

Problems and Prospects in Third Language Acquisition Research*

Robert J. Fouser

This paper is a review of important literature on third language acquisition. "Third language acquisition" in this paper is defined as the acquisition of a language beyond the second language or the first foreign language. First, several major problems in third language acquisition research are discussed: the lack of a clear definition of third language acquisition; problems in research methodology; and the lack of a strong theoretical base in much L3 acquisition research. Second, the accomplishments of third language acquisition research are reviewed from the perspective of how they contribute to developing a research agenda in third language acquisition research. The accomplishments include research on the facilitating role of perceived language distance and of previous language learning experience in learning a third language. Finally, this paper concludes with a proposed agenda for L3 acquisition research and with a brief discussion of how this research agenda may help answer questions about L3 acquisition in Korea.

1. Introduction

Research on second language learning has grown rapidly in the last twenty years as society attempts to come to grips with ever increasing interaction between languages and cultures. This research has contributed much to shifting the focus of second language instruction from form to communication and from teacher-centered education to learner-centered education. Research in second language learning has grown to the point where "second language acquisition" (SLA) has become a legitimate sub-

* The author wishes to thank Prof. Nahm-Sheik Park, Director of the Language Research Institute at Seoul National University, for inviting him to give a presentation on third language acquisition research on September 7, 1994. The author also wishes to thank Marie Fellbaum of the Language Acquisition Research Centre, a research center funded by the NLLIA, at the University of Sydney for sharing so many of their ideas with him.

field of "applied linguistics." As more researchers enter the field, the prospects for second language acquisition to make greater contributions to language teaching and learning are bright.

As a new field of study, however, second language acquisition has yet to move beyond the confines of research on English as a second or foreign Language (ESL/EFL). The overwhelming majority of studies in the field draw conclusions from data on learners of English as a second language in one of the major Anglophone nations. The distinction between "foreign language," a language learned in a non-native setting, and "second language," a dominant language learned as an additional language, creates an artificial barrier that stifles interaction between researchers (Sridhar & Sridhar, 1986). This problem in terminology is related to the larger problem of the lack of rigidity in research methods and of developing institutional structures to promote a sustained research program.

2. Introducing Third Language Acquisition Research

This paper is a review of the literature on "third language acquisition," the acquisition of languages beyond the second language or first foreign language. Learning of two languages simultaneously beyond the native language has been excluded from this paper because the process of acquisition is closer to the process of second language acquisition than to the process of third language acquisition. The first section of this paper is a critique existing third language acquisition studies designed to show what has been done and, more importantly, what needs to be done for third language acquisition research to realize its potential. The second section is an analysis of how third language acquisition research has contributed to our understanding of this phenomenon. The final section is a discussion of the potential for third language acquisition research in the Korean context.

Although not nearly as common as second language learning, third language learning is common in many parts of the world, and with increasing immigration, greater global trade, and the emergence of regional powers such as Germany, China, and Japan, third language learning will spread rapidly in the coming years. Many large Western cities have become virtual "language laboratories" in which many languages are used and learned simultaneously. The contrary trends of regional integration and ethnic na-

tionalism that affect many areas of the world, such the European Union, have also contributed to the need for learning a third language. The broad scope of third language learning and the prospects for greater third language learning in the future are sufficient justification by themselves for more research on third language acquisition.

Third language acquisition research is also important because it offers researchers in second language acquisition the chance to test new and existing SLA theories in a language learning situation with the added variable of previous language learning experience. Second language acquisition research that focuses on the process of acquisition from a cognitive perspective stands to benefit greatly from investigating how a new language is processed and produced by a learner who has acquired, or who is familiar with, at least two linguistic systems. Researching third language acquisition is also useful in determining how language typology and perceived language distance affect the acquisition of a third language. In addition to linguistic and cognitive variables, third language acquisition research has significant implications for theories on the role of attitudes and motivation in language learning as well as for research on language planning. This positive “washback” will help researchers in second language acquisition refine and strengthen their conclusions, and by doing so, second and third language acquisition will be in a better position to help ever growing numbers of language learners and teachers.

3. Problems in Third Language Acquisition Research

3.1. Problems in Defining “Third Language Acquisition”

For third language acquisition research to realize its potential, several major problems in existing studies on third language acquisition must be resolved: one, the lack of a commonly agreed upon definition of “third language acquisition”; two, the lack of a rigid research methodology; and three, the lack of clear hypotheses about the phenomena under investigation. These problems are not unique to third language acquisition research: They reflect larger problems in second language acquisition research, which are symptomatic of any emerging field of study.

