THE ACQUISITION OF SYNTAX IN FIRST AND SECOND LANGUAGE LEARNING

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Après de vastes recherches faites sur l'apprentissage de l'anglais comme deuxième langue avec des étudiants chinois, les auteurs de cet article arrivent à la conclusion que la capacité de jeunes et d'adultes qui apprennent une deuxième langue se distingue considérablement de celle d'enfants apprenant leur langue maternelle. Ce résultat contredit la théorie répandue selon laquelle la manière dont les adultes apprennent une deuxième langue serait qualitativement identique à celle dont les enfants apprennent leur première langue. Il s'ensuit des conséquences pour la didactique et la méthodique de l'enseignement des langues étrangères.

Nach umfangreichen Untersuchungen an chinesischen Studenten, die Englisch als Zweitsprache lernten, kommen die Verfasser dieses Artikels zu dem Schluß, daß die Lernfähigkeit von Jugendlichen und Erwachsenen, die eine zweite Sprache lernen, sich von der Lernfähigkeit von Kindern, die ihre Muttersprache lernen, beträchtlich unterscheidet. Dieses Ergebnis widerspricht der weitverbreiteten Theorie, daß die Fähigkeit von Erwachsenen zum Erlernen einer Fremdsprache qualitativ gleichzusetzen ist mit der Fähigkeit von Kindern zum Erwerb der Muttersprache. Daraus ergeben sich Folgen für die Didaktik und Methodik des Fremdsprachenunterrichts.

1.

In this paper we present data which indicate that the language learning capability of adolescents and adults who are acquiring a second language differs from that of children who are acquiring their native language; thus the successful teaching and learning of a second language must differ from the teaching and learning of a first language. These views contrast with claims made by Newmark and Reibel (1968) in their article "Necessity and Sufficiency in Language Learning" (and with claims made by other investigators who will be mentioned below). According to Newmark and Reibel, "a minimal viable theory of foreign language learning assumes a language learning capability qualitatively the same – though perhaps quantitatively different – in the adult and in the child" (p. 248). If one accepts this assumption, one will naturally attempt to assimilate to the greatest extent possible the acquisition of a second language in adults to the acquisition of a first language in children, where, as Newmark and Reibel put it, "the linguistic material displayed to the learner is not selected in the interest of presenting discrete grammatical skills in an orderly fashion. On the contrary, the child is exposed to an extensive variety and range of utterances selected for their situational appropriateness at the moment, rather than to illustrate a particular grammatical principle" (p. 236).[1] Stated somewhat differently by the same authors, "this [language learning] capability enables the [adult] learner to acquire the general use of a foreign language by observation and exercise of particular instances of the language in use [i.e. dialogues]" (p. 248).

Our data come from a written test which was administered in Taiwan, Republik of China, to 475 junior and senior high school students who are native speakers of Chinese and who were studying English as a second language. The test consisted of translating from English into Chinese four sentences structurally identical to those used by Carol Chomsky (1969) in her study, *The Acquisition of Syntax in Children from 5 to 10*:

(1) Jack is easy to see.
(2) Jack promised Bob to go.
(3) Jack asked Bob what to do.
(4) She knew that Jane was going to win the race.

The problem involved in sentences like (1) is to determine the subject of each verb; in sentences like (2) and (3), the problem is to determine the subject of the verb in the embedded sentence; and in sentences like (4), the problem is to determine the person to whom the pronoun refers.

In the following, we shall briefly review Chomsky's investigation of first language acquisition(§ 2); we shall then describe the procedure and results of our own investigation (§ 3); thereafter we shall compare our own study with that of Chomsky, in order to highlight differences between first and second language acquisition (§ 4); finally we shall consider the implications of our findings for the Newmark-Reibel hypothesis (§ 5).

2.

