HARRISON, K. DAVID. 2007. *When languages die. The extinction of the world's languages and the erosion of human knowledge*. New York: Oxford University Press. x + 292 pp. : ill., maps ; 25 cm. ISBN: 0-19-518-192-1. US $29.95, Hardcover.

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I will begin with a story. When I was doing fieldwork on the Dene (Slave; Athabascan) language in northern Canada, children would often say things to me in English that I simply did not understand. I knew all the words, but they just did not make sense to me. When I was knitting, children would ask me why I was wasting my yarn; in my head I would reply that I was not wasting my yarn, I was using up my yarn. And I would be asked by someone to *spill me a glass of water* and I would think that I could pour a glass of water, but why would I spill a glass of water? I was puzzled about the choice of verbs: why choose a verb that indicates something negative when another verb is available? Only when I began to understand the semantics of the verb system of the language was I able to get some insight into why I was wasting my yarn instead of using it up, and spilling rather than pouring a liquid. In this language, and many Athabascan languages, verbs often come in pairs, with one member of the pair representing a way of doing something that is highly valued culturally and the other being neutral. (See Rushforth and Tatti 1980, Chisholm and Rushforth 1991, Rice 1989 for discussion.) In English, on the other hand, the verb *waste* is negative, while *use up* is neutral; *spill* is negative and *pour* is neutral. If I kept this in mind, then I could understand what was being said to me. From the Dene perspective, the neutral verb was chosen; there was no reason to use the positively valued verb, given their particular nuances of meaning. But the Dene neutral verb is the equivalent of *waste*, a negatively valued verb in English, while the Dene positively valued verb is the equivalent of *use up*, a neutral verb in English. The values of the Dene verbs were transferred to the English verbs, thus creating a mismatch between form and function.

This story provides a small glimpse into the topic of K. David Harrison's new book *When languages die. The extinction of the world's languages and the erosion of human knowledge*. In this book, Harrison examines the lexicon, focusing on the kinds of environmental and cultural knowledge that are encoded in different languages. While this topic itself is not new, being the stuff of much work in linguistic anthropology, Harrison brings an urgency to this study by placing it in the context of language endangerment and language death.

There has been considerable discussion of language death and its consequences in recent years, perhaps starting with a series of articles in *Language* in 1992. In much of this work, linguists have been at pains to uncover the consequences of language loss for human knowledge. Ken Hale, for instance, made the following comment: "The loss of local languages, and of the cultural systems that they express, has meant irretrievable loss of diverse and interesting intellectual wealth, the priceless products of human mental industry" (Hale 1992), and Marianne Mithun said, "Language represents the most creative, pervasive aspect of culture, the most intimate side of the mind. The loss of language diversity will mean that we will never even have the opportunity to appreciate the full creative capacities of the human mind" (Mithun 1998). Marie Battiste, a Mi'kmaq speaker and educator, said, "Friends, we think highly of our ability to speak Mi'kmaq. If we lose this, it is for

certain that we will lose Mi'kmaq knowledge" (Battiste 1987). Such statements are both inspiring and disturbing, and at the same time very broad and general. Harrison takes up the challenge of documenting in meticulous detail the kinds of knowledge that give substance to such quotes, focusing squarely on the knowledge that might be lost with the loss of a language. More particularly, in this book Harrison provides a richly detailed discussion of semantic categories, and the losses that ensue with language loss. He does something more than this as well. The quotations above come from two linguists, Ken Hale and Marianne Mithun, and one speaker of a language under threat, Marie Battiste. Very often, the words of the speakers have not been attended to in the linguistic literature on the consequences of language endangerment. In this book Harrison pays careful attention not only to the words of the languages, but also to the words of their speakers.

The book consists of seven chapters, with most chapters followed by a short case study based on interviews with speakers. The first chapter, "A world of many (fewer) voices," sets out the goals of the book: "to pursue hard scientific questions, while keeping the human factor in mind" (p. 9). In this chapter, Harrison reviews many of the reasons that have now become well-known for why languages are being lost at an unprecedented rate and for valuing linguistic diversity. He identifies what he calls hotspots for language diversity—areas of the world where there is tremendous linguistic diversity. In a section called "Speaking for themselves," Harrison notes that he has interviewed many speakers from around the world—including Monchak people of Mongolia, Tofa from south Siberia, Ös from central Siberia, Ifugao of the Philippines, Karaim of Lithuania, and Munda of India—and it is their words that are at the heart of the book.

Each of the next five chapters of the book surveys a particular semantic field, including biological knowledge systems, systems for expressing time, systems of geographical knowledge, and number systems. In addition, a chapter investigates verbal arts, and differences between oral and written narrative. The final chapter addresses a number of different topics, including the goals of linguistics, language change, language prehistory, and the meaning of linguistic complexity as well as several types of semantic systems, among them counter systems, classifier systems (which Harrison calls "touchy-feely talk"), politeness systems, case systems, and status systems. In addition, in this chapter Harrison introduces the reader to some interesting linguistic systems including phonological systems, reduplication (which he labels "willy-nilly talk"), infixation, and incorporation (which he calls "swallowing").

