

Guest Editorial

Indigenous Languages and the Study of Bilingualism

The goal of this special issue is to gather together a selection of studies that report on research related to bilingualism among speakers of indigenous languages (IL). The papers report on aspects of both language use and language competence, and on research applied to both educational contexts and to problems of language development in general. The objective is to be inclusive, and a preview of the topics in the table of contents confirms that we succeeded in including a range of theoretical and methodological approaches: linguistic and discourse analyses of bilingual and IL corpora, descriptions of language learning and language teaching in educational settings, ethnographic/anthropological and sociolinguistic studies of language use, and psycholinguistic and cognitive science approaches to grammatical competence.

The first observation that the reader might make is that most of the papers focus on the contact between an IL and its corresponding national language (NL). This delimitation is noteworthy because it wasn't part of the original call for participation, but we should also say that it was predictable. How ILs interact with or are constrained by languages of wider communication has become an important research question in the field. In fact, this area of work reflects one of the characteristic circumstances of indigenous languages today. See Thomason (2001), on the other hand, for a survey of the language contact research that considers the mutual influences between and among ILs themselves.

What is an Indigenous Language?

There is no universally accepted definition for the term 'indigenous' to designate a people. However, for a working approximation, the descriptions utilised by different international agencies and researchers affiliated with the United Nations (UNHCHR, 1997) serve as a good starting point; and see King and Schielmann (2004) and Wiley (2001) on how these are related to questions of educational policy and practice. Generally, a people would be considered indigenous if they are descendants of a distinct cultural group that can point to a historical continuity with a given region that they inhabited prior to their colonisation or incorporation into a nation-state (equivalent terms: autochthonous, native, aboriginal). An indigenous people remains differentiated to some important degree from the surrounding majority population, and would typically be associated with a minority culture (although not always minority) in a relation of subordination to a dominant culture or cultures of the nation-state.

Yet for the purposes of this special issue we might want to sidestep, for now, the broader categories and restrict ourselves to the linguistic realm. Especially as indigenous people and IL do not always coincide, it will be the latter that

we will consider here. Not all the ambiguity in all cases is resolved, but this drawing of the boundaries will help us frame the discussion in a more manageable way.

An indigenous language would be a vernacular spoken by a people or a community with a unique or special historical tie to a given region or territory, typically a minority language (with some important exceptions), and again in a relation of subordination to a national, official or dominant language of wider communication. An IL might attain a 'national' or even '(co)-official' recognition; but it never enjoys the same status, power, prestige value, access to material resources and communication media, and widespread utility of the actual NL of wider communication and official use in schooling (the language use context that is of primary interest to us here).

A few examples illustrate how our proposed separation might be useful.

- Languages of North and South American origin, spoken by the peoples of the Americas prior to contact with Europe, are commonly referred to as ILs. As a rule, the native speakers of these languages would also identify themselves as indigenous peoples. An important exception would be the case of persons who become non-Indian (where 'racial' or 'lineage' criteria are not applicable, for example in Mexico 'mestizo,' or 'ladino' in other Latin American countries), but might still retain knowledge of an IL. Not all indigenous persons, individually, or communities may speak a separate language (or even dialect) that reliably distinguishes them, linguistically, from other minority or majority cultural groups.
- Creole languages of more recent emergence in the Americas and elsewhere might be considered ILs (by our working definition), while the speakers of these languages might resist the idea of being considered indigenous themselves.
- Similarly, some minority European languages might be considered indigenous without their speakers identifying themselves as indigenous people.
- In Africa, in some countries the term indigenous is avoided altogether in designating either people or the languages they speak. Languages, for example, might be categorised as 'national', 'regional lingua franca', 'local' or 'official' (the first three of African origin, the latter, European former colonial). In other cases, 'indigenous language' may refer to a language of African origin without the designation 'indigenous' extending necessarily to its speakers.

The Indigenous Language–National Language Contact Situation

What is it about indigenous languages that justifies a collection of studies related to bilingualism? Evidently we are dealing with a different kind of category from that which one would consider in a special issue on: 'Bilingualism in the successor states of the former Soviet Union', 'Early childhood bilingualism', 'Bilingual aphasia', 'Bilingual instructional models

for secondary school' or 'Bilingualism in two Romance languages'. Strictly speaking, there is no real common political (in the narrow sense), developmental, psychological/neurological, pedagogical or linguistic feature that sets ILs apart as a whole.

