucial issue, however. What is claimed to be important is the difference between meaningful communication on the one hand, which can very well take place in the language classroom and which will trigger subconscious processes, and conscious attention to form on the other hand, which can also take place in naturalistic settings, especially with older learners who might explicitly request grammatical information from people around them. Krashen has been criticised for his vague definition of what constitutes conscious versus subconscious processes, as they are very difficult to test in practice: how can we tell when a learner's production is the result of a conscious process and when it is not? None the less, this contrast between acquisition and learning has been very influential, especially among foreign language teachers who saw it as an explanation of the lack of correspondence between error correction and direct teaching on one hand, and their students' accuracy of performance on the other. If there was some kind of internal mechanism constraining learners' development, then it could account for the fact that some structures, even simple ones like the third person singular *-s* in English (*he likes*), can be so frustrating to teach, with learners knowing the rule consciously, but often being unable to apply it in spontaneous conversation. In Krashen's terminology, learners would have learned the rule, but not acquired it.

What is also very problematic in this distinction is Krashen's claim that learning cannot turn into acquisition, i.e. that language knowledge acquired/learned by these different routes cannot eventually become integrated into a unified whole (Krashen and Scarella 1978). Other researchers disagree (e.g. Gregg 1984; McLaughlin 1987), and the debate about whether different kinds of knowledge interact or remain separate, is still alive today, even though the terms used might differ (e.g. Schwartz 1993; Towell and Hawkins 1994; Myles, Hooper and Mitchell, forthcoming; Zobl 1995).

### 2.3.4.2 THE MONITOR HYPOTHESIS

According to Krashen, 'learning' and 'acquisition' are used in very specific ways in second-language performance. The Monitor Hypothesis states that 'learning has only one function, and that is as a Monitor or editor' and that learning comes into play only to 'make changes in the form of our utterance, after it has been "produced" by the acquired system' (1982, 15). Acquisition 'initiates' the speaker's utterances and is responsible for fluency. Thus the Monitor is thought to alter the output of the acquired system before or after the utterance is actually written or spoken, but the utterance is initiated entirely by the acquired system. (McLaughlin, 1987, p. 24)

It is quite clear from the above that the Monitor does not operate all the time. Given enough time, when a focus on form is important for the learner, and when the learner knows the grammatical rule needed, they might make use of the Monitor in order to consciously modify the output produced by the acquired system. Needless to say, the pressures and demands of conversing in the second language in real time do not often allow for such monitoring to take place. Krashen's Monitor has been criticized for that reason, and also for the fact that attempts to test its predictions have been unsuccessful, for example in studies comparing learners when given more time (Hulstijn and Hulstijn 1984), or being made to focus on form (Houck *et al.* 1978; Krashen and Scarella 1978), or checking whether learners who are able to explain the rules perform better than learners who do not (Hulstijn and Hulstijn 1984).

Krashen used the Monitor in order to explain individual differences in learners. He suggests that it is possible to find Monitor 'over-users' who do not like making mistakes and are therefore constantly checking what they produce against the conscious stock of rules they possess. Their speech is consequently very halting and non-fluent. On the other hand, Monitor 'under-users' do not seem to care very much about the errors they make, and for them, speed and fluency are more important. Such learners rely exclusively on the acquired system and do not seem able or willing to consciously apply anything they have learnt to their output. In between the two are the supposed 'optimal' Monitor users, who use the Monitor when it is appropriate, that is when it does not interfere with communication.

The problem with such claims, even though they might have some intuitive appeal, is that they are at present impossible to test empirically: how do we know when a learner is consciously applying a rule or not, or, in other words, whether the source of the rule that has been applied is the acquired system or the learned system?

### 2.3.4.3 THE NATURAL ORDER HYPOTHESIS

We acquire the rules of language in a predictable order, some rules tending to come early and others late. The order does not appear to be determined solely by formal simplicity and there is evidence that it is independent of the order in which rules are taught in language classes.

(Krashen 1985, p. 1)

Although there is evidently some truth in such a statement, it has been criticized for being too strong. It ignores well-documented cases of language transfer, or of individual variability. Not only are such cases ignored, but there is no place for them in Krashen's theory. Krashen's Natural Order Hypothesis has also been criticized for being based almost exclusively on the morpheme studies with their known methodological problems, and which, in any case, reflect accuracy of production rather than acquisition sequences.

