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ABSTRACT

During the 20th century there has been a widespread pattern of language shift among the indigenous communities of the United States and Canada. The language-of-work hypothesis posits that if the national language is used as the language of work for virtually all jobs in a minority-language community, the national language will, within a few generations, replace the minority language as language of the home as well. This language shift involves a series of steps: (1) indigenous language groups moving from kinship-based economies to wage-based economies; (2) a significant portion of community members using a language other than their mother tongue in the workplace; (3) a change in views as to what language skills children will need to prepare for the future; and (4) parents making the national language the language of their children. Other factors promoting language shift may include improved transportation and communication, government policy, intercultural marriages, etiquette, and intolerance. Language shift retardants may include religious use of the minority language, population size, linguistic similarity, and viability of traditional means of earning a living. Related theories for language shift are discussed with emphasis on their ties with the language-of-work hypothesis. Two appendices describe application of the hypothesis in three types of language-based work environments. Contains 44 references. (SAS)

Language of Work: The Critical Link Between Economic Change and Language Shift

Scott Palmer[1]

During the Twentieth Century there has been a widespread pattern of language shift among the indigenous communities of the United states and Canada. This uniformity is surprising in light of the diversity of languages, geography, degree of physical isolation, history, and attitudes about language. I argue that there has been a widespread change in the language of work and that this quite possibly is a common cause of much of the language shift. This language-of-work hypothesis is summarized as a causal chain leading from a shift in the structure of work to a shift in language of the home. Communities in which parents train their children for life in a vernacular language dominated work force are less likely to experience language shift in the home.

Most, if not all, of the remaining indigenous languages of the United States and Canada are considered to be endangered (see, for example, Krauss, 1996; Harmon, 1995a, 1995b). It is surprising that the same thing should be happening to so many groups at the same time when we consider that the languages themselves are so different from each other, the attitudes about language retention are different, the attitudes about the surrounding society are different, the geography and degree of physical isolation are so different, and the histories are so different. Why, with such diversity, are these languages in such a similar precarious situation? Why is this happening so rapidly at this particular point in history? Finding an answer to these questions is important for the speakers of the remaining indigenous languages on this continent and in other parts of the world, and it is important for anyone involved in education or language-related work in these communities.

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[1]An earlier edition of this paper was published as "The Language of Work and the Decline of North American Languages" (Palmer, 1996). By now these ideas have been reviewed by many, whose advice and critique have resulted in continouous overhaul of my ideas. Whatever the eventual disposition of this hypothesis, I have found the vigorous dialogue encouraging, and I have learned a lot. I am particularly indebted to Lynanne Palmer, Jaap Feenstra, Paul Lewis, and Nancy Dorian who gave insightful, detailed, and useful critique of these ideas. I doubt that I have accounted for all that they brought up, but the effort has certainly resulted in improvement.

Alternative hypotheses on why languages are declining

There are several possible hypotheses for explaining the decline of North American indigenous languages in this century. First, their decline could be caused by primarily internal factors. According to this hypothesis, virtually all North American indigenous language groups held views and acted in ways that brought about the demise of their languages. But it is hard to understand why such a variety of different societies, with such a variety of ways of looking at things, should all have views of language that caused them to abandon their languages in this century. There seems to be a language loss pattern that is not explained by group values about language and probably runs contrary to key values in most groups. In particular I am thinking of the strong desire to protect and preserve the native language that is common among tribes in the Southwest of the United States.

Second, language loss could be caused primarily by external factors putting pressure on all of these different communities, but in such different ways that there is no overall pattern to this pressure. Many different factors do seem to have a role in language shift. At two symposia in 1995, a variety of factors were linked to language shift.[1] While repressive language policies correlated with language shift, so did benevolent language policies. Similarly, the lack of literacy in the minority language is one of the factors that can hasten language shift. But, it was mused, literacy in the minority language can correlate with language shift as well. Even Vatican II was cited as having a role in one group. Yes, there are many relevant processes going on, but it is difficult to imagine that the massive sweep of language shift in North America has resulted only from a random collection of external factors, without pattern.

A third possibility is that there is a single external factor or pattern that has sparked at least a good portion of the language shift going on in North America in this century. The problem is knowing what this external factor or pattern might be. For the most part, external factors, such as government or educational programs, official repression or encouragement, and so forth have only an indirect impact on language maintenance. Ultimately, language maintenance or loss is a function of the decisions and behavior of the speakers of the language themselves. This is captured most clearly and simply by Joshua Fishman's (1991) term *intergenerational transfer*. If each generation passes on the language to the next, the language lives. If it does not, the language dies. This is a family matter. At heart it is about what language parents use when speaking to their children.

This paper explores the possibility that for North America, there is a general external pattern of events that is setting the stage for language shift. Specifically, this paper proposes that a different kind of social change, a change in work structure, has been catalytic to a change with regard to language without

[1]Stabilizing Indigenous Languages Symposium, May 4-6, 1995, Flagstaff, AZ (see Cantoni, 1996) and Symposium on Language Loss and Public Policy, June 30-July 2, 1995, University of New Mexico.

language ever being a central focus. The change in work structure in North America in this century is well known, and the pattern of language shift on this continent is well documented among immigrant languages as well as among indigenous languages. What has not yet been explored is the logical linkage between these two trends.