The lack of a commonly agreed upon definition of “third language

acquisition" does not render the existing research obsolete, but it does create unnecessary confusion. The most common definition of "third language" (L3) is a language that is learned after the acquisition of the first (L1) and the second language (L2). The L2 may be a "second language" or a "foreign language" and proficiency in the L2 may vary from bilingual to beginner. This definition is wide enough to include a variety of L2 backgrounds and L3 learning situations. Most researchers (Chamot 1973, 1978; Bentahila 1975; LoCoco 1976; Ahukanna, Lund, & Gentile 1981; Ulijn, Wolfe, & Donn 1981; Mägiste 1984; Thomas 1988; Hufeisen 1991; Vogel 1992; Sikogukira 1993) who have written about third language acquisition have followed the L1-L2-L3 classification and thus refer to the target language as "L3." Several researchers have extended this numerical ordering to describe a language or languages that are learned beyond the L3 as "L4" (Serrill 1985), or "L4" and "L5" (Möhle 1989). Fouser (1994) argued that the term "third language" or "L3" is limiting because it implies only the acquisition of one additional language beyond L1 and L2. The term "L3" implies that new terms, such as "L4," "L5," "L6," etc., would be necessary to describe languages that are learned beyond the L3 accurately. Fouser (1994) proposed the term " $L \geq 3$ " to refer to all languages beyond the L2 because the psycholinguistic processes of learning a language beyond the L3 are similar to those used in learning the L3, thus justifying a term that is based on how languages are learned as well as on the order in which they are learned. For simplicity, however, the term "L3" will be used in this paper to refer to the acquisition of all languages beyond the L2.

Håkan Ringbom, one of the most productive researchers of the effects of language transfer in third language acquisition (e.g., Ringbom & Palmberg 1976; Ringbom 1985, 1986, 1987), adopted the term "L2" to refer to the target third language:

It is obvious that the less the learner knows about the target language (L2), the more he is forced to draw upon any other knowledge he possesses. This other knowledge also includes other foreign languages (LN) previously learned, and such LN influence, like L1 influence, will be much more in evidence at the early stages of learning (Ringbom, 1986: 155-156).

Raabe (1986) modified this definition slightly by referring to the language that the learner has already acquired (the L2) as "L3" and the target language as "L2," as did Ringbom. Referring to the target language in third language acquisition is an attempt to borrow terminology from mainstream second language acquisition research to make third language acquisition research accessible to a wider readership. Unfortunately, this attempt confuses more than it clarifies because the term "third language," or "L3," is a more common and accurate term for a language that is learned after L1 and L2. In the interest of clarity, using "L2" to refer to the target third language should be abandoned.

Researchers who focus on the cognitive effects of prior language learning experience, prefer the term "multilinguals" to refer to learners who are learning a language beyond the second as in McLaughlin & Nayak's (1989) definition: "Nation and McLaughlin (1986) carried out an experiment in which they compared information processing in multilingual, bilingual, and monolingual subjects learning a miniature linguistic system" (McLaughlin & Nayak 1989: 7). Zobl (1992) made an interesting distinction between unilinguals and monolinguals in his research on the acquisition of English as (at least) an L3:

One avenue of research which may advance our understanding of this relationship, and thereby contribute to an eventual theory of the learnability of nonprimary languages, involves the systematic investigation of language acquisition by adult-age unilinguals (ULs) (i.e., true L2 acquisition) and multilinguals (MLs) (i.e., L3, L4, etc. acquisition) (1992: 177).

Provocative as the above definitions may be, they remain confusing because the terms "bilingual" and "multilingual" are themselves vague and controversial. "Bilingual" and "multilingual" often refer to two or more languages being taught and used in a given geo-political unit, or to a person who is highly proficient in two or more languages. These terms should be used to describe the state of language use in society and individuals; the terms "L2" and "L3" should be used to describe the order of acquisition in the language acquisition process.

4. Methodological Problems

A second major problem in third language acquisition research is the lack of methodological rigor in many studies. Methodological problems are not unique to third language acquisition research, but they are more acute because researchers must rely on a much smaller literature for guidance on methodological issues that relate specifically to researching third language acquisition. The most aberrant methodological problems lie in the overall research design, the instruments used, and how variables, such as L1 and L2, are controlled.

The research design of many studies does not provide the researcher with an adequate framework to address his or her stated research questions. This is particularly true in studies of language transfer from L1 and/or L2 into L3, in which researchers make claims about how learners make decisions about transferability on the basis of limited data. Longitudinal studies are rare, as is common in SLA research. Only one study (Vogel 1992) investigated transfer longitudinally in an adult third language learner, a native-speaker of Chinese who knew English and who was learning German as an L3. Chamot (1973, 1978), investigated child third language acquisition in a case study of a bilingual child (French and Spanish) learning English as an L3 over nine months. Murrell (1966) and Hoffmann (1985) focused on the acquisition of three languages in a trilingual environment over eight months and eight years respectively. Researching language transfer phenomena longitudinally gives researchers more data from which a more consistent pattern of transfer could be established. Both Chamot (1973, 1978) and Vogel (1992) used evidence from their findings to argue that L2 interferes with L3 acquisition; Chamot argued that a closely related L2 hindered L3 acquisition, whereas Vogel argued that interference from L2 diminished over time. By interference, these researchers mean learner produced errors in the target L3 that are caused by transfer from L1 and/or L2 linguistic structures and cultural constructs. Hoffmann (1985) concluded that childhood trilingualism did not have a negative effect on overall language or personal development. The remaining studies discussed in this section are cross-sectional.