In the above-mentioned monograph on the acquisition of English syntax, Chomsky maintains that English is not fully acquired as a first language until after a child has reached the age of ten. She also claims that while one cannot determine the exact chronological age at which a native speaker of English will master a given syntactic structure, it is possible to say that all native speakers of English will master certain syntactic structures in a definite sequence. Furthermore, Chomsky asserts that it is the relative complexity of such structures that determine this sequential ordering during acquisition; structures which are relatively simple will be mastered before those which are relatively complex. Chomsky's investigation involved forty children between the ages of five and ten. Each child was asked to perform a series of linguistic tests designed to measure the child's comprehension of certain syntactic structures; sentences (1) through (4) above illustrate the structures that were investigated in these tests. In particular, Chomsky found that native speakers of English mastered structures like that found in (4) by the age of five and one-half years; that structures like those found in (1) and (2) are mastered by the age of nine years; and that structures like that found in (3) may be mastered after the age of ten. In other words, it is possible to state the latest age at which native children will have learned these structures, if English is their native language.

3.

The details of our investigation and how it was carried out are as follows. Our test was administered at St. Dominic's Junior and Senior High School, a private Roman Catholic institution in Kaohsiung City, Taiwan. St. Dominic's is co-educational and has close to 4,200 students, representing most of the provinces of Taiwan. In order for the discussion which follows to be clear to all readers, it will be necessary at this point for us to provide some information about the school system in Taiwan. In addition to private schools, Taiwan has public junior high schools, called City Junior High Schools, and public senior high schools, called Provincial Senior High Schools. Since these public schools are state-supported, they have lower tuition fees than the private schools do. In order to be admitted to junior and senior high school, a student must pass an entrance examination; however, because of government regulations, the public schools are permitted to test and admit candidates before the private schools may do so. Since there are fewer public senior high schools than there are public junior high schools, the requirements for admission to the former are much higher than the requirements for admission to the latter. On the other hand, among the junior high schools in Taiwan, the standards in private schools are higher than those in the public schools; thus, as a rule, students have little difficulty in gaining admission to the public senior high schools. For this reason, parents are often willing to pay the higher tuition rate of a private junior high schools in order to improve their child's chances for being admitted to a public senior high school. As a result of these conditions, the public senior high schools, which are the first to test and admit students, accept most of the graduates from the private junior high schools. In effect, then, the private senior high schools are allowed to test and admit only those students who were not admitted to the public senior high schools; these students are, in the main, graduates of the public junior high schools.

In Taiwan, junior high school consists of three years of instruction called freshman, sophomore, and junior classes; senior high school also consists of three years of instruction, called freshman, sophomore, and senior classes. The students we chose for our study were in their junior or last year of junior high, and in each year of senior high school. Normally, students begin to learn English in the freshman year of junior high, but we did not include freshmen and sophomores from junior high in our investigation because we felt that their command of English would not be sufficient for the purposes of this test. The participants were ranked by their instructors as neither exceedingly advanced, nor exceedingly slow; their grades fell within the range that would be called "average".

The immediate aim of our investigation was to determine the relative degree of complexity of the structures in sentences (1) through (4) from our students' point of view. In order to do this, we requested that each student translate sentences (1) through (4) from English into Chinese. The students were not asked to translate from their native language into their second language because, in addition to re-

quiring the translation of the syntactic structures which we were testing, such an exercise would have introduced additional problems, such as spelling, and the choice of appropriate vocabulary in the foreign language. Since the students' passive knowledge of English was better than their active knowledge, and since their active knowledge of Chinese was, of course, excellent, we avoided these distracting tasks, which were not essential to our study, by allowing the students to translate from English into Chinese, and thus devote their attention primarily to the translation of the structures being tested. Presumably, the more complex the structure, the fewer the students who would be able to translate it correctly. We also requested that each student indicate which sentence was most troublesome for him to translate, and then discuss the difficulty encountered. Their remarks served as an additional indicator of relative structural complexity.

After the examination was administered, the students' responses were graded and tabulated. Each translated sentence was marked as either correct or incorrect. The sole criterion for marking a translation was whether the difficulty associated with the particular structure (cf. § 1) was translated correctly or not.