I propose that the widespread pattern of language shift among indigenous communities in North America has its roots in a change in the language of work for these communities. The change in the language of work has been the result of key developments in the economic structure of the dominant society, changes in how indigenous community members relate to that structure, and ultimately changes in the ways in which the community organizes work.

This change in the structure of work has a direct bearing on the lives and thoughts of the parents of young children. Their goal is to prepare their children for life. As it becomes increasingly necessary for community members to work at jobs that require the use of English, this results in revised perceptions on the part of parents regarding what training their children need in order to survive. So they talk to them in the national language instead of the indigenous language, and the children grow up as first-language speakers of English.

The rest of this paper develops the "language-of-work hypothesis" and explores the relationship of this hypothesis to other factors influencing language maintenance and shift and to other language maintenance and shift theories and case studies. It concludes with a discussion of potential problems and applications and some thoughts on testing and developing the theory further.

The language-of-work hypothesis

Briefly stated, the hypothesis is: *In a minority language community, if the national or regional language is used as the language of work for virtually all the "jobs"*[1] *of the community that language will, within a few generations, replace the minority language as language of the home as well.* There are several ways in which the term "language of work" can be used. As used in this theory, language of work refers primarily to the language used to converse with work colleagues and supervisors. A different language may be used for writing or dealing with customers.

The language-of-work hypothesis links the economic history of the U.S. and Canada in this century with the language shift epidemic on this continent during the same time frame by looking at one factor critical to both developments. The logic for this is expressed primarily in what I describe as a causal chain of events. The setting for this chain of events is a particular change in the economic structure of the U.S. and Canada in the Twentieth Century.

During the Twentieth Century, the U.S. and Canada have experienced a sweeping change with regard to how work is organized. This is a change these nations have in common with many others. Peter Drucker (1974, pp. 3–4) notes:

[1]I am including here both employment and othe means of providing a living, such as subsistence farming or hunting and trapping.

> Every major social task, whether economic performance or health care, education or the protection of the environment, the pursuit of new knowledge or defense, is today being entrusted to big organizations, designed for perpetuity and managed by their own managements . . .
>
> Only seventy-five years ago such a society would have been inconceivable. In the society of 1900 the family still served in every single country as the agent of, and organ for, most social tasks. Institutions were few and small....society was diffused in countless molecules: small workshops, small schools, the individual professional—whether doctor or lawyer—practicing by himself, the farmer, the craftsman, the neighborhood retail store, and so on . . .
>
> The citizen of today in every developed country is typically an employee. He works for one of the institutions. He looks to them for his livelihood. He looks to them for his opportunities. He looks to them for access to status and function in society, as well as for personal fulfillment and achievement.

The structuring of work largely through institutions has implications for the language of the workplace. An institution, whether government, business, educational, or other, tends toward use of a common language. Further, there is automatically a built-in pressure toward increased dependence on written language. This may imply that a higher level of competence in general is needed in the language of the workplace. Meanwhile, the shift from small family-based work units to institutions implies changes in social network for the workers. This probably weakens the minority language's "resistance" to language shift (see below). This change in the dominant society is the backdrop for significant changes in Native American communities on this continent.

There is a series of steps leading from a shift in the structure of work, to a shift in the language of work, to a shift in the language of the home. At no point in this causal chain is it assumed that community members wish to see their language die out. The entire process is motivated by concerns other than language.

The first step involved indigenous language groups in North America moving gradually from kinship-based economies to involvement in the surrounding wage-based economic system. Traditionally these language communities have had kinship-based economic systems that allowed community members to use the indigenous language in the workplace.[1]

[1]In trying to understand the change in economic systems experienced by Native American communities, I found Eric R. Wolf's 1982 book *Europe and the People Without History* to be helpful. Wolf is an anthropologist writing about economic history. He contrasts the capitalist economic system with kinship-based and tributary-based (feudal) economic systems and examines all of this in the light of earlier economic developments (mostly from about 1,000 AD on).

During the last half of this century, owing to a variety of factors, significant portions of the population of many indigenous communities have become participants in the wage-based economy of the surrounding society. In this regard, Christine Sims (1995) has pointed out the significance of participation in the armed forces during World War II, as well as a post World War II federal relocation program in which Native Americans moved from reservations to urban areas for years at a time.

In some cases the surrounding society has moved in closer and more private sector jobs have become available. Various government and other programs such as education, social services, and construction have provided employment as well. Meanwhile, opportunities for supplying needs through traditional work have often decreased or changed, increasing the need for employment in the wage-based economy.

The second step occurs when a significant portion of community members need to use a language other than their mother tongue in their place of work. Whether the work is related to health, education, construction, administration, or industry, most employment has generally required the use of English (or French in Quebec). This is in marked contrast to the traditional work environment.

The third step is a change in views in regard to what language skills children are likely to need in order to prepare for the future. As more and more Native Americans have participated in the national economy, the language required in the workplace has become, in some sense, the language of survival for their communities. By language of survival I mean the language people see as essential for the meeting of basic needs. The definition of basic needs may, and probably will, change over time. Community members may find that they have an expanded list of needs and that traditional economic activity cannot adequately meet them. At the same time, other kinds of jobs may be more accessible, while the actual opportunities for earning a living through traditional means may be shrinking.