Ahukanna, Lund, & Gentile's (1981) study is typical of cross-sectional studies that investigate "interference" in the acquisition of an L3 that is

typologically close to the L2, but not to the L1. This study focused on Nigerian learners of French as an L3 who all had English as an L2 and a regional language, Igbo, as L1. In this case, the researchers controlled all of the language variables strictly by limiting the L1 and L2 to two languages that were common to all learners and by excluding those who had knowledge of languages other than English or Igbo. The problem with the research design of this and similar studies is that they are built around the assumption that linguistically deviant forms -- errors -- provide adequate insight into the process of language transfer. Errors are no doubt useful in determining which linguistic forms and aspects cause the learner, or group of learners, difficulty, but they tell us little about what learners do well in L3 acquisition. Most important studies of transfer in L3 acquisition focus exclusively on errors (Bentahila 1975; LoCoco 1976; Ringbom & Palmberg 1976; Ringbom 1985; Khaldi 1981; Ulijn, Wolfe, & Donn 1981; Hufeisen 1991; Sikogukira 1993). Research on L3 acquisition needs to move beyond the analysis of discrete point errors to provide a more complete picture of how knowledge of other languages influences learners in acquiring an L3.

Problems in research design are exacerbated by problems in research instruments. Most studies base their findings on results from one, or at most two, research instruments, thus precluding a discussion of L3 acquisition in production and comprehension, or in each of the four traditional skill areas. In his study of native-speakers of Arabic learning English as an L2 or L3, Bentahila (1975) composed a list of correct English utterances that are often difficult for native speakers of Arabic to produce. He then asked English teachers in Morocco and Algeria, where French is the dominant L2, and in Iraq and Kuwait, where relatively little French is learned, to describe what types of errors their respective students commonly made in producing the listed English utterances. Results from this test became the basis of his study. Thus, instead of focusing on learner language, Bentahila focused on what teachers thought learners would do in learning English as an L2 or L3. Bentahila found that knowledge of French both facilitated and interfered with the acquisition of English, despite having initially proposed that French would mainly interfere with English. He also provided an interesting discussion of the linguistic situation in Morocco, but since the data were "one step removed" from the learners, results from this study should

be treated with caution.

Instruments that are supposed to test linguistic production and comprehension are also problematic. Ulijn, Wolfe, & Donn (1981) claimed that their lexical acceptability judgment test was valid in testing production and "recognition" (comprehension) in testing lexical transfer in Vietnamese learners of English as an L3 who had basic ("beginning") proficiency in French as an L2. The researchers chose 30 English words, 10 cognates in French, 10 formal contrasts with French, and 10 *faux amis*, to test lexical transfer from French into English. These words were circled and placed in Vietnamese sentences, either in English or in Vietnamese. The researchers asked learners to translate a word into English and French when it appeared in Vietnamese a test of language production, and into Vietnamese and French when it appeared in English -- a test of comprehension. From this the authors claimed that their results showed that cognate words in French and English facilitated acquisition, whereas as formal contrasts and *faux amis* interfered with acquisition. Although this conclusion is tenable from the data given, the instruments used to produce the data were not designed specifically to elicit language production and comprehension data, but rather learner judgments on the acceptability of a given lexical item.

Sikogukira's (1993) study of lexical transfer from L2 French into L3 English in Burundi used similar instruments, (a fill-in-the-blank English translation with a French prompt and an acceptability test of underlined words in an English sentence) but concluded, in opposition to Ulijn, Wolfe, & Donn (1981), that learners avoided transferring cognate lexical items and preferred to transfer from formal cognates. Research instruments such as these are more appropriate for studies that focus on establishing an agenda for future research, rather than investigating interlanguage phenomena.

Many studies that use research instruments to elicit natural data focus on one area of language and attempt to extrapolate conclusions from a corpus of data that is tied to only one area of language. One such study is Hufeisen's (1991) extensive study of errors of beginning learners of German as an L3 from non-Indo-European backgrounds (Arabic, Indian, Japanese, Thai, Hungarian, and Turkish) who had an unspecified level of proficiency in English as an L2. Hufeisen used a picture story as a prompt to stimulate learners to write. Four hundred and fifty scripts based on this

story were collected and evaluated by four native speakers of German. Errors were classified into several categories such as syntactic, semantic, and pragmatic errors. From this corpus of data, Hufeisen concluded that transfer from English was considerable in all the above categories. On the basis of this conclusion, she suggested that learner knowledge of English be used as a facilitating "bridge" to German and as a source of metalinguistic knowledge on language learning. This study should be commended for its diversity of L1 backgrounds, reliance on an open-ended data elicitation instrument, and detailed description of the pedagogical implications of the findings. The conclusions of this study are, however, based only on written production data and an analysis of learner errors. Extending Hufeisen's study to include oral production and comprehension skills would strengthen the validity of her findings considerably.

The final major problem in L3 acquisition research methodology is the lack of control over important cognitive and affective variables such as L2 proficiency, L3 proficiency, and previous language learning experience. Most studies have set clear typological controls over L1, L2, and L3 to test hypotheses regarding the relationship among the three languages. These studies can be divided into two groups: studies that investigate the relationship among three relatively close Indo-European languages and those that investigate the relationship among a non-Indo-European L1, an Asian or African language, and an Indo-European L2 and L3. To date, no study has investigated the relationship among languages from three different language families, nor has any study investigated the influence of various L1's and L2's on a specific L3 to allow for greater comparisons among language groups (Ard & Homburg 1983).

