CHAPTER 5

Conclusion

5.0 The design of the study

This thesis began as an investigation into diagnosing problems in reading among child learners of English as a second language (ESL). As discussed in Chapter 2, we adopted an approach from Specific Language Impairment (SLI), and noted the need to distinguish incomplete second language acquisition (SLA) from language impairment. There are similarities in the inflectional error patterns of SLA and SLI populations that lead to cases of “missed identity” (when a language impaired child goes unnoticed) and “mistaken identity” (when a slow second language learner is identified as language or learning disabled). The testing procedures for language impairment in second language populations need to be sensitive to such considerations.

The insights into the parallels between SLA and SLI populations have so far come to us from studies typically comparing second language populations with populations for whom the second language is the first language, and with an impaired subset of the first language population. The tests that have been given to the second language population are those that are norm-referenced for monolingual speakers of that language. Such comparisons may result in the identification of a large number of second language children as language impaired and/or learning disabled, rather than
as typically-developing second language learners, as Paradis (2005:184) notes. In her study “the vast majority of the ESL children performed within the clinical range” on the Test of Grammatical Impairment (TEGI), standardized on monolingual speakers of standard American English, “even though they are not language impaired.” Paradis therefore stresses the need to simultaneously assess second language populations in their own first language; and to compare the second language performance of children who might be at risk for SLI with that of their own unimpaired peers in the second language. This thesis has been an exploratory attempt in that direction.

In this thesis we have reported the results of a series of tests on verb and noun inflection in the first language and second language presented to 17 children with the mean age of 8;5 years. We compare the children’s performance in their second language with their first language. We also compare their performance with respect to their own peers, and identify as “outliers” those whose performance falls below the “lower fence,” that is 1.5 interquartile ranges below the 25th percentile. In this way, we hope to avoid the dangers of “missed identity” and “mistaken identity.” Our tests (moreover) are administered in a spoken form with the written stimulus also given to the child, as is common in the SLI paradigm. This avoids a dependence on purely the written language, which may not have been adequately learnt due to inadequate teaching (what Nag-Arulmani (2000) terms “school-induced dyslexia”). The tests were administered to 17 Malayalam-English bilinguals in an urban, private English-medium school. They consisted of parallel past tense and plural production and judgment tasks in English and Malayalam. One contribution of our work is the construction of tests in Malayalam to match those in English. As noted earlier, we have had to make many descriptive decisions on how to represent Malayalam morphology, given that we were inquiring simultaneously into the acquisition of
inflectional morphemes in normal and at-risk populations for Malayalam. Three passages were also constructed in English and Malayalam to assess the reading of inflections in context. (However, data were gathered only on the English task, as the subjects were found not to be at the stage of reading connected texts in Malayalam.)

5.1 Regular and irregular morphology in English and Malayalam

Our data strongly support the dual-mechanism hypothesis for the processing and representation of inflectional morphology. Pinker and Ullman (2002: 456) note that “for fifteen years, the English past tense has been a subject of debate on the nature of language processing,” between the connectionist or associationist theories of Rumelhart and McClelland (1986) on the one hand, and the dual-mechanism theory of Pinker and Prince (1988) on the other. There are about 180 irregular verbs in English, as against thousands of verbs that take a regular past -ed suffix. The dual-mechanism or Words and Rules (WR) theory claims that irregular forms are words with a grammatical feature like ‘past tense’ incorporated into their lexical entries. Regular forms, on the other hand, are productively generated by rule, and presuppose an analysis into a stem and an affix.

Ullman and his colleagues (Ullman, Corkin, Coppola, Hickok, Growdon, Koroshetz, & Pinker: 1997) have recently extended the WR theory to a hypothesis about the neurocognitive substrate of lexicon and grammar. Lexical memory is seen as a subdivision of declarative memory, which stores facts, events and arbitrary relations. Grammatical processing depends on the procedural system, which underlies the learning and control of motor and cognitive skills. The declarative and procedural systems are claimed to be subserved by different brain areas; and to underlie regular and irregular morphological representations and processing.
The key predictions of the WR theory are: “(i) that irregulars should have the ... signatures of lexical memory, whereas regulars will often have the signatures of grammatical processing; and (ii) that speakers should apply regular inflection whenever memory fails to supply a form for that category. A stored form may be unavailable for many reasons: low frequency, lack of a similar form that could inspire an analogy ..., novelty of the form in childhood....” (Pinker & Ullman: 458).

Support for the WR and declarative versus procedural hypothesis comes from an impairment in word finding known as anomia. Anomic patients do worse with irregulars than regulars (in comparison to controls) on elicited past-tense production tasks. In contrast, patients with agrammatism (an impairment in producing fluent grammatical sequences) manifest the opposite pattern, showing more difficulty inflecting regular than irregular verbs.

The dual-mechanism hypothesis is very strongly supported by our data. The production of real regular verbs is far superior to that of real irregular verbs in our population of learners of English as a second language. Indeed, in the particular context of ESL, the distinction between novel and real verbs is obliterated in the case of irregular verbs: the latter are either so sparse in the input, or so little taken notice of, that they are “novel” for all practical purposes. Thus novel and real irregulars are equally subject to overregularization. We also suggest that Malayalam has default or regular rules for past tense and for noun pluralization, though this is not evident in existing descriptions.