A weak version of the Natural Order Hypothesis is undoubtedly supported by the kind of empirical evidence on L2 learning which we reviewed



in Sections 2.3.2 and 2.3.3. However, Krashen gives us little help in understanding why this should be the case.

#### 2.3.4.4 THE INPUT HYPOTHESIS

The Input Hypothesis is linked to the Natural Order Hypothesis in that it claims that we move along the developmental continuum by receiving *comprehensible input*. Comprehensible input is defined as L2 input just beyond the learner's current L2 competence, in terms of its syntactic complexity. If a learner's current competence is  $i$ , then comprehensible input is  $i + 1$ , the next step in the developmental sequence. Input which is either too simple (already acquired) or too complex ( $i + 2/3/4 \dots$ ) will not be useful for acquisition. Krashen views the Input Hypothesis as central to his model of second language acquisition:

- a) Speaking is a result of acquisition and not its cause. Speech cannot be taught directly but 'emerges' on its own as a result of building competence via comprehensible input.
- b) If input is understood, and there is enough of it, the necessary grammar is automatically provided. The language teacher need not attempt deliberately to reach the next structure along the natural order – it will be provided in just the right quantities and automatically reviewed if the student receives a sufficient amount of comprehensible input.

(Krashen 1985, p. 2)

Krashen's Input Hypothesis has been frequently criticized for being vague and imprecise: how do we determine level  $i$ , and level  $i + 1$ ? Nowhere is this vital point made clear. Moreover, Krashen's claim is somewhat circular: acquisition takes place if the learner receives comprehensible input, and comprehensible input is claimed to have been provided if acquisition takes place. The theory becomes impossible to verify, as no independently testable definition is given of what comprehensible input actually consists of, and therefore of how it might relate to acquisition. Nor, of course, does the theory specify the internal workings of the 'Language Acquisition Device' where acquisition actually takes place – this remains a total black box.

#### 2.3.4.5 THE AFFECTIVE FILTER HYPOTHESIS

As we have just seen, Krashen believes that learners need to receive comprehensible input for language acquisition to take place. This is not sufficient, however. Learners also need to 'let that input in', as it were. This is the role of the so-called Affective Filter, which supposedly determines how receptive to comprehensible input a learner is going to be.

The Affective Filter Hypothesis captures the relationship between affective variables and the process of second language acquisition by positing that acquirers vary with respect to the strength or level of their affective filters. Those whose attitudes are not optimal for second language acquisition will not only tend to

seek less input, but they will also have a high or strong affective filter – even if they understand the message, the input will not reach that part of the brain responsible for language acquisition, or the Language Acquisition Device. Those with attitudes more conducive to second language acquisition will not only seek and obtain more input, they will also have a lower or weaker filter. They will be more open to the input, and it will strike 'deeper'.

(Krashen 1982, p. 31)

Although both researchers and teachers would agree that affective variables play an important role in second language acquisition, Krashen's Affective Filter remains vague and atheoretical. For example, many self-conscious adolescents suffer from low self-esteem and therefore presumably have a 'high' filter. Are they therefore all bad language learners? And are all confident and extrovert adults (with a 'low' filter) good language learners? Clearly not. Moreover, how does the Affective Filter actually work? All these issues remain vague and unexplored.

To conclude, in this brief account we have reflected criticisms of Krashen's five hypotheses and of his overall model which have been current almost since Krashen first advanced them. It remains true none the less that Krashen's ideas have been highly influential in shaping many research agendas and projects, and in so doing, considerably advancing our understanding of second language acquisition. Krashen's main overall weakness was the presentation of what were just hypotheses that remained to be tested, as a comprehensive model that had empirical validity. He then used his hypotheses prematurely as a basis for drawing pedagogical implications.

#### 2.3.5 Schumann's pidginization/accluturation model

Other models appeared in the 1970s which attempted similarly to theorise SLA findings. We will mention very briefly here one other model, as it views second language acquisition from a radically different angle, and has also remained influential during the following two decades.

Schumann first proposed his pidginization/accluturation model in the late 1970s (1978a, 1978b, 1978c). On the basis of naturalistic studies of unrutored learners, he noticed that early interlanguages resemble pidgin languages (i.e. simplified trading languages which lack native speakers: Sebba 1997), with characteristic features such as fixed word order and lack of inflections. Second language acquisition was compared to the complexification of pidgins, and this process was linked to degree of acculturation of the learners. The closer they feel to the target language speech community, the better learners will 'acculturate', and the more successful their L2 learning will be. The more alienated from that community they perceive themselves to be, the more pidgin-like their L2 will remain.