Since parents are concerned with preparing their children for future life, the language they encourage children to learn will be influenced by their perceptions of what language skills are required to meet life's basic needs. This was illustrated in a conversation with a bilingual mother who worked very hard to give her daughter good skills in English and who sees proficiency and literacy in English as central to her daughter's future. Similarly, a colleague wrote me, "Different Gwich'in men from time to time have told me that they are speaking English to their kids, so that the kids won't have a hard time on their jobs like they [the fathers] did, because they didn't understand the boss' orders [in English]" (Richard Mueller, personal communication).

The fourth step is that in this environment some parents make the national language the language of their children. This eventually puts pressure on the rest of the community, and English increasingly becomes the common means of communication. In a snowball effect, the indigenous language is used less, with the result that younger speakers have fewer opportunities for continued

language learning and so may plateau out without having learned some of the more advanced features typically acquired in late childhood. This is in addition to the fact that participation in school automatically limits their time with adult speakers at this period of their lives.

Meanwhile, the indigenous language has often been esteemed as the language of heritage, even while being replaced by the national language. English, as the language of survival, may be used simply because it is needed for functioning in the workplace to earn a living. It is often valued because of what it accomplishes, not for what it represents. The language of heritage (indigenous language), in contrast, has often been held in high regard for what it is and for what it represents. Use, not high regard, is what perpetuates a language, so a language of heritage may decline even while being held in high regard.

The fifth and final step is the arrival of a generation of children who are predominantly first-language speakers of the national language. Language shift has become obvious, but the process began well before this point. This is the point at which a community typically realizes it has a problem with language shift.

Key characteristics of the language-of-work hypothesis

First, the language-of-work hypothesis describes a multigenerational phenomenon. Language of work patterns in one generation impact community language use two or three generations later, which is consistent with the work done analyzing language loss among American immigrants (Veltman, 1983).

Second, the language-of-work hypothesis describes a phenomenon operating at the level of community-wide language use. It is a theory of community language loss. It is not about what happens to *all* parents but to *a critical number of* parents, laying a foundation for a change in the group use of language in future generations in that community. The language-of-work hypothesis predicts that some will respond by making the work language the first language of their children and that a few such parents in one generation are sufficient to set in motion a process that eventually makes indigenous language learning very difficult in the community a couple of generations later.

Third, the language of work is not the only cause of language shift. Two examples illustrate that language shift can occur without being preceded by a change in the language of work. In a very intriguing paper on Gaulish, Brigitte L. M. Bauer (1995) discusses the situation that led to the loss of that language. While there is probably a lot we cannot know about something that happened so long ago, it is reasonable to guess language of work could have been an issue for the leaders who needed to use Latin to fit in with the Roman administration, but probably not for the Gaulish speaking population at large. Similarly, in a small Athapaskan village, language shift seems to be preceding a change in the language of work (Jaap Feenstra, personal communication).

Fourth, the language-of-work hypothesis predicts that prestige and collective self esteem, or lack thereof, are not key factors for language maintenance or shift. Language pride on the part of the speakers is commendable and cer-

tainly an asset for any language. But an adequate theory regarding language maintenance and shift in the U.S. and Canada in this century needs to take into account the array of positive and negative language attitudes that accompany a remarkably uniform pattern of steady language decline. Meanwhile this, or a similar theory, may be valuable tools for any who are strongly motivated to build a safer environment for their language. That for me is a strong motivation for working on such theories in the first place.

Fifth, the language-of-work hypothesis may apply equally to groups that place a low value on material things and to those who aggressively seek to acquire a higher standard of living. Language of work is operative not based on parents' attraction to material goods but on their desire to prepare their children for life. Severe need may intensify the impact of language of work, but the root motivation is in the love of parents for their children, not a desire to accumulate.

Sixth, language shift, in this view, is not something that is the topic of decision but the unintended consequence of decisions about some of life's highest duties and obligations.

The language-of-work hypothesis may at first glance seem to be painting a picture of people being caught up in processes over which they have no control. Instead, it is suggesting that there will be a certain amount of predictability in the way people make decisions in similar environments. However, the subject and timing of our choices are sometimes quite removed from the subject and timing of the consequences of those choices. People are indeed thinking and making decisions based on deeply felt values that are directed at preparing their children for life. Some of those decisions wind up having language shift implications, but they were not primarily language choices.

That something so valuable as language can be lost without even being in focus is evidence of just how important children are to their parents. I was fascinated by the story of our guide on a tour in Israel. She spoke flawless English, reflecting the fact that she grew up in South Africa and was educated in England. Her parents had originally come from Lithuania and spoke English as a second language, while her son grew up in Israel speaking Hebrew. She noted that her parents are proud of her English, and her son is embarrassed to have her speak her accented Hebrew in front of his friends. Obviously each generation in this family was giving high priority to training the next generation for the world in which they could expect to live. All three generations were thus launched in life from different linguistic platforms.

Other accelerators and retardants of language shift

The language-of-work hypothesis identifies one factor common in North America that has a logical link to the thinking of parents and may be expected to spark language shift. But the language of work is not the only factor involved. Many factors impact language vitality. Some factors speed up the process of language shift. Accelerators tend to relate to the linkage between the

local community and the surrounding society. Accelerators include anything that

- increases access to the surrounding society,
- increases the attractiveness of participating in that society's economic system, or
- weakens the indigenous language-learning environment of children and young adults.