What does seem to form part of a central underlying theme is the relationship that is maintained with each corresponding NL, as was alluded to earlier: the deep sociolinguistic imbalance vis à vis the NL(s) in all aspects of language use. Varying, as it does, in degree and breadth of distribution among the different realms of communication, this imbalance presents an important opportunity for researchers of bilingualism. The characteristics of this sociolinguistic inequality make for a worthy object of study in their own right. For example, an IL speech community might seek to reverse, stem or manage the effects of rapid erosion and displacement of their language, or preserve a comprehensive record of it while this may still be feasible. A related practical concern might be: what is the most effective approach for developing higher-order, literacy-related, academic abilities among children who speak an IL, especially for those among them who are beginning learners of the NL. How might knowledge of an IL affect students' ability to learn a NL, as a concurrent first language (L1) or as a second language (L2)? One might assume that the effect of previous linguistic knowledge in this case would be no different than that involving any other kind of combination of L1s and L2s. But conversely, different research questions might be posed in the case of the L1 knowledge of a NL in the second language learning of an IL. These questions are relevant to applied research specific to the IL situation itself, especially in the fields of bilingual education and language planning. And in general, understanding the special features of the interaction between a dominant and subordinate language when the disequilibrium is pronounced, and the 'distance' that separates them is wide, is important for the broader field of language contact studies.

From another perspective, the special circumstances of IL–NL bilingualism allow researchers to test hypotheses in a wide variety of conditions: does a proposed relationship or principle hold up even in very sharply imbalanced situations of language contact? Might the hypothetically strong effect of this kind of special sociolinguistic factor yield a different pattern of results than that observed in less conflictive or socially more balanced contexts; and if not, what would this imply? IL–NL contact situations allow for observing and trying to account for a wide range of imbalances. At what point might we be able to take note of a qualitative difference with regard to how these imbalances might affect bilingual speakers developmentally or academically? For example, in the study of the effects of introducing or promoting literacy in a non-NL language: in the case of some ILs there already exists a long tradition in this domain, in many cases one that is relatively limited, and in others none at all to speak of. In all of this, empirical investigation might provide for a healthy corrective to popular perception in certain quarters regarding purportedly deep-seated differences involving ILs: concluding that ILs are not exceptional in every way. Perhaps in certain domains they are exceptional only in some very specific or superficial ways.

Language Contact and Bilingual Competence

Starting with our second perspective, the authors of the papers in Part 1 are all interested in one or another aspect of cross-linguistic influence (CLI): how in bilinguals the knowledge of one language affects performance in the other, and ultimately, how it might even be a factor in changes in linguistic knowledge itself. The evidence of transfer (or 'interference') between a first language and a second language, or between two primary languages (or between two non-primary languages in the case of a trilingual), can be seen in either direction, or mutually in both directions.

Due to the universally subordinate social position of indigenous languages, IL bilingualism provides for a wide range of research sites and examples for the study of language loss. As a particularly interesting type of CLI, sometimes these examples of displacement and attrition are more compelling than in other situations of language contact. In the study of ILs, perhaps, language shift and language attrition are among *the* central problems to understand.

First language attrition (erosion of linguistic competence in the individual) should always be considered in the context of language contact and bilingualism. This makes for an important research connection: as Muysken (2004) has recommended, we should strive to more thoroughly integrate investigations related to the different aspects of CLI, including all types of language mixing, interference/transfer and convergence. And as advanced language shift (erosion from a sociolinguistic point of view) among the large number of endangered ILs has apparently accelerating in recent years, aspects of CLI, especially mixing and interference, become interesting to investigators as potential indicators of attrition and erosion from a psycholinguistic point of view. An important point that makes mixing and interference interesting is that in most language contact situations, IL bilingualism included, they do *not* indicate attrition.