Despite having set clearly defined typological controls over the languages in question, many researchers neglected to address the issue of L2 proficiency in the overall research design and thus had to resort to educated guesses of L2 proficiency. Controlling for L2 proficiency is critical in determining the level of linguistic resources that a learner can draw on in the acquisition of a third language. Previous research has shown that L2 proficiency influences not only the amount, but also the type of language transfer that takes place in acquiring a third language. Ringbom (1986) stressed the importance of L2 ("LN") proficiency in lexical transfer into L3:

Crosslinguistic influence between LN [L2] and L2 [L3] is generally restricted to learners making use of obvious formal similarities between individual lexical items, unless their LN proficiency is native-like or highly fluent and automatized. There appears to be a threshold of LN proficiency which the learner must reach in order to apply his LN knowledge to any significant extent. ... the higher the learner's standard of LN proficiency and the more vivid the LN is in his mind, the more there is of other LN influence on L2 (1986: 160).

Khaldi's (1981) study of native Arabic-speaking learners of English as an L3 who are bilingual in French is one of the more ambitious attempts to control for L2 proficiency. Khaldi divided his learners into a group that had a bilingual primary and secondary school education and another group that had an Arabic-centered education with French taught as a foreign language from the third grade in primary school. Khaldi tested his hypothesis that transfer from French would be the preferred source of transfer in learning English as an L3 at three different levels of English proficiency. The results of this study indicated that the level of French L2 proficiency did not significantly affect the amount of apparent transfer in English as a third language, but that learners from a bilingual educational background were somewhat more suspicious of perceived similarities between French and English. Khaldi concluded his analysis of the differences in transfer patterns between the two groups: "This behaviour constitutes further evidence that with increasing sophistication in the knowledge of the TL [English], precise areas in which transfer will be seen to be possible will become clearer and more well-defined" (1981: 208). These results underscore the importance of researching the influence of L2 proficiency at various stages of L3 acquisition.

Khaldi's (1981) reliance on educational background to control for L2 proficiency is the most common method of controlling for L2 proficiency. Some researchers have augmented this information by distributing a short language-background questionnaire, as did Khaldi. Many researchers, however, use educational background as the only indicator of learner L2 proficiency. Ulijn, Wolfe, & Donn (1981) attempted to control for L2 French proficiency in their study of lexical transfer from French into English as an L3 in Vietnamese immigrants to the United States by correlating French

education in Vietnam with the age of the learners. In the “method” section of this study, they described how they controlled for French proficiency: “Their [the subjects] average age was 30.06 years (with a range of 17–63 years) and they have been in this country [the United States] for an average of 6.54 months. For those knowing French, the average length of French study was 6.35 years” (1981: 31). The researchers did not define what they meant by “knowing French” and what constitutes “French study.” Hufeisen (1991) also used a brief questionnaire in her study of overall language transfer from English as an L2 into German as an L3. The questionnaire asked learners to list their native language and the foreign languages that they “knew” along with the number of years they studied each language. This small amount of information on L2 English proficiency is particularly problematic in her study because it attempts to make comparisons among groups of learners from widely varying native language backgrounds. The most extreme case of lack of control over L2 proficiency is Dole’s (1983) study of immigrant learners of English as an L3 in Quebec who use French as an L2 and who come from three language backgrounds: German, Polish, and Spanish. The researcher made no reference to learner L2 proficiency, only to learner motivation to learn French as an L2:

First, there is the fact that the immigrants in question live in the Saguenay Valley, where English is considered more of a foreign language than it is in many continental European capitals. Secondly, there is the reality of continuing Gallicization of business, education, and culture in the province of Quebec... (1983: 70).

Clearly researchers need to pay more attention to linguistic background that learners bring to the task of learning an L3 so that the results of such research can reveal more varied patterns of interaction.

5. Theoretical Problems

In addition to vague terminology and methodological problems, many studies on third language acquisition investigate hypotheses that lack the explanatory potential. Thus, many studies produce a large amount of data that describes particular phenomena, but offers little explanation of why

such phenomena take place, resulting in spurious conclusions. This issue is tied to the broader issue of theory construction in SLA, which has been the subject of significant controversy. Beretta (1991) and Larsen-Freeman & Long (1991), among others, have argued in favor of theory construction in SLA so that researchers can channel their efforts to explain deeper phenomena in SLA. Despite some articulate descent (e.g., Schumann 1993), SLA is in need of a clearly defined research agenda that only a focused theory can provide. As Larsen-Freeman and Long (1991) put it:

Our view is that researchers working in SLA who are serious about their work and about such issues will want to proceed as swiftly, as efficiently and as *scientific* as possible, as so will value the unifying (not stultifying) effect which a good theory can have on their own research and the work of others. They will appreciate the clear direction a theory can give them when designing and executing studies, the interim solution it provides practitioners until SLA is better understood (1991: 290).

The dearth of theory-based studies in L3 acquisition is problematic: Only by tying itself to larger theoretical issues in SLA will L3 acquisition research realize its potential to contribute to SLA theory construction.