Examples of accelerators of language shift include improved communication and transportation, which have the effect of increasing the relative proximity of the minority community to the surrounding culture. Radio and television are part of the benefits acquired through the dominant economic system. They increase the attraction of participating in the dominant economic system and provide increased exposure to the dominant language. With the advent of rural TV reception (especially with video and satellite dish technology), increasingly now this exposure to language includes the women, children, and elderly who are at home. This also has the potential of interfering with children's language learning.

Elaborated local educational and governmental administrative structures can also accelerate language shift by creating more jobs requiring English in the community. In some communities, the educational and governmental positions may be a major source of employment. All of these may require the use of the national language in the workplace. National-language education also tends to disrupt children's indigenous-language acquisition. Each generation has its language-learning opportunities severely reduced at the point when children enter the educational system. Indigenous-language features typically acquired in late childhood and young adulthood may be lost or modified.[1] Effectively, the language tends to become splintered into generationally differentiated dialects, and thus becomes less able to serve as a community-wide vehicle for communication. Local education in English can have this effect to some degree. Boarding schools are considerably more damaging since students are not around adult speech in their mother tongue for months at a time. Often literacy and education function as stepping stones to employment using English.

Government policies can also accelerate language shift. English-only policies at boarding schools seem to have had mixed results. Some people have responded by valuing their language more highly and passing it on more deliberately. I recall a conversation with person who told me about having been

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[1]This was the subject of several papers at the Symposium on Language Loss and Public Policy, including *The attrition of Inuttut as a first language* by Irene Mazurkewich, *Where have all the verbs gone? Attrition in the L1 verbal system* by Dorit Kaufman, and *Differential effects of L2 on children's L1 development/ attrition* by Muriel Saville-Troike, Junlin Pan, and Ludmila Dutkova.

disciplined for using a Native American language in a boarding school and yet who is raising children in that language. At the 1995 Symposium on Stabilizing Indigenous Languages we heard the opposite logic also, that having been subjected to such pain, some parents want to protect their children from that experience. They have thus not passed the language on to their children. This makes me think that perhaps in a community that is retaining the language, language repression may give added rationale to language maintenance, while in a community that is well underway in language shift, language repression may give added rationale for the shift. It could be expected that those government policies that impact the economic integration of a minority community have more significant implications for language shift than do policies that either encourage or discourage use of the indigenous language.

Significant numbers of marriages between speakers and non-speakers can also hasten language shift.[1] Whereas in previous eras such newcomers and their children would learn the local language, once a community is oriented toward employment using a different language there is no longer much point to learning the indigenous language.

Language etiquette about speaking in front of non-speakers can also contribute to language shift. When there are non-speakers around, speakers in some cultures may feel uncomfortable using their language, or feel it is impolite. This is a minor problem at first, but becomes increasingly problematic as fewer and fewer people in the community speak the indigenous language. Richard Mueller noted two different conversations in which Gwich'in men illustrated the importance of not using the language when somebody present could not understand. One of them "determined *never* to speak his language around people who didn't understand it" (personal communication).

Intolerance or other negative attitudes on the part of a dominant society toward minority languages is another factor. Nancy Dorian (1994, p. 119) notes, "Discussions of the history of assimilation of immigrant groups in the U.S. often overlook the watershed effect of World War I in ethnic language maintenance. After the outbreak of that war public attitudes toward German became suddenly and strongly hostile." This was in contrast to a previously very favorable environment. The change impacted other languages as well.

Some of the accelerators of language shift, given enough time, may be sufficient to cause language shift without a shift in economic systems. It is probable, in fact, that in some North American communities a gradual language shift process was already underway when the economic system shifted, introducing a change in the language of work and the accelerated language shift which that brings.

Other factors retard language shift. Retardants tend to be values, structures, and practices in the community's culture and life that resist changes from

[1]Marshall and Jean Holdstock view this as being a very imporant factor for language shift among the Beaver of British Columbia (personal communication).

the outside or strengthen the indigenous language learning opportunities of children and young adults. If a structure maintains or creates an environment in which the indigenous language remains the language of work, then language shift could perhaps be effectively blocked. Apart from this it may only be slowed down.

Examples of language shift retardants include religious use of a language.[1] This factor has been observed with regard to Pennsylvania Dutch among the Amish, where language vitality is high.[2] It is also an important factor, for example, among Pueblo groups in the U.S. Southwest.

Sheer population size can be a retardant, though it is no guarantee of safety. Participants at the 1995 Symposium on Stabilizing Indigenous Languages were concerned that even the Navajo language, despite a very large community of speakers, is undergoing rapid language shift.[3] Joseph Grimes (1995) notes that critical size regarding language endangerment seems to be different in different parts of the world.

Linguistic similarity can also contribute to language maintenance. Where the dominant language and minority language are sufficiently similar, bilingualism may be more easily maintained than where they are radically different. This has been noted as a factor in the maintenance of Frisian in The Netherlands (Jaap Feenstra, personal communication).