These research opportunities might help correct a persistent bias in the field that has tended to set aside the study of interference, imbalanced grammatical competence and loss of competence, in child bilingualism in particular. Reacting to early views that emphasised negative cognitive consequences of child bilingualism, researchers have centred their work largely on how bilingual competence is not a source of confusion or developmental delay, and that balanced, non-interfering autonomous development of each language system is a typical or normal outcome (Bhatia & Ritchie, 1999; Genesee, 2003). However, findings from the growing field of research on L1 attrition and asymmetrical development of two languages have yet to be fully integrated into the new (non-deficit-oriented) perspective on bilingualism. In a trivial sense bilingualism lays the groundwork for interference and displacement; attrition cannot proceed without the influence of a displacer/replacing language (RL). But the interesting question is: what are the mechanisms of attrition in the context of bilingual development, in particular regarding the onset of differentiation in bilingual children, for example, between dominant and non-dominant languages?

In any case, the implications of the different levels (and degrees) of CLI are important for work on a number of unresolved research questions related to:

- the ability on the part of bilinguals to maintain proficiency in a strongly disfavoured language as the socially favoured language expands, cognitively; and
- the ability to control or overcome interference in L2 learning, or L1 attrition, when this is necessary for a given purpose.

Other questions that readers should keep in mind as they study the findings from the papers in Part 1 might include:

- how to distinguish among attrition-related changes imposed by the RL, other types of CLI unrelated to attrition, and 'internal' changes in the grammar of a subordinate language, unrelated to CLI.
- Is the concept of grammatical convergence compatible with the evidence that suggests that the bilingual's language systems are autonomous (a separation of the mental representations that correspond to each)?
- Does convergence typically imply some degree of asymmetry?
- What do the facts of CLI and language replacement (a better way of conceptualising 'loss') suggest regarding the nature of linguistic knowledge in: first language mother tongues, developing second languages, near-native and native-like L2s, eroded 'former L1s' and L2s in which proficiency has eroded to a significant degree?

How Basic Research on Bilingualism Might Inform Practice

The applied fields are concerned with issues related to language learning and teaching, assessment, and questions of language policy and planning within and beyond the confines of school. The IL might be: the first language of students who are learning a NL as L2; or the IL might be the L2 target language of indigenous NL speakers enrolled in a language revitalisation programme, or an attriting language in rapid decline, already having been displaced by the NL as the bilingual's primary language. Lastly, the IL and NL may be the languages of the balanced bilingual in a situation of sustained contact with both. The key characteristics of these psycholinguistic circumstances are important to take into account by practitioners: what should teachers anticipate regarding transfer and interference as students' interlanguage development advances? As language learners' grammatical competence erodes in an IL, how should educators and family members respond, and what should they realistically expect? (The reader will take note that we are not entertaining the other logical possibility: displacement of a NL by an expanding IL, although in theory we could.) What does language mixing indicate or reflect in: balanced bilinguals, L2 learners and L1 attriters? For example in language assessment, are the indications different in each case? What might the concepts of language separation and convergence mean in practical terms?

Returning to the case of the IL speech community that has taken up the task of language development and revitalisation, what should teachers, students and families expect from the introduction of IL-literacy and IL-medium instruction in school? All three papers in Part 2 at least implicitly address this

question. Three alternative proposals (not necessarily counterposed in all circumstances) would appear to frame the discussion.

- (1) While inclusion of the IL in the academic curriculum (e.g. development of skills of reading and writing in both IL and NL) by itself cannot be sufficient for advancing the goals of language revitalisation or preservation, it represents a necessary component of a larger community-wide language planning program.
- (2) For languages of 'oral tradition', expanding revitalisation efforts into the domains of language use that have traditionally been reserved for 'written languages', and to schooling in particular, diverts scarce resources, and potentially undermines a diglossic balance that eventually only leads to casting a shadow over the boundaries that historically have favoured IL preservation.
- (3) The practical effect of language planning activity along lines (1) and (2) is marginal at best; the objective material forces that drive language shift today are irreversible. As a full documentation of the endangered/eroding languages is of great scientific and cultural value, this objective deserves the highest priority.