One of the most egregious examples of descriptive research in L3 acquisition is Azevedo's (1978) study of errors in Portuguese as an L3 by native-speakers of English who have studied Spanish. Azevedo's goal was to "outline a methodology for identifying problem areas [in interference between Spanish and Portuguese]" (1978: 19)(see Walter 1991 for a contrary analysis of how Spanish can be used to facilitate the acquisition of Portuguese). Instead of offering a "methodology," the Azevedo summarized typical problems in Portuguese phonology, morphology, and syntax that he had recorded from conversations and classroom presentations in Portuguese classes (level unspecified): This study may be helpful to Portuguese teachers who have a large number of learners with proficiency in Spanish, but in the context of L3 acquisition research, it contributes little to building a theory of L3 acquisition. Gulustan (1976), Dole (1983), and Vogel (1992) also focused on describing learner errors and attributed the causes of these errors to the interference of L1, L2, or both, and to the idiosyncrasies of interlanguage.

The fundamental problem with the descriptive studies discussed above is

an excessive reliance on contrastive analysis as an explanation for learner performance. Chamot (1978) views the explanatory power of contrastive analysis as self-evident:

The method of approach [in this study] was essentially-error based. Contrastive analysis of the three languages [French, Spanish, and English] proved more helpful in explaining than in predicting problems due to interference, which accounted for about two thirds of the grammatical errors (1978: 177).

Although Chamot adhered to the weak version of the contrastive analysis hypothesis that denies it omnipotent predictive power, she failed to consider learner creativity and individuality in language learning. Thus, by shifting the center of research from the language learner to the languages being learned, this view of language learning inevitably relies on a comparison between learner language and a native-speaker norm to explain language acquisition. This has caused contrastive analysis and its less dogmatic cousin, error analysis, to fall into disrepute because neither theory has survived empirical tests (e.g., Whitman & Jackson 1972; Schachter 1974). These studies have revealed that factors other than the L1 and L2 influence the production of learner errors. At a deeper level, as Long and Sato (1984) pointed out, this approach is fatally flawed because it attempts to explain the psycholinguistic *process* of language acquisition by use of data taken from the linguistic *product* of learner language production.

Færch & Kaspers' (1986) case study of a native speaker of Danish who is proficient in English and German at the high school level is the only study that makes use of think-aloud protocols in data elicitation. A complete discussion of the controversy surrounding think-aloud protocols is beyond the purview of this paper, but such procedures allow researchers some insight into cognitive processes that learners use in dealing with the linguistic task at hand.

This boundless faith in the value of contrastive analysis has lead researchers such as Dole (1983) to propose "that it would behoove teachers to know the native language of their students, whenever possible" (1983: 77) so that the teacher can analyze and correct learner errors in a more efficient way. Hufeisen's (1991) research on learners of German as an L3 concluded with extensive pedagogical suggestions for German teachers on

how to use learner knowledge of English to facilitate teaching of German in the classroom. Hufeisen based these recommendations on an extensive analysis of learner errors in her data on written German. Hufeisen did not, however, link her research to broader theoretical questions, beyond confirming the existence of L2 influence of L3. This type of research is most valuable to teachers and learners of a particular language and thus makes an important contribution to research on teaching methodology and materials development rather than to second language acquisition research.

6. Prospects in Third Language Acquisition Research

6.1. The Role of Language Transfer

Research on third language acquisition has revealed much about the role of language transfer from L1 and/or L2 in learning a third language. Recent studies in particular have found that transfer in L3 acquisition is generally productive and that it helps facilitate learning most when the target L3 is closely related to one of the two languages that the learner already knows. Many researchers working in this line of research have focused on the facilitative effects of lexical transfer in learning an L3. Ringbom (1985, 1986) found that transfer from L2 to L3 is most facilitative in the lexicon:

The results [of previous L3 acquisition studies] so far point in the same direction: where crosslinguistic influence is found, usually between related foreign languages, this influence is generally confined to the area of lexis. Influence from languages other than the L1 seems to be insignificant in the area of grammar and non-existent in phonology (1986: 156).

Ringbom (1985) based this conclusion on his review of the literature and on his research on the differences between native speakers of Finnish and native speakers of Swedish in learning English as an L3 in Finland, which is officially bilingual in Finnish and Swedish. On the basis of a categorization of errors, Ringbom (1985) found that more errors could be traced to influence of Swedish than to Finnish; very few errors could be attributed to the influence of German, which is less popular than English. Ringbom (1985) concluded that learners preferred to draw on their knowledge of Swedish in writing English because they perceived Swedish to be

typologically closer to English than Finnish. Although this study focused on errors, the so-called negative effects of language transfer, Ringbom (1986) speculated on the facilitative potential of language transfer:

Especially for the beginner, one obvious way of facilitating the foreign language learning process is to rely upon his L1 or other languages he may know. The extent of crosslinguistic influence will naturally vary greatly from one learning situation, even from one learner, to another (1986: 150).

How learners use this pool of "potential linguistic knowledge" is what researchers point to as evidence of the generally facilitative effects of language transfer in L3 acquisition.