The continued viability of a traditional means of earning a living can be an important retardant. I wonder if Native American communities with relatively strong language vitality might not be gaining a substantial portion of their income through work that can be done using the local language. One immigrant language situation, Franconian German in Michigan, remained strong from the mid 1800's until the late 1950's, probably as a direct result of being a relatively isolated community with an economy revolving around individual family farms (Born, 1992).

The Amish and Hutterites have gone further and have chosen to limit the participation of community members in the major language job market, for religious reasons. Among the Hutterites this non-participation in the English-

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[1]Edwards (1985, p. 93), in a discussion of the role of economics in language shift, notes "There *are* cases in which the application of simple cost-benefit analysis does not explain language shift or retention. One of these relates to groups in which language is indissolubly tied to a central pillar of life—religion being the obvious example."

[2]Hank Hershberger, personal communication. He felt this was a very important factor in language vitality.

[3]This is also the view of things reflected in Crawford (1992, p. 245), "In 1970, it was hard to find a member of the Navajo Nation unable to speak Navajo; twenty years later it is not unusual for children to grow up speaking only English, even in isolated communities."

speaking job market is very complete. Among the Amish there are a few who now need to work outside the group, owing to a shortage of farms.[1]

A multigenerational schedule of language shift

The language-of-work hypothesis deals with the roots of the epidemic of language shift in North America. The question arises, "What sort of schedule does all of this follow?" For immigrants to the U.S., language shift seems to have been following a three generation pattern, which has more recently been reduced to two generations.

For an indigenous community the timing may be different, even assuming that language of work has a similar role in each. For immigrants, language shift occurs for a family or set of families who have moved. In the case of indigenous languages, the shift occurs for an entire community that has not moved but whose environment has changed. The timing itself may be difficult to state precisely. In general, I would guess the scenario might play out in this way:

First generation

1. Changes in the economic system of a community, and specifically changes in the language of work, signal the beginning of the shift, but there are no alarming linguistic changes at that point.
2 Following this, it is likely that only "early adopters" will begin to steer their children toward the dominant language, resulting in a few cases of somebody either growing up without learning the indigenous language, or preferring the dominant society's language.

Intermediate generation(s)

3. At some point, newcomers to the community (spouses in mixed marriages primarily) no longer routine learn the indigenous language.
4. When a substantial proportion of the community follows the lead of the early adopters, the first hints of the end of intergenerational transfer show up.
5. Meanwhile, some families continue on strongly valuing and using the indigenous language, although schooling in the national language reduces the language learning potential for even these children.

Last generation of community language use

6. At some point, the use of the indigenous language for much of community life becomes impractical, and opportunities for language acquisition diminish even more as a result.

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[1]Hank Hershberger, personal communication. Neither group is experiencing language loss, though Hank sees the language retention situation as being stronger for the Hutterites

7. At about this time, both the community and outsiders can tell that the language is in danger of being lost.
8. Changes appear to be happening rapidly, and perhaps unexpectedly.

For any group that is experiencing in some measure a loss of intergenerational transfer, the community is probably well beyond the point at which the first changes in the language of the workplace occurred. By then, other factors may be more prominent as they obviously speed up or slow down the process that is already under way.

Some related theories and examples

Stephen Schooling (1990), building on the work of Leslie Milroy (1988) and using a survey of language maintenance in New Caledonia, presents a good argument for the usefulness of social network theory for predicting language maintenance or shift. In social network analysis, language is treated as a tool for network maintenance. Describe the network and you have learned something about language use, and thus gained hints about language vitality and future use. This does in fact seem to fit the way most people use language. In the case of New Caledonian languages, Schooling first discovered by detailed survey that the indigenous languages were very much alive and well, and then demonstrated how the same result would have been predicted (with less effort) using social network analysis. The social network analysis actually gives a better picture of how the language is doing today, which way it is going, and where it is likely to end up.

Applying all this to language of work, I note that occupation (whether wage employment or other means of making a living) is a network "cluster" that requires perhaps 50% of an adult worker's waking hours. It is the main environment in which time will be spent with other adults. Meanwhile, in the kind of economic system we have, work in the wage-based economy is more or less obligatory for at least one parent, and often for both parents in each family. So, where English is the language of work, both the social (relating to fellow workers) and economic pressure is there to help prepare children to relate in English. While I did not encounter an emphasis on language of work in either Milroy's or Schooling's work, I noted that when Milroy came up with five points for describing a person's social network, three of the five criteria had to do with fellow workers.

Perhaps the most significant link between network theory and the language-of-work hypothesis is the observation that the change in this century to work in institutions automatically increases the chances that the average worker will work with people who are different from his or her neighbors and relatives. In social network terms this creates a sparse and uniplex network, which is the opposite of the dense and multiplex network that Schooling demonstrates to be a stable environment for language maintenance.

Taking a different tack, Roland Walker (1993) looks at Abraham Maslow's (1970) "hierarchy of need" as a good predictor of language maintenance or

loss. "From his study of healthy human beings, Maslow identified five categories of basic needs that motivate human behavior: 1) physiological needs, 2) safety, 3) belongingness, 4) esteem, and 5) self-actualization" (Walker, 1993, p. 80). In Maslow's theory, safety needs are not as powerful as physiological needs, and so on. Applying this to language use, Walker notes: "The value of applying Maslow's Hierarchy to questions of language choice is in its potential to take us beyond external social circumstances to probe the circumstances of the heart—the motivations and felt needs of communities undergoing LS [Language Shift]. Understanding how language is used to meet basic needs helps to explain why communities respond differently to the same external social forces—specifically, why one group undergoes LS and another does not" (1993, p. 86).