Turning to a related but different question: what role might an IL play in the development of bilingual learners' academic language abilities, as compared to the total exclusion of the IL from the literacy-related domains of schooling? In some ways this question is independent of the previous one related to revitalisation and preservation. Three working hypotheses, again, seem to chart out the parameters of the debate. For example, for a population of child IL-speakers who are either monolingual or beginner L2 learners of the NL:

- (4) IL-medium instruction and biliteracy stands as an obstacle to academic achievement. Full NL-immersion (applying age/grade-level appropriate and high-quality content-based second language teaching methods) is the most practical and feasible approach.
- (5) There is no difference in regard to literacy-related academic achievement between correctly administered full NL-immersion and any variety or model of dual language instruction that includes an IL; i.e. the latter provides for no advantage in ultimate attainment in any general academic language learning domain.
- (6) Inclusion of the IL in the curriculum, to some important degree, will provide support for the development of literacy-related academic language proficiency. Abilities in this area of language learning will be advanced more effectively and efficiently as a result.

For the most part (4), (5) and (6) are the same hypotheses that bilingual and second language educators find in the discussion regarding any language contact situation involving an official or target majority language of schooling and a minority or immigrant language spoken by students. What makes the relevant research questions different in the case of IL–NL contact is the significantly wider

rift between the languages in all sociolinguistic domains: material resources related to literacy (including availability of literate educators), all aspects of utility and prestige (real and perceived), standardisation and even breadth of available lexicon for academic purposes. This rift is typically wider in proportions unlike any other majority–minority language contact situation (almost always corresponding to a difference of kind rather than degree).

With this circumstance in mind, which we can now characterise as exceptional, what kind of evidence could be marshalled to falsify any of the above hypotheses (1)–(6)? And could some of them be formulated more precisely for the purpose of designing studies that actually might show any of them to be misconceived, in some respect or entirely? This question should serve as one of the guides that the reader uses to evaluate claims and proposals that the papers in this special issue present (especially in Part 2).

Preview of the Papers

The study by Sánchez with speakers of Kechwa and Spanish from the Peruvian Amazon addresses an important discussion in child bilingual research: do the grammars of each language system develop autonomously? If they do, from which stage of development is separation achieved? And again, assuming autonomy (for argument's sake), how should we explain the facts of CLI, which no one denies. Perhaps separation is not always achieved uniformly, even among older children at a steady state of bilingual attainment. We might want to entertain this possibility as a working proposal in cases of imbalanced competence, and even more plausibly in early attrition of an acquired L1. The competing proposal would be that even in attrition the dominant and receding language systems maintain their autonomy.

A central claim in this study is that it is in the domain of the functional categories of a language where we should expect to see evidence of fundamental changes in linguistic competence; for more discussion of this idea see findings from earlier work in Sánchez (2003), also Gass (1996) and Myers-Scotton (2003). For example, it would be important to distinguish between: (1) contact-induced language change that maintains the fundamental integrity of linguistic competence and (2) contact-induced language change that results in attrition. In the first case, an IL may undergo a historical evolution peculiar to its disfavoured sociolinguistic status, and that in fact may parallel its gradual erosion demographically, over time. And it could be argued that how certain structural changes (e.g. interference from the dominant NL) are perceived by speakers of the IL may indirectly contribute to its erosion and displacement by the expanding majority language. A particularly illustrative example would be that of *Media Lengua*, an extensively relexified variant of Quechua spoken in Central Ecuador, described by Muysken (1997) (Spanish origin items and English translation *in italics*).

Media Lengua:	<i>Unu</i>	<i>fabur-ta</i>	<i>pidi-nga-bu</i>	<i>bini-xu-ni.</i>
	<i>One</i>	<i>favor-ACC</i>	<i>ask-NOM-BEN</i>	<i>come-PROG-1</i>
Quechua:	Shuk	fabur-da	maña-nga-bu	shamu-xu-ni

From one point of view, an assessment of Media Lengua, for example, by many speakers of Quechua, might be that it represents a form that reveals the corruption, degradation and 'loss' of the language under the pressure of Spanish. But in all of this what is lost in the speech communities in which this kind of change unfolds is not necessarily speakers' core expressive and comprehension capacities, but rather a standard, a 'legitimate' time-honoured variety of Quechua.

From another point of view, we can take note that the insertion of Spanish lexical items is restricted to content words, the functional categories having been 'preserved'. As Muysken explains, a monolingual speaker of Spanish listening to a passage of Media Lengua would be at a total loss despite the fact that the vast majority of content words are of Spanish origin. In contrast, a monolingual speaker of Quechua (of a dialect that has not suffered relexification) would probably recognise Media Lengua as a strange variety of his or her language.