3.1

Table I indicates for each class the percentage of students who translated the structures in sentences (1) through (4) correctly. These scores show that the members of the junior class demonstrate greater comprehension of each structure than do the

Table I

Class	Sentences			
	(1)	(2)	(3)	(4)
Juniors	53%	59.5%	81%	88.5%
Freshmen	40.5%	36.5%	48%	69%
Sophomores	40.5%	48.5%	59.5%	67.5%
Seniors	38.5%	69%	67.5%	86.5%

freshman and sophomore classes, and, with respect to the structure in (1), (3), and (4), greater comprehension than the seniors. We believe that the reason for this is that the initial training of the juniors, who began their study of English at St. Dominic's, was superior to that of the senior high school students, who began their study of English in the public high schools. Since the character of the junior class differs so markedly from that of the freshmen, sophomores, and seniors, their scores will be discussed separately from those of the senior high students (cf. § 4.2.1). As a rule, one might expect that the percentage of students who comprehend a particular structure would increase, the longer these students are exposed to their second language; if one views the scores of the freshmen, sophomores, and seniors, an increase

in percentage can be detected with respect to the structures in (2) and (3). Regarding the structure in (4), only the sophomore class mars this picture. It is the scores for the structure in (1), however, which go completely against our expectations, for instead of increasing with longer exposure to the second language, the percentage of students comprehending this structure remains the same for freshmen and sophomores, and drops slightly for seniors. With respect to the structures in (1), (3), and (4), it is significant that not only were the percentages for (1) the lowest, but the number of informants' comments about this structure was the highest (cf. § 4.2); in other words, both the informants' performance, as well as their impressions, reveal that the structure of this sentence was the most difficult. Many of our informants could assign no grammatical interpretation at all to sentence (1); however, the grammatical but incorrect interpretation which other informants assigned was the same as the incorrect interpretation of Chomsky's informants, namely that *Jack* was the subject of the verb *see*.

3.2

Table II ranks sentences (1) through (4), in descending order, according to the percentage of students in each class who translated the structure in each sentence correctly. Column A contains the sentence with the structure comprehended by the

Table II

Class	A	B	C	D
Juniors	4	3	2	1
Freshmen	4	3	1	2
Sophomores	4	3	2	1
Seniors	4	2	3	1

largest percentage of students; Column B, the sentence with the structure comprehended by the second largest percentage of students; Column C, the sentence with the structure comprehended by the third largest percentage of students; and Column D, the sentence with the structure comprehended by the lowest percentage of students. Essentially, Table II indicates that:

a. In the junior class, the structure in (4) was comprehended by the largest percentage of students, followed by the structures in (3), (2), and (1), in that order.
b. In the freshman class, the structure in (4) was comprehended by the largest percentage of students, followed by the structures in (3), (1), and (2), in that order.
c. In the sophomore class, the structure in (4) was comprehended by the largest percentage of students, followed by the structures in (3), (2), and (1), in that order. Although this order parallels that of the junior class, Table I indicates that the percentage scores of the sophomores are lower than those of the juniors.

d. In the senior class, the structure in (4) was comprehended by the largest percentage of students, followed by the structures in (2), (3), and (1), in that order.

3.3

Thus, it is clear that for each class, more students comprehended the structure in (4) than the structures in (1), (2), and (3). With the exception of the freshman class the percentage of students who comprehended the structure in (1) was the lowest. However, even in the freshman class, the figures of Table I show that the percentage of those who comprehended the structure in (1) is not significantly greater than that of those who comprehended the structure in (2). With the exception of the senior class, the structure in (3) was comprehended by the second largest percentage of students.

4.