In North America since many indigenous communities have largely lost their land base or no longer find traditional means of support practical or adequate, participation in the wage-based economy has become very important for meeting needs up and down the hierarchy. In this context, work-related issues become a strong source of motivation—and this includes the language skills needed for the specific work environment.

Numerous case studies and other articles illustrate the significance of the language of work for language maintenance and shift. In a fascinating article about St. Barthélemy island (West Indies), Julianne Maher (1996) tracks the history of language development on the 15-square-mile island over a period of several hundred years. The residents of the island, which was settled by the French in the 17th century, by now make up "four distinct communities that do not share each other's speech codes; such linguistic fragmentation in a small isolated population is unusual" (1996, p. 374). The author shows that one end of the island was inhabited largely by fishermen whose dense and multiplex network of work relationships resulted in language stability (they spoke a dialect of French). Another part of the island at one time consisted of plantations, resulting in a different type of work environment and therefore different network constraints, in which a creole quite naturally became the dominant language. The port town population meanwhile spoke English, the language of trade for the region. A fourth section spoke a different French-based language. The languages continued strong until recently, when the economic situation for the entire island shifted as a result of the arrival of new residents and a shift to a tourism economy. Now all four languages are under pressure, mostly from standard French. Maher concludes that all of these language developments were linked historically to the type of social network, and that this was strongly linked to the specific type of local economy—different in various parts of the island. She reconstructs the economic history of the island, showing how all of this may have developed.

The controversial 1977 language legislation of Quebec: Bill 101, the Charter of the French Language also provides insights. Language of work was a focus in this legislation. According to Miller (1984),

> The key targets of the Charter of the French Language were, first, to make French the language of work at the operational level; second, to spur the use of French as a language of business between corporate bodies in Quebec; and third, to ensure that individual customers are served in the language of their choice.
>
> Except in high technology industries with North American or worldwide sales, the implementation of means to achieve these targets has modified substantially the linguistic requirements into the Quebec market. (p. 128)

The results of these language maintenance efforts in Quebec stand in stark contrast to the prevailing pattern of steady language decline elsewhere in North America.

It could be that language of work is also a significant factor in language retention or loss for the Sámi of Scandinavia. A number of papers (e.g., Collis, 1990) show a difference in the language vitality of those on the coast working in the wage-based economy using the national language and those inland who continue to herd reindeer. Other studies seem to point to the significance of language of work as well. Susan Gal (1978) documents the desire of young Hungarian women in Austria to be part of the worker class and the wage-based economy (which requires use of German) rather than to remain peasants working on family farms, which allows continued work use of Hungarian.

Addressing some potential difficulties and limitations

The language-of-work hypothesis focuses on why people acquire English but does not explain why they would drop their own languages. That is, it leaves unexplored the possibility that people may, in fact, want to pursue bilingualism. But I think that a pattern in which most parents relate to their children primarily in a language different from their own leaves the indigenous language vulnerable. The language of work displaces something vital to the survival of that language, and so is probably sufficient to predict language loss.

If insiders, primarily parents, teach the inside language, and outsiders teach the outside language, then stable bilingualism would seem to be an option. Both languages have an anchor; both are important to the next generation. But what would hold it in balance, if instead, parents feel *they* need to relate to their children in the outside language? Joshua Fishman notes, "Vernaculars are acquired in infancy, in the family, which means in intimacy. They are handed on that way, in intimacy and in infancy" (1996, p. 192). If there is truly to be stable bilingualism, then the indigenous language needs that kind of continuing foundation. Clifton Pye (1992, p. 80), writing about Chilcotin of British Columbia, observes, "The competition from English is so severe that a child has to receive only Chilcotin from his/her parents in order to learn it."

Hypotheses, such as language-of-work, are not easy to confirm or disprove. There is a virtual fruit salad of factors involved in language shift. Many things are happening at once so it is difficult to clearly identify the specific role of one

factor or another. Further, this hypothesis does not claim to apply to every individual, nor does it necessarily apply over only one or two generations. Rather, it describes a situation that nearly always ignites, in a handful of parents, a course of action that leads, through accommodation and other clustering phenomena, to irreversible language shift for an entire community a few generations later. I think of the linkage between the language of work and language shift as being perhaps analogous to the linkage between air conditioners and hair spray on the one hand and the depletion of the ozone layer on the other hand. That linkage between chlorofluorocarbons and ozone, once suggested, was not quickly confirmed.

Post-shift language maintenance should be different

If a language is well documented before or during the process of language shift and is diligently passed on to younger speakers as a second language, the language can live on even after there are no more first-language speakers of the language. But maintenance of the indigenous language as a second language is not the same as maintaining the language with first-language speakers. Different constraints apply. At this point, maintaining the language has become something with its own focus, rather than a tool for survival.