The importance of facilitation in L3 acquisition, particularly among closely related languages, was revealed most strongly in Singleton's (1987) case-study of a relatively fluent learner of French as an L5. Singleton (1987) interviewed the learner, Philip, and later analyzed the source of his errors in spoken French in terms of their source language: English (native language), Spanish, Latin, or Irish (proficiency in these languages varied from "school" Latin and Irish, which the learner rarely used, to intermediate level proficiency in Spanish, a language the learner acquired while living in Spain). Singleton hypothesized that the majority of errors were the result of transfer from Spanish, with English a close second, and Latin and Irish being the sources of relatively few errors. These results indicated that the learner drew various existing linguistic resources to compensate for lack of knowledge of or control over the target language. Philip's preference for Spanish as a source of transfer provides confirmation for the Kellerman's (e.g., 1977, 1978, 1979) psychotypological hypothesis that argues that learners make decisions about which linguistic items and structures are transferable based on their perception of the distance between the languages in questions and that they will draw on linguistic resources in the language that they perceive to be closest to the target language.

The psychotypological hypothesis also gains support from Möhle's (1989) study of native-speakers of German learning Spanish as an L4 or L5. Möhle asked university learners of Spanish as an additional language, half of whom were majoring in English and half of whom were majoring French, to summarize a silent film, *the pear film*, orally in Spanish. Results

of learner summaries indicated a considerable amount of "interaction," a term that Möhle prefers over "transfer," from French among the learners who were majoring in French and relatively little influence from L1 German and L2 English. Learners who were majoring in English showed less influence from English than those who were majoring in French. Interestingly enough, learners whose major subject was English showed some influence from French. Möhle concluded that interaction among various languages is a complex and spontaneous phenomenon, but that "the most important condition for linguistic interaction to take place is obviously the degree of formal relationship between the languages" (1989: 193). These results, along with Singleton's (1987), show that the additional linguistic resources that L3 learners possess are a considerable asset in L3 learning, particularly if the languages in question are typologically close.

The psychotypological hypothesis has also been tested on learners who have no knowledge of the target language in studies by Singleton and Little (1984) and Palmberg (1985). Singleton and Little compared learner performance on a test of Dutch listening and reading comprehension. Native speakers of English who had a reasonable command of German were compared with those who knew no other Germanic language(s) besides their native English. Results indicated that the group with knowledge of German understood more Dutch than the group that did not know any German (most learners in this group, however, received instruction in Irish and French before entering Trinity College), which Singleton and Little attributed to learners making use of their knowledge of German to understand the incoming Dutch input. These findings also provide support for Ringbom's hypothesis that transfer from L2 to L3 is most salient in the lexicon and in comprehension.

Palmberg (1985) investigated the "potential" English L3 lexicon of native-Swedish speaking children in Finland who study Finnish as an L2 in school before they begin to study English, usually at the end of their fourth year of school. His test consisted of a listening test of 40 English words and 14 English expressions and a written test where learners were asked to write down as many English words as they could and provide an appropriate Swedish equivalent. Results indicated that learners identified 52% of the words and 58% of the expressions correctly and that they produced a variety of correct English words. Overall, this study indicated that learners

understood more words than they could produce and that learners drew on their knowledge of Swedish as a source of information on the English lexicon. Together, these two studies indicate that learners already possess a significant amount of knowledge about a new target language that is typologically close to one or more of the languages that they already know and that learners make dynamic decisions about what is and is not transferable from one language to another when confronted with difficult linguistic input.

Results from studies on phonetic and phonological transfer revealed conflicting patterns of transfer. Singh and Carroll (1979), for example, found that learners from India transferred from English in their pronunciation of French. The researchers gathered data from oral interviews with nine learners of French from various language backgrounds (Arabic, Bengali, Chinese, French, German, Punjabi, Turkish). The researchers then correlated an analysis of learner errors in pronunciation with results from an attitudes and motivation questionnaire. From this analysis, Singh and Carroll concluded that learners transferred English phonetic patterns to French because they perceived English to be a prestige international language in India. Learners from other language backgrounds tended to transfer mainly from their respective L1's.

In opposition to Singh and Carroll (1979), Haggis (1973) found that Ghanaian native speakers of Twi relied heavily on Twi (L1) in pronouncing French as an L3, despite being relatively fluent in English as an L2. Haggis based his findings on 62 oral interviews of five to ten minutes (depending on the language) in all three languages that the learners knew, making this study one of the few that is based on a large corpus of oral-interview data. Haggis concluded that Twi influenced learner production of French significantly because Twi is a tonal language. Vildomec (1963) conducted an extensive series of interviews with multilingual people in Europe. From these interviews, which were not transcribed, he concluded that transfer occurs among languages learned in a similar environment and emotional state in all areas of language. More studies on phonetic and phonological transfer are needed to augment the tentative findings of the three studies discussed above.