Before we compare the results of our test with those of Chomsky, it would be well to point out the similarities and differences between the two studies. As far as similarities are concerned, we note that the participants in each investigation come from a mixed socio-economic background, and that the majority of the participants in each investigation were ranked as "average" by their instructors. With respect to dissimilarities, we note the following. Chomsky's informants were being tested in their native language, in order to determine the extent of their mastery of structures in their native language; furthermore, mastery of linguistic structure was being tested according to success in responding to visual and verbal cues. Our participants, on the other hand, were being tested for their ability to comprehend structures in their second language, and were requested to write translations from their second language into their first. Whereas Chomsky had only one way to determine the particular difficulty of the structures she investigated, namely, by observing the errors of her informants, we had one additional indicator at our disposal, namely, the comments of the students. The ages of Chomsky's participants ranged from five to ten years, and an increase in linguistic mastery was measured by an increase in the correct responses of a participant (the number of which increased with chronological age). The ages of our participants ranged from thirteen to twenty years, and an increase in linguistic mastery was reflected by an increase in the percentage of students in each class who translated a sentence correctly. Aside from the obvious innumerable differences in cultural and social environment, the immediate environment of the participants in both studies varied significantly; Chomsky's informants were elementary school pupils, whereas our informants were junior and senior high school students. Because of the absence of any statement to the contrary, we assume that most or all of Chomsky's participants had received their training in Davis Elementary School in Newton, Mass. With respect to English instruction, only the members of the junior class of our investigation had received all of their training at St. Dominic's; the fresh-

man, sophomore, and senior classes of the senior high school consisted largely of transfer students who had received their junior high school training in English from the public junior high schools. As was mentioned above, this is one reason why most of the scores of the senior high school students are lower than those of the juniors, as refelcted in Table I. The participants of both investigations were mixed with respect to sex; however, in Chomsky's study, boys represented 55% of those tested, and girls, 45%; in our investigation, boys represented 45%, and girls, 55%.

4.1

In spite of the contrasts between the two investigations, we feel that a comparison of the findings would be meaningful, and that some conclusions may be drawn concerning differences between first and second language acquisition. By the time that they reach adolescence, 100% of the participants in Chomsky's study will have mastered the structures tested. Table I clearly indicates, however, that among the seniors we tested, the highest percentage of students who mastered any one tested structure was 86.5%, and the lowest was 38.5%. Chomsky noted that the structures in sentences (1) through (4) are mastered in a consistent order for all her informants, namely (4); (1), (2); (3), and suggests that this order is dependent upon the relative complexity of the structure (i.e. the more complex the structure, the later it is mastered). Thus the number of structure-types mastered in one's native language increases with age. From our test scores we note that the percentage of Chinese students who can comprehend these same English structures is consistently greater for certain structures than for others, specifically for the structures found in sentences (1), (3), and (4). (We shall discuss the structure found in sentence (2) separately, since our informants' pattern of comprehension thereof requires special explanation; cf. § 4.2). Regardless of class, more students are able to comprehend the structure in (4) than in (3), and more students are able to comprehend the structure in (3) than in (1). Whereas Chomsky claims that relative complexity explains why one structure is consistently mastered before another in first language acquisition, we hypothesize that relative complexity also explains why one structure is consistently comprehended by a greater percentage of students than another in second language acquisition. This hypothesis is borne out by the comments of our informants, and even by the comments given to us by native speakers of Chinese who have lived and studied in English-speaking countries for extended periods of time. Concerning the difference in increasing order of relative structural complexity between native speakers of English – (4); (1), (2); (3) – and native speakers of Chinese who are learning English as a second language – i.e. (4); (3); (1) – we hypothesize that this difference exists because the inventory of structures already known to monolingual individuals who are acquiring English must differ from that of bilingual individuals who are learning English as a second language.

4.2

Let us now turn to the structure in (2). Still leaving aside the junior class, we note that whereas the structures in (1), (3), and (4) are always in the same relationship to one another, namely (4), (3), and (1), with respect to increasing relative complexity, the structure in (2) within the framework seems to be the most complex for the freshmen, the second most complex for the sophomores, and third most complex for the seniors. Compared with the constant relationship which the structure in (2) has to the structures in (1), (3), and (4) in Chomsky's study, this structure appears to be unstable in its relationship to the others in our study. We hypothesize that the reason for this is that as our students continue their English studies, they are exposed to more and more sentences containing structures of the type found in (2). If at the same time their active and passive exposure to sentences containing structures of the types found in (1), (3), and (4) is not commensurate with the increased exposure to the structure found in (2), the informants' comprehension ability with respect to the relative complexity of the structures in (1), (3), and (4) may remain the same – i.e. (4); (3); (1) – although as Table I shows, the percentage of students comprehending them may increase from the freshman to the senior year (as with the structure in (3) and (4)), or even decrease slightly (as with the structure in (1)).