Monolingual speakers of this 'strange variety of Quechua', or bilinguals whose primary language is Media Lengua (Spanish or Quechua might be the other primary language), would still have command of a fully formed core grammatical system of Media Lengua. They would face the prospect of attrition only if a second or simultaneously acquired language begins to displace cognitive domains of linguistic competence of the language that comes to be weakened or disfavoured in some way. But in the absence of the actual upgrowth of a RL, the maintenance of the basic scaffolding of speakers' mental grammar, embodied in its functional categories, means that we would not be considering an example of attrition.

The concept of convergence comes up again in Dorian's analysis of negative borrowing: that grammatical features in a receding language not shared with the RL are especially susceptible to reduction and loss. Tentatively, there would be two ways to understand convergence: (1) outward grammatical constructions, evidenced in production (as well as in comprehension), come to pattern themselves in a way that conforms to the structures of a dominant expanding language. In the underlying representation of each language the relevant structures would be stored redundantly, each language network maintaining its autonomy (Paradis, 2004). (2) An actual overlap or developing shared representation (a common computational system). In this study we examine a test of the hypothesis that features of Scottish Gaelic that don't have a parallel in English will show more rapid erosion than those that do. The language contact situation in this case is one that would be described as in a stage of advanced language shift. Whichever model of convergence turns out to be correct, the loss of (unmatched) features, for example, does not necessarily imply the loss of expressive capability in the non-dominant language. The 'interference' thus would become part of the bilingual's grammar, through convergence of kind (1) or (2), and is then deployed, fluently, in language use. See Dorian (1999, 2002) for more findings from this study and how all this is related to the important concept of diglossia.

Are tendencies toward simplification in verbal expression a reflection of natural evolution or of erosion is also a question that Allen *et al.* pose in their study of Inuktitut language abilities among third- and eighth-grade children.

In response to perceptions on the part of parents of a decline in Inuktitut language abilities in the younger generations, the investigators compared measures of performance on narrative tasks between bilingual children in 'small communities' and 'large communities'. Among the latter, day-to-day contact with French and English would be more consistent. Preliminary findings are inconclusive but suggestive. What this study suggests, in fact, is a hard question about child subtractive bilingualism that is potentially far reaching in its implications for understanding how the faculty of language (FL) deals with two grammatical systems. And IL bilingualism, for reasons we already considered, provides us with some particularly illuminating case studies.

Here we have in Northern Canada child IL speakers that by all accounts have been exposed, unambiguously, to more than adequate input conditions for the development of a fully formed linguistic system corresponding to Inuktitut. This would be true, conceivably, in both 'small,' linguistically more homogeneous, and 'large,' more diverse, communities; see findings from an earlier study by Crago *et al.* (1997). So, what is it about the mere introduction of a second language (at almost any age during early or late childhood) that results in the language acquisition capacity to begin to favour only *one* language system developmentally? This paradoxical (FL) internal differentiation, amply documented in the bilingual child development research (Francis, 2005), is clearly not evidenced in all young bilinguals, perhaps only in a minority. But that doesn't matter; the need for a comprehensive explanation remains. In other words, why is it that only under the condition of bilingualism might a grammatical system undergo early stabilisation in development, stagnation or attrition (intrinsic language impairment aside)? For a language with which the child has only sporadic or evidently diminished contact, the explanation seems too obvious (emphasis, surprisingly, on *seems*). But for exemplary cases such as Inuktitut, and many others that also involve robust language socialisation conditions during the critical period of L1 acquisition, coming up with an account for subsequent attrition under the influence of a RL is far from straightforward.