5.2 Summary of results

The tests of inflectional morphology that we administered were categorized into tasks on verbs and nouns. The response types required were the production of
forms and the judgment of forms. Verbs and nouns were categorized into real and novel forms, and regular and irregular forms. Thus there were eight tasks for each lexical category (verb or noun) in each language. Sixteen tasks in English were compared with sixteen tasks in Malayalam.

We began at the outset with the hypothesis that language impairment is not language specific. Our data strongly support the possibility that impairment in the second language context can be typically characterized by manifesting in first language as well, i.e., by manifesting across first language and second language. Our data suggest that the "outliers," i.e., children who perform significantly below the lower fence in the second language also perform significantly below the lower fence in the first language, except for tasks in one second language category: the English irregular nouns and verbs. It is particularly striking that the difficulties across first language and second language are matched according to the task types of production and judgment, and according to the lexical categories of verb or noun.

We identified outliers for each of the sixteen tasks in each language. In this way, we identified a group of 11 children (8 boys and 3 girls) out of the 17 subjects. Two of these children (both boys) were outliers on a single task involving irregular nouns in English only. We thus attributed their status as outliers not to any impairment in their internal grammar, but to the task category of irregular nouns in English (see the discussion in Chapter 4, sec. 4.2.1 on the marginality of the category of irregular plural nouns in English). Thus, these children we exclude from the group at risk.

Of the remaining nine children, two were seen to manifest problems only in Malayalam. One of them, a boy, is repeating the class and may have a general
learning disability. The other, a girl, told me that she confuses ‘b’ and ‘d,’ although her teacher does not think that she has a problem.

There were thus seven children (2 girls, 5 boys) identified as outliers, who manifested problems in Malayalam as well as English. The data for five of these children show that difficulties are manifest on the same type of task and the same lexical category across English and Malayalam. This we take to be troubling but strong confirmation of our hypothesis that language impairment may be independent of particular languages. The group of five includes one child, a boy, who was identified as a dyslexic while our data collection was in progress by an independent source; and one child, again a boy, who the teacher pointed to as a potentially language impaired child. This suggests that our identification of this group as at-risk is not purely an artefact of our testing procedures.

Overregularization did not serve to differentiate between those identified as outliers and the others, in English or in Malayalam. (If language impairment selectively targets “rules,” but spares “words,” novel forms should not be past-marked or pluralized by rule; but our data show no evidence of such a distinction. However, we do not rule out the role of conscious rule teaching or learning in the context of instructed second language acquisition.) Rather, it was the error pattern - the production of unmarked forms, the incorrect acceptance of present tense and plural forms, the rejection of past and plural marked forms - that differentiated between the two populations. On some tasks, we were unable to identify the lower fence or outliers, but still we found that the group identified as outliers elsewhere were responsible for more than two-thirds of the errors. Thus, if we see normality and impairment as two ends of a cline, then children prone to errors, outliers and those at risk for SLI would form progressive points on the cline. Not all the subjects identified
as outliers would be language impaired. It appears that our tasks are capable of degrees of discrimination, separating out populations who are prone to error from those who are at risk for SLI. SLI appears to manifest as an accumulation of difficulties on many aspects of morphological tasks.

We find it particularly interesting that the group identified as outliers on the isolated word production and judgment tasks was also responsible for over two-thirds of the errors on the reading of inflections in context. As we shall see, this last task type differed from the earlier battery in the relative group performance on nouns and verbs. Thus the consistency with which the same set of individuals emerges as liable to error across these two task types is remarkable.

Performance on real nouns and verbs in the first language, Malayalam, was at ceiling in production and judgment, except on the human animate nouns that take -maar as the plural suffix. We note that performance in Malayalam is unaffected by rule teaching or literacy because of the pattern of teaching Malayalam for only 1.5 hours a week starting from Class 3. Thus the children differed from the adult controls in their past-marking of novel verbs. Where the adults produced the more restricted -u ending on novel verbs designed to end in -u, the children used the less restricted -i suffix on these verbs. Whether literacy or conscious learning had a bearing on adult responses remains to be ascertained.

When we compare the performance on verbs and nouns in English, performance on nouns is better in the single-word tasks. In the reading of inflections in continuous text, however, the performance on verbs was much better than that on nouns. In fact, the entire group achieved the highest success rate for verbs on the contextual reading, in comparison to the single-word production and judgment tasks. The performance on irregular verbs was also the best on contextual reading. We have
explained this as due to verbs being processed better in meaning-based activities rather than in form-based activities. Our results are consistent with English being still in the process of acquisition, and the finding that nouns are acquired before verbs. In Malayalam, which is a language that has already been acquired, we do not find any difference in the performance on nouns and verbs.

In conclusion, the results we have obtained on the first language and the prominence of their ‘fit’ with the second language are particularly interesting. If further research can substantiate this finding, it would have significant consequences for intervention practices. We reiterate here the importance of developing standardized tests in Indian languages and the need to assess second language learners in their first language. We also stress the need to compare the performance of second language learners who are potentially at risk for SLI with the English of their second language peers rather than to the English of monolingual peers. We believe that this would also identify patterns of error that would distinguish children at-risk from the typically-developing second language learners.