This model was influential in opening up alternative lines of research comparing SLA with pidginization and creolization, and in bringing to the fore social psychological variables and their role in SLA. For a substantial period of time, Schumann's proposals were the most theoretically ambitious claims

about SLA which drew on sociolinguistic thinking. In Chapter 8 we revisit this model in more detail, and reassess it alongside other, newer sociolinguistic approaches.

## 2.4 The 1980s

We will not review this period in detail here, as the rest of the book is devoted to outlining the different approaches and the empirical work attached to them which followed in the 1980s and 1990s. In this section, we will briefly summarize the ongoing research agenda which arose from the major developments of the 1970s.

By the mid-1980s, the field of second language learning research was no longer subordinate to the immediate practical requirements of curriculum planning and language pedagogy. Instead it had matured into a much more autonomous field of enquiry, encompassing a number of substantial programmes of research, with their distinctive theoretical orientations and methodologies. The links with other related disciplines have by no means disappeared, however, and we will see throughout this book that many new links have developed. Research into the structure of language(s) and its use continues to be extensively drawn upon, and so is research into language variation and change. New links have emerged with cognitive science (e.g. the development of fluency; the role of consciousness), with neuropsychology (e.g. connectionist models; modularity of the brain), and with sociocultural frameworks (Vygotskian learning theory) which have greatly enriched our perception of the many facets of second language acquisition. But the SLA research agenda continues to focus on a number of fundamental issues carried forward from the 1970s, as follows.

- 1 The role of internal mechanisms.
  - (a) Language specific: how similar are the first and second language acquisition processes, and how far are the similarities due to language specific mechanisms still being activated? If language-specific mechanisms are important, how can they best be modelled? How relevant is the current Chomskyan conception of Universal Grammar?
  - (b) Cognitive: in what respects are second language learning and processing similar to the learning and processing of any other complex skill?
- 2 The role of the first language. It is clear that cross-linguistic influences from the first and other languages are operating in second language acquisition, but it is also clear that such language transfer is selective: some L1 properties transfer and others do not. An important aspect of today's research agenda is still to understand better the phenomenon of transfer.
- 3 The role of psychological variables. How do individual characteristics of the learner, such as motivation, personality, language aptitude, etc. affect the learning process?
- 4 The role of social and environmental factors. How similar is the learning

of a second language to the creation of pidgins and creoles? How does the overall socialization of the second language learner relate to the language learning process?

We will now turn to examine how these issues have been tackled across the range of current perspectives on L2 learning, starting in Chapter 3 with linguistics-inspired attempts to model the contents of the 'black box' of the Language Acquisition Device, left largely unexplored in the proposals of Krashen.

## Notes

- 1 Asterisks are traditionally used in linguistics in order to indicate ungrammatical sentences.
- 2 The ages are given as a very rough guideline only; children vary considerably both in the age of onset of a given phase, and in how fast they proceed from one phase to another. All children normally go through the stages in the order indicated, however.
- 3 It is important to note that a large proportion of the verbs which are commonplace in the linguistic environment of the child have irregular past tense forms. For example, verbs such as *give, run, do, come, sit, sleep, fall, find, eat, hit, break*, will form part of both the early vocabulary used by the child, and of the typical verbs used by adults when addressing children.
- 4 A longitudinal study is where a (usually small) group of subjects is studied over a period of time. A cross-sectional study on the other hand investigates a (usually large) group of subjects at one point in time. In the case of developmental studies, cross-sectional studies take representative samples of subjects at different stages of development and compare their behaviour, inferring development when behaviour changes between two stages. Both types of studies have their advantages and disadvantages, and have been used extensively in language acquisition research.
- 5 The morpheme studies measured the accuracy of production of their subjects on the grammatical morphemes studied. Subjects were deemed to have acquired a morpheme if they supplied it correctly in at least 90 per cent of the obligatory contexts (e.g. if they produced the morpheme *-s* in at least 90 per cent of the cases when the context required a plural noun). Researchers then equated accuracy of production with acquisition, and have been criticised for doing that.
- 6 For a useful and comprehensive critique of Krashen's work, see McLaughlin (1987, pp. 19–58).