7. The Effect of Previous Language Learning Experiences

Another area of promising research on L3 acquisition is research on the cognitive and affective effects of previous language learning experience on the acquisition of an L3. Research in this area has typically compared language learning ability of bilinguals learning an L3 with monolinguals learning an L2 to see whether the previous language learning experience of bilinguals helps them learn a new language more efficiently than monolinguals. The theoretical impetus for this research has come from interest in how previous language learning experience affects – positive, negative, or equivocal – present language acquisition. Thomas (1988) showed that English-Spanish bilinguals have an advantage over English monolinguals in learning French and that those learners who had formal training in Spanish as an L2 performed better than those who learned Spanish “naturally.” Learners were given French grammar and vocabulary tests after one semester of instruction, the short version of the Modern Language Aptitude Test, and a modified version of the Gardner & Lambert attitude and motivation questionnaire. From the results on these tests, Thomas concluded that previous language learning experience helped in the acquisition of a new language, but that previous language learning experience in formal settings in particular helped the most because formal language instruction increased learner metalinguistic awareness. Thomas attributed the superior performance of bilinguals to their metalinguistic skills rather than to the close typological relationship between Spanish and French:

Cognates and grammatically similar structures may exist in the target language, but unless students are trained to be aware of the rules and forms of language and to recognise similarities among languages, they cannot develop metalinguistic awareness, exploit positive transfer, and avoid interference (1988: 240).

These views stand in sharp contrast to researchers, such as Singleton (1987) and Kellerman (1977, 1978, 1979) who view learner judgments on language distance and transferability as creative and independent in their own right.

Results from Eisenstein's (1980) study of the effect of childhood bi- and multilingualism on language learning aptitude showed that multilinguals,

most of whom had learned several languages in a formal setting, performed better on the short version of the Modern Language Aptitude Test. This suggests that extensive formal education in languages develops learning strategies that help facilitate future language learning.

Other researchers in this area focus more specifically on the cognitive effects of previous language learning experience. Mägiste (1984) conducted a study of the effect of bilingualism on the acquisition of English as an L3 by immigrants in Sweden. She investigated results of a standardized English test given to 2,736 eight-grade immigrant learners and 67,162 Swedish learners, who were (presumably) monolingual. Results from this study indicated that active use of the native, or "home," language by bilingual learners was a slightly negative influence on L3 English proficiency, whereas passive use of the "home" language was a positive influence. Monolingual Swedish learners score roughly in between both groups of bilinguals. Like Thomas (1988), Mägiste (1984) concluded that "passive bilingualism" helped develop learners metalinguistic knowledge, but that "active bilingualism" increased the potential for interference. Unlike Thomas (1988), however, Mägiste (1984) left the door open to the possibility of transfer in L3 acquisition: "Another factor in learning a language is the similarity between the mother tongue and the language to be learned. In related languages the learner is able to recognise and understand familiar concepts, which facilitates learning, at least at initial and intermediate stages" (1984: 421).

Several studies have, however, cast doubt on the above findings. In a study comparing language aptitude for learning artificial linguistic structures, Nayak, Hansen, Krueger, and McLaughlin (1990) found that bilinguals with various combinations of languages had no significant advantage over monolinguals, but that bilinguals were more flexible in dealing with the incoming linguistic input. They concluded that previous language learning experience helped learners develop the ability to switch learning strategies to fit the type of linguistic task at hand.

Serrill (1985) studied the effect of previous linguistic experience on multilingual, bilingual, and monolingual learners of Italian as an L4, L3, and L2 respectively, at the university level in the United States. She collected written samples from 39 beginning learners of Italian along with other information on previous language learning experience and university grades

in language courses. From an analysis of this data, Serrill (1985) found that the multilingual group performed slightly better than the other two groups on the writing sample, but not significantly so. Serrill's conclusions on the effect of multilingualism on learning an additional language in particular differ from Eisenstein (1980). The diverse methodology and equivocal results of these and other studies on the effect of previous language learning experience make it difficult to draw definite conclusions from this research, but the questions investigated in these studies are valid and deserve further investigation. Linking these questions to an investigation of language transfer and cognitive processes in L3 acquisition will strengthen both lines of research.

8. Pedagogical Implications

In concluding their study on learner comprehension of Dutch, Singleton and Little (1984) noted that "they [results from further studies] may suggest possibilities for the devising of programmes which would seek rapidly and economically to build a receptive competence in (say) Dutch or Italian on (respectively) 'school German' or 'school French'" (1984: 267). To date, Hedqvist (1985) is the only study based on a pedagogical experiment in L3 acquisition along the lines suggested by Singleton & Little (though not a pedagogical experiment, Hufeisen, 1991, contains an extensive discussion of the pedagogical implications of her findings). Hedqvist reported on findings from the Scandinavian-Dutch Mutual Language Understanding Project at the University of [Umeå] in Sweden. This project was an experiment to find out how much effort it would take native speakers of Dutch to understand the two Scandinavian languages, Danish and Swedish (it is assumed that as adults, the Dutch learners have at least intermediate proficiency in English as an L2 and, in most cases, German or French as an L3). Special materials, or [*läromedel*], were developed based on an analysis of the differences between the two Scandinavian languages and Dutch and of the 1000 most common words in all three languages. This material was used in a pilot-course in beginning Danish and Swedish for native-speakers of Dutch in the spring of 1983. Results from this project showed that Dutch is very close to Danish and Swedish, but that Swedish is slightly closer to Dutch. It took only about ten hours of training for native speakers of Dutch

to understand and communicate at a basic level in Danish and Swedish.