It is difficult in a short review to begin to do justice to the full range of knowledge systems explored in this book, and here I discuss just a very few of the systems examined by Harrison. In chapter 5, "Silent storytellers, lost legends," he discusses verbal arts, including poetry. In English and many western languages, rhyme is a major feature of poetry, as is meter. However, as Harrison notes, many languages utilize quite different systems. In Tuvan (Siberia), poets use alliteration, assonance, and parallelism because, Harrison suggests, rhyming "presents no creative challenge to a poet and no unique pattern to memory" (p. 158). As Harrison points out, we expect to find in oral traditions devices that "facilitate memory and a flair for playing with intricate structures of sound and meaning" (p. 159). Taking Harrison's statement as an assumption, one can see that devices such as rhyme, meter, and alliteration are not easily transferable from one language to another: for instance, a language that has fixed stress will have a difficult time making something memorable

out of stress, as Harrison says; however, it will find other ways of creating a similar effect. Such things are the challenges of translation. If only languages with rhyme systems were to survive, one might not know that verbal arts can rely on many different kinds of linguistic factors.

In chapter 4, "An atlas of the mind," a chapter devoted to the study of geography, Harrison discusses some of the many rich systems that exist for talking about locations and directions. One of the many interesting languages he presents is Lolovoli (a dialect of North-east Ambae, spoken on Ambae Island, Vanuatu), where there are different morphemes used to mean across/levelly, uphill/landward, and downhill/seaward. He relates these verbs to the island environment where Lolovoli is spoken. A second example comes from a river-based orientation system found in Tuvan. In this language directions that can be translated as 'upstream' and 'downstream' are used. However, the river that is taken as the reference point differs depending on a variety of factors, including which river is more salient, making it difficult for someone unfamiliar with the system to understand that there is in fact a system.

As a final example, I mention a study from chapter 6, "Endangered number systems: Counting to twenty on your toes." Harrison identifies a number of different choices of base underlying the number system of a language. He notes that Aiome (Papua New Guinea) uses a base-2 system, Yuki (extinct, California) a base-4 system, Huli (Papua New Guinea) a base-15 system, and Pomo (California) a base-20 system, while Ndom (Papua New Guinea) has a base-6 system, and Bukiyip (Papua New Guinea) has both a base-4 and a base-3 system (p. 191). While in many cases I find it easy to imagine the wide range of knowledge systems that Harrison documents, whenever I hear about the existence of so many base systems I am taken by surprise. Harrison's discussion of how body parts can be used for counting gives some insight into how such different systems might have developed.

Does Harrison persuade the reader that loss of a language and loss of knowledge systems that find some unique expression in that language are related? I am not sure. What is clear from *When languages die* is that there is a link between cultural shift and loss of knowledge systems, and language shift often accompanies (or perhaps is the canary in the mine for) cultural shift. Is a convincing case made that the knowledge system itself is lost, or is it rather the particular way of expressing the knowledge system that is lost? These are difficult questions, and Harrison addresses them. He does not actually go so far as to say that the knowledge system is actually lost, but rather remarks that loss of language creates a different kind of efficiency in terms of information packaging (p. 27). Perhaps the system that most convincingly demonstrates that loss of language can lead to the loss of a system involves the literary devices discussed above. In this case, though, it is a linguistic way to signal information packaging that is lost rather than a knowledge system itself. In a brief discussion of the Sapir-Whorf hypothesis, Harrison touches on work by Boriditsky and her colleagues that suggests that language and culture might have a subtle influence on thought (pp. 184–185). If so, the evidence for the existence of a direct link between language loss and the loss of knowledge systems would be strengthened. Exactly how the shift of languages and the loss of knowledge are related needs more careful study; Harrison provides much food for thought, and this book opens doors for future research.

In many ways *When languages die* is an argument for why semantic categories are worthwhile objects of study and, even more so, why knowledge systems are necessary

objects of study. The book adds something extra, something not that often found in the work of academics on language endangerment—namely the words of speakers of those languages that are lost or under threat. In this sense (i.e., talking with the speakers about their sense of loss at language shift), *When languages die* is more like books by authors such as Mark Abley (*Spoken here*, 2005) and Wade Davis (*Light at the edge of the world: A journey through the realm of vanishing cultures*, 2007 [new edition]), authors who write passionately about linguistic and cultural loss. Harrison brings the personal as well as the academic to this very interesting and readable book. Perhaps this will be one of those relatively rare occasions where a book written by a linguist for an audience of both linguists and a more general public succeeds in reaching its target.

The reader will undoubtedly be persuaded that a window on human knowledge and the human mind is lost through the loss of a language. The reasons for the loss of human knowledge—whether the knowledge is lost through the loss of a language, whether the loss is more closely related to cultural shift, whether both factors are involved, whether other factors are involved, and, indeed, whether there really is a loss of knowledge— remain poorly understood, and the scientific relationship between these losses is not truly uncovered in this book, while the human relationship between them stands out clearly: the shift in language so very often is accompanied by a dramatic cultural shift. Harrison persuades me as a reader of his scientific goal (the value of studying linguistic systems as a window on human knowledge) and his personal goal (to give voice to the ideas of speakers of languages about those languages and their personal value).

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