4.2.1

We will now extend our discussion to the junior class. As was mentioned above, the character of the junior class is rather different from that of the senior high classes. Tables I and II indicate that while the structures in (1), (3), and (4) are in the same relationship to one another in the junior class as in all other classes, namely (4), (3), (1), the scores of the junior class are higher for these structures than are those of the seniors. However, Table II indicates that with respect to the structure in (2), the junior class resembles the sophomore class in that only the structure in (1) is found to be more complex than that in (2). It is interesting that it is also for this structure, and only for this structure, that the percentage of juniors who comprehend it is smaller than that of the seniors. By comparison with the senior high school students, we may say that although these juniors are on the average two years younger than the sophomores, and although they have only been exposed to approximately one-half the training that the sophomores have received, they are on at least the same level of second language acquisition as the sophomores.

5.1

In the preceding sections, we reviewed Chomsky's study of the acquisition of four English structures by native speakers of English (§ 2); we then presented the results of our own investigation of the acquisition of these same English structures by Taiwanese junior and senior high school students whose native language is Chinese (§ 3); finally, we compared our findings with those of Chomsky (§ 4). We concluded

that with respect to relative structural complexity, not to mention other aspects of language learning which we did not investigate here,[2] first and second language acquisition differ significantly. Our main reasons for stating this are the following:

a. Concerning the structures found in sentences (1) through (4) (cf. § 1), it is clear that each of these structures will be mastered by all native speakers of English by adolescence. On the other hand, some of the Chinese students we tested did not master any of these structures by the end of the first semester of their senior year. (Furthermore, it is highly likely that most of these students did not master these structures even by the end of the second semester of their senior year, which terminated their six-year high school course in English.)

b. According to Chomsky, native speakers of English will consistently master the structure in sentence (4) before they master the structures in (1), (2), and (3), which indicates that this structure is the least complex of the four. We found that in each class we tested, the percentage of students who comprehended the structure in (4) was consistently greater than the percentage of students who comprehended the structures in (1), (2), and (3); because of this we believe that among those students, the structure in (4) was, as for native speakers of English, the least complex of the structures tested.

c. According to Chomsky, native speakers of English will consistently master the structure of sentence (1) before they master the structure in (3), which indicates that the structure in (1) is less complex than the structure in (3). We found that in each class that we tested, the percentage of students who comprehended the structure in (3) was consistently greater than the percentage of students who comprehended the structure in (1). Because of this, we believe that among those students, the structure in (3) is less complex than the structure in (1). Thus the relative complexity of these two English structures differs for native speakers of English and native speakers of Chinese who are studying English as a second language.

d. According to Chomsky, native speakers of English will consistently master the structure in (2) – and in (1) – before they master the structure in (3), which indicates that the structure in (2) – and in (1) – is more complex than the structure in (4) and less complex than the structure in (3). We found that from class to class, the percentage of students who had mastered the structure in (2) varied as compared with the percentage of students who had mastered the structures in (1), (3), and (4) (cf. Table II for the distribution). We believe that the reason for this is because increased active and passive exposure to a structure is likely to be conducive to the mastery of that structure, and that such exposure to the structure in (2) increased – disproportionately with respect to the structures in (1), (3), and (4) – with each of the senior high school classes tested. If this is so, then the relative complexity of each of the English structures we investigated is stable for native speakers of English, but it may be variable for non-native speakers when there is a disproportionate increase in active and passive exposure.

5.2

Recently investigations in neurolinguistics, studies in adolescent and adult classroom psychology and sociology, and several contrastive inquiries, have also provided evidence that first and second language acquisition differ from one another.