In this scenario, each generation continues to make the dominant language the first language of their children, who then participate fully in the dominant economic system. Simultaneously they pass on to some or all community members knowledge of the traditional language as a second language. This was done with Hebrew for centuries in many communities around the world. A religious system emphasizing written Hebrew was essential to this process. There came, then, a time when it was possible to revive community use of the language as the main vehicle of communication. Today, Hebrew is the language of work and life in Israel. It remains to be seen if any Native American Languages can be maintained with only second-language speakers.[1]

Possible applications of the language-of-work hypothesis

First, the language-of-work hypothesis may help in the search for solutions to language shift in North America. If the change that is happening operates as this theory presents it, can any minority language group in North America avoid language shift? It would appear that in general, only the largest language groups, and even then probably only those with considerable resources, will be able to maintain the indigenous language as the language of work and simultaneously provide a range of job opportunities to their speech community. This lines up with what is being said generally about language endangerment and group size (see for example Krauss, 1996; Harmon 1995a, 1995b; Grimes, 1995). I have no idea what the minimum requirements are for this but observe that, for

[1]A related question is, "If a language is not written, can it still be successfully maintained as a second language?"

example, Israel has accomplished this with regard to Hebrew and Quebec is working hard to maintain that level of support for French.

For a smaller group the challenge is immense. What can be done to create or maintain a core of structures that encourage the indigenous language as the language of work and still provide the means to live at an acceptable standard of living through the purchasing of outside goods and services? Of course a small community can close the door entirely. By limiting itself to the economics of its traditional history, or some other self-contained system, a community can maintain a tight ship with regard to the language of work. But this implies a very cohesive society with tight social control that defines the economic horizons of community members. That social limitation would seem to be a very high price to pay for language vitality, and it must be maintained within the laws of Western democracies that stress individual freedom.

But, as with chlorofluorocarbons and ozone, could it be that there are less drastic measures that would work? We still have air conditioners and spray cans. But we put different things in them now. Similarly, could it be that we may eventually understand enough about language shift that communities can both give a good standard of living and career opportunities to their children and yet still maintain their languages? That is, could it be that minority groups could learn to preserve their languages in an environment automatically dangerous to those languages? I think that may be possible (see Appendix).

Perhaps a group can effectively address the issue with a combination of solutions. For one thing, there could be an effort to raise parents' consciousness of the issues and encourage a commitment to language maintenance alongside their commitment to their children's preparation for work life.[1] Nancy Dorian (1995) discusses the importance of sharing knowledge about just how language maintenance and shift work with those who need that information most. Secondly, communities could seek to offer at least some minority-language job opportunities. In considering new economic development projects for example, a community could deliberately examine the language of work impact of prospective economic ventures, perhaps inviting only local economic development that can be structured as promoting work use of the minority language. Alan Sproull (1996, p. 94), for example, explores the possibility of "minority language use in the process of regional economic development." Sproull argues this would actually benefit the nation's economy, not just the region.

Both Amish and Hutterite communities have some types of enterprises that retain the local language as the language of work and yet bring in revenue needed to buy outside goods and services. These communities may serve as models to Native American communities interested in accomplishing the same thing.

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[1]Similarly, the therapy for stuttering includes raising the awareness in the speaker of what he or she is doing. Language phenomena are so close to us that sometimes it requires extra effort just to become aware of them. Awareness is, in fact, a large part of the battle.

Second, the language-of-work hypothesis may help us understand why language shift is or is not happening in some other parts of the world. If this hypothesis is correct, this kind of language shift epidemic can be expected to occur in other regions where indigenous language groups experience similar changes in economic structure and therefore the language of work. The world is moving away from kinship-based economies, and it can be expected that the economic pressure toward language shift is being felt in more and more places. It is likely, though, that since economic changes are happening at different rates and in different ways in different places, changes in language of work requirements, and therefore, pressure on language vitality, would be different.

Perhaps we could learn to read the economic and demographic data on a region or a country in such a way as to get clues about where to expect language shift to be an issue. This, in turn, may help give advance warning to groups likely to be facing language shift, while they still have time to do something about it. Joshua Fishman (1996) stresses the importance of acting early.

Summary

I have argued that in the U.S. and Canada there has been a widespread change in the economic structure of indigenous language communities during the last half of the Twentieth Century and that this has involved a change in the language of work for a significant portion of the community. In that parents are concerned with preparing their children for life, a change in expectation about the language of work has resulted in a change in what language parents use with their children. At first only a few parents may respond this way, but the change builds momentum in combination with other language shift factors. Meanwhile, the change continues to be reinforced through the continued dominance of the national language in the workplace. In contrast, communities in which parents train their children for life in a minority-language-dominated work environment are less likely to experience this shift in the language of the home.

The hypothesis needs to be tested. If it is true, then we should not be able to find evidence of a minority language holding stable as a first language without evidence of language shift in an environment in which the minority language has not been used as the language of work among its population for some time (at least 3 or 4 generations). The lack of such a counter-example would not, of course, prove the theory, but finding one would certainly prompt either the scrapping or revision of the theory. If the main hypothesis stands up, then a number of additional areas need to be filled in. Among them:

- Define the matter of timing between economic shift (and in particular changes in the language of work) and the steps in language shift.
- Study how different employment patterns play out in relationship to language shift. For example, one pattern is to enter a career and work in it for years at a time; another is to go out of the community

a few months at a time to work; another is to work one job for a few years, wait out a year or two while other extended family members work, then do another job for a few years, and so on. It may be that different employment patterns have different levels of impact on language shift.