Results from this study suggested that special materials that are tailored to language similarities and differences between closely related languages are an efficient way of making use of the learner's previous linguistic knowledge in classroom instruction. By combining important findings from research based on contrastive analysis and error analysis with those based on a facilitative view of language transfer, Hedqvist (1985) developed an approach that overcame the artificial dichotomy between interference and facilitation, and negative and positive transfer, both of which limit the pedagogical implications of many studies. More pedagogical experiments are needed to make firmer conclusions about materials development and teaching methodology.

9. Conclusions

9.1. An Agenda for Third Acquisition Research

This paper has presented some of the problems as well as the accomplishments of research on third language acquisition. Researchers working on third language acquisition will be under increased pressure to provide explanations of how people go about learning a third language along with providing detailed descriptions of learner language. For this type of research to take place, a solid research agenda that corrects for shortcomings in and builds on the accomplishments of previous research is necessary. Such a research agenda would need to include the following:

1. A clear definition of "third language acquisition" that accurately describes the phenomena under investigation.

2. A research design that focuses on the following: production and comprehension; the process of acquisition as well as linguistic product; learner errors and successes; learner perceptions of language distance and of previous language learning experience and that controls for important cognitive and affective variables.

3. A research design that is linked closely to broader theoretical issues in the field and that investigates a clear hypothesis about one (or more) of these issues.

4. More longitudinal studies that investigate changes in learner profi-

ciency, attitudes, and perceived language distance.

5. A greater diversity of data gathering instruments that follow the research design.

6. More studies that investigate results from pedagogical experiments and that have direct pedagogical application.

7. More studies on the acquisition of non-Western languages by Western and non-Western learners.

This research agenda is only a beginning, but it will no doubt evolve as research brings up new questions as it answers old ones.

9.2. Third Language Acquisition in Korea

Korea is particularly well suited for research on third language acquisition because almost all Korean learners bring knowledge of Chinese characters and of English to learning a third language. Korean syntax is helpful in learning Japanese, Mongolian, and Turkish, but is of little use as a source of linguistic knowledge in learning many other languages. English and Chinese characters, which form a large common lexicon with Chinese, Japanese, and Vietnamese, are thus the main linguistic resources that Korean learners have at their disposal to learn the major languages of the world.

As the only Indo-European language that Korean students are required to learn in secondary school, English is a potential "bridge" to learning closely related Indo-European languages such as French, German, and Spanish. The large number of cognate lexical items and the SVO word order (German is SVO in main clauses and SOV in subordinate clauses) are a possible "short cut" in acquiring these languages. The SVO word order may also be helpful in acquiring other non-European SVO languages, such as Chinese. As the first foreign language that Koreans learn, English instruction affects learner perceptions of language learning and thus influences learner attitudes toward learning other languages with the possible exception of Japanese, which most Koreans consider to be an easy language to learn. These suppositions need to be researched in detail before any firm conclusions can be drawn and pedagogical implications considered.

Knowledge of Chinese characters is potentially an even greater linguistic

resource than English. Korea's rapidly increasing economic and political interaction with China will most likely stimulate the need for Chinese language education in Korea, particularly after Korean unification. Japanese will also continue to be an important language for Koreans even as China becomes the dominant economy in the region. As a "bridge" to Chinese and Japanese, Chinese characters are especially important because they have a common meaning in all three languages that is easily understood in reading and writing (abbreviated forms of the characters and differences in usage, however, are considerable). Cho (1994) pointed out that of the Chinese characters that are taught up to graduation from high school in Korea and Japan, 1,606, or 82.6%, are taught in both countries; in the case of Chinese, all the Chinese characters that are taught in China are taught in Korea. This creates a common vocabulary — an *interlexis* (Meißner, 1993) — based on Chinese characters in all three languages. Regular rules govern differences in pronunciation of Chinese characters among the three languages (In Japanese, each Chinese character has a indigenous Japanese pronunciation in addition to a Sino-Japanese pronunciation), thus allowing Korean learners to use their knowledge of Chinese characters in oral production and in listening comprehension as well as in reading and writing. Clearly, this is an enormous source of potential linguistic knowledge for Koreans learners.

The authors whose studies have been reviewed in this paper borrow many words from architecture: "design," "structure," "reservoir," "pool," "bridge," etc. The use of these terms reflects the authors' belief that language is ordered by interlocking connections among linguistic elements. In this model, language learning inherently jars the relationship between these elements as new linguistic elements enter the learner's mind. Learning a third language adds more linguistic elements, thus stimulating fervid interaction among all of these elements. Investigating how these linguistic elements interact and connect with those from L1 and L2 will allow third language acquisition to help learners and teachers of languages build their own bridges among languages. This is not an ideal; it is something that the crowded borderless world of the twenty-first century may demand.

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College of Social Sciences
Ritsumeikan University
56-1 Tojiin Kitamachi
Kita-Ku, Kyoto 603
Japan
E-mail: rjfouser@kic.ritsumei.ac.jp