5.2.1

As far as neurolinguistics is concerned, Penfield (1959:429f. and later publications), for one, asserted that lateralization correlates with differences in first language acquisition and second language acquisition in adolescents and adults. This notion was later discussed in some detail by Lenneberg (1969:640):

> "Apparently both hemispheres are involved at the beginning [of first language acquisition], and a specialization takes place later (which is the characteristic of differentiation), resulting in a kind of left-right polarization of functions. Therefore, the recovery from aphasia during preteen years may partly be regarded as a reinstatement of activities that had never been lost. There is evidence that children at this age are capable of developing language in the same natural way as do very young children. Not only do symptoms subside, but active language development continues to occur. Similarly, we see that healthy children have a quite different propensity for acquiring foreign languages before the early teens than after the late teens, the period in between being transitional. For the young adult, second-language learning is an academic exercise, and there is a vast variety in degree of proficiency. It rapidly becomes more and more difficult to overcome the accent and interfering influences of the mother tongue."

> "Neurological material strongly suggests that something happens in the brain during the early teens that changes the propensity for language acquisition. We do not know the factors involved, but it is interesting that the critical period coincides with the time at which the human brain attains its final state of maturity in terms of structure, function, and biochemistry (electroencephalographic patterns slightly lag behind, but become stabilized by about 16 years). Apparently the maturation of the brain marks the end of regulation and locks certain functions into place."

More recently, Walsh and Diller (1978:7f.) have also claimed that the mature brain exhibits characteristics that are simply not present in the brain of a child who is beginning to acquire his first language:

> "What we regard in psychology as cognitive development can be represented as the developing expression of an underlying maturation process. We are beginning to learn that the genetic unfolding of the capacities for language, and the multitude of neocortical specialized arrangements mediating sensory, motor and cognitive events, is being laid down in the first several years of life" (p. 7) . . . "It is just this range of developed language systems in the mature cortex which are now relatively sophisticated in their specialized synaptic arrangements and intra- and

intercortical connections, which are available in the acquisition of a second language" (p. 8).

In light of their own observations concerning second language acquisition, as well as those of Penfield, Lenneberg, and others, Walsh and Diller (1978:10ff.) compare and evaluate briefly three different approaches to second language teaching:

a. The Audio-lingual Method, where "there is a preponderance of mechanical drill and little practice in the comprehension of language meaning" (p. 11).
b. The Winitz and Reed Method, where "there is an innate progression of neurolinguistic events in the early stages of learning a second language which is likely to pertain to the learning of the first" (p. 10).
c. The Direct Method of de Sauzé, so called not only because from the beginning of second language acquisition, the emphasis is on "listening, speaking, reading and writing – but also because [de Sauzé] integrated into his method the conscious understanding of grammatical structure and meaningful practice wherein the word-meaning relationship is of primary importance" (p. 11). Thus, "the emphasis on listening, speaking, reading and writing then, is not so much on the four 'skills,' as in audio-lingual methodology, but a means for improving the student's comprehension and mastery of word object relations in association with cognitive and intellectual processes" (p. 11f.).

The authors set aside the Audio-lingual Method, for in their opinion it does not develop the sound-meaning relationship. They credit the Winitz and Reed Method with quickly developing the understanding of words and grammatical structure, but they feel that the Direct Method of de Sauzé is the best approach of the three, since "it attempts a continuously varying but simultaneous integration of all language areas" (p. 12). This is in keeping with their observation (p. 8) that the mature cortex has a number of developed language systems which are available for second language acquisition, but not for first.

In contrast, Neufeld (1978:20f.) claims that if Penfield's "neurological law" concerning lateralization and second language acquisition were true, one would not be able to find individuals who could achieve native speaker competency in another language if language acquisition commenced after the age of twenty. What Neufeld is implying here is that since he (and probably most of his readers, including ourselves) can call to mind at least one very unusual individual who in his adulthood has commenced second language learning and has managed to achieve (near) native proficiency in that language, Penfield's conclusion must be erroneous. This implication, however, is based on the assumption that behavioral patterns and physical developments proceed without exceptions. Such a stringent requirement is observationally unrealistic in the realms of behavior and anatomy; rather it is the case that the exception confirms the rule. That Grandma Moses began to be artistically creative at the age of seventy-five, and continued to be so for many years thereafter, does not negate the fact that most other Americans will be artistically uncreative or deceased on or around the seventy-fifth anniversary of their birth date.