Concluding this section are two studies of borrowing and mixing. De Klerk examines the patterns of Xhosa insertion into English, and Torres reviews research on the incorporation of Spanish discourse markers in Mesoamerican and South American ILs. The broad questions that form a backdrop to these papers are related to some of the themes laid out in the beginning of this introduction: for ILs, does language mixing serve as an index of subordination to their corresponding majority languages, evidence of an IL–NL imbalance that in turn may be the determining factor in language shift and attrition? Plausibly, this question should be approached differently from similar discussions about mixing between two NL-status languages. It may be annoying for speakers of Spanish and French to have to listen every day to socially marked calques and borrowings from English, especially when the switcher is suspected of doing it on purpose. But it's not clear what this kind of interference might be an index of, probably nothing of any great scientific interest. In these two papers some of the points that readers will want to be attentive to are:

- (1) The study of mixing from a sociolinguistic perspective should not consider the factor of language choice apart from factors related to the actual level of language ability, measured separately, in each of the languages in contact. There is an important interaction to keep track of between conscious awareness and choice (related to one kind of imbalance, an 'external' one) on the one hand, and linguistic competence in L1 and L2 (related to a different kind of imbalance, 'internal' to the individual speaker) on the other. This appears to be the approach that de Klerk favours.
- (2) The prevalence of Spanish intersentential and interclausal connectors in IL discourse is one of the more visible (audible) examples of CLI for even the casual observer in Latin America. The phenomenon happens to allow for another nicely circumscribed perspective on the question of what an inserted borrowing really is in different language contact situations: a item incorporated into the lexicon of the host language, with time completely, or an interlinguistic switch, shifting within the discourse from one grammatical system to the other and back again.
- (3) Under what conditions do borrowed discourse markers co-occur with the native markers and co-exist together for extended periods? How do we assess the apparent displacement of native discourse markers by their Spanish substitutions? In the case of the surviving ILs of Latin America we have the benefit of a truly privileged historical vantage point – more than 500 years of coexistence and intense contact featuring an extensive corpus of IL written records dating back to the 16th century (see León-Portilla, 1996; Lockhart, 1992). Tracing the incorporation of Spanish words for exotic-looking animals and technological innovations is one thing. The more recent replacement of terms for such categories as basic level kinship terms and core grammatical items (none of which are 'lacking' in the recipient languages) would appear to point to a different aspect of the historical evolution of these now minority languages. We should keep in mind that most ILs of the Americas within the near future will find themselves in advanced stages of extinction. In any case, we would be considering diachronic processes of language shift, related to but different from what occurs in the erosion of linguistic competence among individual bilingual IL speakers, as we saw in the example from Quechua above.

For one last time, it's important to emphasise the need to keep separate two different aspects of IL erosion. In some cases the social station of an IL today is far removed from that of a historical period in which it was the vehicle of higher-order aesthetic formal genres and other literary discourses, including prosaic academic literacy. Having lost these contexts of language usage, it could perhaps be demonstrated in a given community today that few native speakers (who haven't studied their language in modern-day universities) command the elevated styles and registers associated with their culture and their language. But this kind of erosion is different from the loss of grammatical knowledge in individual speakers undergoing attrition in the

context of subtractive bilingualism, i.e. RL *development*. This, and the related distinction between language change and language attrition that we discussed earlier, is an important one to keep in mind for all the contributions in this section of the special issue.

Three papers take up the applied issues. In the first two, the bilingual instructional settings which Trudell, and Peters and Hirata-Edds report on complement each other in an interesting way:

- Indigenous language as L1, English as L2 (official language of schooling, in Cameroon).
- English as L1, IL as L2 (language immersion revitalisation, in the USA).

McCarty *et al.* report on a study of young people's perceptions of language loss in Navajo communities (Southwest USA). All six hypotheses on the role of indigenous languages in school, outlined earlier, are called into consideration in these three papers, in one way or another.

While the majority of the ILs of Cameroon may not face immediate tasks of revitalisation, one policy question seems to be lurking around the corner: will there be any place for them in the academic curriculum as English and French gradually expand within the population of young school-age children? Presently, as Trudell argues, inclusion of the ILs in school is justified as a medium of instruction if for no other reason than to rationalise content teaching and make literacy learning more efficient. The task before her then is to marshal evidence that would lend support to IL-in-school hypotheses (1) and (6), and that would lead us to discard (2), (4) and (5) in particular. One interesting corollary of hypothesis (6), for which she makes a strong claim, involves the effects of literacy, a long-standing controversy in the field (Olson, 1994). Does (or would) IL literacy in particular contribute to higher levels of awareness of the language itself (e.g. aspects of its grammar), leading in turn to advances in certain aspects of language ability associated with the more elevated genres and discourses that we mentioned earlier? At the same time, we might want to add that these formal registers, as is well documented, continue to maintain a strong presence in the oral tradition in this part of the world, having resisted displacement more successfully than in the Americas, for example. Would this be an example of a distribution of functions or 'diglossic balance' that is best not to be undermined, as hypothesis (2) suggests? See Rehg (2004) for some relevant discussion that touches on this debate.