- Determine what happens when a community can offer a significant number of jobs that are based on employment using the indigenous language. Does this result in language maintenance? Do *all* the jobs have to be in the indigenous language for there to be language stability? Perhaps it would help to look at the ratio of indigenous language work settings to the total set of work settings for the members of a speech community.
- Study what kinds of work are harder or easier to tackle if a community wants to develop work environments using the indigenous language [I think Hywel Coleman (1989) presents some interesting ideas that should be considered].

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Appendix A

Three Types of Work Environment

(Some Thoughts on Using Language of Work in Language Maintenance Efforts)

While the language-of-work hypothesis is still needing to be tested, the ideas below are offered for any who would be interested in applying it practically. A group already working on language maintenance in other ways may be able to reinforce those efforts by addressing language of work issues as well.

I would suggest using five questions that test a work environment for speakers of a minority language:

1. Does the worker rely on the cash economy for most food and other necessities?
2. Does the worker work for wages in an environment controlled by somebody else?
3. Is the work done in an environment with other workers who do not speak this indigenous language?
4. Is a different language the most frequently used language for conversations with other workers, supervisors, and subordinates?
5. Does the work require either commuting or living outside of the indigenous language community?

Using the five questions above, it is possible to predict the following types of work environments (see figure 1):

Type A: Strongly supportive of minority language social network maintenance—Questions 2-5 are answered NO

The Worker is free to establish his or her own work environment, and is under no pressure to use a different language in a work environment.

Type B: Supportive of minority language social network maintenance-Questions 4 and 5 are answered NO

The Worker is frequently able to use his or her own language to converse with fellow workers in the work environment.

Type C: Erodes minority language social network maintenance -Questions 1- 4 (and possibly 5) are answered YES

The Worker rarely uses his or her own language in the workplace to converse with fellow workers.

Language of work can be used as a leading indicator for language maintenance or loss. Quite frequently people do not realize their community is going

through a process of language shift until the process is nearing the end. Any reliable leading indicator of language maintenance or shift would be of help.

- A community with a good percentage of workers working in environment type A is currently not likely to suffer pressure on the minority language from the work environment.
- A community in which nearly all workers are working in environment type C is likely to experience pressure on the minority language from the work environment.

Language of work can also be used as a means of evaluating prospective community economic development proposals. Some approaches to economic development may hasten language shift even as they bring better jobs and higher income. But it probably does not have to be that way. Ideally a community should be able to find adequate employment, and do so in such a way as to not put pressure on their language.

- From a language maintenance point of view, an economic development proposal that would result in Type A and B work environments would be more desirable than a proposal that would result in a Type C work environment.
- Some kinds of work are easily adaptable to a Type A or B work environment. Others are not.
- If a community wishes to develop the majority of jobs as Type A or B work environments, it will probably require serious development of the language, and perhaps of workers' literacy skills in the indigenous language. All the needed work terms, and perhaps work-related reading and writing tasks, should be possible using the indigenous language.

The kernel thought in all of this is that working languages live. Language of work is something that can be studies and planned, as a tool for language maintenance.

Appendix B

Types Language of Work Environments

The worker ...	Relies on cash economy for most food, etc.?	Works for wages in a work environment others control?	Works in an environment which also employs workers of another lg?	Works in an environment in which a dif. lg prevails as oral lg of wrk for workers & supervisors?	Works in an environment which requires living or commuting away from minority Lg community?
Type A. ***Local work environments which STRONGLY SUPPORT minority language social network maintenance (work environment controlled by individual worker):***					
Type A-1 Individual control of Lg of Work Subsistence agriculture, fishing, etc.	NO	NO	NO	NO	NO
Type A-2 Individual control of Lg of Work Small cash farmer, fisherman, trapper, etc.	**YES**	NO	NO	NO	NO
Type B. ***Local work environments which SUPPORT minority language social network maintenance (minority language established as language of work):***					
Type B-1 Lg of work set by fellow speaker Employee of local monolingual business, or farm using minority language as language of work	**YES**	**YES**	NO	NO	NO
Type B-2 Lg of work set by fellow speakers Employee of locally owned multi-lingual institution controlled by speakers of the minority Lg; with minority Lg as language of work	**YES**	**YES**	**YES**	NO	NO
Type B-3 Lg of work set by fellow speakers Employee of non-locally owned multi-lingual institution controlled locally by speakers of the minority LG; with minority LG as language of work	**YES**	**YES**	**YES**	NO	NO
Type C. ***Local and non-local Work environments which ERODE minority language social network maintenance (a different language established as language of work):***					
Type C-1 Different Lg of work set by community members. Employee of local business/farm, or other institution with a different language as language of work	**YES**	**YES**	**YES**	**YES**	NO
Type C-2 Different Lg of work set by outsiders (located in the minority Lg community) Employee of non-locally owned institution located in community, controlled locally by non-speakers of the minority Lg; with a different Lg as language of work	**YES**	**YES**	**YES**	**YES**	NO
Type C-3 Different Lg of work set by outsiders (located outside the community) Employee of non-locally owned institution located outside the community; with a different Lg as language of work	**YES**	**YES**	**YES**	**YES**	**YES**

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