5.2.2

Regarding adolescent and adult performance in the second language classroom, Neufeld (1978:16) differentiated between the *innate linguistic capacity* to learn a second language and what he called the *practical ability* or *inclination* to carry out this task. Innate linguistic capacity and its progressive realization accompanying cerebral maturity, which was discussed in § 5.2.1, obviously contrasts with the inclination to learn a second language, which, as Neufeld observed, "depends to a large extent upon [the student's] personality, temperament, degree of anomia, desire to learn, the language learning context and the teaching approach" (p. 17). Certainly the practical ability or inclination that Neufeld refers to here is an additional factor of second language acquisition which is not observed in first language acquisition, and we agree that second language teaching can be vastly improved if one recognizes this and other factors, and attempts to modify teaching methods in order to overcome problems in these specific areas.

Nevertheless, we cannot accept Neufeld's concomitant assertion that there is inadequate scientific evidence to support the hypothesis that innate linguistic capacity is one of the factors which explain a trait of second language acquisition that distinguishes it from first language acquisition, namely varying degrees of success in mastering the target language. First of all, to do so would be to ignore the empirical observations discussed in § 5.2.1. Secondly, Neufeld presents no scientific evidence to support the hypothesis that innate linguistic capacity is *not* one of the factors which account for the traits of second language acquisition that distinguish it from first language acquisition.

5.2.3

Several other inquiries indicate that there are additional contrasts between first and second language acquisition; as reported by Cook (1977:1),

> "Dulay and Burt (1974) ["A New Perspective on the Creative Construction Process in Child Second Language Learning," *Language Learning* 24, 253-278] found that children acquired 'functors' in a different order when they were learning English as a second language and as a first language; Bailey et al. (1974) ["Is there a Natural Sequence in Adult Second Language Learning?" *Language Learning* 24, 235-243] continued this line of research by establishing that the order of acquisition of functors was the same in foreign children and foreign adults; Politzer (1974) ["Developmental Sentence Scoring as a Method of Measuring Second Language Acquisition," *Modern Language Journal* 58, 245-250] used a developmental scoring test to show that the syntactic structures of foreign children did not develop in the same way as those of native children; Boyd (1975) ["The Development of Grammar Categories in Spanish by Anglo Children Learning a Second Language," *TESOL Quarterly* 9, 125-135] found general similarities between native children acquiring Spanish and foreign children but certain specific

grammatical differences. All in all, these results can be said to establish that first language acquisition and second language learning are similar processes, but differ in specific content and order of acquisition...."

5.3

In conclusion, in light of the foregoing discussions in §§ 5.1 and 5.2, we disagree with the hypothesis that first and second language acquisition are essentially identical. Newmark and Reibel assert that the "systematic organization of the grammatical form of the language material exposed to the learner is neither necessary nor sufficient for his mastery of the language" (p. 231); we believe that such organization is necessary, although not sufficient in itself. Newmark and Reibel also claim that the "presentation of particular instances of languages in contexts which exemplify their meaning and use [i.e. in dialogues] is both sufficient and necessary" (p. 231); we believe that such presentation is necessary, but not sufficient in itself. We would therefore suggest that second-language teachers isolate complex structures, like those found in the English sentences (1) through (4) above, and that they reserve a significant portion of class time for the explanation, discussion, and practice of these structures, in order that the structures may be mastered by all of their students.

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Notes

1 Cook's (1969:215f.) characterization of first language acquisition is more extensive than that of Newmark and Reibel, and as a result, his criteria for teaching a second language to adults are more stringent:
"A method for teaching foreign languages that could justifiably claim to be based on first language acquistion would have to meet at least the following requirements:
1. That it would allow the learner to progress by forming a series of increasingly complete hypotheses about the language.
2. That, consequently, it would permit, and indeed encourage, the learner to produce sentences that are ungrammatical in terms of full native competence, in order to test these hypotheses.
3. That it would emphasize the perception of patterns rather than intensity of practice.