The investigators of the Cherokee language immersion programme appear to also strongly support the hypothesis (1) that inclusion of the IL in the academic curriculum, while it cannot by itself advance the goals of revitalisation, represents a necessary component of a community-wide language planning programme. The logic of this claim leads to the consideration of a number of pedagogic proposals tied, as they are, to the general framework of formal schooling. We might want to say, in fact, that they are unavoidable given the pressing developmental and educational needs of children in school. Systematic assessment of achievement in the area of language ability is one that the authors argue for in their evaluation of Cherokee immersion. Also, if

IL medium instruction comes to be a significant part of the curriculum, and if it isn't or cannot also be the medium of higher-order academic language development, especially literacy, then potentially there is a big problem, mainly for pre-literate children whose primary or sole access to literacy instruction is in school. (The authors don't make this last argument, but it seems to me that it would follow from the model they favour.) McCarty *et al.* approach this question from a somewhat different vantage point. One preliminary finding from their survey data in particular calls attention to a sociolinguistic dimension of language attrition that Part 1 examines mainly from the point of view of changes in individual competence: how bilingual students assess their own level of proficiency in Navajo, and how this might differ from the perception of adult speakers. With important implications for language teaching and language socialisation outside of school, this divergence has been the focus of observations by researchers in other IL revitalisation situations (Wong, 1999).

Looking Ahead

Not everything from basic research on bilingualism and second language acquisition is relevant to the problems in the applied fields. It would be a mistake to insist that it should. And even findings that appear to be directed toward the concerns of learners and teachers should be evaluated cautiously. What might seem like evidence that supports a one-sided recommendation may turn out to be a tentative proposal for more investigation, that in the meanwhile gets badly misapplied. But discerning educators will find much to reflect upon in the research on how the language systems and their component subsystems influence each other in the bilingual learner; and we should keep in mind that this influence involves interfaces both between and within each language system.

A good place to begin would be to distinguish between aspects of students' developing learner language (the L2) that are related to transfer/interference from L1 and aspects that are not. The consensus appears to be, in fact, that most learner error patterns, for example, can be traced to the latter category, and that practitioners should not be quick to attribute them to L1 influences. Furthermore, the interaction between L1 transfer and so-called developmental factors is still not well understood. In this regard, would it make a difference if the first language is an IL or a NL? In principle, we would be tempted to say no. But if, for example, the age of initial immersion is factored in (e.g. the IL is an early 'simultaneous L1' versus a subsequent L2 introduced in late childhood, in school), would this tip the balance one way or the other?

A better understanding of imbalanced development (types of subtractive bilingualism, early stabilisation of a weaker language in early simultaneous bilingualism, and attrition) will also help educators design effective dual-language programmes. This includes all variety of situations up to and including that of advanced and irrevocable language loss. Even in this case, we would want to say that the remaining speakers of a moribund language still deserve the opportunity to use their bilingual abilities for the same purposes that speakers of a relatively stable minority language do. Along the same lines,

speech communities that face the prospects of irreversible language displacement may decide to manage the unfolding of this shift in a conscious and deliberate way. One way would be to ensure that whatever language and literacy teaching model is adopted that it fully correspond to the language learning and other developmental needs of children.

Short of outright loss, an objective assessment of the different manifestations of imbalanced bilingualism among language learners will help put science first, ahead of idealised purist scenarios of perfect balance and non-interacting separation of the bilingual's language systems. A good starting point here would be a better understanding of all the different mixing phenomena, under the categories of: alternation, insertion and congruent lexicalisation (Muysken, 2004). This would be particularly useful for the purpose of evaluating bilingual children's written and oral expression in school. Here, as in all the other areas mentioned above, practitioners are in a position to provide valuable feedback to researchers, to help them generate new questions, and to help them reflect on which old questions are more interesting or more important.

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