4. That its teaching techniques would include partial repetition of sentences, verbal play, and situationally appropriate expansions of the learner's sentences."

Interestingly enough, Cook maintains that "no method can at present claim to fulfil these requirements." Moreover, the processes referred to by Cook (1969:212) and described by Bellugi and Brown as *imitation and reduction* and *imitation with expansion* are also normally restricted to first language acquisition. It is precisely these processes that the late American anthropologist Margaret Mead was alluding to when she said [personal communication] that one of the reasons that second language learning is so difficult for adults is because they cannot bring themselves to behave and be treated like five-years-olds.

Finally, the process of verbal play – despite its superficial similarity to structural drills in second language teaching – mentioned by Cook (1969:214) is also normally restricted to first language acquisition.

2 As summarized by Cook (1977:1) in (a) through (d) below, the findings of a number of other studies point out several similarities in first language acquisition and second language acquisition in children; although a detailed discussion of these claims goes beyond the scope of the present paper, we feel that our observations concerning these assertions contribute to our main point, which is that first language acquisition and second language acquisition in adolescents and adults differ significantly.

a. "Dulay and Burt (1972) ["Goofing: An Indicator of Children's Second Language Strategies," *Language Learning* 22, 235-252.] found that mistakes made by children in learning a second language could be explained more readily in terms of first language acquisition than in terms of interference from the mother language." Interestingly enough, many of the mistakes made by our informantsin acquiring the structures found in sentences (1) through (4) differed from those made by Chomsky's informants in that the correction of our informants' mistakes for one structure was not always essential before the student acquired the next more difficult structure, whereas for Chomsky's informants, such correction was imperative. Moreover, the picture is not always as simple as presented by Dulay and Burt; interference is definitely a matter to contend with in first and second language learning, even if its *direction* is not always predictable. For example, although children of elementary school age whose native language is Pennsylvania German acquire English constructions like the passive, subject NP complements, and object NP complements with no evidence of interference from their first language, they have acquired the corresponding constructions in Pennsylvania German with unmistakable interference, some of which is quite complex, from their second language, English; cf. Costello 1978.

b. "Natalico and Natalico (1971) ["A Comparative Study of English Pluralisation by Native and Non-native Speakers," *Child Development* 42, 1303-1306.] showed that the acquisition of plural inflections by children in a second language followed the same sequence as in first language acquisition." Although the sequence of mastering plural inflections in second language acquisition paralleled that in first language acquisition, and presumably the acquisition of other morphological markers might do the same, our data indicate that the order of acquisition of certain syntactic structures in a second language (English) by Chinese adolescents and young adults differs from the order of acquisition of these same structures by native speakers of English.

c. "Cook (1973) ["The Comparison of Language Development in Native Children and Foreign Adults," *IRAL* 11, 13-28.] claimed that foreign adults repeated sentences in similar ways to native children and that they followed the same stages in learning the comprehension of certain 'deep' structures as native children." Concerning Cook's observations about stages in learning the comprehension of certain deep structures, our data indicate that the sequential parallels he observes between first and second language acquisition may be absent.

d. "Kessler (1971) found that bilingual children learnt both languages by progressing from linguistically simple to linguistically complex structures." Kessler's finding is one pertaining to bilingualism rather than to the similarities and differences between first and second language acquisition; nevertheless, two points beg for comment. First, it is difficult to imagine that a bilingual child would progress from linguistically simple to linguistically complex structures in one language, and proceed in the opposite fashion in the other language. Second, our data indicate that the *relative* complexity of a structure (and hence its time of acquisition in a sequence of structures) in a given language is not necessarily the same for the native speaker of that language and for the adolescent or adult second language student of that language. (For a detailed discussion of the manner in which complex constructions are acquired in a specific case of bilingualism commencing with elementary school attendence, cf. Costello 1978.)

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